AltaLink Management Ltd.

2014 and 2015 Deferral Accounts Reconciliation Application

January 23, 2019
Alberta Utilities Commission
Decision 22542-D02-2019
AltaLink Management Ltd.
2014 and 2015 Deferral Accounts Reconciliation Application
Proceeding 22542

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1. Decision

In this decision, the Alberta Utilities Commission found that some of the costs applied for in AltaLink Management Ltd.’s (AltaLink or AML) deferral account reconciliation application were not prudently incurred and, therefore, not all of the applied-for rate base capital additions were approved.

2. In the application, AltaLink requested final cost approval for 202 transmission capital projects, which would result in gross capital additions to its rate base of approximately $3.8 billion, net of customer contributions. The Commission found AltaLink to have prudently planned and executed the majority of these capital projects. These findings included approval of the majority of costs for AltaLink’s major system projects, including the Western Alberta Transmission Line (WATL) project, the Christina Lake projects, the Southern Alberta Transmission Reinforcement (SATR) projects, the Foothills Area Transmission Development (FATD) projects and the Red Deer Area Transmission Development projects. As well, the Commission considered final project costs for the Heartland project and the SATR Cassils to Bowmanton projects.

3. The Commission did not approve costs in the WATL project related to some of the charges for tower inspections. Regarding some of the other major projects, the Commission also found that a portion of AltaLink’s execution costs relating to the use of access mats were not prudent and these costs were also disallowed. The Commission also disallowed certain costs arising from the completion of AltaLink’s resale of some of the properties acquired in the Heartland project.

4. Further, the Commission determined that a settlement agreement reached between AltaLink and its EPCm service provider, SNC-Lavalin ATP Inc. (SNC-ATP), regarding the services performed by SNC-ATP, was unreasonable and disallowed a portion of the agreed-to amounts that were the subject of this settlement.

5. With respect to the East Calgary Transmission Project and the Shephard Energy Centre Interconnection, ENMAX Power Corporation was directed to provide a full cost reconciliation for the final capital addition amount to December 31, 2015 in a compliance filing application by February 15, 2019.

6. The total amount of costs disallowed in the decision is approximately $30.5 million, which represents less than 1 per cent of the total net capital additions requested.
7. The forecast costs for the capital projects in this proceeding were approved in Decision 2013-023, Decision 2012-221, Decision 2011-453, Decision 2011-474, Decision 2013-407, Decision 2014-258, Decision 3524-D01-2016 and Decision 21827-D01-2016 and have been reflected in the Alberta Electric System Operator (AESO) tariff. Therefore, the final costs approved by the Commission in this decision will result in an additional charge of approximately $81.4 million to the AESO.

8. The Commission ordered AltaLink to refile its 2014-2015 deferral accounts reconciliation application to reflect the findings, conclusions and directions set out in this decision in a compliance filing application by February 15, 2019.

2 Introduction

9. On April 5, 2017, AltaLink, in its capacity as General Partners of AltaLink, L.P., filed an application (the application) with the Commission for approval of the reconciliation of certain deferral accounts.

10. The application included a reconciliation of AltaLink’s direct assign capital deferral account (DACDA) in respect of transmission capital projects directly assigned to AltaLink by the AESO. The DACDA portion of AltaLink’s original April 4, 2017 application requested approval and reconciliation in respect of projects completed in 2014, approval of trailing costs in respect of projects considered in prior DACDA application proceedings incurred in 2014, and the approval of six specific projects that were completed in 2015.

11. In addition, AltaLink requested approval of:

- the 2014 balances for deferral accounts in respect of long-term debt, taxes other than income taxes, and annual structure payments;
- recovery of expenses from projects cancelled by the AESO in 2014, 2015 and 2016;
- a revenue true-up for the year 2014 in relation to AltaLink’s 2013-2014 general tariff application (GTA); and
- such further and other orders, declarations or exemptions of the Commission that are necessary to give effect to the application.

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7 Decision 3524-D01-2016: AltaLink Management Ltd., 2015-2016 General Tariff Application, Proceeding 3524, Application 1611000-1, May 9, 2016.
8 Decision 21827-D01-2016: AltaLink Management Ltd., Compliance Application Pursuant to Decision 3524-D01-2016, Proceeding 21827, December 16, 2016.
12. The Commission assigned Proceeding 22542 to the application and issued notice on April 6, 2017. In response to the notice, a statement of intent to participate (SIP) was received on April 19, 2017, from the Consumers’ Coalition of Alberta (CCA).


14. On May 19, 2017, the CCA filed a motion pursuant to Section 27 of Rule 001, which requested that the Commission direct the AESO to be involved in the first round of information requests (IRs) and in any oral hearing in respect of Proceeding 22542. In a ruling in respect of this motion issued on June 9, 2017, the Commission found that the AESO’s participation at that stage of the proceeding was not necessary at that time.

15. On June 12, 2017 and June 13, 2017, the CCA filed letters with the Commission in proceedings 22542 and 22393 requesting clarification of the rulings issued by the Commission in each of these proceedings where the Commission denied the CCA’s request to compel the AESO to participate in the proceedings. In particular, the CCA referenced the utility asset disposition (UAD) decision.

16. On June 20, 2017, the Commission issued its ruling in respect of the CCA’s motion, ruling that the scope of deferral account proceedings should not be extended to consideration of the utilization of the assets for which final cost approval is sought. The Commission reiterated that AESO participation in either proceeding would not be directed.

17. On June 27, 2017, the CCA submitted a letter to the Commission stating that AltaLink had not provided confidential documents to Mr. Dustin Madsen (a consultant for the CCA). On the same day, AltaLink responded to the CCA’s letter objecting to Mr. Madsen’s participation in this proceeding. AltaLink requested that the Commission vary its confidentiality ruling so that AltaLink need not provide certain of AltaLink’s confidential documents to Mr. Madsen; Mr. Madsen would recuse himself from participating further in this proceeding; and Mr. Madsen should not be permitted to assist the CCA or any other interveners in this proceeding.
18. On November 6, 2017, the Commission issued its ruling on AltaLink’s motion, revising its previous ruling to exclude Mr. Madsen from receiving the confidential documents and requiring Mr. Madsen to recuse himself from participating further in this proceeding.

19. On December 8, 2017, AltaLink filed an amendment to its April 5, 2017 application. As a result of the amended application, the relief requested by AltaLink consisted of the following:

- approval of costs for AESO direct assign projects completed in 2014 and 2015 and orders disposing of the 2014 and 2015 DACDA balance pertaining to projects completed in 2014 and the associated 2015 trailing costs;
- approval of the 2014 and 2015 balances for other deferral accounts including long-term debt, taxes other than income taxes, and annual structure payments;
- recovery of expenses from projects cancelled by the AESO in 2014, 2015 and 2016;
- a revenue true-up for 2014 in relation to AltaLink’s 2013-2014 GTA and for 2015 in relation to AltaLink’s 2015-2016 GTA; and
- such further and other orders, declarations or exemptions of the Commission that are necessary to give effect to the application.

20. With respect to the DACDA portion of the application, AltaLink requested approval of actual capital additions, net of customer contributions, and including allowances for funds used during construction (AFUDC) totalling approximately $3.8 billion.

21. As mentioned above, on December 8, 2017, AltaLink amended its application to include the remainder of its 2015 deferral account capital projects. In its cover letter to the application amendment, AltaLink requested confidential treatment of certain documents. The Commission issued its ruling in respect of AltaLink’s December 8, 2017 motion on January 26, 2018, where the Commission directed AltaLink to deliver complete unredacted copies of confidential information. On February 2, 2018, AltaLink filed a motion requesting that the Commission either vary or confirm its direction to deliver complete unredacted copies of the confidential documents, as its redactions were intentional. On February 27, 2018, the Commission issued its ruling in respect of AltaLink’s February 2, 2018 motion. The Commission’s ruling varied the order set out in its January 26, 2017 ruling by directing AltaLink to redact information regarding individual landowners’ names, their telephone numbers, email and mailing addresses from certain documents.

22. On February 16, 2018, AltaLink submitted a motion to the Commission requesting a direction confirming that AltaLink was not required to respond to certain CCA IRs and requesting a ruling confirming that AltaLink had complied with Direction from

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24 Exhibit 22542-X0930.
26 Exhibit 22542-X1032.
27 Exhibit 22542-X1449.
28 Exhibit 22542-X1450.
29 Exhibit 22542-X1456.
30 Exhibit 22542-X1453.
Decision 3585-D03-2016. On May 17, 2018, the Commission issued its ruling\(^{32}\) in respect of AltaLink’s February 16, 2018 motion granting AltaLink’s request, in part. AltaLink was not required to respond to many of the IRs that it identified in its February 16, 2018 motion.

23. On May 24, 2018, the CCA submitted correspondence\(^{33}\) requesting the Commission adjust the process schedules for this proceeding and two other proceedings. On June 6, 2018, the Commission issued its ruling\(^{34}\) in respect of that request. In its ruling, the Commission indicated that an oral hearing in respect of the application would be held in Calgary in September 2018, and set out a schedule for the remaining Proceeding 22542 process steps to reflect that decision.

24. On June 14, 2018, AltaLink filed a motion\(^{35}\) requesting confidential treatment for information within its IR responses or documents filed in support of its IR responses. On July 24, 2018, the Commission issued its ruling\(^{36}\) in respect of AltaLink’s June 14, 2018 motion.

25. On July 4, 2018, the CCA submitted a motion\(^{37}\) to the Commission requesting the Commission order that AltaLink provide full and adequate responses to IRs, suspend the process schedule pending a ruling to this motion and amend the process schedule to adjust the deadline for filing of intervener evidence. On July 16, 2018, the Commission issued its ruling\(^{38}\) in respect of the CCA’s July 4, 2018 motion. On July 24, 2018, the CCA submitted a motion\(^{39}\) stating that AltaLink had not complied with the Commission’s July 16, 2018 ruling. On August 1, 2018, the Commission issued its ruling\(^{40}\) in respect of the CCA’s July 24, 2018 motion. In its ruling, the Commission provided specific findings in respect of each of the IRs identified by the CCA and made minor adjustments to the schedule for process steps leading to the oral hearing.

26. On July 20, 2018, AltaLink submitted further responses to CCA IRs in response to the Commission’s July 16, 2018 ruling. AltaLink submitted a cover letter\(^{41}\) with those responses that also included a motion for confidential treatment for certain IR responses. On August 13, 2018, the Commission issued its ruling\(^{42}\) in respect of AltaLink’s July 20, 2018 motion. In its ruling, the Commission granted some, but not all, of the requests for confidentiality sought by AltaLink.

27. On August 21, 2018, ENMAX Power Corporation (ENMAX) submitted a letter\(^{43}\) requesting that the Commission confirm that ENMAX was not required to appear at the oral hearing scheduled for this proceeding. On August 29, 2018, the Commission issued its ruling\(^{44}\) in respect of ENMAX’s August 21, 2018 letter, stating that, given ENMAX’s limited role in the proceeding, it was reasonable for ENMAX to participate through a written process rather than appear at the oral hearing. The Commission established a process schedule for IRs and IR

\(^{32}\) Exhibit 22542-X1461.
\(^{33}\) Exhibit 22542-X1470.
\(^{34}\) Exhibit 22542-X1480.
\(^{35}\) Exhibit 22542-X1584.
\(^{36}\) Exhibit 22542-X1754.
\(^{37}\) Exhibit 22542-X1699.
\(^{38}\) Exhibit 22542-X1704.
\(^{39}\) Exhibit 22542-X1753.
\(^{40}\) Exhibit 22542-X1760.
\(^{41}\) Exhibit 22542-X1708.
\(^{42}\) Exhibit 22542-X1827.
\(^{43}\) Exhibit 22542-X1849.
\(^{44}\) Exhibit 22542-X1863.
responses related to the East Calgary Transmission Project. IRs were due on September 4, 2018, with responses to follow on September 11, 2018.

28. On August 10, 2018, the CCA filed its intervener evidence. On August 21, 2018, ATCO Electric Transmission (AET) filed a letter with the Commission requesting that the Commission strike from the public record of this proceeding certain references to Eastern Alberta Transmission Line (EATL) information included in the CCA’s intervener evidence. On September 5, 2018, the Commission issued its ruling in respect of AET’s motion, agreeing with AET and directing that the information be struck from both the public and confidential records of this proceeding. The Commission directed that AET instead file on the public record of this proceeding EATL’s December 2015 transmission facility owner (TFO) monthly report and 150 final cost report. On September 6, 2018, AET filed a motion requesting confidential treatment of the cost reports AET was directed to file in the Commission’s September 5, 2018 ruling. On September 7, 2018, the Commission issued its ruling in respect of AET’s September 6, 2018 motion in which the Commission granted AET’s motion to file cost reports only on the confidential record.

29. An oral hearing in respect of the application, which included both public and confidential modules, was held at the Commission’s offices in Calgary between the dates of September 13, 2018 and September 20, 2018.

30. On September 28, 2018, the CCA filed a motion with the Commission stating that AltaLink’s response to Undertaking 002-COF was deficient and requested that the deficient information be provided by AltaLink. The CCA further requested that the information be provided on the public record. On October 22, 2018, the Commission issued its ruling in respect of the CCA’s September 28, 2018 motion denying the CCA’s request for AltaLink to be directed to augment its response to the undertaking.

31. In correspondence dated September 28, 2018, the Commission identified certain matters that it requested parties to address in their argument and reply submissions.

32. The Commission received written argument submission from AltaLink, EPC and the CCA on October 11, 2018, and received written reply submissions from each of these parties on October 25, 2018.

33. The Commission considers the record for Proceeding 22542 to have closed on October 25, 2018.

34. The Commission is a public body and, as such, unless otherwise directed, all documents submitted to the Commission, as well as the decisions of the Commission, are publicly available. As noted above, the Commission granted confidential treatment to a portion of the evidence on the record of this proceeding. This decision reflects the Commission’s findings from all of the
evidence on the record of this proceeding, including those issues that were addressed in further
detail in the confidential portion of this proceeding.

35. The Commission has endeavoured to provide a comprehensive public decision. However,
given the subject-matter under review and the nature of the confidential evidence, it was
necessary to redact portions of this public decision. An unredacted confidential version of this
decision was issued that provides further detail for certain sections. This unredacted confidential
version is available to parties who have executed confidentiality undertakings.

36. In reaching the determinations set out within this decision, the Commission has
considered all relevant materials comprising the record of this proceeding, including the
evidence, argument and reply argument provided by each party. Accordingly, references in this
decision to specific parts of the record are intended to assist the reader in understanding the
Commission’s reasoning relating to a particular matter and should not be taken as an indication
that the Commission did not consider all relevant portions of the record with respect to that
matter.

3 DACDA common matters

3.1 Consideration of partially completed projects

37. AltaLink requested placeholder approval for capital additions totalling approximately
$254.7 million in respect of WATL, the Western Interconnection Synchrophasor Program
(WISP) Synchrophasor Phasor Measurement Unit (PMU) Upgrade Project, EAST DC Link, and
SATR Medicine Hat projects in the 2014 revenue requirement reconciliation or true-up
schedules. AltaLink also requested inclusion of approximately $3.9 million of partial additions
for the SATR Medicine Hat 138 kilovolt (kV) Area Reconfiguration, Chinook 181S and
Timberlands projects as a placeholder in the 2015 revenue requirement reconciliation or true-up
schedules.\footnote{Exhibit 22542-X0002.04, paragraph 11.}

38. AltaLink requested that a review of the prudence of expenditures in respect of the
WATL, WISP Synchrophasor PMU Upgrade Project, EAST DC Link projects be included as
part of the Commission’s decision in respect of the application. However, AltaLink explained
that the review of project prudence for the SATR Medicine Hat, SATR Medicine Hat 138 kV
Area Reconfiguration, the Chinook 181S and Timberlands projects should be included in a future
DACDA application.\footnote{Exhibit 22542-X0002.04, paragraph 11.}

Commission findings

39. As a result of AltaLink’s December 8, 2017 update to include certain 2015 projects that
were not part of the listed 2015 completion projects included in AltaLink’s April 5, 2017
application filing, the WATL (D.0414), the WISP Synchrophasor PMU Upgrade Project
(D.0398) and the East high voltage direct current (HVDC) converter station interface project
(D.0458) have been assessed by the Commission on a final basis, subject to certain exceptions
noted below.
40. The Commission confirms that AltaLink projects D.0310 (SATR Medicine Hat 138 kV Area Reconfiguration), D.0493 (Chinook 181S) and D.0496 (Timberlands) have been considered on a placeholder basis only. However, AltaLink’s requested capital addition amounts for years 2014 and 2015 for these projects may be used for revenue true-up purposes.

3.2 Effect of disallowances

41. Throughout the argument and reply argument submissions of the parties, several arguments were advanced regarding the consequences that should be considered by the Commission if it disallows the applied-for costs. In this section, the Commission has organized and considered these arguments as follows:

- Financial market reaction that can arise from a disallowance;
- The effect of provisions in the share purchase agreement (SPA) between Berkshire Hathaway Energy (BHE) and SNC-Lavalin\(^5\) that apportion the cost of disallowances as between AltaLink’s current and former owner; and
- The operation of Article 2.4(d) of the master services agreement (MSA)\(^4\) which addresses AltaLink’s recourse to SNC-ATP for disallowances related to EPCm services provided by SNC-ATP to AltaLink.

Financial market reaction arising from a disallowance

42. AltaLink argued that in the event that the Commission disallows costs in a general tariff application, the utility has the opportunity to adjust its business practises to account for the fact that there has been a reduction in its revenue requirement. However, a disallowance of costs for a DACDA application has a different effect. In that case, because the costs have already been incurred and capital has been raised to finance the expenditures, any disallowance ultimately falls to the utility and its shareholders.\(^5\)

43. Given the above, AltaLink submitted that a DACDA application proceeding should not be considered in isolation. Because the regulatory environment in which Alberta utilities operate is carefully monitored and scrutinized by debt raters, debt analysts and market participants, a supportive regulatory environment is a significant component of favourable debt ratings. Consequently, the interests of ratepayers and utilities should be aligned in respect of the need to maintain favourable debt ratings as higher ratings lower debt costs.\(^5\)

44. The CCA submitted that the capital additions requested by AltaLink represent, by a wide margin, the largest request for an addition to rate base of any electric utility in the history of Alberta. For context, the next largest request for an addition to rate base occurred in Proceeding 3585 for AltaLink’s 2012-2013 DACDA, which had a proposed addition to rate base of $1.4 billion.\(^5\) Further, it was notable that the last four major deferral account reconciliation

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\(^5\) The SNC-Lavalin entities were SNC-Lavalin Transmission Ltd., SNC-Lavalin Transmission II Ltd., SNC-Lavalin Transmission III Ltd., and SNC-Lavalin Energy Alberta Ltd.. For ease of reference in this decision, the entities named above associated with the sale are generally referenced collectively as “SNC-Lavalin”.

\(^4\) Exhibit 22542-X0753: Third Amended and Restated Exclusive Appointment of EPC/EPCM Contractor between AltaLink L.P. (AL) and SNC-Lavalin Inc. (SLI).

\(^3\) Exhibit 22542-X1970, AltaLink argument, paragraph 31.

\(^2\) Exhibit 22542-X1970, AltaLink argument, paragraph 32.

\(^1\) Exhibit 22542-X1819, PDF page 11, Table 1-1.
applications combined were only $3.5 billion, representing an amount that was only 93 per cent of the $3.8 billion capital addition amount requested in the current application. The CCA submitted that the primary issue in the present application is what portion of the $3.8 billion of expenditures will the Commission determine were prudently incurred.

45. AltaLink argued that it was entirely inappropriate for the CCA to make recommendations regarding specific disallowances for the first time through its argument. It submitted that in addition to the CCA’s recommended disallowances totalling approximately $139 million, including disallowances for matting, helicopter use, improper change management, structure moves, structure storage, and substation moves, the CCA was also seeking significant disallowances in respect of AC mitigation costs, and in relation to an assertion that a significant proportion of the EPCm change orders from SNC-ATP and Burns & McDonnell (B&M), its EPCm service providers, were unearned and unnecessary. However, AltaLink noted that the CCA has not indicated a specific dollar amount that should be ascribed to these last two items. Further, the CCA is also seeking cost and performance audits that it claims will result in approximately 1 to 5 per cent of total costs being disallowed. This would imply further disallowances through an audit process of between $38 million to $190 million. Accordingly, the quantum of disallowances being sought by the CCA is not only “devoid of foundation but also irresponsible in the larger context.” In particular, in consideration that a DACDA application proceeding is an after-the-fact review of actual incurred costs, significant harm can result from the disallowances of incurred costs, both for the utility and for customers.

46. AltaLink concluded that although a DACDA reconciliation may be mathematically small compared to the total revenue requirement, a significant disallowance within a DACDA regulatory proceeding may have a major impact on a utility, on the market’s perception of the regulatory environment within which a utility operates, and ultimately on the cost of capital.

**Effect of provisions in the share purchase agreement**

47. AltaLink noted that during the proceeding, several references were made to the fact that the share purchase transactions between Berkshire Hathaway Energy (BHE) and SNC-Lavalin require a decision by December 30, 2018. Specifically, AltaLink explained that Article 9.3 of the SPA provided a cost-sharing mechanism regarding the apportionment of AltaLink DACDA disallowances as between SNC-Lavalin and BHE, and that if a decision is not reached by December 30, 2018, the time period for the cost-sharing mechanism will expire.

48. Although the allocation of risk set out in the cost sharing mechanism was negotiated and agreed to by sophisticated parties to achieve commercial certainty, AltaLink stated that the share
purchase agreement is irrelevant to the core determination of reasonableness that must be made in the current proceeding.67

49. In its argument, the CCA noted that during the oral hearing, Commission counsel asked the AltaLink witness panel to discuss the effect of Article 9.3 in light of the following statement from an AltaLink letter regarding the scheduling of Proceeding 22542 that states in part as follows:

The resolution of the proceeding prior to December of 2018 is critical to AltaLink and its owners. The proceeding finalizes the prudency of historical costs incurred while AltaLink had a different ultimate shareholder. Additional delay that results in a decision after December of 2018 will frustrate the risk allocation of sophisticated parties that reasonably contracted on the basis that a proceeding would be heard and decided prior to December of 2018.68

50. In response to such questions, the CCA noted that AltaLink had confirmed that its urgency to have a decision issued was related to the operational effect of Article 9.3 of the SPA.69

51. The CCA stated:

31. If it is assumed that AltaLink will be able to pass on disallowances arising from Article 9.3 of the Share Purchase Agreement if a Commission Decision is rendered on or before December 30, 2018, then the CCA has concerns with this constraint. From a ratepayer perspective, in principle, the CCA submits that ratepayers should not have to bear any of the costs where AltaLink has not demonstrated the prudence of its costs. SNC and Berkshire Hathaway are sophisticated parties and their contract should be assumed to be a sophisticated allocation of risk and responsibility. In principle, these contract arrangements should not impact ratepayers regarding cost disallowances.

32. However, if disallowed costs were the result of a lack of reasonable conduct by SNC, then fairness would suggest these costs should be borne by SNC. Furthermore, from a contextual perspective, a disallowance of costs to AltaLink that should have been borne by SNC could result in higher cost recovery risk being attributed to AltaLink which could have a negative impact on the rate of return in the future, a cost that could be borne by ratepayers.70

52. The CCA recommended the following outcomes:

• All costs where AltaLink has not met its onus to demonstrate the reasonableness of the costs should be disallowed.

• For all costs associated with SNC-ATP contractual responsibilities to AltaLink and where AltaLink has not met its onus to demonstrate the reasonableness of the costs but the Commission seeks further information before determining a specific disallowance, the CCA recommends that the Commission determine a cap on the amount determined for a cost disallowance. Furthermore, such amount could then be used by AltaLink in the

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67 Exhibit 22542-X1970, paragraph 826.
70 Exhibit 22542-X1972, CCA argument, paragraphs 31-32.
context of the SPA as a potential disallowance, and could then be subject to further process from the Commission such as a cost and performance audit, a compliance filing or other Commission determined process.\textsuperscript{71}

53. Apart from its general opposition to the use of cost and performance audits, AltaLink submitted that adopting the CCA’s proposed future cost and performance audit would thwart the cost sharing provision set out in Article 9.3 of the SPA. In particular, AltaLink noted that Article 9.3(b) of the SPA reads as follows:

\[
\text{… shall be paid by wire transfer or other immediately available funds within ten (10) Business Days of the applicable AUC Disallowance becoming final without an appeal being made thereon by the applicable Operating Entities …}\textsuperscript{72} \text{[emphasis added by AltaLink]}
\]

54. In light of the wording of Article 9.3(b) of the SPA, AltaLink submitted that a “cap” of some yet undetermined disallowance, as proposed by the CCA, could hardly be considered a final disallowance. As such, it would be expected that if this approach were to be adopted, SNC-Lavalin would refuse to make any payment under such a scheme.\textsuperscript{73}

**Effect of Section 2.4 of Master Services Agreement**

55. The CCA also noted in its argument that Commission counsel questioned the AltaLink witness panel about Article 2.4(d) of the MSA.\textsuperscript{74} Article 2.4(d) of the MSA reads as follows:

\[
\text{SLI shall provide the EPC Services or the EPCM Services to AL at a cost equal to the then current market rate, subject to verification by AL as contemplated in Section 2.5, or at a rate accepted by the AUC, all pursuant to a contract for EPC Services or EPCM Services to be entered into as contemplated in Section 2.3 hereof. For further clarity, the then current market rate shall be subject to review by the AUC. In the event that the AUC disallows a portion of the amount paid by AL, in respect of the Services provided by SLI, on the basis that such portion is considered unreasonable, SLI and AL will adjust the amount billed and paid in respect of such services to reflect the removal of the disallowed amount.}\textsuperscript{75} \text{[emphasis added by the CCA]}
\]

56. The CCA noted that AltaLink clarified that if there is a disallowance, and if AltaLink believed that there was a breach of SNC-ATP’s duties and obligations in its role as EPC or EPCm service provider,\textsuperscript{76} AltaLink would look to recover that amount from SNC-ATP.\textsuperscript{77} However, the CCA also noted that AltaLink clarified that while it would seek compensation

\textsuperscript{71} Exhibit 22542-X1972, CCA argument, paragraph 33.
\textsuperscript{73} Exhibit 22542-X1970, paragraph 350.
\textsuperscript{74} Exhibit 22542-X0753, Third Amended and Restated Exclusive Appointment of EPC/EPCM Contractor between AltaLink L.P. (AL) and SNC-Lavalin Inc. (SLI).
\textsuperscript{75} Exhibit 22542-X0697, Section 2.4(d), PDF pages 63-64.
\textsuperscript{76} For the purposes of this decision, the Commission has used the abbreviation EPCM to include both EPC and EPCm services.
\textsuperscript{77} Transcript, Volume 3, page 475.
from SNC-ATP in the event of a disallowance, there is no guarantee that AltaLink would recover disallowed amounts under this clause.\(^{78}\)

57. In its argument, AltaLink explained the commercial backdrop to Article 2.4 of the MSA. Specifically, it understands SNC-ATP to be of the view that the objective intent of this provision is to address, solely, any differences between its engineering and labour rates and the rates approved by the Commission. In this regard, AltaLink noted that through its tenure as a service provider to AltaLink, SNC-ATP has complied with all rates set by the Commission. However, AltaLink submitted that the position of SNC-ATP is that this provision was never objectively intended to cover any disallowance, howsoever arising. Accordingly, AltaLink submitted that whether or not SNC-ATP is responsible to AltaLink depends on whether or not SNC-ATP breached its duties owed to AltaLink, which, in turn, requires an analysis of the specific circumstances of any disallowance.\(^{79}\)

58. AltaLink added that neither it nor SNC-ATP are parties to the SPA and that the sharing mechanism between the parties to the sale of AltaLink is unrelated to provisions governing the relationship between AltaLink and SNC-ATP.

Commission findings

59. The Commission’s consideration of a tariff application, including in this case, the determination of final capital project costs, is prescribed by sections 121 and 122 of the Electric Utilities Act. Section 121 of the act requires the Commission to ensure that any tariff it approves is just and reasonable, not unduly preferential, arbitrary, or unjustly discriminatory or inconsistent with, or in contravention of, any law. Section 122(1)(a) requires the Commission to provide the owner of an electric utility a reasonable opportunity to recover capital costs provided that the costs are prudent and, if, in the Commission’s opinion, they provide an appropriate composition of debt and equity for the investment.

60. With respect to AltaLink’s recommendation that the Commission not take any account of the potential effect of Article 2.4(d) of the MSA when considering project costs included in the current proceeding, the Commission agrees. Accordingly, the Commission has based its assessment of all capital addition amounts solely on the basis of whether the Commission considered them to be reasonable, and prudently incurred.

61. Although factors other than the Commission’s assessment of the reasonableness of actual expenditures on its projects cannot influence the Commission’s decision on whether or not to apply a disallowance, in the unique circumstances that exist as a result of the disallowance sharing provisions of the share purchase agreement, the Commission has made a final determination on projects where the available evidence supports making a final decision without further process. The Commission has not taken account of Article 9.3(b) of the SPA in its assessment of capital addition amounts, other than to recognize that this decision, if issued after January 30, 2018, would frustrate that article of the agreement.

62. With respect to AltaLink’s concern with the potential impact of any disallowances on the cost of future financing, the financial market understands that the risk of a disallowance is present in any DACDA proceeding, and has no doubt factored this potential into its return

\(^{79}\) Exhibit 22542-X1970, AltaLink argument, paragraph 828.
expectations for regulated utilities such as AltaLink. In this regard, because the Commission has only applied its well-known and understood prudency test to its consideration of the applied-for costs, this consistent approach provides the supportive regulatory environment that the financial market has come to expect and considers to be important.

3.3 Role of AESO/TFO/Commission

63. In argument, AltaLink submitted that the Commission has repeatedly provided its views on matters common to DACDA application proceedings, including the legislative framework for direct assign projects, the standard of review, the role of estimates, and the role of the AESO in the context of prudency reviews.

64. AltaLink submitted that the Commission has patiently and repeatedly explained that the AESO is a sophisticated party that plans the transmission system, that the AESO sets in-service dates (ISDs) for transmission projects, that it has data in real-time when current conditions result in increased costs, and that it has the power to refer matters to the Commission if it determines that Commission review is required. Accordingly, considering that TFOs must comply with mandatory directions from the AESO as expert system planner, and considering that costs are primarily determined by market procurement processes, as a practical matter, the costs of projects are largely determined by the requirement for a transmission upgrade and by the time frame for completion that the AESO, as system planner, has determined.  

65. AltaLink submitted that the respective roles of the TFO, the AESO, and the Commission are well defined in the statutory framework and have been set out in numerous Commission decisions. Having regard to such decisions, AltaLink submitted that while the AESO does not assess prudence, the decisions and actions of the AESO often have a significant bearing on how the Commission assesses the TFO’s prudence in the execution of a transmission project.

66. AltaLink further submitted that while there is an expectation that the TFO will keep the AESO informed of issues as they arise and provide information to the AESO to assist it in making decisions, the Commission has recognized that the AESO establishes the ISD for the project, and that the TFO must comply with the direction of the AESO unless doing so would put its facilities or the safety of the TFO’s employees or the public at risk. It follows therefore that when, in this proceeding, the AESO is informed about the status of a transmission project and takes no steps to extend or alter ISDs, then the Commission has and should conclude that the AESO has made a conscious decision to keep the project moving forward in order to meet the planned ISD. Most critically, however, it is important to recognize that it is the AESO who has the knowledge of the need for transmission reinforcements and of why ISDs need to be met.

67. AltaLink noted that it confirmed in response to an IR from the Commission that it is generally AltaLink’s practice to use the ISD set out in the AESO functional specification in early stage planning, including at the proposal to provide service (PPS) readiness stage gate. In addition, as a project progresses beyond the planning phase, AltaLink is in regular contact with the AESO and will advise the AESO when an ISD is not achievable due to circumstances not

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80 Exhibit 22542-X1970, AltaLink argument, paragraph 4.
81 See Decision 3585-D03-2016, paragraphs 138-144; and Decision 2044-D01-2016, paragraphs 113-117.
82 Exhibit 22542-X1970, AltaLink argument, paragraph 35.
83 Decision 3585-D03-2016, paragraph 165, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 38.
envisioned at the time of the functional specification and the PPS. Furthermore, in consideration of regular communications through discussion and monthly reporting, it is clear that the AESO has the opportunity to review changes to the ISD if it were to deem such an action to be appropriate. For projects in the current proceeding, the AESO did not take such an action, and instead confirmed project requirements.\footnote{Exhibit 22542-X1970, AltaLink argument, paragraph 128.}

68. AltaLink submitted that while the CCA suggested often during the proceeding that a project should have been delayed to save costs, it is significant that despite being fully informed about all of AltaLink’s projects and other projects being executed at the same time, the AESO at no time took any steps to delay or defer any ISD for projects in this proceeding. In any event, AltaLink noted that typically, once a project is underway, the lowest cost option is to continue with the project execution schedule.\footnote{Exhibit 22542-X1617-CONF, AML-AUC-2018JUN01-013-CONF, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 129.}

69. In reply, the CCA submitted that it is understandable that AltaLink wants to attribute as many decisions as it can to compliance with the AESO, or to the results of AESO actions. By doing so, AltaLink can offload responsibility to the AESO for the decision, claim that the AESO was the driver of any resulting cost increases, and thereby deny any responsibility for any cost overruns.\footnote{Exhibit 22542-X1980, CCA reply argument, paragraph 62.} As the AESO was not an active participant in the current proceeding, the CCA noted that there was no opportunity to test the AESO’s documents or views, or to confirm the speculations provided by AltaLink about the AESO’s conduct, role, decisions and cost mitigation efforts.\footnote{Exhibit 22542-X1980, CCA reply argument, paragraph 61.}

70. The CCA submitted that the Commission clarified the nature of the AESO’s responsibilities with respect to ISDs as follows in Decision 3585-D03-2016:

\begin{quote}
642. The Commission recognizes that the AESO establishes the ISD for a project and the TFO must comply with the direction of the AESO unless doing so would put its facilities or the safety of the TFO’s employees or the public at risk. However, the AESO does not operate in a vacuum and there is an expectation that the TFO will keep the AESO informed of issues as they arise and that it provide information to the AESO to assist it in making decisions regarding the setting and/or adjustment of the ISD. The evidence on this record demonstrates that this was done [for the CB Project].\footnote{Decision 3585-D03-2016, paragraph 642, cited at Exhibit 22542-X1980, CCA reply argument, paragraph 45.} \textit{[emphasis added by the CCA]}
\end{quote}

71. The CCA acknowledged that the AESO does have the right to cancel a project or to recommend that the TFO apply for an amendment to any approval it has obtained pursuant to the Hydro and Electric Energy Act.\footnote{ISO Rule 9.1.3.5, cited at Exhibit 22542-X1980, CCA reply argument, paragraph 48.} However, the CCA submitted that it is difficult to envision a circumstance where the AESO would cancel a project.

72. In this regard, the CCA noted that in Decision 3585-D03-2016, the Commission clarified the fact that it does not draw conclusions as to prudence from the fact that the AESO has or has
not commented on a project in light of its right to do so as outlined in Section 25(5) of the *Transmission Regulation*:

139. It has been suggested that, because Section 25(5) of the Transmission Regulation, restricts the Commission from requiring the AESO to comment on a TFO’s prudence in managing a transmission project, it then follows that the AESO’s failure to comment results in a de facto determination of prudence. The Commission does not agree. Although the Commission cannot compel the AESO to comment, the AESO is not precluded from doing so because Section 25(5) of the Transmission Regulation also expressly provides the AESO with a choice to comment. Because the AESO’s role in commenting on project costs is voluntary, the Commission does not draw any conclusions regarding the AESO’s consideration of project costs from the fact that the AESO did not provide any notification of concern or issue to the Commission respecting the costs for any of the projects in this proceeding.

73. Further, the Commission also stated the following in the same decision:

141. With respect to the submission of the RPG [Ratepayer Group] regarding the TFO’s obligations under Section 39 of the Electric Utilities Act, the Commission agrees that inherent in the TFO’s duty under Section 39(1) of the Electric Utilities Act to provide safe, reliable and economic operation of the AIES is the TFO’s duty to make prudent decisions. The Commission also recognizes that the obligation to assist the AESO under Section 39(2) of the Electric Utilities Act is an obligation to “assist the AESO in any manner ‘to enable the AESO to carry out its duties. Recognizing that the AESO has the statutory responsibility to plan the transmission system and determine what facilities are necessary and when they will be required, a TFO must assist the AESO by providing information, such as cost implications of viable alternatives or trade-offs between costs and ISD targets for consideration by the AESO. That is, the TFO’s responsibility is an active one and if evidence demonstrates that a TFO failed to provide this assistance, the TFO could not simply rely on the AESO’s decisions as justification for pursuing a course of action and incurring the resultant costs of doing so.”

74. The CCA accepted that AltaLink eventually informs the AESO of cost increases, but questioned whether the AESO is informed on a “real time” basis as suggested by AltaLink. It argued that despite AltaLink’s claims that it has regular communications with the AESO through project execution, AltaLink does not generally disclose emails, meeting notes or summaries of its discussions with the AESO.

75. The CCA also noted that when the AESO does review project costs in the course of its project oversight, it routinely reminds AltaLink that it “provides no comments on whether these costs are prudent” and that the “prudency of these costs forms part of the Alberta Utilities Commission process.” The CCA considered that this disclaimer was counter to AltaLink’s suggestions that the Commission can rely on the AESO when assessing the reasonableness and prudence of AltaLink’s costs. In this regard, the CCA submitted that it is notable that the AESO does not perform the role of an owner’s engineer, where the owner examines costs in great detail.

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91 Decision 3585-D03-2016, paragraph 139, cited at Exhibit 22542-X1980, CCA reply argument, paragraph 51.
92 Decision 3585-D03-2016, paragraph 141, cited at Exhibit 22542-X1980, CCA reply argument, paragraph 51.
93 Exhibit 22542-X1980, CCA reply argument, paragraph 52.
94 Exhibit 22542-X1178, PDF page 1, item 5, cited at Exhibit 22542-X1980, CCA reply argument, paragraph 54.
to determine whether proposed expenditures are sound from a technical, resource, and commercial perspective.⁹⁵

76. The CCA submitted that when the AESO considers change orders received from a TFO, it has four options: approve, reject, defer or cancel. The CCA submitted that the purpose of the AESO’s review of a change order requesting an ISD change is to determine if the change is so significant or if the costs have risen to a point where the project need should now be reviewed. Given this, the CCA submitted that the purpose of the AESO’s role in the context of its oversight of project execution is not to supervise the execution, but rather to meet the AESO’s responsibilities to continue to confirm that the need for the project remains.⁹⁶ Accordingly, the CCA submitted that the lack of options for the AESO leaves difficult decisions for the Commission as the final arbiter of the prudency of proposed rate base additions.⁹⁷

77. The CCA submitted that while it expected that AltaLink would comply with any AESO requests regarding cost, scope or ISDs, the key question is whether AltaLink was proactive on these matters, including seeking a change to an ISD if doing so would help to reduce costs. The fact that AltaLink testified that it had not made any such request in respect of the projects included in the DACDA application is “profoundly disappointing to customers” and supportive of the CCA’s concern that AltaLink operates in a “spend and defend” culture.⁹⁸

Commission findings

78. The Commission has provided its findings respecting the role of the AESO in several prior DACDA decisions of AltaLink and other TFOs and, in this regard, the AESO’s role may reasonably be described as a “settled matter.”

79. The Commission notes that the CCA does not dispute AltaLink’s representation of the AESO’s central role as system planner and the statutory obligation of TFOs to comply with mandatory directions from the AESO.

80. The Commission also considers that any determination it makes regarding a TFO’s prudence should fully take into account the fact that the TFO is obligated to build its direct assign project in accordance with the routing and specifications set out in the permits and licences granted in respect of the project.

81. As a practical matter, the costs of projects are largely determined by the requirement for the transmission upgrade and by the time frame for completion that the AESO, as system planner, has determined. However, the Commission considers that neither the AESO’s role as system planner nor the fact that the AESO has set an ISD target at the planning or pre-execution phases of the life-cycle of a transmission project has the effect of insulating from review the TFO’s decisions or actions on its execution of that project.

82. In this regard, the Commission’s findings at paragraph 642 of Decision 3585-D03-2016 determined that many decisions that the AESO makes in respect of direct assign projects are dependent on the information provided by the TFO, or on representations that the TFO makes

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⁹⁵ Exhibit 22542-X1980, CCA reply argument, paragraph 55.
⁹⁶ Exhibit 22542-X1980, CCA reply argument, paragraph 57.
⁹⁷ Exhibit 22542-X1980, CCA reply argument, paragraph 58.
⁹⁸ Transcript, Volume 1, pages 148-150.
⁹⁹ Exhibit 22542-X1980, CCA reply argument, paragraph 53.
regarding the achievability of execution targets. Accordingly, the fact that the AESO accepts or does not dispute an ISD target that the TFO has represented as achievable does not, of itself, ensure that all costs incurred in order to attempt to meet that ISD target are consequently prudent. For example, if evidence demonstrates that an ISD target that the TFO presented to the AESO as achievable on the basis of information the TFO knew or ought to have known at the time was unreasonable, the absence of evidence that the AESO actively “pushed back” on the target may not be a full defence to imprudent actions of the TFO. Stated in another way, even if the AESO’s determination as to the need for completion of a project is “as soon as possible,” the TFO still has the responsibility to clearly communicate to the AESO that a later ISD should be targeted if, based on information the TFO knew or ought to have known at the time, the AESO’s desired ISD could not be met, or could not be met at a cost consistent with the cost estimate the TFO provided to the AESO at the time.

83. Further, the Commission considers that the AESO’s failure to actively instruct the TFO is one factor, but not the definitive factor, in assessing a TFO’s prudent execution of a direct assigned project. The Commission disagrees with the CCA’s statement that “it is difficult to envision a circumstance where the AESO would cancel [a] project,” as this statement is directly contradicted by AltaLink’s request within the current proceeding for recovery of costs associated with projects that the AESO has cancelled. Fundamentally, if the AESO remains of the view that a project is needed for system planning purposes, a realization that costs have increased may not tip the balance to where the AESO is ready to definitively cancel the project. It is probable that, as noted by AltaLink during the current proceeding, the opportunity to reduce or eliminate costs by moving a planned ISD to a later date may not exist once the execution of the project is “in flight.” However, the Commission is also not prepared to find that in all circumstances, the AESO is aware of the progress or the expected cost of direct assign projects on a “real time” basis, as suggested by AltaLink.

84. Accordingly, it is the determination of the role of the AESO discussed above that the Commission has applied in its consideration of the evidence on the record when examining whether AltaLink has prudently executed its direct assigned projects in this proceeding.

3.4 Ability to retender subcontracts

85. The CCA submitted in evidence that a reasonable project manager would, when prudently executing a project, consider rebidding contracts as an available option to contain costs in a heated market. It stated:

54. When a project manager believes they have some flexibility on the in-service date and is motivated to mitigate costs whenever possible, they can pursue options such as rebidding contracts when supplier pricing is above normal, moving construction into timeframes when weather-related and access-related costs are reduced and moving construction out of times where there is a shortage of labour or competitive suppliers.101

86. The CCA referenced ATCO Electric’s Bourque to Bonnyville Project in support of its position that rebidding is an option available to TFOs and can result in significant savings.102 It then advocated:

100 Exhibit 22542-X1980, CCA reply argument, paragraph 48.
101 Exhibit 22542- X1819.
102 Exhibit 22542-X1819 at paragraphs 56-57.
• reductions of up to $4.0 million of the additional labour costs in regard to the $6.8 million cost variance on the 648L/637L (partial) (Red Deer) transmission line project; 103

• unspecified reductions relating to cost increases in project change proposal (PCP) 00001 and PCP 00002 for the Christina Lake/Pike project;

• unspecified reductions relating to cost increases in PCP 00006 and PCP 00009 for the WATL project. 104

87. The CCA asserted that had AltaLink acted reasonably, it would have “seriously explored the possibility of reconducting tenders in each case of material price escalation.” 105

88. AltaLink responded in its rebuttal evidence that:

97. In the case of the AET re-tendering, the three initial bids that AET received were non compliant. The re-tendering that occurred in fact involved AET reviewing potential cost savings with the 3 vendors and obtaining updated proposals. AET also reviewed quantities and refined the scope which resulted in lower pricing. 106

89. AltaLink added that like “AET, AltaLink and its EPCm continuously review and assess cost trends throughout the life of the project. Where opportunities for cost savings may arise during project execution, those opportunities are assessed and if appropriate, a decision may be made to change course. As demonstrated in the evidence filed on the record, that includes retendering where it is determined that this may result in cost savings.” 107

90. In support of its position, it referenced its NW Sturgeon project D.0437 and its East Calgary Transmission Project D.0410, as examples on the record where adjustments were made and work retendered.

91. The CCA repeated its evidentiary position in argument.

92. In argument, AltaLink submitted that the CCA’s position with respect to retendering was wrong in fact and flawed at law. 108 It argued that the idea that a party could invite participants to bid, and then ignore the results and start over if it did not like the results was “commercially absurd,” 109 ignored the binding legal obligations that are created when a compliant bid process has been run, 110 and failed to account for the provisions in ISO Rule 9.1.5.5.

103 Exhibit 22542-X1819 at paragraph 247. Note: In evidence no specific reduction amount was indicated. In argument the CCA requested a $4 million reduction.

104 Exhibit 22542-X1819, CCA evidence at paragraph 71. These three actions by ATCO Electric are referred to in AltaLink’s rebuttal evidence in paragraph 97 below as “AET’s re-tendering.”

105 Exhibit 22542-X1819, CCA evidence at paragraph 73.

106 Exhibit 22542- X1885 AltaLink rebuttal evidence, paragraph 97.

107 Exhibit 22542- X1885, AltaLink rebuttal evidence, paragraph 99.


Commission findings

93. The record shows that AltaLink has retendered work on some of its projects in this application. Consequently, the disagreement between the parties on this issue is about the extent to which retendering can, and should, be used to prudently execute transmission projects.

94. The obligation to tender work arises from ISO Rule 9.1.5. Included within those provisions is ISO sub-rule 9.1.5.5 that generally requires the TFO to award the contract to the “lowest priced, fully compliant bid.”

95. The Commission agrees with AltaLink’s submission that the ability to retender contracts is circumscribed by the law. Since the release of the Supreme Court of Canada’s seminal decision in Ron Engineering, the law is clear that contractual obligations can arise with the receipt of a compliant bid response.††

96. In M.J.B. Enterprises Ltd. v. Defence Construction††† (1951) Ltd., the Supreme Court of Canada explained that whether the tendering process creates a preliminary contract is dependant upon the terms and conditions of the tender call. It stated as follows, at paragraph 19:

What is important, therefore, is that the submission of a tender in response to an invitation to tender may give rise to contractual obligations, quite apart from the obligations associated with the construction contract to be entered into upon the acceptance of a tender, depending upon whether the parties intend to initiate contractual relations by the submission of a bid. If such a contract arises, its terms are governed by the terms and conditions of the tender call.

97. Consequently, the Commission finds that whether it was reasonable to expect AltaLink to retender its work for the additional labour costs in regard to the $6.8 million cost variance on the 648L/637L (partial) (Red Deer) transmission line project, or as a result of other cost variances on the Christina Lake / Pike project and the WATL project, as asserted by the CCA, was dependent on the nature of the tender documents, the requirements of ISO Rule 9.1.5 and the market conditions at the time.

98. The Commission has provided its findings regarding each of these projects in sections 4 and 5 of this decision.

3.5 Project execution and contractor oversight processes

99. The Commission’s September 28, 2018 letter asked parties to address in argument the following question:

Did AltaLink Management Ltd. (AltaLink) demonstrate that it considered and explored reasonable options in a timely way throughout the execution of the projects under consideration? For example, is there evidence to suggest that in the execution of these projects, AltaLink did not reasonably plan for events, account for common changes in

†† The Queen (Ont.) v. Ron Engineering, [1981] 1 SCR 111. For a comprehensive review of tender law and the obligations arising from the tender process please see Martel building Ltd. v. Canada, [2000] 2 SCR 860 beginning at paragraph 79.
project conditions, labour shortages, or other matters that led AltaLink to unreasonably incur costs?  

100. In the Bema part 2 evidence and in response to this issue, the parties identified the following matters for consideration:  

- AltaLink project execution oversight practices  
- Compliance with change management practices  
- Compliance with procedures manuals  
- Quantity of change orders and subcontract amendments  

3.5.1 AltaLink’s project execution oversight practices  

101. AltaLink submitted that throughout the life-cycle of its projects, it relies on its methodology for executing its direct assign projects, reflecting the project organization that it established in 2010. It added that since this methodology was first established, it has made continuous improvements to its processes. Its project management organization includes a practice of weekly project status meetings between project managers and senior leaders to discuss project status, risks and issues. Under this structure, AltaLink argued, major project decisions can be made at the appropriate level of authority.  

102. Further, it continues to rely on expert EPCm services provided under an outsourced EPCm model. Under this model, EPCm service providers hire contractors to conduct necessary work and provide necessary equipment and materials. However, as owner, AltaLink reviews the work of the EPCm, and scrutinizes all invoices for efficient provision of service. AltaLink submitted that both it and its service providers apply reasonable judgement when managing various subcontracts, and take appropriate steps where required, including rejecting inappropriate changes that arise through review. Further to this, AltaLink noted that provisions of the SNC-ATP MSA and the B&M and SNC-ATP relationship agreements (RAs) and associated procedures manual provide procurement guidelines that ensure, among other things, that procurement satisfies project requirements and complies with ISO Rule 9.1.5, which governs procurement. It is notable, in AltaLink’s view, that its procurement procedures have been audited, with no instances of noncompliance. In particular, AltaLink submitted that, barring exceptional circumstances, procurement in compliance with ISO Rule 9.1.5 should be considered to be strong evidence that costs were prudently incurred.  

103. With respect to planning stage decisions, AltaLink noted that as it must follow Rule 007 at the development stage of the facility application. In doing so, it balances the requirements of the project, including cost and schedule, with agricultural impacts, residential impacts, environmental impacts, electrical considerations, and visual impacts. Examples of

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113 Exhibit 22542-X1957, PDF page 2, paragraph 2 (a).  
116 Exhibit 22542-X1970, AltaLink argument, paragraphs 110-111.  
117 Exhibit 22542-X1970, AltaLink argument, paragraphs 120-121.  
119 Exhibit 22542-X1970, AltaLink argument, paragraph 140.
decisions that it made during the planning stages that affected its execution of a project included, without limitation:\textsuperscript{120}

- the line optimization study for the Christina Lake projects that determined that 3 H Frame rather than R-Series structures should be used, resulting in a saving of $143 million;\textsuperscript{121}
- the use of a fixed-price turnkey solution for the supply and installation of HVDC converter stations for the WATL project;\textsuperscript{122}
- the offshore procurement of material and equipment for the WATL project and other projects;\textsuperscript{123}
- the utilization of unit-based contracts and the use on the WATL project of strategies to incent contractor performance through the prospect of additional work; and\textsuperscript{124}
- the use of bulk sourcing agreements to secure the required labour at market competitive rates.\textsuperscript{125}

104. AltaLink submitted that to the extent that all of the direct assign projects in the current DACDA application have been reviewed and approved by the Commission through the facility applications and to the extent that it is legally obligated to construct the route and facilities approved by the Commission, any after-the-fact suggestion that it could have gone elsewhere or constructed different structures to allegedly reduce costs are factually incorrect and legally pointless.\textsuperscript{126}

105. In addition, it has also established a comprehensive risk management process which identifies risks early in project development, and which provides for continuous monitoring of the risks throughout the lifecycle of each project.\textsuperscript{127} In this regard, AltaLink explained that its stage gate review process executed throughout the lifecycle of its projects formalizes the review of project readiness at each stage based on an examination of key decisions. AltaLink submitted that its stage gate review process:

- establishes a framework to understand the relationship between cost and schedule to meet the scope of each project
- includes a risk analysis that includes:
  - risk descriptions
  - risk impacts
  - the probability of occurrence, and
  - a risk control strategy
- demonstrates that AltaLink applies a consistent decision-making process across a program of projects

\textsuperscript{120} Exhibit 22542-X1970, AltaLink argument, paragraph 144.
\textsuperscript{121} Exhibit 22542-X0065, paragraph 15.
\textsuperscript{122} Exhibit 22542-X1037, paragraphs 44 and 45.
\textsuperscript{123} Exhibit 22542-X1037, paragraph 47.
\textsuperscript{124} Exhibit 22542-X1037, paragraph 49.
\textsuperscript{125} Exhibit 22542-X1524.01, AML-CCA-2017DEC20-009 and 013.
\textsuperscript{126} Exhibit 22542-X1970, AltaLink argument, paragraphs 141 and 142.
\textsuperscript{127} Exhibit 22542-X1970, AltaLink argument, paragraph 117.
• provides a forum for key decision makers (executive panel members) to confirm whether the project proceeds or requires the project team to complete additional work before proceeding to the next phase of a project
• provides visibility to the leadership team as to the key decisions made
• creates a forum for communicating the project’s scope, cost, schedule and risk

106. As well, major decisions on projects are documented in the enhanced project summary reports filed with the application.

107. In its argument, the CCA submitted that to evaluate the Commission’s question regarding the reasonableness of AltaLink’s general project execution practices, the following questions must be answered:

• On what basis did AltaLink determine that a decision was needed where it should explore reasonable options with the potential to mitigate costs?
• If AltaLink is referencing its PPS stage estimate to determine if a decision should be made, was the PPS estimate sound, and reflective of what was known or ought to have been known when it was prepared? Were the policies, procedures and practices sufficient to ensure AltaLink considered and explored reasonable options in a timely way throughout the execution of the projects under consideration?
• Were the AltaLink and SNC project managers, engineers, procurement staff and other staff trained, motivated and held accountable for considering and exploring reasonable options in a timely way throughout the execution of the projects under consideration?

108. The CCA submitted that although AltaLink claims that it has a robust set of policies, practices and procedures that it relies on, it stated that the questions that must be asked are whether they were sound and whether they were followed.

109. The CCA argued that AltaLink has provided minimal independent measurable evidence regarding the competence of its project managers and project teams. For example, although the SNC RA procedures manual indicates that options should be explored, there were minimal examples across the record to demonstrate that this was a normal practice.

110. The CCA contended that there are real-world pressures on project managers to make decisions, including the pressure to deliver on time or even ahead of schedule, such that budget concerns may take a back seat. For example, the CCA submitted that the WATL project was subject to substantial pressure to be built at a rapid pace. Furthermore, as AltaLink’s EPCm arrangements are essentially cost-plus, and as AltaLink’s principle EPCm supplier was also the
owner of AltaLink, project managers who raise concerns about excessive amounts of hours being billed to the project may face the pressure that such actions could be career limiting moves.\textsuperscript{135}

111. The CCA considered that some portions of some large projects included in this application were not well executed, with the result of substantial costs to rate payers. The CCA submitted that such costs need to be identified and disallowed.\textsuperscript{136}

\textbf{Commission findings}

112. Because AltaLink employs an outsourcing model for its EPCm services, its internal processes to oversee the execution of its direct assigned projects must be sufficiently robust and timely to ensure that it is aware of and approves the decisions its EPCm service providers are making on its behalf. Further, while records of the decision-making must be sufficiently transparent to enable the examination of the decisions made, AltaLink bears the onus of demonstrating that all decisions that are made, including decisions made by its EPCm service providers, were prudent.

113. The Commission finds that AltaLink’s internal processes established to oversee the execution of its direct assigned projects to be reasonable. In particular, the Commission considers that AltaLink’s stated practice of weekly project status meetings between project managers and senior leaders to discuss project status risks and issues to be significant, particularly as AltaLink has asserted that it reviews the work of the EPCm service provider, and scrutinizes all invoices for efficient provision of service.

114. The Commission finds that AltaLink’s stage gate review process, as described through the documentation provided in the current DACDA application, demonstrates that major project decisions made at key decision points are heavily scrutinized, and are considered at the highest levels of AltaLink’s project management organization. Additionally, the Commission considers that the “go/no go” structure of AltaLink’s stage gate process is designed to reflect the fact that decisions with major implications on the final cost of a project may be largely irreversible after major funding commitments have been made, or once key resources have been committed.

115. To this end, the Commission takes note of the following observation from AltaLink’s Mr. Watson:

A. MR. WATSON: And I would just add to that, you know, the discussions like that should be made at the front end. It's tremendously expensive mid-construction to try to delay.

If you are going to delay, you want to do that before your launch. It gets prohibitive once a project has launched.

And you only have to look at, you know, Site C and Muskrat Falls to see what impacts, start, stop, delay, review has once a project has its momentum and has started to move.\textsuperscript{137}

116. While the Commission finds that, on the whole, AltaLink’s risk management practices structured primarily around its stage gate decision making framework to be reasonable,

\textsuperscript{135} Exhibit 22542-X1972, CCA argument, paragraph 52.
\textsuperscript{136} Exhibit 22542-X1972, CCA argument, paragraph 58.
\textsuperscript{137} Transcript, Volume 3, page 448.
AltaLink’s application of this framework is nonetheless a cause for some concern. In particular, having regard to Mr. Watson’s above noted comments with respect to the likelihood that additional project delays will generally not result in reduced final project costs once a project is underway, it is of note that some of the projects, including most prominently the WATL project, were ultimately not completed either by the ISD targeted at the PPS stage gate, nor at a cost falling within a reasonable range of the cost estimate in effect at that stage.

117. As a general comment, the Commission observes that AltaLink has structured its project execution efforts for the projects in the current DACDA in order to achieve ISD targets that it has represented to the AESO as being achievable unless and until it becomes apparent that the ISD cannot be achieved at any reasonable cost. It appears to the Commission that it is this effort to achieve promised ISDs as the primary focus, rather than any improper behaviour of any sort, that has led to the CCA’s concern that AltaLink does not adequately consider alternatives and the CCA’s view that AltaLink has a “spend and defend culture.”

118. Given the above, the Commission considers that AltaLink’s decision making at key project stages should, going forward, be structured to ensure that any ISD targets it accepts for its major transmission projects can reliably be met at or near the cost it estimates and represents to the AESO at key decision points, such as the construction readiness stage gate. And, that the ISD can consistently be met within the tolerance limits for cost estimates that are normally expected at each stage of project execution. The Commission directs AltaLink to provide a complete explanation of any changes to its stage gate decision making process that it intends to make to respond to this concern as part of its next DACDA application.

119. Consequently, the Commission has made no specific finding in this section that applied-for costs should be disallowed due to the structure of AltaLink’s project execution oversight practices normally employed to oversee its EPCm service providers (and the subcontractors engaged by the EPCm providers).

3.5.2 AltaLink change management practices

120. In a section of the Bema part 2 evidence, prepared on behalf of the CCA, entitled “AML did not thoroughly follow recommended industry practices for change management,” Bema described the change process that it considered to be generally followed in the construction industry.

121. Bema submitted that a typical process usually includes the steps of (1) identification; (2) evaluation; (3) approval; (4) incorporation; and (5) payment and tracking, as shown in the diagram below:

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138 The Bema part 1 evidence (Exhibit 22542-X1819) discusses a concern about a possible “spend and defend culture” at paragraph 53.
139 Exhibit 22542-X1826, Bema Part 2 Evidence.
140 Exhibit 22542-X1856, paragraph 99.
122. The Bema part 2 evidence provided additional details regarding desired characteristics for each of these phases.\(^{141}\)

123. Subsequently, Bema provided its views on the following matters related to change management processes and change orders, as further discussed below:

- role of change orders
- change order scope
- change order cost
- change order time adjustments
- process for testing the validity of change orders
- composition of change order review teams, including the role of legal counsel

**Role of change orders**

124. As part of this evidence, Bema also discussed the role of change orders within the process of managing a project. Bema stated that most construction contracts have clauses that permit the project owner to make changes in project scope or to the general character of the project, reflecting the fact that parties to construction contracts understand that project changes are inevitable, and arise despite the best efforts of the parties involved for various reasons including:

- Determinations as to the need for additions to or deletions from the work to be completed
- Changes in the specified materials
- Corrections to specifications or drawings
- The impact of acts or omissions by other contractors or trades
- The impact of departures from the contract schedule
- Changes that affect the sequence in which work will be performed
- Changes resulting from conditions\(^{142}\)

125. Bema submitted that, in the current proceeding, AltaLink attributed the majority of reported changes to procedural/permitting delays, access restrictions, right of way conditions, scope or design changes, revisions to material type and specifications, and varying site conditions. However, when assessing change orders, Bema submitted that it is important to bear in mind that:

- Agreement should be reached on any changes in the scope or characteristics of the work to be performed before such changes are implemented.
- Change orders are contract documents that serve as an administrative tool to formally record the agreed-to parameters of the change.

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\(^{141}\) Exhibit 22542-X1826, paragraphs 100 to 106.

\(^{142}\) Exhibit 22542-X1826, paragraphs 109 to 110.
• Upon bilateral execution, change orders serve to memorialize the agreement of the parties to the change.\textsuperscript{143}

\textit{Change order scope}

126. Bema submitted that when a request for a change order is made by either the project owner or by the contractor, the first job is to determine if the scope of the change is, or is not, a change from the requirements, division of responsibilities, performance obligations, or allocation of risk set out in the original contract. Bema submitted that this requires a detailed analysis of project objectives, goals, functional specifications, plans, drawings and other contract documents in relation to the proposed change.\textsuperscript{144}

\textit{Change order cost}

127. Bema explained that assessments of the cost impact of a change order depends primarily on how the applicable contract prices these changes. Bema noted that for most construction contracts, changes are denominated using one of three primary methods, namely:

- the unit price method
- the lump sum method
- the time and materials method\textsuperscript{145}

128. Bema subsequently provided additional views on the principle characteristics and requirements for assessing each of these three cost change methods.\textsuperscript{146} As part of this explanation, Bema discussed its view that for changes denominated on a time and material basis, additional documentation is generally required. Bema also explained that, for change orders of any type, it is important to have backup documentation to allow for audits of the costs arising from any change.\textsuperscript{147}

\textit{Change order time adjustments}

129. Bema explained that the third characteristic of change orders that should be reviewed is the impact of the change order on the ability of the contractor to finish the project by the established milestones and completion dates. Because additional indirect costs related to project staff may be caused by a change that affects project timing, Bema submitted that a detailed time impact analysis, supported by critical path method schedule analysis, should be conducted on any change that affects the project schedule.\textsuperscript{148}

\textit{Processes for testing the validity of change orders}

130. Bema suggested that testing the validity of change orders should follow the process shown in a diagram prepared by AACE International (reproduced below):
Change order review teams

131. Bema submitted that because of the amount of documentation required and the number of parties that should be involved, the time period for reviewing proposed changes can be lengthy. Bema submitted that during construction, review processes should involve both the contractor’s and the owner’s project managers. However, during design and pre-construction phases, engineer(s) should also be involved.\textsuperscript{149}

132. In consideration of the preferred process discussed above and an assessment of a sample of projects, Bema indicated that it had identified the following primary types of deficiencies in its examination of AltaLink change orders:

- some change notices and/or change order requests were unsigned and / or undated
- inadequate contemporaneous change order documentation
- evidence that work associated with changes was performed in advance of the formal submission of change notices or before change order approvals
- the absence of “full accord and satisfaction” language\textsuperscript{150} within change orders and contracts

133. In its rebuttal evidence, AltaLink submitted that, contrary to the view of Bema, AltaLink’s change order processes are fully consistent with the approach described in the Bema part 2 evidence discussed above.\textsuperscript{151}

\textsuperscript{149} Exhibit 22542-X1826, paragraph 126.
\textsuperscript{150} Bema explained in footnote 96 at page 39 (Exhibit 22542-X1826) that the purpose of “full accord and satisfaction language” is to indicate that, by signing the change order, the contractor agrees that the amount presented in the change order is the full and final payment due for all work performed under the change order.
\textsuperscript{151} Exhibit 22542-X1885, paragraph 451.
134. AltaLink considered that the documentation it had filed on the record in respect of its change process was appropriate and submitted that although the amount and type of documentation may vary across change orders, such variation does not imply that the documentation was not of sufficient quality or that the EPCm service provider did not adhere to the review and approval process. Moreover, AltaLink asserted that although its change order review and approval process is standardized, the requirements of each individual change order are unique and are considered on a case-by-case basis.  

135. AltaLink submitted that regardless of the type of change involved, its project teams took the time required to review the change. AltaLink contended that the robustness of its change oversight processes is demonstrated by the following key evidence:

- the description of qualified people at Section 3.3.1 of the application
- the description of its change management processes at Section 3.3.8 of the application
- descriptions of “changes of work” found in:
  - Section 3.3 of the SNC MSA procedures manual
  - Section 8.3 of the B&M and SNC RA procedures manuals
- AltaLink responses to the following IRs:
  - AML-CCA-2017DEC20-014
  - AML-CCA-2017DEC20-015
  - AML-CCA-2017DEC20-021
  - AML-CCA-2017DEC20-025

136. In its argument, the CCA submitted that Mr. Mohr’s concerns with AltaLink’s change management processes do not arise so much from whether AltaLink had created and had in place a change management process comparable to the processes described in the Bema part 2 evidence. Rather, its concerns related to how AltaLink carried out its change management activities. Specifically the CCA expressed concern that:

- change notices or change order requests were left unsigned or undated.
- work was performed in advance of the submission of formal change notices and the receipt of change order approvals.
- because change order forms appear to be missing “full accord and satisfaction,” contractors are not constrained from making supplemental requests for compensation in respect of previously approved change orders.
- change order costs are commingled with base contract work and are not tracked separately, with the result that AltaLink cannot reconcile the actual costs of changed work with the approved change order amount.

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152 Exhibit 22542-X1885, paragraph 452.
153 Exhibit 22542-X0002.04, PDF page 25.
154 Exhibit 22542-X0002.04, PDF page 39.
155 Exhibit 22542-X0699, PDF page 30.
156 Exhibit 22542-X0700, PDF page 47.
157 Exhibit 22542-X0701, PDF page 45.
158 Exhibit 22542-X1524.01, PDF page 36.
159 Exhibit 22542-X1524.01, PDF page 39.
160 Exhibit 22542-X1524.01, PDF page 50.
161 Exhibit 22542-X1524.01, PDF page 56.
162 Exhibit 22542-X1826, paragraph 99, cited at Exhibit 22542-X1972, CCA argument, paragraph 239.
137. In its reply argument, AltaLink again clarified that change notices submitted by EPCm service providers do not represent contractual amendments and they do not set out the actual dollars that were spent in connection with a specific change. It expressed concern that the CCA continues to confuse the legal and practical effects of change notices and subcontract amendments (SCAs) to support its position that AltaLink’s “change management practices and procedures were not effective in controlling the costs associated with” changes.163

138. AltaLink noted that the Commission made the following finding in Decision 3585-D03-2016:

434. With regard to the assertion made that AltaLink has not provided evidence to justify the change notices that it approved, the Commission does not agree. The evidence in question runs into the thousands of pages and the Commission has reviewed all of it. In its review, the Commission came across numerous cases where the change was supported by extra work requests, labour, equipment and material, time sheets, correspondence from subcontractors, emails or other items detailing the need for the change.164

139. AltaLink submitted that, consistent with this finding, it provided a substantial body of materially relevant evidence on the current record that detailed the subcontracts, the subcontract amendments and the actual change notices between the EPCm and AltaLink. In addition, AltaLink noted that it had provided additional supporting documentation that included extra work requests, requests for change, supplier estimates, time sheets, correspondence from subcontractors and often also included email communications between the EPCm and the subcontractor or supplier.165

**Commission findings**

140. The Commission notes AltaLink’s statement in its rebuttal evidence that “AltaLink does have change management practices that are generally consistent with the general evidence as outlined by Bema. The chevrons, font and color may be different, however, the general approach is consistent.”166 The Commission accepts AltaLink’s assertion that the intention and overall design of its change management processes were substantially consistent with the industry practices described in the Bema part 2 evidence.

141. Consequently, the Commission has made no specific finding in this section that applied-for costs should be disallowed due to the structure of AltaLink’s change management processes used to oversee its EPCm service providers (and the subcontractors engaged by the EPCm providers).

142. Notwithstanding, it is apparent that AltaLink and the CCA disagree as to the criticality of strictly following those procedures. As noted above, the CCA has asserted that a strict compliance with the procedures is necessary and has identified instances where formal sign-offs have not been obtained before the work and associated expenditures arising from a proposed contract change was completed. AltaLink has claimed that a degree of flexibility is understood

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163 Exhibit 22542-X1972; CCA argument, paragraph 231, cited at Exhibit 22542-X1978, AltaLink reply argument, paragraph 35.
164 Decision 3585-D03-2016, paragraph 434.
165 Exhibit 22542-X1978; AltaLink reply argument, paragraph 36.
166 Exhibit 22542-X1885, paragraph 451.
and required to ensure that projects continue to be executed expeditiously and that ratepayers are protected because any contractor who proceeds without prior sign-off is at risk of not being able to claim those costs, when AltaLink does review them.

143. As further discussed in Section 3.5.3 below and Section 3.7, the Commission has provided its findings regarding the sufficiency of AltaLink’s application of its change management processes to oversee its EPCm service providers and the subcontractors engaged by the EPCm providers.

3.5.3 Compliance with procedures manuals

144. In the part 2 Bema evidence, Bema alleged that AltaLink and SNC-ATP did not properly follow the procedures manuals that were prepared to direct the roles, actions, and accountabilities of AltaLink and EPCm service provider staff.\(^{167}\)

145. Bema submitted that AltaLink’s procedures manuals with its EPCm providers set out a clear expectation that both AltaLink and its EPCm service provider staff are required to adhere to the procedures set out in those documents. For example, Bema noted that the procedures manual associated with the SNC MSA reads as follows: \(^{168}\)

> This Procedures Manual has been specifically prepared for the execution of the Master Agreement Engineering, Procurement and Construction (EPC) Contract #SNC-AL-2012-04.

> The intent of this manual is to provide procedures to the Project Teams such that the project is effectively managed and the Owner is sufficiently informed. It is imperative that all Project Team members follow the procedures in this manual. [emphasis added by Bema]

146. The comparable provision in the Burns & McDonnell (B&M) Relationship Agreement (RA) procedures manual is as follows:\(^{169}\)

> This procedures manual has been created to support the execution of AltaLink Projects work under the Relationship Agreement among AltaLink L.P. and Burns & McDonnell Canada Ltd. (EPC) dated May 1, 2012. (AltaLink Contract RELA-002667-0512)

> The intent of this manual is to provide procedures to all individuals working on AltaLink Projects such that accountabilities, requirements and templates are provided to facilitate the interaction between AltaLink Project Management and EPC provision. All individuals supporting AltaLink Projects are required to follow the procedures in this manual. [emphasis added by Bema]

147. Similarly, the same language appears in the SNC RA procedures manual:\(^{170}\)

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\(^{167}\) Exhibit 22542-X1826, paragraphs 29-32.

\(^{168}\) Exhibit 22542-X0699, PDF page 3.

\(^{169}\) Exhibit 22542-X0700, PDF page 1.

\(^{170}\) Exhibit 22542-X0701, PDF page 1.
This procedures manual has been created to support the execution of AltaLink Projects work under the Relationship Agreement among AltaLink L.P. and Burns & McDonnell Canada Ltd. (EPC) dated May 1, 2012. The intent of this manual is to provide procedures to all individuals working on AltaLink Projects such that accountabilities, requirements and templates are provided to facilitate the interaction between AltaLink Project Management and EPC provision. All individuals supporting AltaLink Projects are required to follow the procedures in this manual.

148. Bema contended that these provisions indicate a strong imperative to follow the outlined procedures closely. However, in its response to an IR from the CCA, AltaLink only regards the processes outlined in the procedures manuals as a guideline to the EPC provider. AltaLink’s response stated, in part:

(a) AltaLink’s procurement procedures are one part of its overall project execution program. AltaLink’s EPCm Procedures Manuals, Exhibits 22542-X0699, 22542-X0700, and 22542-X0701 are in place to provide guidelines to the EPCm for procurement related events to meet project requirements.

149. Bema submitted that AltaLink’s reference to the procedures manuals as a source of “guidelines” is inconsistent with the definition of a “procedure” which it noted was defined by Merriam-Webster as:

- a particular way of accomplishing something or of acting or
- a series of steps followed in a regular definite order

150. In its rebuttal evidence, AltaLink submitted that the Bema evidence critique of AltaLink’s compliance with the procedures manuals is based on a “cherry picked” interpretation of a specific sentence that Bema has identified from each of the procedures manuals. It argued that because contracts must be read as a whole, Bema’s position was incorrect. In support of its view, it identified several other provisions within the various procedures manuals which describe continuous communication, central points of contact, the sharing of information, and language that describes how the guidelines in procedures manuals are not intended to replace the dialogue between the EPCm service provider and AltaLink managers when they meet to discuss their projects.

151. AltaLink submitted that, read as a consistent whole, the procedures manuals are intended to guide the parties on the process to follow and that the process may also include discussions and verbal communications such that these guidelines in the procedures manuals may not always be followed. In particular, AltaLink submitted that the provisions in the procedures manuals

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171 Note that while “Burns & McDonnell Canada” is referenced in the extract quoted by Bema, Section 1.3 of the document (Exhibit 22542-X0701, PDF page 2) indicates that the Procedures Manual pertain to all contracts associated with the Relationship Agreement among AltaLink L.P. and SNC-Lavalin ATP Inc.
172 Exhibit 22542-X1524, AML-CCA-2017DEC20-010(a).
173 Exhibit 22542-X1826, paragraph 30.
174 Exhibit 22542-X1826, paragraph 31.
175 Exhibit 22542-X1885, paragraph 401.
176 Exhibit 22542-X1885, paragraph 402.
177 Exhibit 22542-X1885, paragraph 403.
178 Exhibit 22542-X1885, paragraph 405.
that advise that where the processes in the procedures manuals are not followed, costs are at risk and “may not be compensated,” mean that AltaLink is allowed to use its discretion to consider what digressions from the procedures manuals are acceptable in the context of the entire project.179

152. In argument, the CCA submitted that in addition to the discussion in the Bema evidence which pointed to provisions in the SNC-ATP MSA and the B&M and SNC-ATP RAs describing the language that indicates that it is imperative that the procedures be followed, other provisions in those agreements describe requirements that conflict with the practices that AltaLink and its EPCm service providers followed in practice.

153. In this regard, the CCA noted the description of “change in the work” set out in Section 3.3 of the SNC-ATP MSA procedures manual states as follows:

**SNC-Lavalin Responsibilities:**
- Notify (by email) AltaLink’s Project Manager of the estimated cost (order of magnitude) and schedule impacts before proceeding with any changes to the work that may eventually lead to a change notice.
- Secure the AltaLink Project Manager’s approval by email prior to proceeding with any work related to a scope change or cost variance that will trigger a formal change notice.
- When required, Provide a formal Change Notice with all necessary supporting documentation for the AltaLink Project Manager’s review and approval within 20 business days after a change or variance triggering this requirement is known.

**AltaLink Responsibilities:**
- Review the proposed change of work or variance as per the notification from the SNC-Lavalin Project Manager.
- Respond to the SNC-Lavalin Project Manager email normally within the same day but no longer than within five business days of notification.
- Review formal Change Notices upon receipt of electronic or hard copy and either, within 20 business days of receipt, approve, by signing off the Change Notice form if acceptable or advise the SNC-Lavalin Project Manager of the reasons approval cannot be given and the action required. [emphasis added by the CCA]

154. Based on the above, the CCA submitted that it is clear that the intent of the procedures manuals is that changes are supposed to be reviewed and approved before work is undertaken. However, the CCA submitted that the record of the current proceeding is replete with instances where changed work was already completed by the time the change order request was submitted by the EPC provider or approved by AltaLink.180

155. To the extent that AltaLink’s project manager and the EPCm firm agree that, in the best interests of the project, the EPCm service provider should immediately proceed with the work described in a request for change, this can be authorized by AltaLink’s project manager. However, the CCA noted that provisions in the SNC-ATP RA procedures manual are limited such that costs must not exceed $250,000, and/or 10 business days of performance prior to the approval of the change order.181 The CCA submitted that Bema’s part 2 evidence identified several instances, recorded in a table prepared by Bema, where the EPCm firm’s authorization

179 Exhibit 22542-X1885, paragraph 405 and 406.
180 Exhibit 22542-X1972, CCA argument, paragraph 236.
181 Exhibit 22542-X0701, PDF page 46, cited at Exhibit 22542-X1972, CCA argument, paragraph 244.
for a subcontractor to proceed with work prior to the submittal and approval of the change order for work exceeding $250,000\(^{182}\) had occurred.

156. The CCA submitted that AltaLink’s attempts in its rebuttal evidence to argue that the procedures manuals are just “guidelines,” and that “change is a process” and references to provisions involving “continuous communications” between the parties miss the essential point. Even if the procedures manuals are “read as a whole” or “considered in light of the commercial context and purpose,”\(^{183}\) there is no doubt that changes that impact costs or the schedule must be approved in advance.\(^{184}\)

157. The CCA submitted that while AltaLink’s rebuttal claimed to have determined, in respect of the change orders identified in Bema’s summary table, that they “followed the procedural processes, were reviewed by the project team, [and] approved as required changes to meet the requirements of the projects and are reasonable,”\(^{185}\) the CCA submitted that in each of the cases cited in its table, AltaLink has acknowledge either that:

- SNC-ATP was authorized to proceed with the change prior to the change order being submitted and approved
- the work was completed as of the date when the change order request was submitted.

158. Consequently, the CCA submitted that the evidence supports its contention that AltaLink allowed change order work to commence in advance of SNC-ATP submitting a change notice, and did so as a matter of routine, rather than only in exceptional circumstances. The CCA submitted that this represents a bad change management practice and indicates AltaLink’s lack of attention or concern for project changes.\(^{186}\)

159. In addition, the CCA submitted that AltaLink failed to provide adequate supporting documentation as required by the RA procedures manuals.\(^{187}\) As a consequence, it submitted that AltaLink was unaware of what the true costs of its approved changes really were.\(^{188}\)

160. Overall, the CCA recommended that the Commission:

- direct AltaLink to undertake a detailed statistical study of the root causes of its changes for the purposes of reducing the incidence of changes for future projects, and
- implement change order accounting so that the reasonableness of change order costs can be more efficiently examined and tested in future applications.

161. In reply argument, AltaLink disputed the CCA’s allegations that it consistently failed to follow both its procedures manuals and industry practice. AltaLink submitted that the CCA’s assertions that “the intent of the Procedures Manuals is that changes are supposed to be reviewed and approved by AltaLink before the changed work is undertaken” as well as the “principle that changes that will impact cost or schedule must be approved in advance is not in doubt” are gross oversimplifications. In this regard, AltaLink submitted that in a perfect world, all change

\(^{182}\) Exhibit 22542-X1972, CCA argument, paragraph 246.
\(^{183}\) Exhibit 22542-X1885, paragraph 402.
\(^{184}\) Exhibit 22542-X1972, CCA argument, paragraph 237.
\(^{185}\) Exhibit 22542-X1885-CONF, paragraph 415, cited at Exhibit 22542-X1972, CCA argument, paragraph 247.
\(^{186}\) Exhibit 22542-X1972, CCA argument, paragraph 247.
\(^{187}\) Exhibit 22542-X0701, PDF pages 46 to 47, cited at Exhibit 22542-X1972, CCA argument, paragraph 250.
\(^{188}\) Exhibit 22542-X1972, CCA argument, paragraph 257.
work orders would be reviewed and approved before the work begins. However, from time to
time, the work cannot wait and the review process can take weeks or even months depending
upon the nature of the change being requested. In those circumstances, AltaLink submitted that it
and its EPCs are entitled to rely upon provisions in the procedures manuals that allow for the
change work to start prior to approval of the EPCm change notice. As explained in its rebuttal
evidence, the procedures manuals are clear that if that work is commenced before receipt of
approval, then the costs related may be at risk. Conversely, AltaLink submitted that there is no
contractual provision that removes a contractor’s right to payment for validly performed work
because of late paperwork. Given this, AltaLink submitted that it has the ability to apply its
discretion and professional judgment to determine compensation for the EPCm, as appropriate.

162. AltaLink submitted that despite the fact that it provided over 21,000 pages of change
order documentation for the current proceeding, on the basis of ten change orders, the CCA
concludes that AltaLink routinely approved work prior to the submission of the change order. In
response, AltaLink identified three change orders that demonstrated that, contrary to the claims
of Bema and the CCA, AltaLink followed the required procedures and appropriately managed
the changes in relation to the specific circumstances of those change orders.

163. In any event, AltaLink reiterated that it did, and should, authorize the EPCm firm to
proceed with work in advance of the change order where it is aware of the work, understands the
need for it, and further time is required to consider, finalize and/or approve the change order.

Commission findings

164. As noted above in Section 3.5.2, AltaLink did not provide any substantive objection to
the Bema part 2 evidence of the industry processes that Bema considered should apply to
construction processes. Moreover, AltaLink indicated that it considered that its oversight
processes were generally consistent with the normal construction project oversight practices
Bema described.

165. The disagreements between AltaLink and the CCA regarding procedures manuals related
to whether the terms of the procedures manuals must be strictly adhered to or whether the terms
provide flexibility. Bema and the CCA considered that strict adherence to processes is expected
and essential. The inclusion of phrases such as “imperative that all Project Team members
follow” and “required to follow” is central to this view. Conversely, AltaLink identified other
provisions within the procedures manuals that it argued allow discretion to not follow specific
provisions when warranted.

166. The general question of whether the procedures manuals do, or should, require that all
subcontract changes be approved by AltaLink in advance of work provided a concrete
illustration of the differing positions.

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189 Exhibit 22542-X0700, Section 4.3.4, PDF page 49 and Section 4.4.9, PDF page 50; Exhibit 22542-X0701,
Section 4.3.4, PDF page 47; Exhibit 22542-X0701, Section 4.4.9, PDF page 48, cited at Exhibit 22542-X1978,
AltaLink reply argument, paragraph 53.
190 Exhibit 22542-X1885; paragraphs 404-405.
191 Exhibit 22542-X1978, AltaLink reply argument, paragraph 54.
192 Exhibit 22542-X1978, AltaLink reply argument, paragraphs 55-56.
193 Exhibit 22542-X1978, AltaLink reply argument, paragraphs 57-58.
167. Because the procedures manuals expressly permit discretion to not follow specific provisions when warranted, the Commission finds that the parties to the procedures manuals intended that strict adherence to the processes outlined in these procedures manuals was not intended. Rather, it appears that the parties contemplated circumstances would arise in which strict adherence may not occur. In this regard, AltaLink retained the ability to reject recovery of these costs after the fact as the service provider was put on notice that proceeding to do work without prior authorization was at the service provider’s risk.

168. The Commission considers that these provisions are a reasonable reflection of the way in which projects are executed. Moreover, the Commission agrees with AltaLink that it may, in specific circumstances, benefit ratepayers to ensure that progress on projects is not unnecessarily and unproductively delayed solely to ensure that all administrative steps associated with a specific change in the scope or activities of for a subcontract have been carried out to the letter.

169. The Commission accepts that it is reasonable to allow for occasional departures from the requirements of the procedures manuals, which are intended to ensure that there is sufficient oversight by AltaLink of the costs incurred by its service providers on its projects, at AltaLink’s discretion. However, if the extent of departures is unreasonable or excessive then they call into question the overall value of the oversight procedures. That is, if exceptions are permitted and commonly applied, so that they are no longer the exception, then the procedures manuals may not provide adequate assurance of diligent and unwavering oversight of changes arising from subcontractors and EPCm service providers.

170. Accordingly, the fact that AltaLink and SNC-ATP did not universally or rigorously apply all procedures manual processes to all subcontract changes is a factor in the Commission’s assessment of the SNC-ATP settlement, as discussed in Section 3.7 below.

3.5.4 Quantity of change orders and subcontract amendments

171. In the confidential version of its part 2 evidence, Bema prepared a table\(^{194}\) that compared the total value of subcontract amendments (SCAs) for 11 major system projects under consideration in the current proceeding\(^{195}\) to the total initial and final values of the contracts.

172. Bema submitted that its analysis showed that the total dollar value of AltaLink’s subcontract amendments for the projects examined was proportionally higher than what is normally experienced in the construction industry, which Bema suggested would typically fall in the range of 5 to 10 per cent of total contract costs.\(^{196}\) The proportion for AltaLink in the Bema analysis was more than \(\ldots\)\(^{197}\)

173. Based on this comparatively high level of contract changes experienced by AltaLink for the projects it examined, Bema recommended that the Commission direct a detailed independent

\(^{194}\) Exhibit 22542-X1826-CONF, Table 2.5, PDF page 35.

\(^{195}\) Projects were D.0304 - Bowmanton to Whittlaw Transmission Line & Substation; D.0378 - Christina Lake Pike; D.0479 - Fidler 312S substation interconnection; D.0306 - SATR SFTP; D.0379 - Christina Lake Pike; D.0390 - FATD East NFTP; D.0391 - FATD East Langdon to Janet; D.0392 - FATD EAST - Foothills 138 kV; D.0410 – ECTP/Shepard; D.0414 - WATL, D0458 – East HVDC converter station interface.

\(^{196}\) Exhibit 22542-X1826, paragraph 95.

\(^{197}\) Exhibit 22542-X1826, paragraph 94.
assessment of the leading sources of work most affected by the contract changes that occurred in AltaLink’s projects.198

174. In its rebuttal evidence,199 AltaLink disagreed with Bema’s assessment that the value of SCAs as a percentage of contract price was outside industry norms. In particular, AltaLink submitted that comparisons with other industries do not reflect the fact that, potentially unlike the projects to which the Bema evidence is referring when comparing the relative quantity of SCAs, AltaLink’s projects are subject to prior approval by a regulatory body with the authority to adjust and change the scope of the project.200 AltaLink contended that Bema’s comparison also failed to consider the form of the contract. It explained that many of its contracts are unit-based contracts, that were specifically used to allow adjustments of quantities or units through SCAs.201 AltaLink further submitted that Bema’s comparison overlooks the fact that any SCAs have been reviewed by the applicable EPCm firm, with the involvement of AltaLink, to ensure that any contract changes made are required as result of change to scope, units or field conditions; or additional work requests.202

175. In its argument, the CCA maintained that the quantity of SCAs for AltaLink projects as compared to industry norms remains high and this in turn, begs the question: Why? The CCA considered that one plausible explanation is that AltaLink’s EPCm service providers are incented to approve a large number of SCAs, because they are allowed markups on all internal labour for engineering, procurement, procurement management, construction management, project controls, and other project direct labour; plus additional markups on subcontractor costs, procured materials and equipment, and third-party services.203 It argued that the totality of the evidence in this proceeding demonstrates not only a high incidence of changes on capital projects, but also that AltaLink’s change management practices and procedures were not effective in controlling the costs associated with these changes.204

176. In its argument, AltaLink noted that in addition to the concerns set out in its rebuttal evidence regarding the comparability of the projects that Bema used as the basis for comparing the relative value of AltaLink’s change orders and SCAs, the author of the Bema part 2 evidence, Mr. Mohr, testified that his analysis was based on his assessment of the level of change that would be expected for “non-distressed projects.”205 Accordingly, AltaLink submitted that the projects that Mr. Mohr used as the basis of his comparison reflect “a perfect project where the budget was developed close to the time of execution with an unchanging scope and detailed engineering. This simply does not reflect how direct assign projects are developed and executed in Alberta.”206

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198 Exhibit 22542-X1826, paragraph 98.
199 Exhibit 22542-X1885, Section F, paragraphs 444-449.
200 Exhibit 22542-X1885, paragraphs 446.
201 Exhibit 22542-X1885, paragraphs 447.
202 Exhibit 22542-X1885, paragraphs 448.
203 Exhibit 22542-X1972, CCA argument, paragraphs 224-230.
204 Exhibit 22542-X1972, CCA argument, paragraph 231.
206 Exhibit 22542-X1970, AltaLink argument, paragraph 802.
Commission findings

177. The Commission shares the concern of AltaLink that the types of construction industry projects that Bema examined to develop its evidence that total SCAs typically fall in the range of 5 to 10 per cent of total contract costs may not be comparable to the circumstances of AltaLink’s direct assign projects. In particular, because direct assign projects are subject to major scope changes outside of the TFOs control, this might represent a significant source of change not normally be experienced in the construction industry generally.

178. The Commission also shares AltaLink’s concern that the 5 to 10 per cent level of subcontract changes in relation to total costs reflects what Mr. Mohr described as “non-distressed” projects, and thus, his baseline comparator may not reflect the same quantity of contract change as was experienced by the 11 AltaLink projects that Mr. Mohr included in his comparison table.

179. Given these limitations, the Commission has made no findings in respect of the prudence of AltaLink’s expenditures on projects included in the present application on the basis of the CCA’s suggestion that the quantity of change orders and SCAs was outside industry norms.

3.6 Management of construction contracts

3.6.1 Consideration of alternatives when assessing subcontract amendments

180. In argument, the CCA submitted that after reviewing a significant portion of the large dollar SCAs for projects included in the DACDA application, it had increasing concerns about the sufficiency of information supporting AltaLink’s decision-making during project execution. Of particular concern was the lack of information regarding alternatives and mitigation strategies assessed in AltaLink’s decision making processes. As a result of these concerns, the CCA recommended that the Commission consider AltaLink’s overall process for the approval of SCAs to be deficient, and that this deficiency has contributed to significant cost overruns.207

181. Based on a response provided by Mr. Fedorchuk during the confidential module of the oral hearing,208 the CCA submitted that it appeared that AltaLink does not approach its project with an intent to mitigate costs as decisions are made. The CCA submitted that this approach is contrary to its expectation that AltaLink endeavors to mitigate costs as it makes decisions, in light of other considerations including the need to balance the effect of decisions on the environment, safety considerations, and the effects on landowners and other stakeholders.209

182. In light of its concerns, the CCA prepared a schedule in an appendix210 to its argument in which it identified examples of SCAs with values in excess of $1 million. The CCA submitted that the selected SCAs demonstrated that AltaLink had not sufficiently assessed alternatives to the subcontract amendments that were approved. To illustrate the nature of these concerns, the CCA described its concern about the lack of assessment of alternatives prior to the approval of

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207 Exhibit 22542-X1972, CCA argument, paragraph 141.
208 Transcript, Volume 2 Confidential, page 311, lines 6 to 20, cited at Exhibit 22542-X1972, CCA argument, paragraph 142.
209 Exhibit 22542-X1972, CCA argument, paragraph 143.
210 Exhibit 22542-X1975-CONF.
SCAs for the South Foothills Transmission Project (SFTP) and the Christina Lake Ipiatik projects.\(^\text{211}\)

183. In reply, AltaLink explained that the testimony of Mr. Fedorchuk during the confidential oral hearing relied on by the CCA to support its view that AltaLink did not try to mitigate costs was in response to an exchange concerning an executed contract for the Final Notice to Proceed. Because the Final Notice to Proceed represents the ultimate award of the contract to conduct all work to complete the project, there would not be any need for mitigation strategies at that point in time.\(^\text{212}\)

184. AltaLink objected to the CCA’s assertion that SCAs have been provided on the record that have no documentation supporting the decisions made.\(^\text{213}\) AltaLink explained the SCAs were the documents that changed the rights and obligations of the parties to the contract, whereas the change notices provided the factual analysis leading to the decision to amend the contract and it filed the additional information related to the change notice on the record. In particular AltaLink provided references to the information supporting the costs related to the change in the Ipiatik schedule\(^\text{214}\) and references to support SCA 21 on the Bowmantown Whitla (BW) project.\(^\text{215}\)

185. AltaLink again explained that most of the EPCm subcontracts are unit-based contracts and, as Mr. Fedorchuk stated, “the unit costs would be adjusted for unit, quantities moving up or down, depending upon the requirements of the project.”\(^\text{216}\)

186. AltaLink also explained that although AltaLink’s EPCs use SCAs to track the addition and removal of units, in practice those unit adjustments are not amendments to the subcontracts. Rather, they reflect the subcontract self-adjusting through the project execution, exactly as intended in the unit based contract. AltaLink stated a large portion of the SCAs identified in the CCA’s Appendix A2 were those types of adjustments to the units from the initial amounts.\(^\text{217}\)

**Commission findings**

187. The Commission has reviewed the CCA’s Appendix 2\(^\text{218}\) in detail. It has also considered the explanations of AltaLink. In particular the Commission notes the references provided by AltaLink in support of the costs related to the acceleration of the Ipiatik project and considers the explanations reasonable.

188. The Commission notes that many of the SCAs in question relate to the Final Notice to Proceed for the project in question and are therefore bona fide adjustments to the contract. Others relate to scope changes and incorporate the relevant unit and unit price adjustments as explained by AltaLink above. Other SCAs deal with matting costs which has been the subject of a generic review.

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\(^{211}\) Exhibit 22542-X1972, CCA argument, paragraphs 146-151
\(^{212}\) Confidential Transcript, Vol 2 page 311, lines 8-10.
\(^{213}\) Exhibit 22542-X1972, CCA argument, paragraph 145.
\(^{214}\) Exhibit 22542-X0428; Exhibit 22542-X1485, PDF pages 66 and 74-76; Exhibit 22542-X1482, PDF pages 10-17; Exhibit 22542-X0427, PDF page 332.
\(^{215}\) Exhibit 22542-X0046, PDF page 60.
\(^{216}\) Transcript Vol 1, page 75, line 23 - page 76, line 1.
\(^{217}\) Exhibit 22542-X1978, PDF page 32
\(^{218}\) Exhibit 22542-X1975, Appendix 2 to CCA argument
189. It has also considered AltaLink’s explanation regarding the distinction between change notices, which provide the factual analysis leading to the decision to amend the contract, and the SCAs, which track the addition and removal of units.

190. As stated by AltaLink in its reply argument:

88. As noted above, the change notices are the factual underpinning for the SCAs. The SCAs which are the document which change the rights and obligations of the parties to the contract. It is unreasonable to expect that those documents would also contain the factual analysis leading to the decision to amend the contract. That is why AltaLink has filed the additional information related to the change notice on the record.219

191. The Commission finds this process to be a reasonable accounting and recording of the changed costs for AltaLink’s projects.

192. All of the SCAs reviewed by the CCA will be addressed in the sections regarding the specific projects.

3.6.2 Mismanagement of construction contracts

193. The CCA stated in argument that there were three categories of potential mismanagement of construction development contracts by AltaLink, all of which had a significant cost impact:

(a) ineligible change orders
(b) PPS overruns
(c) project delays

194. Ineligible change orders is the first category of mismanagement of construction contracts alleged by the CCA. Based on its review of the change orders, subcontracts and subcontract amendments, the CCA submitted that AltaLink, either directly with SNC-ATP or indirectly via SNC-ATP with subcontractors, approved a substantial number of change orders in circumstances where SNC-ATP or the subcontractor, as applicable, were not permitted to request a change order in the first place. The CCA categorized these as ineligible change orders and they included:

(a) On the Bowmantown to Whitla Transmission line and new Whitla substation project, change orders were approved for Wheatland, RS Line, Iconic and HPS. Each of the contracts with those subcontractors limited their ability to request change orders to changes in scope initiated by SNC-ATP (as specified in sections 8.6/8.7; 9.6/9.7 and 8.6/8.7 of each respective contract).220 In addition, those subcontractors were required to request a change order with SNC-ATP within 10 days. The CCA argued that AltaLink provided no meaningful evidence that the subcontractors fulfilled, or that SNC-ATP required the fulfillment of, these requirements prior to the approval of those change orders. In the CCA’s view, the failure to provide timely notice of a change order as required by the contract was sufficient grounds for reasonable rejection of the change.

(b) On the Fidler 312S Substation Connection Project, change orders were approved for Wheatland, Allteck and Iconic because of differing geotechnical conditions. However, each of the contracts with those subcontractors firmly placed the contractual risk of site

220 Exhibit 22542-X1524, PDF pages 260-262.
conditions on the subcontractors. The CCA argued that rather than enforcing those contractual provisions, all three subcontractors received change orders and additional compensation relating to a risk that was theirs to begin with. AltaLink explained that “specialized hydrology studies were required for engineering of the structures which were an engineering requirement and not a subcontractor requirement” which was different from the contractual references relied on by the CCA. Those provisions related to “subsurface conditions and geotechnical information as it relates to foundation installation” and this was not the same as surface-water hydrology.\(^{221}\) The CCA rejected this explanation stating that each contract places the risks related to site conditions with the subcontractor.

(c) On the SFTP, change orders were approved for SNC-ATP, despite SNC-ATP’s limited ability to request a change order. The CCA submitted that “Instead of enforcing the general conditions that would have required SNC to perform the original scope, AltaLink granted SNC the change orders in question.”\(^{222}\) Further, AltaLink provided no evidence for this decision.\(^{223}\)

195. The CCA argued that the above examples illustrate AltaLink’s failure to enforce its own contracting rules or otherwise require SNC-ATP to enforce the contracting rules between SNC-ATP and subcontractors. It asserted that these examples are only three of a substantial number of similar examples listed in Appendix A1 (Ineligible Change Orders) where change orders were granted rather than enforcing existing contractual provisions. It claimed that these instances demonstrate AltaLink’s failure to reasonably conduct project developments or otherwise manage project risks. “Since AltaLink’s contracts with SNC were based on a “cost plus” methodology and the latter’s contracts and subcontract amendments with Subcontractors, were frequently based on a “cost plus”, “unit price” or “time and materials” methodology, SNC and the Subcontractors had a fiscal motivation to pass through change requests to AltaLink.”\(^{224}\)

196. Referring to AltaLink’s responses of June 14, 2018, to the CCA’s IRs, the CCA claimed that AltaLink “adduced almost no evidence to show that it reasonably conducted project developments or otherwise managed projects risks to the reasonable benefit of the ratepayers.”\(^{225}\) It also suggested in many instances, AltaLink’s failure to provide evidence may have been due in part to the fact that the Commission did not compel AltaLink to do so, as illustrated in the right column of the table in Appendix A (“AML Response Evidence”).\(^{226}\) Notwithstanding, it stated that although the Commission may not have compelled AltaLink to respond to each of the CCA’s IRs, the Commission did not otherwise rule that such evidence is irrelevant or not useful to this proceeding. In addition, no such ruling could negate AltaLink’s onus at law to prove that it reasonably executed project developments or otherwise managed projects risks. Consequently, it submitted that AltaLink has simply failed to meet its onus.

197. The CCA recommended that the Commission disallow the allocation of costs to AltaLink associated with each of these change orders or, in the alternative, the Commission should

\(^{221}\) Exhibit 22542-X1524, PDF pages 290-295.
\(^{222}\) Exhibit 22542-X1972, PDF page 95.
\(^{223}\) Exhibit 22542-X1524, PDF page 380.
\(^{224}\) Exhibit 22542-X1972, PDF page 95.
\(^{225}\) Exhibit 22542-X1972, PDF page 95.
\(^{226}\) Exhibit 22542-X1588.
undertake an independent cost and performance audit of each of these and other similar change orders to fairly determine whether certain costs should be disallowed.

198. The second category of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) related what the CCA “termed PPS overruns regarding change procedures.” The CCA claimed there were dozens of examples of significant PPS cost variances on change orders without concrete evidence of SNC-ATP or subcontractor compliance with the relevant contractual rules to request change orders. These cost variances ranged from millions to tens of millions of dollars and were set forth in Appendix B (PPS Cost Overruns regarding Change Procedures).

199. The CCA stated that under its MSA, SNC-ATP must submit a change order request within three days of becoming aware of the underlying change circumstances. It claimed there was no concrete evidence that this contractual requirement was met in each instance, and it was not proper to assume these contractual requirements were met in the absence of such evidence. Examples include:

(a) On the FATD East – Foothills project, AltaLink directly or indirectly issued change orders on PPS overruns worth approximately [redacted], or scope transfer, of approximately [redacted]. AltaLink adduced no meaningful evidence of Subcontractor compliance with the contractual pre-requisites for raising a change order.

(b) On the South Foothills Transmission Project, AltaLink directly or indirectly approved change orders on PPS overruns for the [redacted]. AltaLink adduced no meaningful evidence of Subcontractor compliance with the contractual pre-requisites for raising a change order.

(c) On the Bowmantown to Whitla Transmission Line and New Whitla Substation projects, AltaLink directly or indirectly issued change orders on PPS overruns worth approximately [redacted]. AltaLink adduced no meaningful evidence of Subcontractor compliance with the contractual pre-requisites for raising a change order.

200. The CCA submitted that these examples were only two out of dozens of similar examples set out in Appendix A2 of its evidence. In its view, these instances demonstrate AltaLink’s failure to reasonably conduct project development or otherwise manage projects risks. Further, because AltaLink’s contracts with SNC-ATP were based on a “cost plus” methodology and the latter’s contracts and subcontract amendments with subcontractors were typically based on a “cost plus”, “unit price” or “time and materials” methodologies, “SNC and the Subcontractors had a fiscal motivation to pass through change requests to AltaLink.”

201. The CCA submitted that the Commission has a reasonable basis at law to calculate and disallow a portion of the costs associated with each of these cost variances unless AltaLink provides evidence showing that all material contractual requirements for these changes had been met. In the alternative, the CCA submitted that the Commission should undertake an independent cost and performance audit of each contract to ensure SNC-ATP or subcontractor compliance with the relevant contractual rules for requesting change orders to fairly determine what portion

227 Exhibit 22542-X1972, PDF page 96.
228 Exhibit 22542-X1972, PDF page 96.
229 Exhibit 22542-X1972, PDF page 97.
of AltaLink’s costs ought to be disallowed. Given the large number and size of the variances, the CCA suggested it was highly unlikely that there has been compliance in every case.

202. The third category of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) related to delayed in-service dates (ISDs) or simply, project delays. The CCA explained that under most of the contracts governing the subcontractor scope, the subcontractor was obligated to pay liquidated damages and/or effect cost mitigation where the delay was due to the subcontractor’s acts or omissions.

203. The CCA submitted that in many of those instances, it was unclear (a) whether those delays were triggered by subcontractor acts or omissions; (b) if SNC-ATP required the subcontractors to pay liquidated damages or effect cost mitigation as required by the terms of the relevant contracts; and (c) whether the benefit of any liquidated damage payments or cost mitigation was passed on to AltaLink under its MSA/Project Agreements with SNC-ATP. Where this was not done, AltaLink, and ultimately the ratepayer, was not compensated for any additional capital expenditures associated with facilities suffering delayed ISDs.

204. In addition to the foregoing, AltaLink admitted that it did not require SNC-ATP or its subcontractors to provide any type of delay analysis or time impact studies in support of change requests associated with project delays. The CCA stated this analysis would have been helpful to assess whether a change ought to have been approved, or whether the circumstances warranted the direct or indirect enforcement of AltaLink’s remedies for lateness against the contractors under the existing terms of the contracts. In failing to undertake this analysis, AltaLink failed to reasonably execute its projects.

205. As an example, the CCA noted there were delays to the ISD on the Fidler 312S Substation Project. Under SNC-ATP’s contracts with Helical Pier Systems (HPS), Iconic, RS Line and Wheatland, all four of those subcontractors were obligated to pay liquidated damages and effect cost mitigation. In addition, Wheatland and Iconic were subject to price reductions for work completed after given milestone dates. The CCA claimed AltaLink provided no evidence that the delays were not due to HPS, Iconic, RS Line and Wheatland, or that SNC-ATP pursued the remedies available against any of those subcontractors. Further, if any delays were due to AltaLink, this was also evidence of AltaLink’s failure to reasonably conduct execution of its project.

206. The CCA stated that Fidler was just one of several similar examples listed in Appendix A3 (Project Delays), where SNC-ATP may not have pursued, or where AltaLink failed to insist on SNC-ATP’s pursuing remedies that would have helped limit the negative impact of a delay in the ISD. While each of these examples would have resulted in additional cost to AltaLink and ratepayers, there was no indication in any of these examples of AltaLink’s direct or indirect pursuit of liquidated damages for delay. The CCA submitted that this clearly demonstrated AltaLink’s failure to reasonably execute the development and delivery of these direct assign projects. In the absence of evidence from AltaLink as to the cause of the delay, it was not clear whether these additional costs should be attributed ratepayers, AltaLink’s shareholders, SNC-ATP or the subcontractor. However, without such evidence, it was improper to assume those costs ought to be attributed to ratepayers.

231 Exhibit 22542-X1524, PDF pages 304-308.
207. The CCA stated the evidence in appendixes A1, A2 and A3 was AltaLink’s and was not a manipulation of the data by the CCA. For this reason, it must be viewed by the Commission as conclusive evidence. Alternatively, the CCA asserted that these instances were evidence of AltaLink’s failure to reasonably conduct execution of the development or otherwise reasonably manage projects risks.

208. AltaLink rejected the CCA’s position noting that the CCA made a blanket statement that “there is no evidence of AltaLink seriously scrutinizing and disputing EPCm costs.” AltaLink argued that this statement captured the CCA’s entire approach to assessing AltaLink’s application: (1) ignore the evidence that has been filed on the record that does not support the pre-conceived CCA perspective; (2) claim that the documents filed on the record are not actually relevant; and finally (3) allege the need for further documents that would disclose the proverbial “smoking gun,” in spite of the fact that the Commission has already determined those further records are not materially relevant.

209. In AltaLink’s view, it was inappropriate for the CCA to then argue that AltaLink’s compliance with Commission rulings can form the basis for findings that AltaLink has failed to produce relevant evidence. This was specifically the case with what the CCA identified as ineligible change orders. AltaLink stated that while the CCA did admit that “[i]n many instances, AltaLink’s failure to provide evidence may have been due in part to the fact that the Commission did not compel AltaLink to do so,” it then erroneously alleged that the Commission did not otherwise rule that such evidence is irrelevant or not useful to this proceeding. Although the Commission may not have used the words “irrelevant,” AltaLink submitted that the Commission’s findings that the responses would be of “diminished probative value,” and “the effort required to produce the information … when balanced against the potential benefit to the Commission in receiving the information is not warranted,” and “a response to this type of IR would require an unreasonable amount of effort and be of limited assistance to the Commission in considering prudence of project costs” were all clearly evidence that the information is not necessary for the Commission to determine prudence. Where the Commission considered certain information would be helpful to it in determining prudence, it specifically said so.

210. Further, the CCA’s assertions that AltaLink has a “biased, self-serving and unreliable assessment of what is relevant” ignored the fact that the Commission agreed with AltaLink on the vast majority of the disputed IRs and the CCA’s request for further and better responses. The CCA’s claim that the Commissions ruled in favour of the CCA “in numerous instances” avoided the fact that the Commission agreed with AltaLink far more often. Further, in issuing its rulings, the Commission provided what should have been useful guidance to the CCA in relation to the nature of the evidence it should be bringing forth if it wished to challenge the reasonableness of AltaLink’s contract management. However, once again, the CCA ignored the Commission’s rulings and failed to heed that guidance.

211. For example, AltaLink stated the CCA’s Appendix A1 did not identify any specific change orders alleged to be ineligible, nor did Appendix A1 contain any references to the specific factual background to any particular change. AltaLink claimed the CCA took the same

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232 Exhibit 22542-X1972, CCA argument, paragraph 261.
233 Exhibit 22542-X1972, CCA argument, paragraph 348.
234 Exhibit 22542-X146, AUC May 17, 2018 Ruling, paragraphs 52 and 64.
235 Exhibit 22542-X1972, CCA argument, paragraph 47.
approach in relation to what it referred to as PPS cost overruns. Its Appendix A2 once again provided a lengthy list repeating the broad assertions of cost overruns. It repeated that approach in relation to what it refers to as Project Delays. Appendix A3 provided yet another list that simply references the generic provisions contained in the subcontracts in relation to delay and then in some cases refers to the project summary reports that may include references to delays.

212. AltaLink argued that the basis for the assertions and the appendices themselves were almost entirely the same broad general assertions in the CCA IRs that formed a large part of AltaLink’s motion in relation to disputed IRs. In ruling that AltaLink did not need to respond to those IRs, including on project delays, ineligible changes, site conditions, and others, the Commission further directed, among other things, that:

- Questions which direct the responding party to a specific instance and allow it to provide a meaningful response satisfy the IR process criteria.
- Scope of this IR is overly broad contrary to the requirements outlined at Section 24 of Rule 001 that an IR must contain specific questions for clarification about the evidence. The Commission considers that the source documents on the record sufficiently allow the CCA to undertake its own preliminary assessment and ask fact-specific questions for clarification.
- To the extent the CCA disagrees with AltaLink’s reliance on a specific subcontract provision, it may bring forward its own evidence to challenge AltaLink’s actions.
- To the extent that the CCA alleges, as it has done in its reply to the motion, that there exists prima facie evidence that risk was inappropriately allocated or that the contractual provisions themselves were enacted to the disadvantage of ratepayers, it can bring forward its own evidence regarding the contractual provisions that support its position.

213. AltaLink maintained that the CCA ignored this guidance and instead of submitting its own evidence to challenge AltaLink’s decisions and actions in relation to contract and project management, the CCA has simply reproduced its IR questions. And once again, it failed to identify any specific examples of the deficiencies it alleges.

214. Finally, AltaLink stated that the CCA’s assertion at paragraph 352 of a three day change notice requirement ignored the provisions of the procedures manual that included a) the requirement that SNC-ATP provide notice of the estimated costs and schedule impacts of a change before proceeding with that work; and b) the requirement to provide for a 20 business day notice period after the contractor becomes aware of the need for a change. Once again, AltaLink submitted that the CCA selectively chose to rely upon whatever evidence it believed supported its incorrect views while ignoring the other materially relevant evidence on the record.

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236 Exhibit 22542-X1972, CCA argument, paragraphs 351-352.
237 Exhibit 22542-X1972, CCA argument, paragraphs 357 and 360.
238 Exhibit 22542-X1461, AUC May 17, 2018 Ruling, paragraph 63.
240 Exhibit 22542-X1461, AUC May 17, 2018 Ruling, paragraph 61.
241 Exhibit 22542-X1461, AUC May 17, 0218 Ruling, paragraph 63.
Commission findings

215. The Commission has reviewed the CCA’s Appendix 1 which is comprised entirely of references to SNC-ATP contracts with its various subcontractors but provides no references to specific payments that the CCA considers inappropriate.

216. Similarly, Appendix 2 includes numerous references to project summary schedules, cost estimates and summary reports but does not reference any specific change orders. Further, the Commission understands that these documents are not meant to provide justification or authorization for payment but are high level summary documents that identify variances and offer explanations for those variances.

217. The CCA’s Appendix 3 is a list of numerous subcontract references that the CCA alleges make subcontractors liable for the costs of delays which they cause. However, the CCA has not identified any specific instances of contractor delay.

218. The Commission also notes the following explanation from AltaLink that only subcontract amendments form the contractual entitlement to payment.\footnote{Exhibit 22542- X1970-CONF, paragraph 161.}

A change notice does not constitute a contractual entitlement to payment. It is the factual backdrop used to assess whether there is a valid legal entitlement to compensation. If there is a valid legal entitlement to compensation then a contract amendment will be prepared. It is the SCAs and only the SCAs that create the legal entitlement for extra payments from AltaLink or its EPCm service providers.

219. Consequently, with regard to all three of these appendixes, absent any specific references where the CCA considers AltaLink to have made ineligible payments, the Commission finds that these summaries are not evidence of imprudent behaviour as suggested by the CCA.

3.7 SNC-ATP settlement

220. AltaLink stated in the application that it had rejected or partially withheld invoices submitted by SNC-ATP for PMPC, engineering labour, contractual non-billable, 2013 audit adjustments and outstanding SNC-ATP credits from project disputes. By November 28, 2014, it had rejected or partially withheld payment for invoices in the total amount of (disputed invoices or disputed charges). AltaLink stated that SNC-ATP vigorously asserted that the disputed invoices were reasonable and legitimate project costs.

221. On November 28, 2014, AltaLink entered into a binding Settlement and Release Agreement with SNC-ATP (the settlement agreement). The settlement agreement covered all matters at issue and was described as “a reasonable commercial compromise and settlement regarding the disputes with respect to various costs SNC-ATP charged to AltaLink for the execution of certain projects.”\footnote{Exhibit 22542-X0002.04, AltaLink’s application, paragraph 624.} As part of the settlement agreement, both parties agreed to a commercial compromise without admission of liability.

222. AltaLink explained that the disputed costs were categorized as follows:

\begin{itemize}
  \item \textbf{Group A}
  \begin{itemize}
    \item Project Management/Project Control Labour Charges
  \end{itemize}
\end{itemize}
Engineering Labour Charges

Group B
Contractual Non-billable, Recovery and Finance Charges
2013 Audit Adjustments
Outstanding SNC-ATP Credits from Project Dispute

223. The total amount of credit AltaLink recovered from SNC-ATP was [redacted] (the settlement amount), which it received in [redacted] from project disputes. AltaLink did not compromise on any disputed costs and received 100 per cent credit for these items from SNC-ATP in the amount of [redacted]. AltaLink also recovered [redacted] per cent of the disputed labour charges in the amount of [redacted].

224. The total amount paid to SNC-ATP in the settlement for the services it provided was roughly [redacted]. This is the difference between the [redacted] originally withheld and what was credited back to AltaLink. Of the original amount withheld, AltaLink stated it received [redacted] as a result of the [redacted] was recovered by AltaLink through the application of the [redacted].

225. Additional information regarding the negotiation process and how the disputed charges were resolved is summarized below:

- AltaLink resolved the disputed charges in accordance with the escalation process set out in the dispute resolution process agreed to in the Second Amended and Restated Master Agreement (MSA) between AltaLink and SNC-ATP.
- In addition to the involvement of AltaLink personnel, including the AltaLink legal department, AltaLink engaged external legal counsel, [redacted] and employed the services of an expert independent claims specialist, [redacted] was retained to provide an assessment of [redacted].

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245 Exhibit 22542-X0002.04-CONF, PDF page 118.
246 Exhibit 22542-X0753, Appendix 38-1.
AltaLink stated that both... and... considered that the settlement was... given the contested issues involved.

- With respect to PMPC and engineering charges...
  concluded:
    - 
    - 
    - 

226. In evidence, Bema raised a number of concerns with respect to the... It argued that:

  - 
  - 

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227. Bema then stated:

228. Bema expressed particular concern with the following statement from analysis:

229. Given the statement, reproduced above, Bema submitted the following:

213. As noted earlier for the projects where detailed engineering was available, there were substantial variances totalling $34.5 million above the original estimates of $38.8 million. Similar variances may exist for the projects where detailed engineering amounts were not provided. Given the large increases in detailed engineering charges on several projects, Bema considers that conducting the analysis necessary to confirm the reasonableness of the charges on the affected projects would be a substantial undertaking. AltaLink’s motivation to conduct such a review, particularly involving a parent or former parent organization, may have been limited.251

230. Bema noted that a common challenge with large consulting companies that substantially rely on the revenue of billable man-hours is the company’s expectation that its employees have

248 Exhibit 22542-X1819-CONF, Bema evidence Part 1, PDF page 63.
251 Exhibit 22542-X1819-CONF, Bema evidence Part 1, PDF page 65.
as high a proportion of billable hours to total hours as possible, to keep corporate overhead costs to a minimum. Bema then stated that, with respect to such large consulting companies:

There can be significant numbers of employees or subcontractors within large consulting organization whose workload is reduced at any point in time due to (1) project delays or because they are waiting for a project to get initiated, (2) specialized expertise that is only needed sporadically, (3) over-staffing relative to the workload at a particular geographic location, (4) the state of the broader economy that is relevant to the workload of the consulting company, (5) inability to successfully compete for certain types of projects and (6) many other factors. For these reasons, large consulting companies such as SNC and Burns & McDonnell may have staff who are motivated to find a project that they can charge their time to, even in instances where their contributions are minimal or almost negligible.252

231. Finally, on the settlement, Bema concluded:

… there is insufficient evidence to demonstrate the reasonableness of all of the charges from SNC-ATP to AltaLink. Bema has concluded that either a comprehensive independent audit or a much more substantial disclosure in a compliance filing is required to establish the reasonableness of the SNC-ATP detailed engineering, and other SNC-ATP-related charges.253

232. Based on its conclusion, Bema made the following recommendations:254

a) Direct AltaLink to provide all revised Final Cost Reports for all projects included in the Application that do not have detailed engineering specifically identified so that detailed engineering can be assessed.

b) Direct AltaLink to include a table that compares PPS estimates and actuals expenditures for detailed engineering in the same format as the tables above (that compare detailed engineering costs) for any projects where detailed engineering has not been specifically identified in the Final Cost Report for the project.

c) Direct AltaLink to provide on the confidential record of this proceeding, if not already filed, all Billing Audits, reports or other analysis undertaken by AltaLink that address the reasonableness of project costs for projects subject to the 2014-2015 deferral account application.

d) For costs where it is determined that AltaLink has not met its onus to demonstrate reasonableness of the detailed engineering, PMPC, Procurement and other charges from SNC to AltaLink, implement one or a combination of the following:

   i. Direct that all or a portion of the unsupported costs be disallowed;

   ii. Conduct an independent cost and performance audit of invoices from SNC to AltaLink, including regulatory principles and practices on the reasonableness of costs for inclusion in rate base and including considerations identified in . All reports and supporting materials from prior billing audits should be provided to the independent auditor to reduce costs and the

252 Exhibit 22542-X1819-CONF, Bema evidence Part 1, paragraph 214.
253 Exhibit 22542-X1819-CONF, Bema evidence Part 1, paragraph 266.
In rebuttal evidence, AltaLink claimed that Bema’s assertions are meritless. With respect to the review conducted by [Redacted], AltaLink stated it had provided [Redacted] and that opinions were provided and relied upon following extensive review.\textsuperscript{255} AltaLink further noted:\textsuperscript{256}

- It was reasonable and appropriate to use the Hanna projects as a proxy in the settlement discussions.
- [Redacted]

234. In argument, the CCA submitted that AltaLink should not have paid over [Redacted] to settle a claim it vigorously disputed and then attempt to recover the settled amount from ratepayers. The CCA argued that since AltaLink made the decision to settle the dispute with SNC-ATP, AltaLink should bear the consequences of that decision, not ratepayers.

235. The CCA claimed that AltaLink has never satisfactorily explained why, [Redacted] was retained [Redacted]. The CCA noted that although in rebuttal evidence AltaLink claimed that [Redacted] to form its opinion, it provided no basis for the statement [Redacted].

\textsuperscript{255} Exhibit 22542-X1819-CONF, Bema evidence, Part 1, PDF page 121.
\textsuperscript{256} Exhibit 22542-X1885-CONF, AltaLink rebuttal evidence, pages 12-125.
\textsuperscript{257} Exhibit 22542-X1710-CONF AML-CCA-2017DEC20-010-CONF(b)(i)-(iv) Attachment 1, PDF page 4.
\textsuperscript{258} Exhibit 22542-X1710-CONF AML-CCA-2017DEC20-010-CONF(b)(i)-(iv) Attachment 2, PDF page 53.
\textsuperscript{259} Exhibit 22542-X1709-CONF, PDF page 3, AML-CCA-2017DEC20-010-CONF(b)(i)-(iv), and Exhibit 22542-X0704-CONF.
Further, the CCA submitted it was expressly limited to a review of disputed invoices on the Hanna project and that it does not agree with AltaLink that the Hanna project represented a reasonable proxy to be applied to the balance of the projects included in the settlement:

With respect, the CCA submits this explanation does not hold water. Whether the Hanna project, there is no logical reason why those disputes should be or were in fact of the same nature as the others. The project contracts differed, the project managers for AltaLink and SNC-ATP differed, and the extent to which each of the project teams adhered to the Procedures Manuals may have differed. In other words, each project would experience its own unique set of circumstances, issues, events, schedule constraints, etc.  

The CCA also believed AltaLink was being overcharged by SNC-ATP for PMPC and engineering labour costs even before the audit period that triggered the settlement, likely as far back as 2010. However, because AltaLink did not provide any evidence that the Procedures Manual (Revision 7) dated July 7, 2010, which forms a part of the MSA.

Further, the CCA asserted that AltaLink did not provide any evidence that the satisfied the three requirements set out by as  

The CCA further noted that  

Exhibit 22542-X1972-CONF, paragraph 288.

The Procedures Manual (Revision 7) dated July 7, 2010, which forms a part of the MSA.

In its analysis, defined the  

(Exhibit 22542-X1710-CONF, PDF page 24).

because its portfolio was smaller. In the CCA’s view, given that are an overhead expense, “it is not plausible that there would be some threshold at which would suddenly become necessary.” Finally, the CCA submitted:

... there is an issue of timing with respect to charges. While it is not precisely known when SNC started the practice of billing AML for costs, it is assumed to have commenced sometime in 2011 prior to when SNC and Berkshire Hathaway entered into discussions for the sale and purchase of AltaLink and

240. In argument, AltaLink clarified that the dispute with SNC-ATP arose due to the late submission of change notices by SNC-ATP to AltaLink. AltaLink reiterated that the disputed invoices were a contested matter between the parties and that under Section 19.3 of the MSA, this type of dispute required a submission to arbitration and an expensive and protracted binding arbitration hearing. Further, AltaLink maintained it specifically sought and received expert confirmation on two critical matters. First, and, second, AltaLink submitted that the SNC-ATP settlement is a demonstration that AltaLink’s processes were and are robust. It noted that where an issue arose as to late submission of accounts, AltaLink withheld payment to bring SNC-ATP’s processes back into line with AltaLink’s expectations. AltaLink further stated:

A late submission of an invoice by SNC does not extinguish SNC’s right to be paid …

Fundamentally, the advice of its expert advisers was that if AltaLink pushed ahead to arbitration it would lose. SNC did the work. With the work conclusively having been done, AltaLink would be forced to assert that the work was not done efficiently and therefore some amount of reduction was appropriate … [footnote omitted]

… Further, any settlement is an interrelated bundle of puts and takes to achieve an overall reasonable result. Neither party is usually happy with the result because each has compromised from what it previously thought was a rock solid position. Nevertheless, commercial parties settle and continue on. That is of particular note in this situation as SNC was an ongoing service provider …

242. AltaLink also noted that after the fact attempts to deconstruct settlement agreements have been routinely rejected by the courts and the courts’ reasoning is applicable to the approach that this Commission should take. To illustrate this, AltaLink quoted the following passage from the Ontario Superior Court of Justice:

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264 Confidential redacted argument of the CCA, paragraph 300.
265 Confidential redacted argument of the CCA, paragraph 302.
266 Confidential redacted argument of the CCA, paragraph 303.
267 Exhibit 22542-X1970-CONF, page 64.
But how does a judge do this? Judges are obviously not in position to second guess the actual amount of the proposed settlement. Nor should they do so. The most they can do, apart from making sure that the settlement was negotiated at arm’s length by competent counsel, is (1) scrutinize the actual agreement and supporting affidavit material for any so-called “structural” indicators that suggest collusion or conflict of interest and (2) satisfy themselves that the settlement amount falls within a range or zone of reasonableness.269

243. Further, AltaLink stated that the costs of a thorough analysis of Hanna were significant and, therefore, the suggestion that this level of work would need to be conducted for each and every project is both unreasonable and unnecessary.

244. In reply argument, the CCA noted the following with respect to AltaLink’s submissions in argument:

In paragraph 213, AltaLink states that the dispute with SNC “arose due to the late submission of change notices by SNC to AltaLink”. The CCA submits the evidence does not support this statement. In its Application, AltaLink simply says that over a period of time, “AltaLink rejected or partially withheld invoices submitted by SNC for payment on specific projects for disputed costs”. It is unclear to the CCA why AltaLink is now arguing that the dispute “arose” because of the “late submission” of changes, but submits this assertion is not supported by the evidence.270

245. Further, the CCA noted that

246. The CCA also commented on AltaLink’s claim that was exhaustive, stating:

Moreover, AltaLink glosses over specific comments made by report which suggest the existence of deficiencies in the quality or quantity of information given to to review:271

270 Exhibit 22542-X1980, CCA reply argument, paragraph 266.
271 Exhibit 22542-X1980, CCA reply argument, paragraph 278.
272 Exhibit 22542-X1710-CONF, PDF page 36.
273 Exhibit 22542-X1710-CONF, PDF page 45.
274 Exhibit 22542-X1710-CONF, PDF page 47.
247. In reply argument, AltaLink submitted that although the CCA claimed that AltaLink should not have paid the settled amount to settle the dispute with SNC-ATP, it did not suggest what a better alternative would have been.

248. As for the CCA’s claim that there are reasons to believe AltaLink was being overcharged for PMPC and engineering labour costs as far back as 2010, AltaLink stated it is pure speculation and that there is no evidence on the record to substantiate this claim. Further, AltaLink submitted that it reviews all EPC invoices and when an issue was identified it addressed those with SNC-ATP during the appropriate time frame. AltaLink also identified the schedule of the settlement which lists historical disputes with SNC-ATP, which were outside the settlement. AltaLink explained that Section 9 of the settlement expressly dealt with the final resolution of those disputes.

249. As for SNC-ATP’s charges, AltaLink submitted “is an efficient billing allocation process for those identified SNC-ATP employees that provide common project support or services across a significant number of all of the AltaLink SNC-ATP project.” AltaLink added that:

For efficiency, an individual who provided support on many projects would collect all that time spent and it would be allocated evenly across all AltaLink projects that SNC individual worked on …

AltaLink then stated:

Mr. Fedorchuk confirmed in evidence that B&M did not use because of the number of projects they were supporting… the fact is that B&M was supporting approximately 10 projects during this time period. SNC was supporting upwards of 40 projects and one individual may have worked on many of those projects. Allocating time separately across 40 different projects is much more administratively intensive and time consuming task as compared to 10.

While the

In any event, remained involved in the settlement negotiations throughout until when they advised that the totality of the settlement (including the ) was reasonable. AltaLink relied upon that advice.

275 Exhibit 22542-X1710-CONF, PDF page 48.
276 Exhibit 22542,-X1978-CONF, AltaLink confidential reply argument, paragraph 124.
277 Exhibit 22542,-X1978-CONF, AltaLink confidential reply argument, paragraph 125.
278 Exhibit 22542,-X1978-CONF, AltaLink confidential reply argument, paragraphs 126-127.
Commission findings

Overview of the settlement agreement

250. Prior to addressing the substantive issues related to the settlement, the Commission considers that it would be helpful to provide details on the background to the settlement and the basic mechanics of the settlement formula that the Commission considered.

251. In cross examination by Commission counsel, AltaLink’s witness, Mr. Fedorchuk, stated:279

252. It is the Commission’s understanding. Although AltaLink was concerned about SNC-ATP’s performance during this time frame, it did not commence withholding or rejecting payment on invoices until later in 2013, the beginning of . AltaLink ultimately withheld payments totaling .

253. It is also the Commission’s understanding that the withheld . The . This interpretation is supported by Mr. Fedorchuk’s statement that .

254. Once AltaLink had withheld the , SNC-ATP was willing to negotiate on the issues raised by AltaLink. The Commission understands this to include both . During the discussions, the parties agreed that AltaLink should receive a .

279 Transcript 2 CONF, page 358.
280 Exhibit 22542-X1970, paragraph 212.
281 Transcript 2 CONF, page 362.
These are summarized in the table below, based on information in the AltaLink settlement and on an undertaking response:

<table>
<thead>
<tr>
<th>Item</th>
<th>Commission understanding</th>
<th>Settlement reference</th>
<th>($ million)</th>
</tr>
</thead>
</table>

255. In addition to a credit in the amount of the Commission calculated that AltaLink received approximately

256. The Commission also notes that the calculations are not related to the in withheld payments.

257. Finally, it is the Commission’s understanding that there is a

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282 Exhibit 22542-X0704, Schedule B, column F, $2.6M
283 Exhibit 22542-X0704
284 Exhibits 22542-X1942 and 22542-X0704.
285 Exhibit 22542-X0704, see columns E, F and G.
Overview of the

258. AltaLink stated that it relied on the when entering into the settlement agreement. Although the Commission has referenced and, in some instances, quoted sections from the , the Commission has reproduced below, in part, the short answers from with respect to each of AltaLink’s questions:
The Commission’s analysis of the settlement agreement

259. The Commission has considered the following issues regarding AltaLink’s request to approve the inclusion in rate base of the settlement agreement amounts with SNC-ATP for the disputed invoices:

- Having decided to forego the opportunity to go to binding arbitration, was it reasonable for AltaLink to negotiate a settlement agreement with SNC-ATP?
- Was the outcome of the settlement reasonable?

**Having decided to forego the opportunity to go to binding arbitration, was it reasonable for AltaLink to negotiate a settlement agreement with SNC-ATP?**

260. The dispute resolution process contemplated in the MSA provides as follows:

19.3 Dispute Resolution
If a dispute should arise between Owner and Contractor regarding the application or interpretation of any provision of the Contract Documents, or the performance of either Party hereunder, the aggrieved Party shall notify the other Party within ten (10) days after such dispute arises. If the Parties fail to resolve the dispute within ten (10) days after delivery of such notice, the matter shall be referred to an ad hoc conciliation committee made up of one (1) upper management person from each Party. If a resolution of the dispute is not agreed upon by the Parties within twenty (20) days by such ad hoc committee, such dispute shall be resolved at the request of either Party by a final and binding arbitration which shall be conducted in accordance with the Arbitration Act of Alberta. The arbitration panel shall be composed of three arbitrators and the determination of the majority of the arbitrators shall be conclusive upon the Parties and judgment upon the same may be entered in any court having jurisdiction thereof. Each Party shall pay the fees and expenses of the arbitration as determined by the arbitrator. Any dispute or arbitration during the term of the Contract Documents shall not cause a delay of the Work. If a Party does not participate in these dispute resolutions and arbitration activities, the other Party may enforce its remedies under the Contract Documents without reference to this Section.

261. AltaLink advised that “Senior executives from AltaLink and SNC-ATP undertook to resolve the disputed charges in accordance with the escalation process set out in the Dispute Resolution process agreed to in the MSA.” AltaLink stated, however, that when it became apparent to AltaLink that a resolution would not be achieved absent a significant litigation process, where liability and the quantum would have been vigorously contested, it chose to pursue a commercial settlement rather than submit to a binding arbitration.

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286 Exhibit 22542-X0753, Appendix 38-1.
287 Exhibit 22542-X0002.04, paragraph 627.
288 Exhibit 22542-X0002.04, paragraph 629.
262. In assessing the reasonableness of AltaLink’s decision to pursue a commercial settlement rather than arbitration, the Commission has concerns given that the parties were both owned by SNC-Lavalin at the time. Given the nature of the parties’ relationship, the fact that they did not settle the dispute with the assistance of an arm’s length arbitrator, as contemplated in the MSA, raises questions as to the reasonableness of AltaLink’s position.

263. The Commission shares the CCA’s concern that although AltaLink stated it vigorously asserted its position with respect to the disputed invoices, it nonetheless agreed to 59% per cent of the disputed labour charges, except with respect to the amounts included for which it received a full credit. As well, AltaLink’s decision to negotiate a settlement agreement with SNC-ATP, rather than to pursue this matter through arbitration, as contemplated in the MSA, raises serious concerns as to the reasonableness of the resolution of the questionable billings from SNC-ATP.

**Was the outcome of the settlement agreement reasonable?**

264. Given the above, the Commission finds that AltaLink’s decision to negotiate a settlement agreement with SNC-ATP, rather than to pursue this matter through arbitration, as contemplated in the MSA, raises serious concerns as to the reasonableness of the resolution of the questionable billings from SNC-ATP.

265. The Commission has considered the following issues regarding the reasonableness of the settlement agreement terms:

- Payment of SNC-ATP PMPC charges
- The use of Hanna as a proxy to apply the with respect to all projects
- Only including projects that of the settlement
- Consideration of claims analyzed by

**Payment of SNC-ATP’s PMPC charges**

266. One of the issues addressed in the was .

267. In answering the above questions, first stated its general understanding of the issue:

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269 Exhibit 22542-X0002.04, paragraph 632.
268. However, accordingly,

- Exibit 22542-X1710-CONF, PDF page 24.
- Exibit 22542-X1710-CONF, PDF page 25.
- Exibit 22542-X1710-CONF, PDF page 25.
- Exibit 22542-X1710-CONF, PDF page 38.

269. stated that AltaLink went on to state that:

270. As for AltaLink’s questions in detailed in paragraph 265 above, stated.

271. concluded that, under the agreements in place, SNC-ATP “A summary of specific responses to each of (a), (b) and (c) questions is summarized below:

a)  

b)  

290 Exhibit 22542-X1710-CONF, PDF page 24.
291 Exhibit 22542-X1710-CONF, PDF page 25.
292 Exhibit 22542-X1710-CONF, PDF page 25.
293 Exhibit 22542-X1710-CONF, PDF page 25.
294 Exhibit 22542-X1710-CONF, PDF page 38.
272. Based on the information above and on parties’ submissions, the Commission is not persuaded that AltaLink should be entitled to recover as a prudently incurred cost that portion of SNC-ATP’s PMPC charges SNC-ATP retained through the settlement. First, AltaLink argued that SNC-ATP’s PMPC charges related to actual work performed by SNC-ATP and, therefore, were reasonable. The Commission finds, however, that the evidence before it strongly suggests otherwise. The Commission notes that AltaLink’s opinion was that, and AltaLink did not provide compelling evidence to convince the Commission otherwise. Of particular concern to the Commission, is As such,  

273. The evidence on the record suggests that AltaLink The fact that AltaLink 

\[295\] Exhibit 22542-X1710-CONF, PDF page 24.  
\[296\] Exhibit 22542-X1710, page 24.
points to a mismanagement of project costs on the part of AltaLink. Even if it was reasonable for SNC-ATP to charge for PMPC/costs, the Commission would expect those costs to be applied with respect to all projects.

Using Hanna as a proxy to apply the with respect to all projects

276. The Hanna projects were specifically selected to be analyzed with the intent that the results would be representative of the disputed issues across all specific projects subject to the settlement agreement because they represented approximately of the disputed labour costs with SNC-ATP.

277. The Commission agrees that the issues that arose on the Hanna projects were likely representative of the types of issues that arose on the remaining projects that were the subject of the settlement agreement. However, it does not necessarily follow that the issues would impact every project to the same extent. The findings of perhaps erroneously assume the same pattern of behaviour by SNC-ATP with respect to the charging of PMPC/costs on every project. The Commission cannot conclude on the basis of the record of this proceeding that the allocation for Hanna is a reasonable proxy for all the other projects that were the subject of the settlement agreement.

278. In this regard, the Commission notes that expressed The following passages from support this factual finding:

297 Exhibit 22542-X1710-CONF, PDF page 35.
298 Exhibit 22542-X1710-CONF, PDF page 35.
279. In the Commission’s view, call into question the reasonableness of the application of [redacted] for the Hanna projects, in the absence of further analysis to establish whether Hanna could stand as a proxy for all of the other projects.

280. The Commission recognizes that retaining a claims specialist to conduct a review on all of the remaining projects that were the subject of the settlement agreement would have resulted in increased costs, which may have been borne by ratepayers. However, given that the [redacted] the Commission expects that AltaLink would have provided more concrete evidence of the reasonableness of this ratio.

Only including projects [redacted]

281. AltaLink limited the scope of its disputed invoices [redacted] However, the evidence on the record of this proceeding does not support this claim. As noted above, AltaLink has acknowledged that SNC-ATP did not follow AltaLink’s procedures manual on occasion and, as also noted above, AltaLink permitted SNC-ATP [redacted] the Commission has not been presented with any evidence that [redacted]

282. The Commission is of the view that, given the questionable billing practices employed by SNC-ATP with respect to PMPC/ [redacted] all projects [redacted] should have been subject to review.

Use of [redacted]

283. [redacted] As previously noted, [redacted]

284. [redacted] 300

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299 Exhibit 22542-X1710-CONF, PDF page 36.
300 Exhibit 22542-X0704, page 8, columns A and B.
285. The Commission considers that a more reasonable approach would have been to apply the agreed to allocation to the for all projects totals. Therefore, on average, the

The Commission notes that when

286. To further illustrate the Commission’s concern with the above-noted approach, the Commission prepared an analysis of the actual amounts recovered by AltaLink through the per cent credit. The Commission’s analysis is based on the amounts were derived from of the settlement agreement.

287. Pursuant to the Commission’s analysis, when the amount relating to is removed from the

The Commission’s analysis is depicted in the table below:

<table>
<thead>
<tr>
<th>Analysis of resolved disputes</th>
<th>Open Projects Schedule A Columns B &amp; I</th>
<th>Closed Projects Schedule B Columns B-D+I</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($000)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

288. The Commission’s analysis is depicted in the table below:

289. Another issue addressed in the was whether SNC-ATP noted that

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301 Forecast at completion is AltaLink’s best estimate of final project expenditures or actual final cost.
302 Exhibit 22542-X0704, page 8, ((B+I)-(E+J)).
303 Exhibit 22542-X0704, page 9, column F, “Previously Resolved Disputes.”
304 Exhibit 22542-X0704, Schedule B, columns L-F; F is settlement of previous claims not related to 25 per cent factor.
provided the following answer:

also stated:

290. As opined by [redacted], although SNC-ATP [redacted], The Commission is not persuaded that [redacted]. There is insufficient evidence on the record of this proceeding to conclude that [redacted] were legitimate.

291. [redacted]

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305 Exhibit 22542-X1710, PDF page 08.
306 Exhibit 22542-X1710, PDF page 10.
307 Exhibit 22542-X1710, PDF pages 35-36.
292. Additionally, the Commission notes that the MSA contemplated the opportunity for SNC-ATP to recover costs associated with overhead hours. Schedule B of the MSA, reproduced below, provides for a minimum of 2.00 labour multiplier:

<table>
<thead>
<tr>
<th>Price category</th>
<th>Fees and charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Regular labour rates</td>
<td>A graduated labour multiplier based on volume of total regular project Billable Hours incurred during the calendar year with a 5% discount after every 100,000 Billable Hours incurred to a minimum of 2.00.</td>
</tr>
<tr>
<td></td>
<td>2.46 0-100,000 Billable Hours</td>
</tr>
<tr>
<td></td>
<td>2.34 100,001-200,000 Billable Hours</td>
</tr>
<tr>
<td></td>
<td>2.22 200,001-300,000 Billable Hours</td>
</tr>
<tr>
<td></td>
<td>2.11 300,001-400,000 Billable Hours</td>
</tr>
<tr>
<td></td>
<td>2.00 &gt;400,001 Billable Hours</td>
</tr>
</tbody>
</table>

293. Schedule B of the MSA also provides that hourly project disbursement fees can be added to each billable hour, allowing yet another opportunity for SNC-ATP to recover overhead costs.

294. Therefore, if SNC-ATP were allowed to recover referenced in the it would effectively be recovering charges on amounts that are already overhead in nature, a fact that does not seem to have been incorporated in the . The Commission does not consider recovering to be reasonable.

Summary of findings and disallowance awarded

295. The Commission has concerns with the context in which the parties reached the settlement agreement. First, given the nature of the parties’ relationship at the time, the fact that they did not settle the dispute with the assistance of an arm’s length arbitrator raises question as to the reasonableness of the outcome achieved. Second, the fact that and AltaLink’s sale raises concerns regarding the motivation of AltaLink to reach an expedient settlement rather than a reasonable settlement. Third, the fact that AltaLink agreed to casts further doubt on the reasonableness of the settlement agreement.

296. In addition, the Commission has identified significant deficiencies in the foundational structure of the settlement agreement, as it relates to the . As discussed in detail above, the Commission identified the following deficiencies:

- The parties used the Hanna projects as a proxy to arrive at the allocation with respect to all projects.
- AltaLink only received

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308 Exhibit 22542-X0697, page 30.
• The parties applied the [blank] rather than [blank] when determining which of the [blank].

• Although SNC-ATP received [blank] there are no provisions in the MSA or the procedures manual that expressly permit [blank].

• Because SNC-ATP received [blank] it has essentially recovered [blank].

297. Accordingly, the Commission does not consider that AltaLink has sufficiently discharged its onus to demonstrate that the [blank] labour charges is reasonable and in the public interest.

298. The Commission further notes that the total value of SNC-ATP billings subject to the variance calculations in [blank]. Consequently, the Commission considers that the [blank] The Commission is not persuaded that AltaLink’s invoice review was sufficiently rigorous so as to isolate all disputable billings. Indeed, if it were sufficiently rigorous, the settlement may not have been necessary.

299. As for the CCA’s recommendation for a cost and performance audit on all projects subject to the settlement agreement, the Commission notes that although it contemplated directing such an audit, it ultimately opted not to do so. The Commission considered that such an audit would entail a forensic review of all PMPC and engineering costs, which would potentially cost millions of dollars, take several months to be completed and yield results that could be largely subjective and of questionable assistance.

300. Based on the issues addressed in [blank], the Commission has a general understanding of the nature of the concerns that gave rise to the parties’ dispute. However, the Commission does not know [blank] As such, it is not possible to ascertain the exact amount of the [blank] AltaLink should have received with respect to the disputed labour charges pursuant to the terms of the MSA and the procedures manual.

301. Notwithstanding, the Commission recognizes that some of the work SNC-ATP performed was likely necessary and legitimately claimed for recovery, such as [blank].

302. Nonetheless, given all the above deficiencies identified with the settlement, the Commission considers it reasonable and in the public interest to recalculate the credit received by AltaLink, as a result of the [blank] on the basis of a [blank].
This recalculation results in a disallowance of $7,837,938 of the payment to SNC-ATP. AltaLink is directed to make the necessary adjustments in its compliance filing to this decision.

3.8 Other settlements and audits

3.8.1 Billing audit

303. The Commission, in Decision 21914-D01-2016, determined that the continued examination of billing audits and the implementation of audit recommendations in future DACDAs was required, and AltaLink was directed to:

- refile the audit submitted in this application as Exhibit 21914-X0007;
- provide any subsequent audits covering billing amounts for the projects included in the 2014 DACDA;
- confirm whether any recommendations (for either AltaLink or SNC-ATP) related to the invoicing process are still outstanding; and
- describe the results of any recommendations that have since been implemented.

304. AltaLink stated that it performed a billing audit for the amounts billed to AltaLink from August 1, 2014 to December 31, 2015. AltaLink referred to this as the “2016 SNC Billing Audit.” It then explained the steps it and SNC-ATP took to address invoicing process recommendations from previous billing audits.

305. AltaLink stated that it was satisfied with SNC-ATP’s response for control improvements in two low impact areas, and noted that “in light of the decreasing level of work with SNC-ATP post 2015, improvements in controls and the rating of Satisfactory in the 2016 SNC Billing Audit, AltaLink’s internal audit team did not perform an audit for the period January 1, 2016 to December 31, 2016. AltaLink indicated that the KPMG audit was applicable to the projects before the Commission showed that SNC-ATP’s billing practices exceeded industry standard.

Commission findings

306. The Commission considers that AltaLink’s submissions satisfy the directions set out in Decision 21914-D01-2016.

3.8.2 Cable reels and labour settlement

307. AltaLink concluded commercial negotiations as a result of the findings in the SNC-Lavalin T&D Billing Process Audit for cable reels and labour expenses. The resolution of the

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311 Decision 21914-D01-2016, paragraphs 38-39.
312 Exhibit 22542-X0002.04-CONF, 2014 DACDA deferral accounts reconciliation application, paragraphs 610-614.
313 Exhibit 22542-X0002.04, 2014 DACDA deferral accounts reconciliation application, paragraph 615.
314 Exhibit 22542-X1885-CONF, paragraph 162.
315 Exhibit 22542-X1486-CONF, PDF page 5.
audit exceptions applicable to the cable reels and labour expenses was provided in a Settlement and Release Agreement between AltaLink and SNC-Lavalin dated July 2, 2016.316

**Labour settlement**

308. AltaLink explained it was common in the engineering and design of a project that certain portions of labour may be obtained from offshore resources as a means to obtain the required capacity for certain work activities at a potentially lower labour rate. SNC-ATP, through an provided engineering and drafting labour to SNC’s local office to support AltaLink projects. The local SNC-ATP office oversaw all work activities and resultant professional obligations pursuant to APEGA engineering and design standards.

309. As a result of the findings in the SNC T&D 2014/2015 Billing Audit, AltaLink arising out of AltaLink work assignments internally transferred by SNC-ATP to AltaLink pursued the recovery of these labour expenses pursuant to the Dispute Resolution procedures set out in the MSA and RA with SNC-ATP. SNC-ATP asserted that all of the work performed was required for AltaLink projects and following discussions and AltaLink investigations, AltaLink was satisfied that the labour expenses were directly incurred to provide services on AltaLink projects. AltaLink further advised that, as of the date of the agreement, there were no further charges to be levied or invoiced to AltaLink for the work, services and materials which together form the subject of the labour expense claim.

**Cable reels**

310. AltaLink explained that consistent with the normal course of a construction project, deposits are paid to conductor suppliers for the reels which hold the conductor (referred to as the “cable reels”). It is an industry standard for the conductor suppliers to require a deposit on cable reels as a mechanism to ensure undamaged cable reels are returned for reuse in future applications. Upon the return of undamaged cable reels, the deposits are refunded to the entity that leased or rented the conductor reel equipment. However, it is expected that during transportation, handling and field construction some level of damage may occur to the cable reels and, as a result, the full amount of cable reel deposits will not be refunded.

311. As a result of the finding regarding cable reel deposits in the SNC-Lavalin T&D Billing Process Audit, AltaLink identified approximately paid by it to SNC-ATP for leased or rented cable reels that have not been returned or repaid to AltaLink, despite the safe return of the equipment to the conductor supplier. AltaLink pursued the recovery of the cable reel deposits pursuant to the dispute resolution procedures set out in the MSA and RA. SNC-ATP argued their position as it related to the cable reel deposits and, through the commercial negotiations, finalized a compromise position as follows:

- [Elided text]

316 Exhibit 22545-X0703.
Commission findings

312. AltaLink explained that the out-sourcing of labour to overseas sources was a means to reduce cost. AltaLink also stated that it was able to validate the work performed and AltaLink confirmed that it considered that it received good value from out-sourced labour. The Commission accepts AltaLink’s evidence and considers the labour cost settlement to be reasonable and the related matters closed.

313. With respect to the cable reel deposit issue, the Commission notes that AltaLink recovered the vast majority of the outstanding claim. The Commission also accepts AltaLink’s explanation that some reels are damaged during use and full recovery is not possible.

314. The Commission considers this settlement to be reasonable and the related matters closed.
3.8.3 arbitration

317. The Commission directed AltaLink to provide an update on the arbitration process between SNC-ATP and

318. The Commission directed AltaLink to provide an update on the arbitration process between SNC-ATP and

Commission findings

319. The Commission considers the resolution of this matter to be reasonable and considers this matter closed.

3.9 Labour and engineering and supervision costs

320. In Decision 2013-407\(^{319}\) and Decision 3524-D01-2016,\(^{320}\) the Commission stated that it would test the prudence of labour expenditures in AltaLink’s DACDA proceedings. The Commission specifically stated:

86. AltaLink’s capital FTE levels for either 2013 or 2014 are not approved on either a final or preliminary basis in this decision. The Commission tests the prudence of labour expenditures recovered through direct assign projects in the context of future DACDA proceedings. For all other types of capital expenditures undertaken by AltaLink, the Commission tests the prudence of capitalized labour costs at the time final closing balances for 2013 and 2014 capital additions are presented in the context of a future AltaLink GTA.\(^{321}\)

321. No party commented on AltaLink’s capitalized labour and engineering and supervision (E&S) costs in their argument or reply argument submissions.

Commission findings

322. FTEs represent the allocation of either one person’s or the accumulated allocation of many persons’ charged time to a capital project, and forms the basis for AltaLink’s internal capital labour costs charged to its capital projects. One measure of the prudence of capital labour costs incurred on a project is the evaluation of the number of FTEs allocated to a project. The number and types of FTEs, as well as the corresponding allocation of labour dollars and overheads, may indicate an under or over resourcing of a given project which, in turn, may assist the Commission in the determination of whether the labour costs incurred are prudent.

\(^{317}\) Exhibit 22542-X0016-CONF, Appendix 3-5.
\(^{318}\) Exhibit 22542-X1485, page 46.
\(^{319}\) Decision 2013-407, paragraph 86.
\(^{320}\) Decision 3524-D01-2016, paragraphs 158-159.
\(^{321}\) Decision 2013-407, paragraph 86.
323. A comparison of capital FTEs approved in AltaLink’s GTA and actual FTEs charged to capital is provided in Table 1 below:

<table>
<thead>
<tr>
<th></th>
<th>2014 GTA Fcst (1)</th>
<th>2014 GTA Actual (3)</th>
<th>2015 GTA Fcst (2)</th>
<th>2015 GTA Actual (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule 5-5</td>
<td>425.3</td>
<td>389.6</td>
<td>398.6</td>
<td>404.5</td>
</tr>
<tr>
<td>Schedule 25-5</td>
<td>134.3</td>
<td>124.3</td>
<td>123.7</td>
<td>124.5</td>
</tr>
<tr>
<td>Total</td>
<td>559.6</td>
<td>513.9</td>
<td>522.3</td>
<td>529.0</td>
</tr>
</tbody>
</table>

Note (1) - Exhibit 0003.00.AML-3024, AML 2013-2014 GTA Compliance
Note (2) - Exhibit 22930-X0004.01, AML 2015-2016 GTA 3rd Compliance
Note (3) - Exhibit 23074-X0004, AML 2017-2018 GTA Compliance

324. As shown in Table 1 above, AltaLink employed fewer capital FTEs in 2014 than approved, while the actual number of capital FTEs in 2015 was consistent with the number of FTEs approved. This is proportionate to what the Commission determined as reasonable in AltaLink’s 2013-2014 and 2015-2016 GTAs.

325. In an IR, the Commission asked AltaLink to provide a comparison of 2014 and 2015 directly attributable indirectly captured (DAIC) costs to capital expenditures. AltaLink provided the following response:

<table>
<thead>
<tr>
<th></th>
<th>2014 Actual</th>
<th>2015 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission E&amp;S ($ million)</td>
<td>53.7</td>
<td>55.0</td>
</tr>
<tr>
<td>Transmission capital expenditures ($ million)</td>
<td>2,045.4</td>
<td>1,130.8</td>
</tr>
<tr>
<td>Transmission E&amp;S rate</td>
<td>2.6%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>


326. In response to a Commission IR, AltaLink provided an additional breakdown of E&S costs, by cost type, reproduced in Table 3 below:

<table>
<thead>
<tr>
<th></th>
<th>2014 Actual</th>
<th>2015 Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour</td>
<td>31.0</td>
<td>32.5</td>
</tr>
<tr>
<td>Contracted Manpower</td>
<td>8.2</td>
<td>8.5</td>
</tr>
<tr>
<td>IT Capital Support</td>
<td>2.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Building</td>
<td>6.5</td>
<td>5.9</td>
</tr>
<tr>
<td>Telecom</td>
<td>2.2</td>
<td>2.3</td>
</tr>
<tr>
<td>Other Non-Labour</td>
<td>3.8</td>
<td>3.4</td>
</tr>
<tr>
<td>Total</td>
<td>53.7</td>
<td>55.0</td>
</tr>
</tbody>
</table>


327. As shown in Table 4 below, the E&S rate (transmission E&S/capital expenditures) charged to capital projects is consistent with the E&S rate that was approved in respect of AltaLink’s approved 2013-2014 tariff application and 2015-2016 tariff application.
Table 4. Approved E&S forecast (and E&S rate) and actual E&S (and E&S rate) for 2014 and 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Exhibit 0003.00.AML-3024 Schedule 10-5</td>
<td>Exhibit 22542-X1491 (1)</td>
<td>Exhibit 22930-X0004.01 Schedule 10-5</td>
<td>Exhibit 22542-X1491 (1)</td>
</tr>
<tr>
<td>Transmission E&amp;S ($ million)</td>
<td>45.4</td>
<td>53.7</td>
<td>58.0</td>
<td>55.0</td>
</tr>
<tr>
<td>Transmission capital expenditures ($ million)</td>
<td>1,836.9</td>
<td>2,045.4</td>
<td>1,125.8</td>
<td>1,130.8</td>
</tr>
<tr>
<td>Transmission ES&amp;G rate</td>
<td>2.5%</td>
<td>2.6%</td>
<td>5.1%</td>
<td>4.9%</td>
</tr>
</tbody>
</table>

Note 1 - IR response AML-AUC-2017DEC20-062 (a)

328. On the basis of this evidence, the Commission considers AltaLink’s allocation of labour dollars and overheads to capital to be prudent, and approves AltaLink’s capitalized labour charges and E&S to direct assigned projects as filed.

3.9.1 EPCm provider labour

3.9.1.1 PMPC Costs

329. In Figure 4.2-1 of its evidence, the CCA showed that procurement, project management and construction management (PMCM) costs for certain SNC-ATP managed projects were considerably higher than those managed by B&M, AltaLink’s other EPCm provider. It noted that when charges for Windy Flats to Foothills are removed from the comparison, SNC-ATP charges were [ ] per cent compared to [ ] per cent for B&M. Other projects, such as Langdon to Janet and the Red Deer projects had SNC-ATP charges that were substantially above those of B&M. It concluded that this significant difference suggested that SNC-ATP may have been overcharging for its services.

330. The CCA further examined the costs for the Bowmanton-Whitla (BW) project and the SFTP in detail in Section 4.3.1 of its evidence and presented its analysis in Appendix D to that evidence.\(^{322}\) It noted that AltaLink provided a breakdown of the PMCM costs into 32 different subcategories.\(^{323}\) It compared the BW and SFTPs and noted that almost all the categories had differing average hourly wage rates and identified seven significant variances. Although it recognized that underlying differences between the two projects may account for some rate variances, it nonetheless considered the differences in hourly rates for certain functions to be inexplicably large.

331. As well, the CCA was concerned with discrepancies it found in AltaLink’s disclosure. Specifically, it considered that the detailed cost breakdowns provided by AltaLink do not match the final cost reports. The BW project final cost report indicated that the total for distributed costs was $31.6 million;\(^{324}\) however, the total of the detailed labour rates was $12.6 million.\(^{325}\)

\(^{322}\) Exhibit 22542-X1819, Bema evidence, Appendix D - Labour Hour and Rates Comparison BW to SFTP.

\(^{323}\) Exhibit 22542-X1527, AML IR Responses to CCA Attachments R008-009, PDF page 6 for BW, and PDF page 7 for SFTP.

\(^{324}\) Exhibit 22542-X0023.01, Appendix 04-04 Final Cost Report Amended (BW), PCP Tab, Excel Cell H36.

\(^{325}\) Exhibit 22542-X1527, AML IR Responses to CCA Attachments R008-009, PDF page 6.
resulting in a variance of $19 million.\textsuperscript{326} It also identified a variance of $5.4 million\textsuperscript{327} between the SFTP final cost report\textsuperscript{328} and the detailed labour rates.

332. The CCA recommended that the Commission direct AltaLink to conduct a similar analysis on exhibits 22542-X1527\textsuperscript{329} and 22542-X1589,\textsuperscript{330} reconciling the totals in these exhibits to the corresponding distributed cost totals (including PMCM charges) in the final cost reports and to explain significant variations in average hourly rates and in charges for various functions, expressed on a per kilometre (/km) basis or as a percentage of total labour costs for transmission facilities.

333. In its rebuttal evidence AltaLink dismissed the CCA’s concerns, stating the CCA had derived a grouping of averages for procurement and PMPC and then suggested, without reviewing the actual project requirements, that SNC-ATP may have overcharged for its services. AltaLink maintained SNC-ATP appropriately incurred the costs to support the project requirements, that it thoroughly reviewed the work completed and subsequently invoiced by SNC-ATP and that it undertook billing audits\textsuperscript{331} of both EPCs. Consequently, AltaLink stated that the procurement and PMPC costs incurred for this group of projects in the application were for services provided by the EPCm firms that were both required and reasonable.

334. AltaLink claimed that despite the on-going request for additional detailed information, the CCA ignored the evidence on the record and requested a full disclosure of SNC-ATP billings for the identified projects.\textsuperscript{332} It responded that the Commission has ruled that this level of detail is not material to a DACDA application\textsuperscript{333} and it is clear that AltaLink’s independent internal audit function has already verified SNC-ATP billings for projects in this application.\textsuperscript{334}

335. AltaLink further explained that the CCA mischaracterized AltaLink’s PMPC costs as being related to EPCm provider costs only. It stated that it groups all of the AESO-delineated distributed cost categories into the PMPC category and that PMPC work is performed by both AltaLink and EPCm project teams, and may be undertaken by employees as well as external contractors, consultants or support staff.

336. AltaLink claimed the CCA assumption was flawed when it calculated PMPC costs as a percentage of transmission line, substation and telecommunications material and labour totals only. PMPC captures functions that span the entire project. AltaLink provided examples.\textsuperscript{335} Further, AltaLink stated that the CCA’s calculations in Figure 4.2-1 incorrectly assumed that all projects were equal and therefore could be easily compared against each other. Further, the

\textsuperscript{326} Exhibit 22542-X1825, Bema evidence, Appendix D - Labour Hour and Rates Comparison BW to SFTP, Excel Cell C40.
\textsuperscript{327} Exhibit 22542-1825, Bema evidence, Appendix D - Labour Hour and Rates Comparison BW to SFTP, Excel Cell H40.
\textsuperscript{328} Exhibit 22542-X0367.01, Appendix 28-04 Final Cost Report Amended (SFTP), PCP tab, Excel Cell H36.
\textsuperscript{329} Exhibit 22542-1527, Attachment: SNC Labour costs by Discipline and Project for SATR (BW), SATR SFTP, FATD EAST- NFTP, FATD EAST- Langdon to Janet, FATD EAST- FH 138kv, ECTP and New Fidler312S.
\textsuperscript{330} Exhibit 22542-X1589, Attachment: SNC Labour costs by Discipline and Project for WATL, EATL, Wolf Creek R1, 80 L, 80Ls, RD 648L and RD Johnson.
\textsuperscript{331} Exhibit 22542-X0011-CONF to Exhibit 22542-X0014-CONF and Exhibit 22542-X1035-CONF, SNC & B&M Billing Audits.
\textsuperscript{332} Exhibit 22542-X1855, paragraph 182.
\textsuperscript{333} Exhibit 22542-X1705, PDF pages 1 and 22.
\textsuperscript{334} Exhibits 22542-X0011-CONF and 22542-X0012-CONF.
\textsuperscript{335} Exhibit 22542-X1885-CONF, PDF pages 44-45.
material and labour costs would not fully reflect project specific challenges, complexities and delays.

337. In argument, the CCA continued to express its concern that AltaLink exhibited a lack of reasonable management oversight for the SNC-ATP charges incurred, expressed a further lack of concern for significant hourly variances, and argued that AltaLink’s failure to provide detailed information regarding the SNC-ATP billings has resulted in the inability to accurately determine the reasonableness of the incurred costs for PMPC. The CCA noted that it attempted to address these variances in cross examination, however AltaLink chose to not address the concerns directly.  

338. Further, the CCA maintained the SNC-ATP billing audits conducted by AML certainly did not compensate for the serious issues raised in the analysis of PMPC costs it conducted. It appeared that although AltaLink performed an SNC-ATP billing audit, the degree of review of that audit was lacking because some of the variances in labour rates were excessive, including the labour rates for the East Calgary Transmission project (ECTP) with a project control hourly rate of $240.84. The CCA maintained it was clear that there existed an issue with the SNC-ATP labour rates across the seven projects and, had AltaLink provided these costs for all SNC-ATP projects, these irregularities would likely persist. Consequently, the CCA proposed that this brings into question the reliability of the SNC-ATP Billing Audit and the need for substantiating documentation, such as the actual invoices from SNC-ATP. AltaLink’s dismissive attitude towards seeking to understand and explain several material anomalies in the very limited information provided was very concerning to the CCA. From the CCA’s perspective, the reasonableness of billings from SNC-ATP cannot be assessed without a review of the invoices.

339. Consequently, the CCA continued to recommend that the Commission request AltaLink provide the SNC-ATP invoices in a compliance filing or conduct a cost and performance audit so that the reasonableness of these costs may be accurately determined.

340. AltaLink stated in reply that the CCA continues to refuse to recognize the prior Commission guidance that invoices need not be provided as any potential probative value is far outweighed by the effort required to produce them. The underlying principle in this determination is that even if the invoices were available, they would not provide any additional useful information to the Commission.

341. AltaLink noted that the CCA further asserted the SNC-ATP billing audits were lacking, given the variances in labour rates. However, AltaLink has already provided detailed information on the billing audits that were conducted by its independent internal auditors, including the years audited, the results of the audits, the evolution of practices in relation to the audit and finally the confirmation that the results of the audit showed billing practices were better than industry standard. Further, in the application and in oral evidence, AltaLink spoke

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336 Exhibit 22542-X1972-CONF, PDF page 35.
337 Exhibits 22542-X0011-CONF and 22542-X0012-CONF.
339 Exhibit 22542-X1705, PDF pages 1 and 22.
340 Exhibit 22542-X1972, CCA argument, paragraph 102.
341 Exhibit 22542-X1485-CONF, PDF pages 3, 4, 7, 9, 12, 14, 15, 17, 20, 21, 25, 26, 28, 29, 30, 32 and 82, AML-AUC2017DEC20-CONF-003, 005, 006, 007, 008, 009, 010, 012, 014, 015, 018, 019, 021, 022, 023, 025, 061; Exhibit 22542-X1617-CONF, PDF pages 3 and 6, AML-AUC-2018JUN01-002-CONF and AML-AUC-2018JUN01-004-CONF.
to the fact that it had reviewed the actual charges and it was confident in the actual dollars and actual costs.\footnote{Exhibit 22542-X0002.04-CONF (blackline), PDF pages 116-118, Section 5.11.1; Transcript, Volume 2, pages 367-369.}

342. AltaLink maintained that the CCA’s claimed concerns regarding labour rate variances were based on a flawed methodology that relied upon averages. As Mr. Fedorchuk confirmed in oral evidence, the actual costs were billed based upon the dollars allowed to be billed by a specific work group or employee pursuant to the relevant contract.\footnote{Transcript, Volume 2, page 367, lines 13-15.} The reliance on averages does not address the fact that there may well have been a different mix of staff from junior staff categories to senior staff categories, depending upon the complexity of the project. Therefore, trying to compare averages provides no meaningful information. Rather, AltaLink looked at the actual type of employee supporting the project to confirm the costs were appropriately billed.\footnote{Transcript, Volume 2, page 368, lines 1-7.}

**Commission findings**

343. The Commission notes that the CCA has recommended that AltaLink be directed to supply all the relevant SNC-ATP invoices in a refiling. The Commission has previously ruled that SNC-ATP’s detailed invoices did not have to be provided, questioning the probative value of this level of detail. The Commission continues to hold this view.

344. However, the Commission notes that AltaLink, in commenting on its settlement with SNC-ATP, expressed\footnote{Transcript, Volume 2, Confidential, page 358, lines 7-18.} The Commission considers this admission to support the CCA’s concern regarding the labour costs charged. The Commission has addressed this matter in its findings on the SNC-ATP settlement, Section 3.7.

**3.9.1.2 Detailed engineering costs**

345. The CCA illustrated in Table 4.2-1 of its evidence that total engineering costs for the group of projects it was able to examine were 89 per cent over the PPS estimate. It compared this variance to the total engineering costs from Proceeding 3585 noting that the costs from that DACDA were only 28 per cent over the PPS estimate.\footnote{Exhibit 22542-X1819, pages 48 and 52.}

346. It stated these very large increases in detailed engineering costs could be an indication that AltaLink did not exercise sufficient management control over SNC-ATP’s engineering work during the 2014-2015 timeframe. As a result, some of these costs may not have been reasonably incurred. Further, SNC-ATP should be able to estimate more accurately given its long-term experience in building projects for AltaLink.

347. AltaLink stated in rebuttal that the CCA put forward irrelevant mathematical averages that had no relationship to the unique and specific actual project requirements for engineering. In particular, it asserted that the CCA completely ignored the variance explanations in the application, project summary reports (PSRs), Final Cost Reports and IRs. It stated the CCA analysis is an example of an inappropriate use of benchmarking because all projects have different characteristics which require different levels of engineering. For example, differences in location, topography, and land ownership can affect engineering. Fundamentally, projects
should be assessed for reasonableness on the decisions which were made specific to the individual project at the relevant time.

348. AltaLink stated that the CCA’s Table 4.2-4 compared engineering costs from projects completed in an earlier timeframe and filed in a previous DACDA to projects in the current application and that such comparisons are not relevant given the multiple factors and project variables that contribute to engineering costs. A wide range of values across projects is to be expected when calculating engineering costs as a percent of transmission line, substation and telecommunication material and labour totals.

349. AltaLink identified and provided evidence of some of these key engineering variances. In particular, AltaLink explained that power system stability or outage constraints also require the staging of a project, particularly with lines in urban areas or with significant importance to the Alberta Interconnected Electric System (AIES). When staging occurs, detailed engineering activities, such as protection settings, must be completed for every stage, which increases the engineering costs relative to greenfield projects. Of particular note were the Red Deer projects, WATL, and the FATD projects that required staging or multiple outages to complete the work.

350. Additionally, increased engineering is required in populated areas to minimize the visual impact of the design and construction. Route and structure locations must be located to avoid conflicts with existing and future above and below ground facilities, buildings and infrastructure and to ensure that construction activities will not pose safety concerns or significantly disrupt daily routines with road closures or other impairments. An example of this was the rebuild (brownfield) of 80L in Red Deer along the existing right-of-way (ROW).

351. AltaLink asserted that these constraints and activities were more pronounced for AltaLink projects leading to more detailed engineering being required and the CCA did not take these criteria into account.

352. The CCA stated in argument that its evidence on engineering costs determined that when one looked at the total additional costs on the individual projects and compared that percentage increase to the percentage increase for detailed engineering, the detailed engineering costs were greater than the total increase in costs in all ten of the projects reviewed.

353. It acknowledged that there exists a degree of variability from project to project. Regardless of this fact, the CCA argued that the dramatic increase of costs on a percentage basis implies that AltaLink supports these increased costs on the basis that the projects in the 2014-2015 DACDA were more complex than the projects in the 2012-2013 DACDA. The CCA questioned this logic because AltaLink should have the expertise to determine these factors in a reasonably accurate manner and provide some credible evidence to support why the costs have gone up so much; however, it did not. It noted that AltaLink emphasized that it attempts to achieve continuous improvement, yet a company that conducts continuous improvement would expect to see variance margins decrease over time, especially in professional roles such as engineering, as corrective action, increased understanding and process improvement are considered and implemented in future projects. In the CCA’s view, the continuous improvement AltaLink claims is lacking in the detailed engineering costs for large transmission projects. Furthermore, it is apparent that AltaLink did not exercise sufficient management control over

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347 Exhibit 22542-X1885, PDF pages 40-42.
348 Transcript, Volume 3, page 544, lines 5-25.
SNC-ATP’s engineering work during the 2014-2015 timeframe. As a result, some of these costs may not have been reasonably incurred.

354. In conclusion, the CCA recommended that the Commission disallow $23.6 million\(^{349}\) of the detailed engineering additional costs. Furthermore, the CCA recommended that the Commission require AltaLink to provide in a compliance filing a full disclosure of the detailed engineering costs missing in the Final Cost Reports for the WATL, the East HVDC Converter Station Interface Project, the Medicine Hat 138-kV project, and any other projects where the costs were omitted.

**Commission findings**

355. The Commission notes that similar to its concern with PMPC costs, the CCA has also argued that SNC-ATP’s engineering costs for a number of projects are excessive.

356. The Commission agrees with the CCA’s assessment that the significantly greater increase in engineering costs relative to PPS stage estimates for projects in this proceeding as compared to the increase from PPS stage forecasts experienced for projects considered by the Commission in AltaLink’s last DACDA application proceeding is cause for concern.

357. The Commission does not accept that variances of engineering costs over PPS estimates would be so much higher than in the prior DACDA due to more “complex” projects, as explained by AltaLink. With each successive transmission project managed by AltaLink, it should have been able to demonstrate increasing expertise and improving accuracy in estimating its engineering costs, especially given its stated commitment to continuous improvement.

358. The Commission has scrutinized engineering cost overruns with respect to specific projects in this proceeding and has determined the prudence of those cost overruns on a case-by-case basis rather than on the basis of the size of the variance above PPS estimates.

3.10 **AC mitigation matters**

359. Transmission lines can cause an electrical effect on facilities, i.e., oil and gas facilities, pipelines and rails that are located in proximity to the line. This can be induction or conduction and can cause current to flow on the facility or can cause a voltage difference between the facility and ground, and, in turn, these effects can cause corrosion or can be a safety hazard. Generally, step and touch potential is the highest concern, followed by signal disruptions and then corrosion. When AltaLink constructs a new transmission line or modifies an existing line that would change the load on the line, it is required to address or mitigate the anticipated electrical effects with the facility owners. This is referred to as AC mitigation.\(^{350}\)

360. AltaLink stated that it takes AC mitigation very seriously as a pipeline breach due to corrosion can have serious safety, environmental and financial consequences. AltaLink submitted that if a pipeline breach could be shown to be attributable to its transmission line,

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\(^{349}\) This amount is the calculation of the 2014-2015 additional costs for detailed engineering at an average of 28 per cent. $34,508,103 overage less PPS estimate of $38,833,080 x 28 per cent ($10,873,262) equals $23,634,841.

\(^{350}\) Exhibit 22542-X0002.04, application (clean), paragraphs 518-519 and 521.
“it will inevitably be brought into the ensuing compensation discussions and possible litigation.”

351. AC mitigation was governed by the Canadian Standards Association (CSA) standard C22.3 No. 6 “Principles and Practices of Electrical Coordination between Pipelines and Electric Supply Lines” and National Association of Corrosion Engineers (NACE) Standard Practice (SP) 0177 “Mitigation of Alternating Current and Lightning Effects on Metallic Structures and Corrosion control Systems.” The former standard was the revision from 1991 at the time of the PPS but was revised in 2013 and then again in 2017 (when it became CSA 22.3 No 6-13), and the latter standard’s most recent revision was 2014.

362. As a general guideline, AltaLink provided the following typical or conservative industry practice setback or separation distances for facilities, noting that the distances can be less if an AC induction study indicates there is no risk of soil arcing:

- 50 metres (m) for active oil and gas wells as described in each application
- minimum 11 m from 138 kV structures to pipelines
- minimum 18 m separation distance from 240 kV structures to pipelines

363. As AC mitigation was a significant issue in the previous DACDA, AltaLink included a discussion of this issue in the application. As shown in Table 5 below, AltaLink is requesting total AC mitigation costs of $36.2 million in 2014, $43.5 million in 2015 and $10.4 million and $39.1 million in trailing costs for the Cassils to Bowmanton and Heartland projects, respectively. AltaLink noted that approximately 95 per cent of the AC mitigation costs included in this application are for the Cassils to Bowmanton, Bowmanton to Whitla, Pike, Ipiatik and Heartland projects.

Table 5. AC mitigation costs breakdown by year

<table>
<thead>
<tr>
<th>Project name</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
<th>Total PPS estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0304 – BW</td>
<td>-</td>
<td>107,785</td>
<td>148,612</td>
<td>2,226,563</td>
<td>375,915</td>
<td>2,858,875</td>
<td>1,000,000</td>
</tr>
<tr>
<td>D.0305 – CB</td>
<td>410,714</td>
<td>9,283,337</td>
<td>704,722</td>
<td>297,278</td>
<td>1,752,789</td>
<td>12,448,840</td>
<td>2,000,000</td>
</tr>
<tr>
<td>D.0306 – SFTP</td>
<td>-</td>
<td>-</td>
<td>2,605,661</td>
<td>1,581,614</td>
<td>342,269</td>
<td>4,529,544</td>
<td>500,000</td>
</tr>
<tr>
<td>D.0371 – Heartland</td>
<td>-</td>
<td>26,917,778</td>
<td>12,179,972</td>
<td>-</td>
<td>-</td>
<td>39,097,570</td>
<td>13,000,000</td>
</tr>
<tr>
<td>D.0378 – Pike</td>
<td>-</td>
<td>13,504</td>
<td>14,341,586</td>
<td>13,453,476</td>
<td>82,509</td>
<td>27,891,075</td>
<td>3,470,000</td>
</tr>
<tr>
<td>D.0379 – Ipiatik</td>
<td>-</td>
<td>-</td>
<td>11,947,521</td>
<td>7,731,030</td>
<td>(42,259)</td>
<td>19,636,292</td>
<td>7,300,000</td>
</tr>
<tr>
<td>D.0390 – NFTP</td>
<td>-</td>
<td>-</td>
<td>262,735</td>
<td>18,328</td>
<td>-</td>
<td>281,063 Included in contingency</td>
<td></td>
</tr>
<tr>
<td>D.0391 – L to J</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>127,873</td>
<td>-</td>
<td>127,873(1) Unknown(2)</td>
<td></td>
</tr>
<tr>
<td>D.0392 – FH</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>166,708</td>
<td>47,443</td>
<td>418</td>
<td>214,569(3) Unknown(2)</td>
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<tr>
<td>138 kV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D.0410 – ECTP</td>
<td>-</td>
<td>-</td>
<td>3,320</td>
<td>1,438</td>
<td>-</td>
<td>4,758</td>
<td>0(4)</td>
</tr>
</tbody>
</table>

Notes:
1) This amount differs from the amount provided in the project summary (Exhibit 22542-X0523 at paragraph 57) which states that AC mitigation was completed in December 2015 for $0.3 million.

351. Exhibit 22542-X0002.04, application (clean), paragraph 522.
353. Exhibit 22542-X1524, AML-CCA-2017DEC20-035(a)vi, PDF page 96.
354. Exhibit 22542-X0002.04, application (clean), paragraphs 540-545.
2) The project summary report (Exhibit 22542-X0523 for LTJ and Exhibit 22542-X0564 for FH 138kV), PPS estimate (Exhibit 22542-X0524 for LTJ and Exhibit 22542-X0565 for FH 138kV) nor PPS update (Exhibit 22542-X0525 for LTJ or Exhibit 22542-X0566 for FH 238kV) specifically mention AC or pipeline mitigation.

3) The project summary report (Exhibit 22542-X0564 at paragraph 58) stated that AC mitigation was one of the trailing activities for the project and the associated trailing costs will be included in a future DACDA.

4) Per the PPS (Exhibit 22542-X0607 at PDF page 40), “induction mitigation not included” was an assumption.

Sources: Exhibit 22542-X1524.01, AML-CCA-2017DEC20-035(c), PDF page 97; Exhibit 22542-X0020, PDF page 18; Exhibit 22542-X0066, PDF page 9; Exhibit 22542-X0364, PDF page 22; Exhibit 22542-X0421, PDF page 14; Exhibit 22542-X0488, PDF page 25; Exhibit 22542-X0607, PDF page 40; Exhibit 0087.00.AML-3585, PDF page 42; and Exhibit 22542-X0002.04, application, paragraph 550.

364. In the application, AltaLink set out the process that it generally follows throughout the project lifecycle to forecast costs, evaluate and implement mitigation measures and finally, verify and process payment for AC mitigation. Typically, AC mitigation is completed in the following phases: interference study, detailed engineering, construction study, funding agreements and project closure. Throughout all the phases, AltaLink described itself as an active participant in the facility owners’ processes, including reviewing studies, designs, installations and project costs to test the reasonableness of the mitigation proposed as well as assess whether it is the lowest cost option. AltaLink also reviewed invoices and backup information provided by the facility owners, requested additional details where required, and ultimately approved and reimbursed the facility owners for actual costs incurred.\textsuperscript{355} AltaLink characterized its role as review and oversight; it does not procure, contract, construct or install AC mitigation.\textsuperscript{356}

365. More specifically, the process for AC mitigation from the start until completion of the project, is as follows: Beginning at the PPS stage, an assessment, or scoping study, is done to predict possible electrical effects on existing facilities in the area of the proposed transmission line, and a forecast of mitigation costs is included in the PPS estimate.\textsuperscript{357} The scoping study does not have information such as the location, operational status, density, type or design information of existing pipelines; soil conditions; access restrictions; or reclamation requirements.\textsuperscript{358} At this stage, facility owners may resist any engagement with AltaLink because the transmission line route has not been approved.\textsuperscript{359}

366. During the route evaluation and selection, AltaLink submitted that it further attempts to engage facility owners to understand their concerns and how those concerns may be addressed. AltaLink attempts to balance the interest of all stakeholders, including landowners, facility owners and environmental concerns so that the preferred and alternate routes put forward in the facility application “minimiz[e] residual impacts.”\textsuperscript{360} AltaLink is obligated to construct the route ultimately approved by the Commission.

367. Following route approval, once exact tower locations and transmission line design details are known, an AC mitigation study can be completed. AC mitigation studies cannot be completed before permit and license because the exact configuration of the route is unknown and access to the lands is typically not available. Access to the lands is required to determine the location of existing facilities in relation to the proposed transmission line route. Facility owners at this stage can assess what effects the transmission line may have on their facilities and provide

\textsuperscript{355} Exhibit 22542-X0002.04, application (clean), paragraphs 581, and 586-587.

\textsuperscript{356} Exhibit 22542-X1970, AltaLink argument, paragraph 183.

\textsuperscript{357} For an example of the assumptions made and estimated costs for AC mitigation at the PPS stage, see Exhibit 22542-X0020, PDF page 18.

\textsuperscript{358} Exhibit 22542-X1491, AML-AUC-2017DEC20-059, PDF page 91.

\textsuperscript{359} Exhibit 22542-X1970, AltaLink argument, paragraph 180.

\textsuperscript{360} Exhibit 22542-X0002.04, application (clean), paragraph 524.
cost estimates for an induction study if its determined that this is required. Following completion of the induction study, AltaLink reviews the results with the facility owners to determine next steps, which in some cases is closure of the matter because there are no safety concerns or negative long term effects anticipated. In cases where there is an issue that must be addressed, the facility owners undertake an engineering study to determine what measures may be taken to mitigate the effects. At all stages, AltaLink reviews all estimates and completed studies, including the scope of the studies beforehand and the results afterwards. 361

368. After review of the engineering study, if AltaLink is “satisfied of reasonableness,” funding is negotiated and detailed engineering proceeds. 362 At this stage, AltaLink reviews the design to ensure consistency with the engineering study and questions deviations found, identifies items that may be out of scope and therefore not payable by AltaLink, and identifies alternate solutions which may be more cost effective.

369. An example of an instance where AltaLink questioned proposed mitigation costs and worked with facility owners to find a lower cost mitigation option was on the Cassils to Bowmanton project. For this project, AC mitigation work and therefore project closeout was delayed because AltaLink questioned mitigation plans of deep wells for grounding thereby causing the mitigation studies’ consultants to consider other, more cost effective, solutions. In AltaLink’s submission, the original costs for one deep well for one facility owner was quoted as being in the range of $2.7 million to $3.1 million and the alternative, which was ultimately selected, was approximately $300,000. AltaLink cautioned that while there are costs associated with delays, those costs are “not significant as it would be for AltaLink internal labour for ongoing engagement with the facility owner.” 363 AltaLink indicated that it has no remedy to receive compensation for any delays caused by facility owners. 364

370. Generally, if AltaLink is not satisfied of the reasonableness of a proposed AC mitigation solution, AltaLink will not provide written authorization to proceed and from there, will hold review meetings with the facility owner to investigate alternate solutions. 365 Each solution is site specific 366 and pipeline owners may have a preference for certain mitigation solutions based on their risk profile. 367

371. With respect to payments to the facility owners for studies and implementation of mitigation, AltaLink submitted that it reviews invoices and backup provided by the facility owners to verify scope and costs, ultimately reimbursing the facility owners for actual costs incurred. Finally, AltaLink obtains a release from the facility owners that states that electrical effects have been adequately mitigated and AltaLink is absolved of further liability. 368

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361 Exhibit 22542-X0002.04, application (clean), paragraphs 525-530.
362 Exhibit 22542-X0002.04, application (clean), paragraph 531.
363 Exhibit 22542-X1491, AML-AUC-2017DEC20-060(h), PDF page 93.
364 Exhibit 22542-X1491, AML-AUC-2017DEC20-060(i), PDF page 94.
365 Exhibit 22542-X1491, AML-AUC-2017DEC20-057(a), PDF page 89.
366 As an example, in argument (Exhibit 22542-X1970, paragraphs 432 and 435), AltaLink noted that the Pike and Ipiatik projects had similar mitigation solutions (deep wells and monitoring sites) and were in a similar environment, however, the Pike project has a higher density of pipelines than Ipiatik which was a significant factor in AC mitigation costs being higher than Ipiatik.
367 Exhibit 22542-X1970, AltaLink argument, paragraph 181.
368 Exhibit 22542-X0002.04, application (clean), paragraphs 535-536.
372. In response to a CCA IR, AltaLink provided, on the confidential record, the AC mitigation studies for each of the projects listed in Table 5 above, with the exception of ECTP. AltaLink also provided a list of the actual mitigations installed for the respective facility owners for the four largest projects, along with the relevant detailed engineering design completion dates and closeout letter execution dates.

373. Due to projects with AC mitigation costs being presented in a common AC mitigation section in CCA evidence and argument, the Commission will also discuss all the applied-for AC mitigation costs in this common section, with the exception of Heartland trailing costs which is addressed below. Compliance with the Commission’s directions for Heartland and Cassils to Bowmantont AC mitigation costs in Decision 3585-D03-2016 are addressed in sections 9.1.1 and 9.1.2 below, respectively.

374. The CCA provided extensive evidence and argument on AC mitigation costs, concluding that AltaLink could have “established basic guidelines for route selections which could have significantly reduced the extent of pipeline interference studies carried out and would have better informed the AUC at the time of route selection regarding the cost consequences of route alternatives which involved pipeline parallels” and could have designed the transmission lines in such a way as to minimize AC mitigation costs. At the time its evidence was filed, the CCA had not undertaken a detailed study to determine the quantum of costs that could have been avoided but recommended that the Commission initiate “an independent engineering review” to determine “the extent pipeline interference could have been reduced.”

375. The CCA continued to support the recommendation of an engineering review, it also provided amounts that it considered reasonable for AC mitigation for the Commission’s consideration. The CCA submitted that approximately was required for project completion of the four largest projects (Cassils-Bowmantont-Whitla (CBW) projects and Christina Lake projects) and an additional would be required under the capital maintenance program in the future to address changes in line loading and fault levels. Ultimately, even if lines were fully utilized, AC mitigation could have been completed for . In the CCA’s submission, had minimum setbacks and line configuration optimization occurred earlier in the project, the AC mitigation costs could have been reduced by at least a further 50 per cent. These amounts were calculated using an assumed direct relationship between the cost of AC mitigation and the induced current levels assumed for design. The CCA admitted that this approach was “high level but practical.” The total recommended disallowance then would be . However, the CCA considered that the expenditures for consultants to model pipeline induction were necessary so AltaLink could submit detailed accounting for this work in the compliance filing to reduce the disallowance. The CCA also acknowledged that some portion of the disallowance would actually be a deferred cost so that AltaLink could apply to

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370 The list of actual mitigation sites was provided in the application (Exhibit 22542-X0002.04) for four projects (see paragraph 561 on PDF pages 103-104 for Cassils to Bowmantont, paragraph 585 on PDF pages 110-111 for Heartland, paragraph 594 on PDF page 112 for Pike, and paragraph 601 on PDF page 113 for Ipiatik). A similar list was not provided for Bowmantont to Whitla, SFTP, NFTP, L to J, FH 138 kV nor ECTP.
371 Exhibit 22542-X1819, CCA evidence, paragraph 281.
372 Exhibit 22542-X1819, CCA evidence, paragraph 307 and Exhibit 22542-X1972, CCA argument, paragraph 391.
373 Exhibit 22542-X1972, CCA argument, paragraphs 387-389.
374 Exhibit 22542-X1972, CCA argument, paragraph 390.
recover a justified portion of the costs at a future point in time when additional AC mitigation would be required based on system need. However, the CCA maintained that this future amount would not be equal to the actual costs incurred because AltaLink should have “undertake[n] reasonable measures to mitigate unnecessary costs during the design and construction of the lines.”

376. In reply argument, AltaLink characterized the CCA’s argument regarding a proportional relationship between induced current levels and the cost of AC mitigation, as “fundamentally wrong.” This relationship does not take into account steady state safety and fault state safety conditions. AltaLink argued that the CCA argument “should be discounted in its entirety.”

377. The following discussion on AC mitigation will roughly follow the subheadings used in the CCA evidence:

- Route selection
- Detailed line design
- Line loading use for induction studies

Route selection

378. It is a fact that the distance of a transmission line to an existing pipeline or railway affects the levels of currents and voltages induced on and/or conducted to the pipeline or railway. The produced electrical effects are also a function of soil resistivity, line loading, line configuration, the length of parallel and the fault type and current, among other factors. Electrical conduction and induction can have negative effects on the integrity of the pipeline and can pose a safety hazard to facility personnel. It follows then that increasing the distance of the transmission line to an existing facility or changes to the line configuration will decrease the negative electrical effects. In the CCA’s submission, establishing minimum setbacks to facilities prior to the route selection stage is the most cost effective and best method to reduce risk.

379. Based on a Canadian Electrical Association (CEA) report, the CCA noted that an appropriate minimum setback would be 20 m for 240 kV lines and 42 m for 500 kV lines. What this would mean at the preliminary design stage, prior to route or tower location selection, is that the exclusion zone around a tower and on either side of a parallel pipeline would be set at 20 m. The CCA stated that AltaLink, by using steel towers and steel screw piles (as in the case of Christina lake), did not maintain sufficient setback and paralleled pipelines were “within the risk zone of a potential arcing fault.” This would have required soil resistivity testing and detailed engineering at every tower location to verify if a critical voltage level is exceeded on adjacent facilities. The CCA concluded that using an increased setback would have avoided costs for grounding analysis and AC mitigation design and implementation.

380. The CCA also addressed the route selection in terms of the length of the route that parallels a pipeline (or railway). The CCA stated that in cases where the parallel is short enough,
mitigation is not required. This parallel length can be estimated at the route selection stage using forecast line loading, proposed line configuration and ROW width.

381. The CCA did acknowledge that minimizing the parallel length is not always feasible, especially in Northern Alberta, where the only existing linear tree clearings are for pipeline and road rights-of-way and transmission lines will typically make use of existing linear tree clearings because this reduces the need for brushing and provides existing access roads. However, the CCA submitted that mitigation can still be minimized by choosing routes with a single pipeline instead of multiple pipeline corridors. In the case of the Pike project, the CCA submitted that the transmission line route could have been selected such that it paralleled an existing road allowance instead of a multiple pipeline corridor.382

382. In rebuttal evidence, AltaLink took issue with the notion that AC mitigation should be one of the governing factors in route selection. AltaLink submitted that the minor route changes and ongoing monitoring proposed by the CCA were insufficient for pipeline protection. In any case, AltaLink must build the route approved by the Commission.383 The Commission evaluates a number of factors when approving a route in order to minimize overall impacts, where impacts to existing facilities is only one factor. Cost is another factor but it does not “overpower all other factors.” AltaLink concluded that “The suggestion that [it] should have routed its line elsewhere is mere speculation.”384

383. Finally, AltaLink also took issue with the minimum setback values used from the CEA report. AltaLink submitted that the report is not industry standard and furthermore, the values therein represent worst-case conditions for certain assumptions which would not occur in structures with overhead shield wire. The setback values are only a preliminary way to estimate if there is a risk of soil arcing occurring. AltaLink stated that it does use the CEA values, primarily for pipeline crossings where distances between the transmission tower and pipeline crossing greater than the minimum setback mean that no detailed AC interference study is required. As stated earlier, AltaLink uses CSA and NACE standards which do not define a minimum setback but rather a worst case distance greater than which sustained arcing will not occur. The standards also point to an Institute of Electrical and Electronics Engineers (IEEE) Guide for Safety in AC Substation Grounding which provides the calculation used for step and touch potential.385

**Detailed line design**

384. The CCA considered that there is an ideal line configuration (conductor configuration, phasing order and which side of a single side strung double circuit line is strung first) that reduces electrical effects and therefore AC mitigation costs. As an example of vertical versus horizontal conductor configuration, the CCA noted that the horizontal configuration ultimately used in the Christina Lake projects, reduced electrical effects by nearly 50 per cent compared to the vertical configuration which would have been used on the lattice towers that were originally proposed for the project, prior to the line optimization study.386 However, the CCA considered that AltaLink had missed opportunities to reduce electrical effects by 38 per cent by stringing the side of the towers further away from pipelines or to reduce electrical effects by 27 per cent by

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382 Exhibit 22542-X1819, CCA evidence, paragraphs 293-295.
383 Exhibit 22542-X1885, AltaLink rebuttal evidence, paragraphs 177-179.
384 Exhibit 22542-X1970, AltaLink argument, paragraph 203.
385 Exhibit 22542-X1819, CCA evidence, paragraphs 299-300.
386 Exhibit 22542-X1885, AltaLink rebuttal evidence, paragraphs 181-182.
using a delta H-frame structure\textsuperscript{387} rather than the flat three pole structure that was used. By changing the side that was strung and using a delta H-frame structure, the CCA estimated that the number of grounding points could have been reduced by 73 per cent with a corresponding reduction in pipeline mitigation costs.\textsuperscript{388} The CCA noted that the line optimization study did not include pipeline interference as a consideration for comparing structure types. The CCA also maintained that the functional specification did not specify which side of the double circuit structures should be strung first.\textsuperscript{389}

385. The other element of tower and line design which could have reduced the AC mitigation required, was the location of grounding rods on the towers. The CCA submitted that an offset grounding rod\textsuperscript{390} could provide the added distance required between tower footings and pipelines. As an example, the CCA pointed to the tower design used in the Christina Lake projects where changing the location of the grounding rod, and using wood or composite poles, could have increased the distance from the grounding rod to the pipeline from 14 m to 27 m, which would have potentially negated the need for AC mitigation.\textsuperscript{391}

386. One additional example the CCA provided where costs could have been reduced was with respect to Christina Lake projects – the CCA submitted that AltaLink could have retained a consultant to provide a common model of the entire transmission line/pipeline corridor, which would have reduced costs as compared to each pipeline owner engaging a consultant. The CCA proposed that the model could be populated with soil resistivities and pipeline characteristic data from the pipeline companies. The model could then be run with different line configurations to optimize grounding requirements. One added benefit would be the model could be updated as loading increased to produce real time electrical effects to ensure that the existing mitigation is effective or determine when additional mitigation is necessary. The CCA also submitted that the modelling could potentially be completed internally by AltaLink.\textsuperscript{392}

387. With respect to a different conductor configuration, AltaLink noted that the CCA had recommended that a delta H-frame tower type with two over four configuration and submitted that configuration could have reduced AC mitigation costs, however AltaLink considered that this proposal ignored the costs to develop a new tower type.

388. In addition, AltaLink indicated that corrosion experts perform the induction studies and model the actual pipeline and transmission line configuration and soil resistivities to determine if AC mitigation is required. Quite simply, if mitigation is required, then it is installed.\textsuperscript{393}

389. AltaLink did not address the CCA’s other suggestions in rebuttal evidence or argument.

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\textsuperscript{387} A cross section of the delta design (or H-frame with two over four configuration) can be seen in Exhibit 22542-X0160 (Appendix 05-16 Line Optimization Study (Pike)) at PDF page 16. However, this design was rejected because it would require large poles and longer spans would require custom designed poles.

\textsuperscript{388} Exhibit 22542-X1819, CCA evidence, paragraphs 301-302.

\textsuperscript{389} Exhibit 22542-X1868, CCA-AUC-2018AUG17-0033, PDF page 50.

\textsuperscript{390} Offset, in the case of the Christina Lake projects, means to install the rod on the side farthest from the pipeline, as opposed to on the middle poles of the flat three pole H-frame structure.

\textsuperscript{391} Exhibit 22542-X1819, CCA evidence, paragraph 304.

\textsuperscript{392} Exhibit 22542-X1819, CCA evidence, paragraph 78, PDF pages 21-22.

\textsuperscript{393} Exhibit 22542-X1885, AltaLink rebuttal evidence, paragraphs 187-189.
Line loading use for induction studies

390. As stated above, induced and conducted electrical effects are a function of line loading or current. According to the CCA’s evidence, “the first and most important step when assessing the potential need for interference mitigation is to establish realistic expected steady state peak and average line loading and fault current levels for the line terminals, as well as short-term expected growth.” The CCA expected that following initial mitigation measures, AC mitigation should be part of ongoing maintenance, to be implemented as required based on actual measurements on the pipeline or by actual line loading and fault levels. The CCA indicated that actual measurements would be more effective in determining the mitigation required than modelling design current and voltage. The CCA further elaborated that establishing “realistic” average peak and fault current levels for transmission lines, while factoring in forecast expected growth, is “critical” to determining required AC mitigation. If loads are too high, installed AC mitigation may never be required and costs may be “unnecessary.”

391. In rebuttal evidence, AltaLink used the Christina Lake projects as an example and provided the input load values used for the AC interference studies, which AltaLink submitted was the best data available and was reasonable:

- steady state corrosion: 50 per cent rated line current to represent long-term average line loading
- steady state safety: 100 per cent rated line current
- fault state safety: 10-year forecast fault current levels or the present-day actual fault current levels (whichever is higher, were used as a starting point to determine what fault current levels to use for calculations), plus the designed fault clearing time
- fault state conduction: typically the maximum possible future (AESO ultimate) fault levels are used

392. AltaLink stated that it does not monitor pipeline facilities and AC mitigation must have a reasonable expected life that does not require continuous upgrades based on actual load, which AltaLink characterized as a burden to the pipeline owners.

393. AltaLink also addressed the use of design load instead of actual load in argument, wherein it stated that the use of design standards as developed by the AESO, is “the appropriate method to set AC mitigation levels.” The design load is the best available information at the time of mitigation studies and using actual data is generally not possible or may not account for near-
future developments. While actual loads may differ from the design load, this is applying hindsight which is not appropriate when testing prudence.

394. In argument, the CCA further explored the issue of line loading information used for AC mitigation studies. Specifically, the CCA considered that given that AC mitigation occurs around or after the time of energization, it is expected that AltaLink would have actual line loading information and expected line loads for at least three years, based on projects under construction or connection requests. The CCA provided a table which compared the design loading used in the induction studies and the actual maximum loadings. In the CCA’s submission, the actual line loadings are of the design loadings, which led the CCA to conclude that only in AC mitigation was required at the time of energization.

395. The CCA used the Bowmanton to Whitla project as an example of where actual line loads should have been used to defer costs. In the CCA’s submission, AltaLink knew or ought to have known that the major project which underpinned the need for the transmission line was suspended so the Bowmanton to Whitla line had, with the exception of two MVar reactors. The CCA argued that AltaLink should have conducted a cost analysis to quantify the benefits of shutting down the line. Had the line been shut down, there would be no AC interference and AC mitigation would not be required at this point in time.

396. The CCA also pointed to the Heartland project as an example of where line loading information was reduced and achieved cost savings for the AC mitigation. In the CCA’s submission, “There is no reasonable justification as to why AML did not take the same approach for the CB, BW, Pike, and Ipiatik lines.” AltaLink had access to the information required to establish an initial 10-year forecast for maximum loads and fault currents before initiating induction studies but did use this information.

397. In reply argument, AltaLink noted that the fault levels are often the governing criteria so line loading levels are irrelevant. In any case, line loading is just one factor that is considered in an AC mitigation study. To emphasize the fact that fault levels are the governing criteria, AltaLink summarized the pipelines with mitigations driven by fault states for the Cassils-Bowmanton-Whitla projects and the Christina Lake projects.

398. With respect to the CCA’s example of Bowmanton to Whitla, AltaLink stated that the CCA’s assertion that if there is no load, there is no AC interference, is incorrect. AltaLink agreed that there would be no induction requiring corrosion mitigation if a line had no load, but if the line was energized, it could still experience a fault condition which requires mitigation to protect pipeline personnel and facilities.

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400 In argument (Exhibit 22542-X1970, paragraphs 196-198), AltaLink used the example of a Capital Power generation project which has an in-service date of September 1, 2019. It takes two to three years to finalize AC mitigation which, in this case, would not have been completed in time for the new generation to come online.


402 Exhibit 22542-X1972, CCA argument, paragraph 393.

403 Exhibit 22542-X1972, CCA argument, paragraph 394.

404 Exhibit 22542-X1972, CCA argument, paragraph 398.

405 Exhibit 22542-X1972, CCA argument, paragraphs 399-400.

406 Exhibit 22542-X1978, AltaLink reply argument, paragraph 316, and Table 2, PDF pages 87-88.
399. Finally, AltaLink reiterated that using long term design forecasts for line loading and fault levels to be used in AC mitigation studies is reasonable and a short term approach (the three year outlook proposed by the CCA) would be insufficient and would increase overall costs due to the need to perform multiple studies and engage and mobilize mitigation installation experts multiple times.\textsuperscript{407}

400. In reply argument, the CCA maintained that AltaLink acted unreasonably by using the maximum winter load ratings for AC induction mitigation design instead of actual expected line loads. The CCA also stated that AltaLink should have used summer line ratings because the maximum line load utilization at any given time would be no higher than the summer rating. The design loads used are “unrealistically high” and as a result, AltaLink did not defer AC mitigation costs, and therefore, acted unreasonably.\textsuperscript{408}

**Commission findings**

401. All parties agree that AltaLink is required to mitigate the negative effects from its new facilities on existing facilities. The contention lies in how much mitigation should be installed and when, and in the route selection and design process as it relates to negative effects produced on existing facilities. To summarize, the CCA contends that AltaLink acted unreasonably at different stages of the line design and AC mitigation process and therefore, recommended that a portion of the AC mitigation costs be disallowed. Alternatively, costs could be approved as a placeholder pending an engineering review of AC mitigation measures to determine the extent that AC mitigation costs could have been reduced.

402. First, the Commission will address the CCA’s recommendation for an engineering review. While the CCA did not recommend an audit in this case and provided guidance on the steps that could be taken to undertake an engineering review, the Commission finds that this request is similar in nature to a request for an audit. It would require approving costs as a placeholder pending the completion of the review and the subsequent Commission determinations on the results of the review. Furthermore, it would require the engagement of a consultant and a full regulatory proceeding, as was the case with the AltaLink SW audit (Proceeding 2044). The effort and costs required to undertake such a study and associated regulatory proceeding may exceed the benefit of the engineering review. The Commission considers that the evidence on the record of this proceeding is sufficient to make its determinations on the applied-for AC mitigation costs and, accordingly, will not direct an engineering review or audit of the AC mitigation costs.

403. The Commission is concerned by the significant increase in actual AC mitigation costs compared to the PPS estimate. The Commission, however, recognizes that the PPS estimate is a forecast only, based on AltaLink’s knowledge of conditions at the time it is prepared. Nonetheless, the actual AC mitigation are substantial. Having reviewed the evidence on the record, the Commission considers that some portion of the AC mitigation could have been deferred or possibly avoided.

404. With respect to adjustments to line loading information used as inputs for the induction and AC mitigation studies, the CCA contends that AltaLink could have used lower line loadings, based on expected actual loads. AltaLink stated that using design load information is appropriate,

\textsuperscript{407} Exhibit 22542-X1978, AltaLink reply argument, paragraph 319.
\textsuperscript{408} Exhibit 22542-X1980, CCA reply argument, paragraphs 253-256.
405. With respect to conductor configuration and phasing, the CCA submitted that some other configuration could have resulted in less induced and conducted current and therefore lower AC mitigation costs. The Commission considers that conductor configuration and phasing order is a complex issue that is not solely determined based on electrical effects to nearby facilities. The Commission therefore has assigned little weight to the general evidence provided by the CCA on this matter.

406. With respect to which side is strung first for a double circuit, single side strung transmission line, the CCA’s proposal appears to be a request to defer a portion of AC mitigation costs for the Christina Lake projects rather than a conclusion of imprudence. The Commission notes that the AESO NID contemplated a sequencing of the stringing of the line. However, once the second side is strung as contemplated by the AESO NID, the level of AC mitigation required will be the same regardless of which side was strung first. Therefore, the Commission will not direct a disallowance on the basis of which circuit was strung first.

407. With respect to the placement of the grounding rod, the CCA argued that in some cases, moving the grounding rod to the farthest side of the structure from impacted facilities could reduce the AC mitigation required. AltaLink did address this issue in rebuttal evidence nor in argument. Therefore, the Commission does not have evidence on where exactly the grounding rod was placed on each structure and its proximity to existing facilities. In general, the Commission considers that AltaLink could have directed its subcontractors to modify the location of the grounding rod in the field such that it would be a maximum distance from existing pipelines and still provide the required grounding. The Commission acknowledges however that this would not be possible on structures for all transmission lines as the installation location depends on soil conditions (for example, if there is a formation at that location that prevents installation of the grounding rod). The soil resistivity, which AltaLink does not control, affects the rate at which current decreases over distance so it cannot be concluded that changing the placement of the grounding rod in all cases would significantly alter the AC mitigation solutions required. Finally, for steel towers that are bonded to a steel foundation or to steel rebar or reinforcement in concrete foundations, the location of the grounding rod would have little to no impact on the path of a fault current such that the AC mitigation required would be in relation to the distance of the tower foundation itself to the impacted facility. The Commission does not have enough information to make a disallowance on this basis and finds that the effort required to provide the necessary information is disproportionate to the usefulness of the information.
408. With respect to the proposal that AltaLink could have established minimum setbacks early in the route planning stage to minimize the number and degree of impacted facilities, the evidence on the record shows that AltaLink does not have complete information at the time of the PPS on which to base a cost estimate. AltaLink will be generally aware of the existing facilities in the area but will not have specific information on those facilities. Induction studies are not completed until after a permit and licence is received. Expected final costs can only be realistically estimated after AltaLink has signed off on detailed engineering for AC mitigation.

409. AltaLink stated that the AESO is kept informed of developments and any issues encountered throughout the project. The same cannot be said of the Commission; the Commission receives minimal information on AC mitigation in the facility application and then is asked to review final project costs at the DACDA stage, many years later. Typically, AltaLink will only provide information similar to the following in a facility application:

- a list of stakeholders, including pipeline owners and nearby oil and gas facilities or railways
- a list of preliminary siting considerations
- a list of stakeholder concerns and AltaLink’s response
- a generic statement regarding AC induction and conduction, noting that AltaLink will mitigate negative effects
- an economic assessment that is not a sufficiently detailed level to show AC mitigation forecast costs and is generally the same as the PPS estimate

410. Without better information at the facility application stage, it is difficult for the Commission to fully understand the cost implications of AC mitigation alternatives on a given project. Given the magnitude of and contention around AC mitigation costs, the information provided in the facility application is insufficient for the Commission to fully evaluate the impact of AC mitigation costs on route selection.

411. The Commission’s evaluation with respect to AC mitigation is limited without data to show how route selection may affect cost. AltaLink stated that it follows certain standards for setbacks from existing facilities and determines what facilities may be negatively affected by a given route. This information would be of use to the Commission in a facility application,

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409 For example, see Exhibit 0015.00.AML-2530.
410 For example, the Ipiatik facility application (Exhibit 0002.00.AML-2530, paragraph 194) states the following: “Once the target area was established, AltaLink used the following Project-specific considerations for identifying the Preliminary Site:
- Minimizing conflicts with existing and approved industrial infrastructure (well sites and pipelines);
- Maximizing opportunities to parallel existing linear disturbances for transmission lines connecting to the Ipiatik Lake 167S Substation;
- Minimizing impacts on the environment and wildlife;
- Maximizing use of existing roads to access the proposed site for substation construction and maintenance; and
- Minimizing project costs.”
411 For example, see Exhibit 0002.00.AML-2530 at Table 8-4.
412 For example, the Ipiatik facility application (Exhibit 0002.00.AML-2530 at paragraphs 344-345) states: “AltaLink will work with Stakeholders in close proximity to the proposed 240 kV development to assess potential impacts and will install mitigation measures as necessary.”
especially if minor changes in the route may result in reduced AC mitigation costs without negatively affecting other stakeholders or the environment.

412. However, the Commission will not direct a disallowance on this basis because it would amount to hindsight as to the effect that the above-noted information regarding AC mitigation may have had on route selection.

413. The Commission approves the AC mitigation costs as set out in Table 5 above, as filed.

3.11 Use of access/rig mats (general)

414. The CCA’s comments in evidence and argument with respect to mats dealt almost exclusively with the WATL project although its recommendations were generic to all of the major projects.

415. The Commission has provided its findings on access/rig mats for all major projects in Section 4.1.3.2 of the WATL project dealing with access costs.

3.12 Use of helicopters (general)

416. In evidence, the CCA expressed a general concern with AltaLink’s continued use of helicopters for tower erection. It stated that AltaLink’s main support for helicopter tower installation consists of business cases prepared prior to bidding out the construction, as well as the ultimately successful bids for all three projects by the same construction company, RS Line. It further noted that there was no helicopter tower erection business case created for the WATL project. Instead, AltaLink supported its use of helicopters in the WATL project by stating that the winning competitive bid (with the lowest price) proposed that method.

417. The CCA stated that AltaLink claimed a variety of benefits arose from using helicopters. For example, the Bowmanton to Whita (BW) project helicopter erection business case

415 A similar FATD helicopter business case

416 The same NFTP and BW business cases. The NFTP, FATD and BW business cases

\[413\] Exhibit 22542-X1524, PDF page 118.
\[414\] Exhibit 22542-X1588, PDF page 94.
\[415\] Exhibit 22542-X0064-CONF, PDF page 10.
\[416\] Exhibit 22542-X0420-CONF, PDF page 11.
\[417\] Exhibit 22542-X0522-CONF, PDF page 8.
\[418\] Exhibit 22542-X0064-CONF, PDF page 10.
\[419\] Exhibit 22542-X0522-CONF, PDF page 8.
\[420\] Exhibit 22542-X0420-CONF, PDF page 11.
\[421\] Exhibit 22542-X0064-CONF, PDF page 10.
418. The CCA questioned the accuracy of the cost expectations expressed in these business cases because AltaLink had not conducted any “look-back” analysis of the business cases, and did no internal testing of the accuracy of the unit costs of either helicopters or cranes in its recommendation analysis from SNC-ATP and Exhibit 22542. For its part, AltaLink claimed the analysis recommending helicopters was credible because it used unit costs derived from [redacted]. The CCA submitted that AltaLink’s claims did not withstand scrutiny. In particular, the CCA questioned why this practice remains so uncommon if the use of helicopters offers the significant cost savings that AltaLink claims. Further, the CCA was particularly concerned that all business cases supporting the helicopter method contain unit cost comparisons between helicopter and crane use that are obtained directly from [redacted], and no effort appears to have been made to seek third-party credible sources for unit cost comparisons. It submitted it was unreasonable to use the unit costs in the analysis without an objective comparator; noting that [redacted] is the party that has chosen to present helicopters as its chosen construction method.

419. The CCA also suggested that AltaLink should have recognized that if it chooses to use extensive matting laid between structures that can support the pressure of heavy cranes capable of erecting towers, the supposed savings of using helicopters decreases. Although AltaLink claimed that it did not use heavy mats around towers that would be erected by helicopter, it installed crane mats between towers. Consequently, the CCA considered that cranes likely could have reached the tower locations using the matting that AltaLink had already installed. Consequently, with proper controls, the incremental cost of the further matting required to support tower erection by crane would arguably have been lower than the costs associated with helicopters.

420. AltaLink responded in its rebuttal evidence that it had stated in this Proceeding and in previous proceedings that the choice of helicopter erection for towers is based on many factors, including managing access, landowner and environmental issues. Although savings on access roads and matting are a benefit from the use of helicopters, they are not the only benefit. Benefits also include lower competitively tendered unit rates, lower overall construction costs, schedule improvements and effective mitigation of environmental issues, as found by the Commission in the 2012-2013 DACDA decision. The Commission, in the 2012-2013 DACDA decision agreed with the submission that the decision to use helicopters for tower erection involves an

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422 AltaLink was asked whether they conducted look-back analysis at Exhibit 22542-X1524, PDF page 117 and responded with references to documents created during the decision-making times to use helicopters at Exhibit 22542-X1524, PDF page 118.

423 The CCA requested information on whether error ranges existed for figures in the helicopter business cases at Exhibit 22542-X1524, PDF page 116 and AltaLink responded they have none at Exhibit 22542- X1711, PDF pages 24-25. AltaLink has shown no evidence of having tested the accuracy of figures beyond the fact that they were competitive procurement-provided information. 278 Exhibit 22542-X1524, PDF page 118 and Exhibit 22542-X1588, PDF page 96.

424 [redacted] comparisons for helicopter against cranes were used in BW from 22542-0064-CONF, PDF page 10, NFTP from Exhibit 22542-X0522-CONF, PDF pages 6-7, and SFTP from 22542-X0420-CONF, PDF page 8.

425 Exhibit 22542-1482-CONF, PDF pages 57-58.

426 Exhibit 22542-1482-CONF, PDF pages 57-58.

427 Exhibit 22542-X0002.04 (blackline), paragraph 208.

428 Exhibit 0017.00.AML-3585, paragraph 11.

429 Decision 3585-D03-2016, paragraph 595.
analysis of many factors, including line length, tower weight, tower geometry, access availability, and environmental restrictions.

421. In argument, the CCA continued to express concern with AltaLink’s use of helicopters, stating it appeared that other than for the Fidler project, AltaLink never truly considered the relationship between helicopter erection and matting costs. It stated that AltaLink has conducted no “look-back” analysis on the cost comparison between helicopters and cranes and was concerned that AltaLink may have taken the flawed helicopter business cases at their face value and never considered the alternatives involving matting, even through project execution when matting costs mounted.

422. AltaLink, in its argument, stated the CCA’s criticisms of AltaLink and the use of helicopters simply echo and repeat what has been said many times in the past while seemingly ignoring the decisions of the Commission.

423. In reply, AltaLink stated it failed to understand why it matters if helicopters are used by ATCO or BC Hydro. The issue in this DACDA proceeding is whether AltaLink’s use of helicopters was reasonable. The helicopter service provider stated that the use of helicopters was cost competitive with conventional ground-based methods to which AltaLink agreed.

424. AltaLink again noted that in AltaLink’s 2012-2013 DACDA decision, the Commission stated it was supportive of AltaLink’s use of helicopters and that the benefits of using helicopters must be evaluated on the basis of specific projects. The Commission also accepted that the benefits of using helicopters include: “lower competitively tendered unit rates; lower overall construction costs after taking into account savings on access roads, matting, mobilization/demobilization and crew moves; schedule improvements; and effective mitigation of environmental issues.” According to AltaLink, contrary to the CCA’s view, reduced matting was only one reason to use helicopters.

Commission findings

425. In the current application, the CCA has continued to express concern with the use of helicopters, stating that there was an insufficient evidentiary basis for the practice. The CCA has also noted that helicopters have continued to be used for tower erection despite significant costs for matting being incurred on projects.

426. AltaLink has explained that the need for matting would have been greater for crane erection than for helicopter erection due to the requirement for larger cranes on the ROW resulting in additional matted workspaces around each tower to support larger cranes. The Commission notes that in one of the contracts it examined, crane mats used to support heavy

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430 AltaLink was asked whether they conducted look-back analysis at Exhibit 22542-X1524.01, PDF page 117 and responded with references to documents created during the decision-making times to use helicopters at Exhibit 22542-X1524.01, PDF page 118, which shows there was no look-back analysis done after the fact.

431 Exhibit 22542-X1819-CONF, paragraphs 357-361.


433 Transcript, Volume 1, page 157 line 16 to page 158, line 6.

434 Decision 3585-D03-2016, paragraph 596.

435 Decision 3585-D03-2016, paragraph 595.
cranes were more than four times the cost of access mats. The Commission considers that this finding supports AltaLink’s assertion the advantages in some instances of using helicopters.

427. In previous decisions, the Commission has found that the use of helicopters can have many benefits, including: lower competitively tendered unit rates; lower overall construction costs after taking into account savings on access roads, matting, mobilization/demobilization and crew moves; schedule improvements; and effective mitigation of environmental issues. The Commission also determined that the decision to use helicopters for tower erection involves an analysis of many factors including transmission line length, tower weights, tower geometry, access availability, and environmental restrictions. The Commission continues to hold this opinion.

428. For the above reasons, the Commission continues to find that the use of helicopters to erect towers is a reasonable and prudent procedure.

3.13 Filing requirements

3.13.1 Compliance with Direction 9

429. In Decision 3585-D03-2016, the Commission issued the following direction (Direction 9):

9. On a go forward basis, the Commission considers that including a key decision matrix and risk register in future applications may assist the applicants, the interveners and the Commission in managing and focussing on the documentation necessary for testing future transmission project deferral account reconciliation applications. The Commission directs AltaLink to develop a proposal for a key decision matrix, and to review its risk register practices and to fully describe such proposal and review in either its next GTA or in its next transmission deferral account application, whichever comes first. [Paragraph 241]

430. In argument, AltaLink explained that a consultation process was held following the issuance of Decision 3585-D03-2016 to examine possible improvements to the evidentiary record for future AltaLink DACDA application proceedings. AltaLink submitted that following those consultations, it committed to providing enhanced filings for future DACDA applications designed to capture the details of key decisions and risks. The principle documents that AltaLink committed to provide for this purpose were enhanced project summary reports (PSRs) and documents that described the stage gate review process and stage gate reviews for advancing direct assign projects.

431. AltaLink anticipated that by providing its expanded initial filing, including the PSRs and stage gate review decision documentation, the size of the evidentiary record for the current proceeding would be reduced. However, although the CCA had stated that “an initial filing with more information will permit CCA to focus its efforts and therefore reduce the breadth of the IRs that will seek further information,” the CCA filed some 2,250 IRs in respect of the original application (i.e. prior to the December 8, 2017 amendments) alone. AltaLink’s review of those

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436 Exhibit 22542-X1103, page 126.
437 Decision 3585-D03-2016, paragraph 595.
438 Decision 3585-D03-2016, paragraph 597.
439 Exhibit 22542-X1970, AltaLink argument, paragraph 87.
440 Exhibit 21914-X0038, paragraph 2, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 88.
IRs indicated that the basis of many of them reflected a refusal on the CCA’s part to apply Commission directions on the material relevance of certain types of evidence, the significance of variances from PPS stage forecasts, and evidence of appropriate change management. It added that the Commission’s ruling was intended to assist in focusing the issues that could be explored in later IRs prepared in respect of the 2015 projects added to the application in AltaLink’s December 8, 2017 update.

432. AltaLink submitted that despite the fact that it has filed in excess of 103,000 pages of relevant evidence on the public record and in excess of 107,000 pages of relevant evidence on the confidential record, the IRs filed by the CCA suggest that the CCA did not accept key Commission rulings on material relevance. In particular, AltaLink submitted that the CCA appeared not to have accepted the Commission’s ruling in Decision 21206-D01-2017 in respect of ATCO Electric Ltd.’s 2013 and 2014 transmission deferral accounts that a DACDA prudence review is not an audit.

433. While Commission rulings on material relevance and its subsequent decision to schedule firm oral hearing dates assisted parties and the Commission in moving the application forward in a focused fashion, AltaLink submitted that to ensure the efficient processing of future DACDA applications, all parties must accept the guidance of the Commission in respect to settled issues, material relevance, and in respect of their approach to the filing and testing of evidence.

434. In its argument, the CCA noted that in a portion of the Commission’s May 17, 2018 ruling that addressed AltaLink’s compliance with Direction 9, the Commission stated:

72. The Commission clarifies, however, that in finding that AltaLink has complied with Direction 9, it is not making any decisions regarding the adequacy of AltaLink’s enhanced filings as a complete response to its filing obligations for DACDA approvals. All that Direction 9 required of AltaLink is that it develop and put forward a proposal. It has done so. Compliance with this direction does not, as suggested by AltaLink, provide “a complete answer to the CCA’s continued requests for decision registers and will undoubtedly streamline the forthcoming IRs.”

73. Additionally, the Commission agrees with the CCA that it would be procedurally unfair to rule on the adequacy of AltaLink’s proposal for a decision matrix before allowing the CCA an opportunity to test the adequacy of AltaLink’s proposal, and to file its own evidence on this issue.

74. Further, the Commission notes that at paragraph 26 of Decision 21914-D01-2016, the Commission indicated that proposed changes to filing requirements resulting from the consultations between AltaLink and intervener groups should be further

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441 Exhibit 22542-X1453, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 89.
442 Exhibit 22542-X1461, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 91.
443 Exhibit 22542-X1970, AltaLink argument, paragraph 91.
444 Exhibit 22542-X1970, AltaLink argument, paragraph 96.
446 Exhibit 22542-X1970, AltaLink argument, paragraph 95.
447 Exhibit 22542-X1970, AltaLink argument, paragraphs 97-98.
448 Exhibit 22542-X1461, Commission ruling on AltaLink motion for direction on response to the CCA information requests and compliance with Direction 9 dated May 17, 2018.
discussed within AltaLink’s 2014 DACDA application, and that any decision from the Commission in this respect would be reflected in AltaLink’s 2015 DACDA. Although AltaLink’s original application has been amended to now include all of AltaLink’s 2015 capital projects, AltaLink’s proposal pursuant to Direction 9 must be examined in this amended application to determine its usefulness for future GTAs.

435. In response, the CCA submitted that as it is expected that future DACDA applications will have minimal large capital expenditures such that the cost of providing the additional information should not be significant, AltaLink’s enhanced filing could be adopted for future applications.

436. Notwithstanding, the CCA submitted that it would prefer to have a complete, consistent and cohesive presentation of the key decisions that AltaLink undertakes during the execution of direct assign capital projects, which could take the form of a decision register. However, it is open to any format of presentation that facilitates a focus on what AltaLink knew or ought to have known when it was making decisions that materially impacted the cost of a project.\[449\]

437. In reply, AltaLink reiterated its belief that its enhanced filing provides the roadmap to the decisions made through project execution for all of the projects in its DACDA application. Further, given that the CCA appears to agree that the enhanced filing should continue, this implies that the matter of Direction 9 of Decision 3585-D03-2016 does not need to be revisited.\[450\]

438. AltaLink submitted that the CCA’s claim that AltaLink’s continued opposition to a decision register is because AltaLink rarely ever considers alternatives or lower cost alternatives during project execution is completely contrary to the evidence. In this regard, AltaLink noted that it had provided 210,000 pages of evidence on the record that supports its project managers’ continuous assessment of alternatives in project execution.\[451\]

439. In its reply argument, the CCA submitted that while AltaLink’s argument claims that “… the evidence on the record discloses comprehensive evidence to support the decisions made, the options considered and the basis on which those decisions were made,” AltaLink’s evidence generally does not demonstrate a serious consideration of options.\[452\] In this regard, the CCA noted that in its examination of all of the 13 change proposals prepared by AltaLink in respect of the WATL project, only two of them discuss options.

440. The CCA expressed particular concern regarding WATL project change proposal number 6,\[453\] which set out a project cost increase of $210.7 million, and which was the subject of several dozen question from the AESO. The CCA submitted that it was unable to identify a single instance where AltaLink described options it considered to mitigate the cost increase. Instead, the CCA submitted that AltaLink’s responses only described the cost increases and sometimes provided reasons for the increases.

441. The CCA contrasted AltaLink’s apparent lack of consideration of options for the WATL project with a sample of a decision register drawn from an ATCO Electric Transmission deferral

\[449\] Exhibit 22542-X1972, CCA argument, paragraph 17.
\[450\] Exhibit 22542-X1978, AltaLink reply argument, paragraph 560.
\[451\] Exhibit 22542-X1978, AltaLink reply argument, paragraph 95.
\[452\] Exhibit 22542-X1978, AltaLink reply argument, paragraphs 80 and 82.
\[453\] Exhibit 22542-X1044, PDF pages 102-153.
account proceeding (22393), which the CCA provided in response to a Commission information request:

In reviewing a number of change orders and subcontract amendments, Bema observes that the primary purpose of these documents appears to be to explain the problem that has arisen, and the additional costs that will be incurred, with varying levels of supporting details. There is rarely any explanation of any options to mitigate the cost increase, what are the advantages and disadvantages of the options, what option was selected (which could be to generally continue with the original plan, just spend more) and why. Having a decision register provides a mechanism for the project manager to identify key decisions that need to be made that will materially impact cost or schedule and provides the discipline to identify options and ensure that every reasonable effort is being used to mitigate costs. When such a process becomes habitual and innovation and cost-consciousness is encouraged, the project manager will learn to identify and pursue credible options that could mitigate costs. Such options, as discussed in evidence, could include schedule adjustments, both within a project (for example, taking advantage of float in the project for a specific activity) or by changing the ISD established by the AESO.

Just as importantly, change orders and sub-contract amendments only address cost increases that are triggered by an expenditure above certain thresholds, which might be budget related or contract related. If, for example, a change order is only required if there is a 20% increase above a $10 million budget cost, then any increases below this amount will not require a change order. In communications between AltaLink and SNC, there are references to cost increases that will not require a change order as they are within budget. A project manager may make minimal effort to mitigate costs if they believe they are within budget and will not have to prepare a change order. Within a $10 million budget, there may be activities that have come in 20% less, saving $2 million in the budget and other activities that increased by 39%, or $3.9 million. In this example, the project manager may not need to create a change order because the costs have not exceeded 20% of the budget or $12 million. However, the $3.9 million increase in costs could have been reviewed to see if the increase could have been mitigated. This illustrates the point that change order and subcontract amendments do not identify all material cost increases that can occur in a project and need to be evaluated to ensure the costs are reasonable and that there is no way to mitigate them.

442. The CCA submitted that AltaLink represented that its enhanced application filing “would capture the same information as a decision register including details of key decisions,” yet its construction readiness stage gate process has virtually no discussion of alternatives and it is not designed to address real-time decisions being made during the construction process itself. Furthermore, the CCA noted it conducted an analysis of 12 subcontract amendments (SCAs) from four projects totalling in excess of $62.8 million and that the justification for the change in unit quantities was provided only in one case, and none of the SCAs indicated where cost mitigation opportunities were examined.

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454 Exhibit 22542-X1868, CCA-AUC-2018AUG17-005. In this response, the CCA provided an example of a decision register for ATCO Electric transmission’s Hanna Region Transmission Development project obtain by the CCA the from Exhibit 22393-X0239, PDF page 25.

455 Exhibit 22542-X1868, CCA-AUC-2018AUG17-005.

456 Exhibit 22542-X1885, paragraph 25.

457 Exhibit 22542-X1980, CCA reply argument, paragraph 90.
443. In conclusion, the CCA submitted that despite filing 210,000 pages of evidence, AltaLink’s evidence failed to show sufficient evidence of the key decision processes, alternatives, or options when faced with a decision that may affect costs or changes in scope to the projects in this application.\(^{488}\) Given this, the CCA submitted that the Commission should find that AltaLink has not complied with the requirements of Direction 9 from Decision 3585-D03-2016.\(^{489}\)

**Commission findings**

444. The Commission found the project summary reports prepared for the current application to be extremely useful. In addition to providing essential descriptions and a high level explanation of primary cost variances, the project summary reports provided linkages to AltaLink change notice and SCA evidence. AltaLink is directed to continue to provide project summary reports in its next DACDA application.

445. The Commission also considers that these reports could be improved by providing a mechanism to show the linkage between high level cost variance explanations to the primary documentation and other corresponding documents such as bid assessments, changes notices, and subcontract amendment documentation, rather than by using footnotes. The use of footnotes was, at times, difficult to follow. The Commission provides this observation for consideration by AltaLink, and makes no specific recommendations for changes to the structure or formatting of the project summary reports.

446. With respect to the stage gate review documentation that AltaLink filed for major projects included in the DACDA application, the Commission also found this information to be useful, complete, and of substantial assistance in understanding the factors that AltaLink considered in making major project decisions at key milestone dates. The Commission has no specific recommendations regarding changes to either of the stage gate information or in respect of the composition of supporting evidence related to stage gate decisions to be filed in AltaLink’s next DACDA application.

447. In accordance with the Commission May 17, 2018 ruling, which confirmed that AltaLink had complied with Direction 9 from Decision 3585-D03-2016, the CCA has taken the opportunity in its evidence and argument to persuade the Commission that decision register documents as contemplated in Direction 9 are still required, despite AltaLink’s enhancement to its application evidence, which included project summary reports and stage gate decision documentation.

448. While the Commission agrees with the CCA’s assessment that, contrary to some general claims by AltaLink that its enhanced application filing and in particular AltaLink’s stage gate decision documentation provides comparable information to that sought by the CCA through decision registers, the Commission is not persuaded that the decision registers provide sufficient additional value to warrant the effort required by AltaLink to prepare them after-the-fact, specifically for the purposes of a future DACDA application.

449. Conversely, to the extent that AltaLink has prepared decision or risk registers to support the execution of a project, that information would be of assistance in identifying the

\(^{488}\) Exhibit 22542-X1980, CCA reply argument, paragraph 352.

\(^{489}\) Exhibit 22542-X1980, CCA reply argument, paragraph 354.
reasonableness of decisions at the time they were made. Accordingly, AltaLink is directed to provide any decision or risk registers as part of its stage gate decision documentation in its next DACDA application, where such information exists.

3.13.2 Size and completeness of record

450. In argument, AltaLink noted that the level of detail it provided in support of the current application is greater than what it provided in its prior DACDA application. Further, as the procedures it employs have not changed, it is significant that the Commission made the following finding in respect of AltaLink’s 2012-2013 DACDA application:

434. With regard to the assertion made that AltaLink has not provided evidence to justify the change notices that it approved, the Commission does not agree. The evidence in question runs into the thousands of pages and the Commission has reviewed all of it. In its review, the Commission came across numerous cases where the change was supported by extra work requests, labour, equipment and material, time sheets, correspondence from subcontractors, emails or other items detailing the need for the change.460

451. AltaLink submitted that it filed a comprehensive application that not only complied with the minimum filing requirements but went beyond to include enhanced materials agreed upon by interveners pursuant to the consultative process that followed AltaLink’s 2012-2013 DACDA application proceeding.461

452. As was the case in the 2012-2013 DACDA proceeding, AltaLink submitted that the CCA has complained that it did not receive enough information to properly review certain matters and further complained that it does not have enough resources to properly review the materials that were filed.462

453. However, AltaLink submitted that the obligation is on the interveners to bring forward materially relevant evidence on issues of concern. In so doing, interveners must respect prior Commission rulings on material relevance and settled matters. AltaLink submitted that the CCA’s complaints of insufficient resources, insufficient time, not enough documents and too many documents do not assist the Commission’s assessment of the matters before it in this proceeding.463

454. In its argument, the CCA submitted that in presenting its case as to the reasonableness of $3.8 billion of capital additions, AltaLink has been unwilling to provide a concise, comprehensive and coherent case. Rather, the CCA submitted that AltaLink largely relies on policies, practices and procedures, over 210,000 pages of filed information, its Project Summary Reports, Procurement Assessment summaries and the fact that it hires “professionals who have pride.”464

455. However, the CCA submitted that because AltaLink’s assessment of what is relevant is biased, self-serving, and unreliable, it is unknown how many other documents have been withheld that could provide significant insight into the reasonableness of decisions. Given this,

460 Decision 3585-D03-2016, paragraph 434, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 57.
461 Exhibit 22542-X1970, AltaLink argument, paragraph 84.
462 Exhibit 22542-X1970, AltaLink argument, paragraph 86.
463 Exhibit 22542-X1970, AltaLink argument, paragraph 86.
464 Exhibit 22542-X1972, CCA argument, paragraph 45.
the CCA submitted that a direction from the Commission to conduct a cost and performance audit would allow the auditor unfettered access to whatever information the auditor required to accomplish its task, without the need for disputes into relevance involving lawyers. 465

456. The CCA submitted that while AltaLink cannot be forced to make its case in a particular way, the 210,000 plus pages of evidence on the record provide little to demonstrate that AltaLink worked diligently to mitigate costs. 466 The CCA submitted that despite filing over 210,000 pages of evidence, there are several examples within the current proceeding where AltaLink resisted the provision of relevant and key documents, such as the 2014 SNC Settlement and Release Agreement. 467

457. The CCA noted that in Decision 21914-D01-2016, the Commission took note of the CCA’s concerns that the stage gate documents AltaLink proposed to provide “…would be scattered throughout various documents and some decisions may not be documented.” 468 The CCA submitted these concerns turned out to be “prophetic.” 469 In this regard, the CCA noted that AltaLink witness Mr. Fedorchuk acknowledged that it would take about 2,500 hours to read the 210,000 pages of evidence in the current proceeding, which implies that the cost for a senior consultant and one senior lawyer would cost over $1.5 million. The CCA submitted that adding in the time and effort for analysis, and a supporting team, the cost of preparing a full proceeding that evaluated all of this evidence could easily result in a budget of between $2,000,000 and $3,000,000.

458. The CCA submitted that the Commission, Commission counsel, and Commission staff would likely have experienced the same resource constraints in thoroughly reviewing the application evidence to determine the reasonableness the requested capital addition amounts. As such, the CCA submitted that AltaLink’s approach to the file, perhaps driven by AltaLink’s desire to obtain a decision on prudence prior to AltaLink’s December 30, 2018 deadline, has led to an unwarranted and unfair burden on the CCA, and also the Commission. 470

Commission findings

459. The Commission considers that the CCA’s principle concern with the large volume of information filed by AltaLink in the current proceeding is that AltaLink has employed an “information dump” approach to its application evidence without providing an adequate road map. Although the Commission shares the CCA’s view that the size of the record is somewhat overwhelming, the Commission considers that AltaLink approached its preparation of the application evidence in good faith, and that the package of evidence that it filed with the Commission in its April 5, 2017 initial application filing and its December 8, 2018 application update represented AltaLink’s best efforts to provide transparency of the processes it and its EPCm service providers used to execute the projects under consideration.

460. In particular, as discussed above in Section 3.13.1, the Commission finds the project summary reports and stage gate decision documentation to have been critically important to

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465 Exhibit 22542-X1972, CCA argument, paragraph 47.
466 Exhibit 22542-X1972, CCA argument, paragraph 48.
467 Exhibit 22542-X1972, CCA argument, paragraph 60.
468 Decision 21914-D01-2016, paragraph 20, cited at Exhibit 22542-X1972, CCA argument, paragraph 62.
469 Exhibit 22542-X1972, CCA argument, paragraph 63.
navigating this extraordinarily large record. Notwithstanding, the Commission does consider the large record to have been problematic for all parties.

461. The Commission notes that both the CCA\(^{471}\) and AltaLink\(^{472}\) generally agree that AltaLink’s enhanced DACDA application filing should be continued for the fewer number of projects that remain for AltaLink to complete after the 2015 peak. Given this, the Commission will not direct AltaLink to make any specific changes to its filing requirements at this time, specifically related to reducing the size of the record for AltaLink’s next DACDA application proceeding.

462. Notwithstanding, the Commission also notes that in Decision 3585-D03-2016 it made the following finding and direction:

\[252.\] Accordingly, AltaLink is directed to establish a consultative process with representatives from intervener groups active in AltaLink DACDA application proceedings to try to arrive at a workable and mutually acceptable set of filing requirements and pre-filing discovery processes to be followed for AltaLink’s 2015 DACDA application. AltaLink may conduct the consultation process in whatever manner it considers will be the most effective however, as a starting point for this process, AltaLink is directed to identify specific proposals or recommendations for possible solutions such as the use of virtual or physical data rooms or the creation of an agreed upon list of application documents.\(^{473}\)

463. With the consensus with respect to the filing requirements for AltaLink’s 2014 DACDA application that the CCA and AltaLink reached as a result of the consultations concluding in October 2016, consideration of options such as using a data room and pre-application discovery were not pursued for this proceeding. However, the Commission remains interested in whether these tools may be of assistance, if it is found that the size of the record for AltaLink’s next DACDA is also significant despite the current expectation that AltaLink’s next DACDA will be smaller. This may eliminate some of the concerns of parties in the current proceeding that have been attributed to the size of the record.

464. Accordingly, at the time of its next DACDA application, AltaLink is directed to discuss the potential for the alternatives discussed at paragraph 252 of Decision 3585-D03-2016, quoted above, to be of assistance for the processing of future AltaLink DACDA applications.

465. The Commission may also consider a round table discussion with all interested parties and the TFOs present, to consider alternatives for streamlining the DACDA application and proceeding processes.

3.13.3 Value of budget variance analysis

466. In argument, the CCA submitted that AltaLink’s approach to explaining the reasons for final costs assumes that its initial PPS stage estimates were reasonable, with the result that only variances from the PPS stage estimates need to be examined. Further, AltaLink also appears to

\(^{471}\) Exhibit 22542-X1972, CCA argument, paragraph 560.

\(^{472}\) Exhibit 22542-X1978, AltaLink reply argument, paragraph 17.

\(^{473}\) Decision 3585-D03-2016, paragraph 252.
presume that its initial contracts were reasonable, yet provided minimal, if any, evidence that either the PPS stage estimate, or initial contract was reasonable.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 67.}

467. The CCA submitted that the process described by the AltaLink panel whereby AltaLink expected that parties would review the project summary reports, initial contracts and subcontract amendments (SCAs) and subsequently determine whether there is a need for further investigation sounds plausible, but represents an unacceptable approach for determining the prudence of $3.8 billion of costs.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 69.}

468. The CCA presented several concerns with this approach. First, the PPS stage estimates suffer from a consistent bias that does not support the reasonableness of individual project cost components of a project’s total cost.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 70.} Specifically, the CCA submitted that an examination of PPS stage estimates shows a tendency to overestimate material and underestimate construction labour costs. In support of this position, the CCA referred to a table it prepared\footnote{Exhibit 22542-X1972, CCA argument, paragraph 71.} that compared PPS stage estimates of material and labour costs to final costs for these project components for several large projects included in the application. Second, AltaLink budget reallocations do not change the overall budget, but reallocate budget amounts within cost categories. This process, in which budget amounts are moved from project cost items with budget surpluses to cost items with budget deficiencies, creates the appearance that costs are closely aligned with the PPS stage cost estimate.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 73.} In light of its concerns with the practice of budget reallocations, the CCA recommended that the Commission direct AltaLink to explain all of the reasons for material variances and not engage in budget reallocations.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 74.}

469. In reply argument, AltaLink submitted that it has explained the reasons for material cost variances in its project summary reports and, where required, in responses to IRs from both the Commission and the CCA.\footnote{Exhibit 22542-X1978, AltaLink reply argument, paragraph 97.} AltaLink submitted that the CCA’s attack on budget reallocations is fundamentally flawed, and represents an attempt to mix the quality of the PPS stage estimate, the change notice process, and actual costs. Further, the PPS stage estimate is reflective of what AltaLink knew, or ought to have known at that time. Because AltaLink has provided the basis for its actual costs, including the original contracts and subcontract amendments, AltaLink submitted that the CCA’s claim that it has not provided the basis for variance explanations is incorrect, and “flies in the face”\footnote{Exhibit 22542-X1978, AltaLink reply argument, paragraph 98.} of the comprehensive record of the current proceeding.

470. AltaLink submitted that the CCA’s position suggests that despite explanations provided in the application, the CCA does not understand the change notice process. It explained that the change notice process outlined in the procedures manuals involves the revisions of authorized budgets upward or downward. However, the change notice process does not, as the CCA appears to suggest, have the effect of altering the PPS stage estimate.\footnote{Exhibit 22542-X1978, AltaLink reply argument, paragraph 99.}

471. In response to the CCA’s concern regarding budget reallocations, AltaLink explained that budget reallocations are part of the change notice review process and are scrutinized in the same...
way other change notices are. If AltaLink has questions about budget reallocations that occur through change notices, it seeks clarification. If AltaLink does not agree, it rejects any change notices incorporating the budget reallocation.\textsuperscript{483} However, the reallocation of budgets that may occur as part of the change notice review process in no way masks the variance. Regardless, AltaLink had clearly identified key variances and provided explanations as to the cause of those variances on the record.\textsuperscript{484}

472. Finally, AltaLink submitted that as this proceeding is about actual costs, it is important to recognize that cost variances from the initial PPS stage estimate can be used to inform areas of inquiry to assess actual costs, but are not, in and of themselves, an indication of imprudence. As such, the CCA’s request to prohibit AltaLink from using budget reallocations to reflect changes in their authorized budget should be denied.\textsuperscript{485}

**Commission findings**

473. The Commission does not accept AltaLink’s suggestion that the CCA’s request for additional information in support of variance explanations reflects the CCA’s misunderstanding of the change notice process. It is apparent that the CCA is merely seeking additional detail on the explanation of variances of actuals from PPS stage estimates. The Commission also shares, in part, the CCA’s concern that the re-allocation of budget amounts between different project cost elements may complicate the identification of variances.

474. Nonetheless, the Commission also considers that, although project cost estimates prepared at key project milestones such as the PPS stage or PPS update stage should accurately reflect AltaLink’s estimates of the cost of each project component, it would not be reasonable to prohibit AltaLink from reallocating budget estimate amounts between project components at any forecast stage.

475. Therefore, to aid in identifying variances in major cost project components, AltaLink should actively flag instances where a reallocation has occurred. Accordingly, AltaLink is directed to ensure that any budget reallocations are specifically identified and described in the project summary reports that AltaLink provides in future DACDA applications.

**3.13.4 Price-quantity analysis**

476. At paragraphs 242 to 244 of Decision 3585-D03-2016, the Commission directed AltaLink to provide a report similar to that proposed by the Ratepayer Group for projects for which AltaLink’s requests additions to rate base of $25 million or more. AltaLink provided filings in response to this direction for the following projects:

- D.0304 - SATR Bowmanton to Whitla\textsuperscript{486}
- D.0378 - Christina Lake - Pike\textsuperscript{487}
- D.0479 - Fidler 312S substation connection\textsuperscript{488}

\textsuperscript{483} Exhibit 22542-X1978, AltaLink reply argument, paragraph 100.
\textsuperscript{484} Exhibit 22542-X1978, AltaLink reply argument, paragraph 102.
\textsuperscript{485} Exhibit 22542-X1978, AltaLink reply argument, paragraphs 104-105.
\textsuperscript{486} Exhibit 22542-X0062.
\textsuperscript{487} Exhibit 22542-X0158.
\textsuperscript{488} Exhibit 22542-X0220.
2014 and 2015 Deferral Accounts Reconciliation Application

- D.0306 - SATR South Foothills Transmission Project
- D.0379 - Christina Lake - Ipiatik
- D.0390 - FATD East NFTP
- D.0391 - FATD East Langdon to Janet
- D.0392 - FATD East - Foothills 138kV
- D.0410 - ECTP/Shepard

477. In argument, the CCA noted that in a prior proceeding, the Ratepayer Group had recommended that AltaLink provide a price-quantity analysis as part of its minimum filing requirements. This request was based on the expectation that such information could be used as a screening tool to focus concerns on areas in which costs have potentially risen more than would be expected, and therefore warrant a more thorough review.

478. The CCA further noted that in Decision 3585-D03-2016, the Commission found that a price-quantity analysis has the potential to reduce the need to focus on certain areas of project development, will improve the overall efficiency of the deferral account process, and providing such a report could help to focus attention on key cost drivers and decisions while reducing “fishing expedition” IRs.

479. The CCA noted that in the oral hearing, AltaLink was asked a number of questions about the price-quantity analysis that AltaLink prepared in respect of the SATR Bowmanton Whitla project. In its cross-examination on this price-quantity analysis, the CCA addressed AltaLink’s comments that there was “… no more to give nor develop in terms of this table” as well as a suggestion by the AltaLink panel that the price-quantity analysis tables were of limited value when considered in light of the difficulty of the preparation task and the time required to prepare them.

480. In response to these comments, the CCA questioned AltaLink’s claim that the preparation of the tables required so much effort, since the tables AltaLink produced had practically no information, and did not include the price-quantity information that AltaLink was directed to

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489 Exhibit 22542-X0419.
490 Exhibit 22542-X0483.
491 Exhibit 22542-X0520.
492 Exhibit 22542-X0558.
493 Exhibit 22542-X0604.
494 Exhibit 22542-X0645.
495 Paragraph 216 of Decision 3585-D03-2016 describes a proposal put forward by the Ratepayer Group in Proceeding 3585 that AltaLink should prepare a table that breaks down units and unit costs of major project inputs at the PPS Stage and compares these estimates with actual unit and unit costs for the same project inputs. As described at PDF page 61 of its Proceeding 3585 evidence (Exhibit 3585-X0666), the Ratepayer Group had based its proposal on an exhibit prepared by ATCO Electric Transmission for its 2012 DACDA application (Proceeding 2683, Exhibit 0073.03.AE-2683).
496 Exhibit 22542-X1972, CCA argument, paragraph 129.
497 Decision 3585-D03-2016, paragraph 218, cited at Exhibit 22542-X1972, CCA argument, paragraph 129.
498 Decision 3585-D03-2016, paragraph 242, cited at Exhibit 22542-X1972, CCA argument, paragraph 129.
499 Exhibit 22542-X0062, discussed at Transcript, Volume 1, pages 110-112.
500 Transcript, Volume 1, page 112, referenced at Exhibit 22542-X1972, CCA argument, paragraph 131.
501 Transcript, Volume 1, page 112, referenced at Exhibit 22542-X1972, CCA argument, paragraph 132.
provide. In this regard, the CCA included a table in its argument that indicated that the price-quantity analysis that AltaLink had prepared in respect of nine AltaLink projects had only provided a total of 16 price-quantity pairs. The CCA submitted that the additional information that AltaLink provided in the price-quantity analysis worksheets is only a comparison of original PPS estimate amounts to final costs. In light of the information provided in price-quantity analysis worksheets, the CCA questioned AltaLink’s estimate that it had taken 315 hours at an estimated cost of $39,375 to prepare the price-quantity worksheets that were in response to the Decision 3585-D03-2016 direction.

481. The CCA explained that the primary value in the price-quantity information that it was seeking related to the ability to determine the key drivers of variances relative to PPS stage forecasts. The CCA provided examples of cost explanations for the Bowmanton-Whitla and WATL projects to illustrate the nature of the additional information it sought.

482. In consideration of the foregoing, the CCA recommended that the Commission direct AltaLink to provide price-quantity analyses in future DACDA applications for all cost items where (1) the cost item has a variance of over $100,000, or 20 per cent of the original estimate; and (2) a known price and quantity was used in developing the original PPS stage estimate and the actual price and quantity is known. In addition, the CCA recommended that the Commission direct AltaLink to provide price-quantity analyses in its compliance filing pursuant to this decision in support of any cost where, in this decision, the Commission has determined that (1) it has insufficient information to demonstrate the prudence of those costs; and (2) where the Commission considers that price-quantity analysis may assist it in confirming prudence or imprudence.

483. In reply argument, AltaLink submitted that the Commission directed AltaLink to provide the price-quantity analysis sought by interveners in order to reduce the quantity of “fishing expedition” IRs. However, because the Commission primarily agreed with AltaLink in respect of its motion to strike 850 of the CCA’s IRs, it is clear that this was not the case.

484. In addition, AltaLink noted that because there is often not a one-to-one relationship between how the PPS was developed and how procurements actually occurred, it is often more difficult than the CCA assumes to derive a unit price for a specific input. It explained that complications of this type may arise because the cost of a piece of equipment may be embedded within the scope of a larger contract, or because material has been procured in bulk for multiple projects.
485. Given the cost and inefficiency of preparing the price-quantity information and the limited value that it provides, AltaLink submitted that the CCA’s request to provide this analysis should be denied.

Commission findings

486. Direction 10 from Decision 3585-D03-2016 stated:

243. However, there is no evidence on the record regarding what level of effort on the part of AltaLink would be required to produce these reports or the costs of doing so and the Commission considers that the minimum cost threshold for requiring AltaLink to provide a comparable report should be significantly higher than the $5 million threshold proposed by the RPG.

244. Accordingly, for its 2014 DACDA, AltaLink is directed to provide a report similar to that provided by the RPG at page 61 of its evidence for all projects where AltaLink’s requested addition to rate base for 2014 is at least $25 million.

487. In Proceeding 3585, the RPG had based its request on a report prepared by AET in a separate proceeding.

488. The Commission has reviewed the reports that AltaLink filed pursuant to this direction, and agrees with the assessment of the CCA that AltaLink’s reports did not comply with this direction. The Commission notes that in each of the reports that AltaLink prepared, AltaLink only attempted to provide unit and unit cost information in respect of transmission line structures. Accordingly, to the extent that another TFO was able to prepare the information sought by the CCA, the Commission considers AltaLink’s response to Direction 10 to be deficient.

489. Notwithstanding, the Commission will not direct AltaLink to remedy this deficiency in its compliance filing and the requirement to comply with this direction for the purposes of this proceeding is waived.

490. However, AltaLink is directed to provide in all future DACDA applications a report similar to that provided by the Ratepayer Group at page 61 of its evidence from Proceeding 3585 for all projects where AltaLink’s requested addition to rate base is at least $25 million.

3.13.5 Role of benchmarking analysis

491. In its rebuttal evidence, AltaLink noted that representations about the need for benchmarking are found in various sections of the Bema evidence. AltaLink submitted that in addition to comprehensively responding to Bema suggestions that elements of the WATL project can be benchmarked against comparable elements of the EATL project in another part of its rebuttal evidence, AltaLink noted that it had addressed the use of benchmarking in multiple prior proceedings. As discussed in these other contexts, AltaLink submitted that the normalization of a data set is critical in any use of benchmarking comparisons.511

492. Also in its rebuttal evidence, AltaLink reproduced, in part, the following summary of its position on benchmarking as set out in an information request response:

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511 Exhibit 22542-X1885, paragraph 73.
While benchmarking can provide ranges of costs when summarized across projects, those ranges do not necessarily provide sufficient information about whether incurring costs outside of the ranges is justified or prudent. For instance, when a project has costs that appear to be an outlier compared to the benchmarking sample (even after controlling for known differences), detailed analysis is required to understand the sources of the anomalous costs and to determine whether the causes are project-specific factors. Many factors can affect transmission costs, and focusing only on comparing the costs across multiple projects without a clear understanding of the underlying drivers of cost differentials can result in misleading conclusions. This is particularly true when the types of projects are diverse and the factors affecting them are also diverse.

493. AltaLink submitted that as the aim of the current proceeding is to test the reasonableness of AltaLink’s expenditures, examination of what a different entity incurred on a different project is of limited value in this proceeding.

494. In argument, the CCA noted that the purpose of benchmarking costs that are standardized to a unit such as expenditures per MVA of transformation capacity, or per km of line, is to act as a “red flag” identifying above-average project costs. However, the CCA submitted benchmarking comparisons should be used as a basis for a potential disallowance only if no other information is available.

495. The CCA noted that the IR response regarding benchmarking referenced in AltaLink’s rebuttal evidence included a statement indicating that after benchmarking analysis has identified an outlier, then “… detailed analysis is required to understand the sources of the anomalous costs and to determine whether the causes are project-specific factors.” However, while the CCA noted that the Bema evidence had identified several instances of expenditures that appeared to be outliers relative to a benchmarking sample, AltaLink does not support further study, and instead reiterates its position on the limitations of benchmarking analysis to argue against further study.

496. Furthermore, the CCA submitted that while AltaLink confirmed during cross-examination that it had a database of equipment costs and labour costs, as well as a means to collect actual data, AltaLink refused to consider using this database to conduct benchmarking analyses. The CCA considered AltaLink’s refusal to be inconsistent with the fact that AltaLink utilizes its database of project costs to defend the reasonableness of its PPS stage project cost estimates.

497. The CCA submitted that because the information in AltaLink’s project cost database was paid for with costs included in AltaLink’s revenue requirement, this data should be made available. The CCA submitted that the Commission should direct that AltaLink’s project cost

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512 Exhibit 22542-X1885, paragraph 146, and Exhibit 22542-1588, AML-CCA-2018JUN01-037(a).
513 Exhibit 22542-X1885, paragraph 74.
514 Exhibit 22542-X1972, CCA argument, paragraph 120.
515 Exhibit 22542-1588, AML-CCA-2018JUN01-037(a), cited at Exhibit 22542-X1972, CCA argument, paragraph 123.
516 Exhibit 22542-X1972, CCA argument, paragraph 123.
517 Transcript, Volume 1, pages 100-104.
518 Exhibit 22542-X1972, CCA argument, paragraph 125.
data be made available within a compliance filing, a cost and performance audit process, or as part of any other process determined by the Commission.\footnote{Exhibit 22542-X1972, CCA argument, paragraph 128.}

498. In reply argument, the CCA added that AltaLink utilizes benchmarking comparisons when it is to their advantage to do so. In particular, the CCA submitted that AltaLink’s representations of the role of the AESO as “a sophisticated party that plans the transmission system” and as “a sophisticated and expert system planner,”\footnote{Exhibit 22542-X1970, AltaLink argument, paragraph 4.} implies that AltaLink actually agrees that benchmarking has a role in assessing the reasonableness of its costs.\footnote{Exhibit 22542-X1980, CCA reply argument, paragraph 35.}

499. In its reply, AltaLink submitted that because the purpose of PPS stage estimates in a DACDA proceeding is to identify areas for further investigation, and as the PPS’s are only reflective of the information available at the time they were prepared, then requiring AltaLink to provide its database of costs would add to regulatory inefficiency, and would not aid the Commission in determining if AltaLink’s costs were reasonable.\footnote{Exhibit 22542-X1980, AltaLink reply argument, paragraphs 306 and 310.}

**Commission findings**

500. In AML-AUC-2017DEC20-040(a), the Commission requested that AltaLink confirm that it did not object to parties referencing cost benchmarking tools available from the AESO’s website in the current proceeding. While expressing concerns about the usefulness of benchmarking to assist in the assessment of prudent costs, AltaLink confirmed that it did not object.\footnote{Exhibit 22542-X1491, AML-AUC-2017DEC20-040(a).}

501. Assuming the availability of AESO benchmarking data, the Commission considers that it is not necessary to direct AltaLink to provide the project cost data requested by the CCA in either a compliance filing, or as part of the initial filing of its next DACDA application.

**3.14 Supplementary audit processes**

502. In its argument, AltaLink submitted that although the Commission has received and determined multiple requests for “cost and performance” audits over many proceedings\footnote{AltaLink cited Decision 2009-151, Decision 2013-407, Decision 2013-358, Decision 3585-D03-2016, and Decision 2044-D01-2016.} since 2010, it is notable that in the one proceeding where a cost and performance audit was directed, the result was a finding that AltaLink’s costs on the project in question (the SW project) were prudent and the Commission made no disallowances whatsoever.\footnote{Decision 22044-D01-2016, cited at Exhibit 22542-X1970, paragraph 40.}

503. AltaLink submitted that cost and performance audits are an exceptional remedy and are only used where the record does not allow the Commission to make a final determination of prudence.\footnote{Exhibit 22542-X1970, AltaLink argument, paragraphs 41-42.}

504. AltaLink submitted that it is important to recognize that the Commission, and not the auditor, must make the final determination of prudence. As such, AltaLink submitted that while the terms of the retainer of an auditor have important legal and procedural fairness...
considerations, an audit can be used to gather additional evidence for consideration by the Commission, but little else. However, this leads back to a central point: because procedural fairness demands that parties have the right to test any evidence gathered through an audit, costs and performance audits are excessive, unwarranted and are manifestly inefficient.\textsuperscript{527}

505. In its argument, the CCA submitted that while the cost of direct assign capital projects were in the tens of millions of dollars when the Commission’s predecessor first set up deferral accounts, the cost of individual projects is now frequently in the hundreds of millions of dollars, and two projects have cost more than a billion dollars. Having regard for this increase, the CCA submitted that interveners have expressed concerns since the original establishment of AltaLink and the DACDA process that the functional structure of the DACDA process effectively allows any cost overrun in a direct assign project to be flowed through to the AESO.\textsuperscript{528}

506. Having regard for this long-standing concern, the CCA noted that it and other interveners have asked for project reviews and audits to provide checks and balances to the decisions made by TFOs in the execution of these direct assign projects. The CCA argued that given the large expenditures in this proceeding, missing unjustified expenditures of only 1 per cent implies a cost to ratepayers of some $38 million. Accordingly, the deferral account process and thus the need for cost and performance audits is in “a completely different league than what it was 15 years ago.”\textsuperscript{529}

507. While the CCA stated that it recognizes the Commission’s role as a specialized quasi-judicial tribunal with a public interest mandate and expertise in utility regulation, the CCA submitted that independent project reviews and audits can and should be relied on to provide the required checks and balances. However, the CCA submitted that because the establishment of project reviews and audits delegates the analysis, but not the decision, the decision to expand these tasks rather than leaving them to interveners and the Commission should be regarded as a logical and accepted form of oversight.\textsuperscript{530} The CCA submitted that the establishment of the Commission of Inquiry Respecting the Muskrat Falls Project by the Government of Newfoundland and Labrador demonstrates that the CCA is not alone in its view that the use of independent audits is reasonable.\textsuperscript{531}

508. The CCA also submitted that the utilization of cost and performance audits is also supported by the intervener evidence prepared by Mr. Mohr, in which he explained that, based on four examples of reviews he conducted of construction costs on large capital projects on behalf of major clients, he able to generate substantial savings for his clients.\textsuperscript{532}

509. Similarly, the CCA submitted that there is support for undertaking cost and performance audits in the evidence of Mr. Mohr, that showed that subcontract amendments were substantially higher than the range usually experienced in the construction industry.\textsuperscript{533} The CCA submitted

\textsuperscript{527} Exhibit 22542-X1970, AltaLink argument, paragraphs 52-56.
\textsuperscript{528} Exhibit 22542-X1972, CCA argument, paragraph 17, referencing Decision 2003-061, PDF pages 39-40.
\textsuperscript{529} Exhibit 22542-X1972, CCA argument, paragraph 19.
\textsuperscript{530} Exhibit 22542-X1972, CCA argument, paragraph 20.
\textsuperscript{531} Exhibit 22542-X1972, CCA argument, paragraph 21.
\textsuperscript{532} Exhibit 22542-X1972, CCA argument, paragraphs 311-313.
\textsuperscript{533} Exhibit 22542-X1826, paragraphs 91 to 94, referenced at Exhibit 22542-X1972, CCA argument, paragraph 334.
that this evidence clearly supports cost and performance audits on the projects included in the current proceeding.\textsuperscript{534}

510. The CCA submitted that despite AltaLink’s opposition to audits, it is notable that when AltaLink undertook an audit (the KPMG internal audit during the 2013-2014 period), it resulted in the identification of millions of dollars in billing errors, which AltaLink then disputed and sought to recover through the SNC Settlement Agreement. The CCA noted that Mr. Fedorchuk acknowledged during cross examination that the total credit that AltaLink received from SNC under the Settlement Agreement exceeded the cost of the audit.\textsuperscript{535} As such, the CCA submitted there is no reason to believe that cost should be a factor when considering decisions to undertake audits.\textsuperscript{536}

511. The CCA submitted that the Commission should place no weight on AltaLink’s stated desire to have a decision on the Application before December 31, 2018. The Commission cannot and should not be influenced by contractual provisions related to the sale of AltaLink. In the CCA’s view, the Commission should not be concerned with arguments that question the use of audits on the basis of the time they take. The CCA submitted that while AltaLink benefits from dealing with its application immediately, it is far more important to “get this right,” since doing so is to the benefits of all ratepayers.\textsuperscript{537}

512. In reply, AltaLink submitted that the CCA’s request for cost and performance audits reflects its apparent view that its role is to “raise questions” and once it has raised enough questions, then the Commission should order a cost and performance audit. However, as confirmed by the Commission’s ruling in respect of disputed IRs, the CCA’s approach ignores the well-established role of the intervener to review the application and to test the evidence. AltaLink submitted that the CCA’s approach of raising sufficient questions to justify its call for an audit shows that the CCA has failed in its intervener role in the current proceeding.\textsuperscript{538}

513. AltaLink submitted that the CCA’s reference to the Muskrat Falls inquiry proceeding in support of its continued request for cost and performance audits should be ignored. AltaLink submitted that the simple fact that the Muskrat Falls Commission of Inquiry has retained independent expertise and an auditor does not make anything about that proceeding materially relevant to AltaLink’s DACDA application.\textsuperscript{539}

514. AltaLink remained of the view that the Muskrat Falls documents should not have been admitted on to the record of the proceeding. Notwithstanding, at this point, the Commission should unequivocally confirm that those documents have no probative value, and will not be considered in assessing prudence, or in respect of the availability of cost and performance audits for the matters examined in this proceeding.\textsuperscript{540} In this regard, AltaLink noted that the Commission has already ruled in a determination within Proceeding 22393 in respect of the review of the ATCO Electric Hanna project that, due to the material differences between that

\textsuperscript{534} Exhibit 22542-X1972, CCA argument, paragraph 334.
\textsuperscript{535} Transcript, Volume. 2, page 316.
\textsuperscript{536} Exhibit 22542-X1972, CCA argument, paragraph 338.
\textsuperscript{537} Exhibit 22542-X1972, CCA argument, paragraphs 339-340.
\textsuperscript{538} Exhibit 22542-X1978, AltaLink reply argument, paragraph 351.
\textsuperscript{539} Exhibit 22542-X1978, AltaLink reply argument, paragraph 352.
\textsuperscript{540} Exhibit 22542-X1978, AltaLink reply argument, paragraph 357.
project and the scope of the Muskrat Falls project, information from that project would not assist
the Commission in applying the prudence test in that proceeding.\textsuperscript{541}

515. AltaLink submitted that, save for the one instance, the Commission has rejected CCA
requests for cost and performance audits time and again. Yet despite its protests about its
apparently scarce resources, the CCA continues to devote these resources to repeating these
requests. AltaLink submitted that this approach is not only irresponsible, but contemptuous of
the Commission’s own resources and guidance.\textsuperscript{542}

516. AltaLink submitted that despite the CCA’s comments that it is not asking the
Commission to delegate its authority to an auditor, this assertion is contradicted by the CCA’s
own evidence in response to an IR from the Commission which asked the CCA to provide the
terms of reference for a cost and procurement audit of the disputed SNC charges.\textsuperscript{543} AltaLink
submitted that the CCA’s response to this question explicitly advised the Commission that the
terms of reference for its audit would include evaluating the reasonableness and prudence of
certain costs. Based on this, AltaLink submitted that it is clear that, contrary to its claims, the
CCA fully intended for the auditor to assume the jurisdiction of the Commission in the context of
the audit referenced in the IR.

517. In view of the foregoing, and the extensive evidence on the record of the current
proceeding supporting the costs incurred in AltaLink’s execution of its projects, AltaLink argued
that there is no need for subsequent cost and performance audits. In summary, all information
has been placed before the Commission to allow it to make its determination of prudence now.\textsuperscript{544}

518. In its reply, the CCA submitted that it did not disagree with AltaLink’s position at
paragraphs 52-56 of its argument that the determination of prudence cannot be delegated from
the Commission to any auditor. The CCA submitted that if an audit was directed, the auditor
would simply carry out an assessment of the reasonableness of AltaLink’s costs and provide the
Commission with that assessment and any recommendations. However, the actual determination
of prudence would remain with the Commission.\textsuperscript{545}

519. With respect to AltaLink’s “central point” that the CCA’s request for cost and
performance audits “are excessive, unwarranted and manifestly inefficient” and AltaLink’s
assertion that the level of detail that AltaLink provided is sufficient to allow a prudence
determination, the CCA strongly disagreed.\textsuperscript{546} Instead, the CCA submitted that the central point
is that AltaLink did not provide sufficient information to allow the Commission to make a
determination. Furthermore, the CCA submitted that the scope of the audits it is recommending
would be concise, relevant, and should provide the basis for the Commission to determine
prudence.\textsuperscript{547}

\textsuperscript{541} Exhibit 22542-X1978, AltaLink reply argument, paragraph 356.
\textsuperscript{542} Exhibit 22542-X1978, AltaLink reply argument, paragraph 361.
\textsuperscript{543} Exhibit 22542-X1868, CCA-AUC-2018AUG17-0046.
\textsuperscript{544} Exhibit 22542-X1978, AltaLink reply argument, paragraph 366.
\textsuperscript{545} Exhibit 22542-X1980, CCA reply argument, paragraph 123.
\textsuperscript{546} Exhibit 22542-X1980, CCA reply argument, paragraph 126.
\textsuperscript{547} Exhibit 22542-X1980, CCA reply argument, paragraph 127.
Commission findings

520. As a general matter, the Commission shares AltaLink’s concern that because an auditor cannot be delegated the task of determining prudence, any decision to direct a supplementary audit implies not only a supplementary process for the audit, but also a supplementary process for the consideration of an audit. As a result, the Commission considers that any decision to utilize a supplementary audit should be fully mindful of the cost and expense that would be involved if this tool were to be used.

521. As discussed in Section 3.2 of this decision, the Commission has determined that it is in the public interest to finalize the costs included in AltaLink’s current DACDA application where the Commission has determined that it has sufficient evidence to do so.

522. However, in other instances where the Commission determined that it did not have sufficient information to make a final decision based solely on the evidence available in the proceeding, the Commission has declined to make a decision on a final basis and has requested that the applicant provide additional information so that the cost element may be tested as part of a future trailing cost proceeding. For example, the Commission adopted this approach in respect of PMPC costs for the WATL project, as discussed in Section 4.1.2.1. For the reasons discussed above, where appropriate, the Commission considers that the use of a trailing cost proceeding to finalize a project or an element of a project, where needed, may be a preferred means of allowing additional information to be obtained prior to making a final decision.

523. In consideration of these factors, the Commission has determined that it will not direct any supplemental audit processes in respect of matters considered in this DACDA application. This finding does not preclude the Commission from directing the use of any supplementary audit process in respect of a future AltaLink DACDA application, should circumstances warrant.

4 Western Alberta Transmission Line project

524. AltaLink project D.0414, the Western Alberta Transmission Line (WATL) project, is a 500 kV HVDC transmission line running between the Edmonton area and the Calgary area. The WATL project was designated as a critical transmission infrastructure (CTI) project under the Electric Utilities Act and, along with the Eastern Alberta Transmission Line (EATL) project of ATCO Electric Ltd., was one of the first two HVDC transmission lines constructed in Alberta.

525. The WATL project involved the permitting, engineering, procurement, construction and commissioning of the following:

- 347 km of 500 kV HVDC transmission line (1325L)
- three substation projects, including:
  - the construction of the North HVDC converter station
  - the construction of the South HVDC converter station
  - the rebuild of the existing Langdon substation.

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548 Exhibit 22542-X1037, paragraph 1.
549 Exhibit 22542-X1037, paragraph 3.
SNC-ATP was the EPCm service provider for the WATL project. AltaLink submitted its proposal to provide service (PPS) to the AESO in respect of the WATL project in January, 2011. In the PPS, AltaLink forecast a final cost, excluding AFUDC, of $1,400,816,793, and anticipated an in-service date (ISD) of October 14, 2014.

The WATL project was energized on December 10, 2015, 14 months later than the initially planned ISD. AltaLink requested approval of cumulative capital expenditures on the WATL project to December 31, 2015, excluding amounts arising from the re-accrual of AFUDC, in the amount of $1,667,781,657. In its final cost report to the AESO, dated July 31, 2017, AltaLink provided a final cost estimate for the project in the amount of $1,698,323,264, excluding re-accrued AFUDC, and in the amount of $1,809,453,462 after the re-accrual of AFUDC. A breakdown of AltaLink’s forecasts at various project stages and of AltaLink’s actual expenditures on the WATL project is provided in Table 6 below:

Table 6. Western Alberta Transmission Line project cost breakdown

<table>
<thead>
<tr>
<th>Description</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>203,798,713</td>
<td>128,638,513</td>
<td>141,719,287</td>
<td>136,219,810</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>308,618,528</td>
<td>579,378,647</td>
<td>628,342,972</td>
<td>632,152,920</td>
</tr>
<tr>
<td>Substation materials</td>
<td>420,652,184</td>
<td>273,240,219</td>
<td>241,865,214</td>
<td>245,907,025</td>
</tr>
<tr>
<td>Substation labour</td>
<td>78,282,716</td>
<td>262,372,033</td>
<td>326,351,529</td>
<td>342,511,998</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>5,498,175</td>
<td>6,475,092</td>
<td>2,513,698</td>
<td>2,513,707</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>3,660,091</td>
<td>9,450,833</td>
<td>5,875,754</td>
<td>6,058,732</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>11,930,143</td>
<td>12,844,852</td>
<td>13,356,012</td>
<td>12,844,852</td>
</tr>
<tr>
<td>O: facility applications</td>
<td>35,148,524</td>
<td>41,901,298</td>
<td>43,725,437</td>
<td>42,910,860</td>
</tr>
<tr>
<td>O: land rights - easements</td>
<td>39,807,200</td>
<td>48,007,039</td>
<td>50,561,009</td>
<td>53,342,908</td>
</tr>
<tr>
<td>O: land rights – damage claims</td>
<td>2,753,450</td>
<td>2,537,685</td>
<td>4,357,981</td>
<td>4,357,981</td>
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<tr>
<td>O: land rights – acquisitions</td>
<td>16,635,000</td>
<td>24,840,742</td>
<td>17,850,350</td>
<td>17,850,350</td>
</tr>
<tr>
<td>D: procurement</td>
<td>3,479,546</td>
<td>9,882,389</td>
<td>10,150,675</td>
<td>10,553,090</td>
</tr>
<tr>
<td>D: project management</td>
<td>22,244,257</td>
<td>56,470,932</td>
<td>64,553,836</td>
<td>64,553,836</td>
</tr>
<tr>
<td>D: construction management</td>
<td>29,443,124</td>
<td>69,494,111</td>
<td>64,822,053</td>
<td>64,822,053</td>
</tr>
<tr>
<td>D: escalation</td>
<td>65,277,447</td>
<td>5,628,601</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D: contingency</td>
<td>95,805,726</td>
<td>70,959,202</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total distributed costs</td>
<td>216,250,100</td>
<td>127,206,179</td>
<td>139,928,978</td>
<td>139,928,978</td>
</tr>
</tbody>
</table>

550 Exhibit 22542-X1037.
551 Exhibit 22542-X1037, paragraph 2.
552 Exhibit 22542-X1041.
553 Exhibit 22542-X1041, PDF page 1. In the cover letter to its July 31, 2017 final cost report to the AESO, AltaLink stated the following: “AltaLink would like to draw to the attention of the AESO that SNC Lavalin ATP Ltd. (SNC) is in litigation with RPC Limited Partnership and Wilson Construction of Canada Ltd. operating as Rockstad Wilson a Joint Venture (RWJV) regarding additional compensation allegedly owed by SNC to RWJV in relation to the construction of a portion of the transmission line on the WATL project. SNC has added AltaLink to this claim as a third party. In its third party claim, SNC denies liability to RWJV, but claims that if it is liable to RWJV AltaLink is required to reimburse or indemnify SNC pursuant to the terms of the EPC contract between SNC and AltaLink. AltaLink cannot comment on the likelihood of the outcome of the proceeding and has not included any forecast in the trailing costs related to the dispute.” In light of the dispute discussed in this passage, the Commission understands that the final cost of the WATL project inclusive of AFUDC may ultimately exceed the $1.81 billion estimate set out in AltaLink’s July 31, 2017 final cost report.
528. In Decision 3585-D03-2016, regarding AltaLink’s 2012-2013 DACDA application, the Commission approved a capital addition in the amount of $16,294,319\(^{554}\) for facilities brought into service prior to the end of 2013 for the purposes of revenue requirement reconciliations arising from that decision.\(^{555}\) The Commission, however, considered that AltaLink’s evidence was not sufficient for the Commission to make a final determination as to whether the expenditures were prudently incurred, and treated the addition as a placeholder. Accordingly, the Commission has considered the prudence of expenditures on the WATL facilities brought into service prior to the end of 2013 in this decision.

529. AltaLink provided a summary report for the WATL project and the Commission has reproduced passages of the report, as follows:\(^{556}\)

- AltaLink filed the PPS for the WATL Project with the AESO on January 20, 2011. At that time, the forecasted ISD was October 14, 2014. The PPS included the following scope:
  - construct a new substation named the Sunnybrook 510S Substation (Sunnybrook); this substation contains the North Converter Station;
  - construct a new 500 kV DC AC line named 1323L/1323AL from the Sunnybrook 510S Substation to the Genesee 330P Substation;
  - terminate 1203L into the Sunnybrook 510S Substation;
  - construct a new substation named the Crossings 511S Substation (Crossings); this substation contains the South Converter Station;
  - construct approximately 347 km of 500 kV HVDC transmission line named 1325L from the Sunnybrook 510S Substation to the Crossings 511S Substation;
  - construct a new substation named the Bennett 503S Substation; and
  - rebuild the existing Langdon 102S Substation to increase the 240 kV bus ampacities. Add three (3) new diameters and rebuild one (1) existing diameter. Relocate the single phase autotransformers and line reactors from the Langdon 102S Substation to the Bennett 503S Substation and reclaim the 500 kV yard for the Crossings 511S Substation.

- AltaLink filed its FA [facilities application] with the AUC on March 1, 2011.

- AltaLink competitively sourced and procured equipment, materials and services for the WATL Project in accordance with ISO Rule 9.1.5. HVDC systems are custom designed specific to their technical requirements. Details of the OEM specifications

\(^{554}\) Exhibit 22542-X1033, Tab D.0414, cell E32.
\(^{555}\) Decision 3585-D03-2016, paragraph 45.
\(^{556}\) Exhibit 22542-X1037-CONF, WATL Project Summary Report.
can affect price, availability and reliability of the system proposed or required. Therefore, prior to the submission of the PPS, AltaLink was in the process to procure the HVDC converter station scope of work under a turnkey contract that included two phases. The first phase involved system studies, design studies, pre-manufacture engineering and aggregation of long lead materials. The second phase involved the manufacture, installation, testing, commissioning, and ongoing support of the HVDC converter stations. Procuring the converters in this manner reduced cost and schedule uncertainty and risk while minimizing early project cash flow and project carrying costs.

- Procurement for the 1325L 500 kV DC transmission line was broken into three construction lots. There were two lines subcontractors, one for the North Lot and one for the South Lot. The Center Lot was left un-awarded to allow for procurement of the monopoles and foundation engineering. Fourteen suppliers were invited to submit proposals for the North Lot. Three suppliers submitted proposals and the contract was awarded to RS Lines. Twenty suppliers were invited to submit proposals for the South Lot. Four suppliers submitted proposals and the contract was awarded to Rokstad Wilson. RS Line was ultimately awarded the work for the Center Lot.

- Due to the large access requirement, the WATL Project procured a specific subcontract for the supply and management of the matting requirements for the Project. Three suppliers were invited to submit proposals for the South and Center Lots. Three suppliers submitted proposals and the contract was awarded to Northern Mat and Bridge (Northern Mat) and Strad Energy Services Strad Energy.

- Alberta experienced a significant flooding event in the spring of 2013. At this time, substation clearing was underway for the Bennett, Langdon, and Sunnybrook Substations. Excess water created site-grading issues for temporary Bennett Substation construction and compressed the construction schedule to ensure completion by mid-June in order to make the June 2013 outage required to relocate the 1201L transmission line. Wet conditions in 2013 also pushed construction for the Langdon Substation and the permanent Bennett substation into the winter construction season where foundations and civil works would require heating and hording. Weather conditions in the winter of 2013-2014 were also severe and extensive snowfall resulted in increased costs for snow removal, reduced construction productivity, and pushed the construction season into spring breakup.

- Floods and rain in the spring and summer of 2014 impacted construction at the Sunnybrook and Crossings sites requiring revised water management plans and mitigations. Water issues also caused monopole foundation issues due to the size of the foundation excavations.

- Much of the land in the South and Central Lots was owned by private landowners. Construction costs were impacted by landowner commitments regarding access, fencing, cattle guards, club root and weed management, and matting not anticipated in the PPS.

- Siemens was the HVDC contractor and was responsible for all aspects of the HVDC system builds at Sunnybrook and Crossings. Frequent rainstorms in July 2015 resulted in water accumulation at the Crossings and Sunnybrook sites impacting the civil compacting activities that further slowed construction progress. AltaLink submitted PCP10 and PCP11 to reflect the anticipated schedule impact as a result of the delays in the HVDC converter stations.
In 2013, following receipt of permits and licences, the Project modified a number of existing 240 kV lines. 240 kV lines on one double-circuit structure (925L/929L) were moved onto single-circuit structures in one area to facilitate the HVDC line crossing over them. In another area, three lines (906L/928L/918L) required alignment adjustments in order to facilitate the HVDC line in proximity to agricultural buildings. This work was completed in 2013, resulting in $16.3M of capital additions. The Commission directed placeholder treatment for the recovery of costs for this partial addition directing that these costs would be evaluated in a future application once all project costs were known.

[footnotes omitted]

530. The Commission’s evaluation of the WATL project is set out in the sections that follow.

4.1.1 Line and substation project coordination

531. AltaLink filed its facilities application with the Commission on March 1, 2011. On October 19, 2011, the Minister of Energy for Alberta advised the Commission that the Government of Alberta was reviewing the three CTI projects under way, including WATL, and requested that the Commission suspend consideration of those projects. The Commission suspended the facilities application process and hearing for all three CTI projects. On February 23, 2012, the Alberta government requested that the Commission resume its consideration of the CTI projects, including the WATL Project, and the process resumed. A facilities application hearing began on June 11, 2012. The Commission approved the facilities application on December 6, 2012, and permits and licences (P&L) were issued on December 20, 2012.

532. In the application, AltaLink stated that procurement of the HVDC equipment was completed prior to the submission of the PPS because it was the most significant procurement risk for the WATL project. AltaLink explained that each HVDC system was custom-designed to its unique technical requirements and it procured the HVDC converter station scope of work as a turnkey contract.

533. Procurement for the 1325L 500 kV DC transmission line was broken into three construction lots. There were two line subcontractors, one for the North Lot and one for the South Lot. The center lot was left un-awarded to allow for procurement of monopoles and foundation engineering.

534. AltaLink attributed the 14-month delay in project energization to the following issues:

- Unanticipated involvement of the Government of Alberta, delaying by 11 months the expected date for receipt of P&L.\(^{597}\)
- The significant flooding event in the spring of 2013. At this time, substation clearing was underway for the Bennett, Langdon, and Sunnybrook Substations and the excess water created site-grading issues for temporary Bennett Substation construction and compressed the construction schedule to ensure completion by mid-June in order to make the June 2013 outage required to relocate the 1201L transmission line.

\(^{597}\) The Commission clarifies that the government suspended the Commission’s review of the WATL project for the period of approximately four months, which led to an 11 month delay in issuing the permit and license.
• Floods and rain in the spring and summer of 2014 impacted construction at the Sunnybrook and Crossings sites requiring revised water management plans and mitigations.

535. In its evidence, Bema asserted that, at some point, AltaLink should have known that the HVDC substations were delayed and should have taken advantage of this to avoid costs in the transmission line. Specifically, Bema stated that AltaLink could have avoided costs in ROW access, clearing and brushing, matting and reclamation by relaxing the completion date for the transmission line.

536. Bema stated that a substantial portion of the $116 million cost over run for access ROW matting associated with project change proposal (PCP) #9, could have been avoided if not for the fact that AltaLink was working to achieve the original transmission line ISD.\(^558\) PCP 9 was submitted on April 10, 2015, long after the costs were incurred in the 2013 and 2014 time period. While these comments were provided in hindsight, they confirm that extensive costs were incurred in 2013 and 2014. These costs might have been saved by deferring work into later in 2014 and into the 2014/2015 winter. It does not appear that AltaLink took advantage of the schedule float in transmission lines that was created by the delay in the HVDC converter stations.\(^559\) [footnote omitted]

537. Bema then noted:

This aggressive pursuit of the schedule also needs to be seen in the context of the Critical Transmission Review Committee (“CTRC”) Report, where the conclusion was that “The basic conclusion from the AESO 2012 forecasts and studies is that two HVDC lines will be required over the planning horizon, that the first of these two lines is needed as soon as possible and the second line is potentially needed as early as 2018.” AltaLink stated that “no discussions took place regarding targeting the completion of the WATL Project in 2018” and “AltaLink was of the view that the WATL Project had to proceed in accordance with the ISD established by the AESO.”

It is clear from its presentation to the CTRC that AltaLink was strongly supportive of maintaining an in-service date for October, 2014, but doing so may have triggered additional costs such as those described earlier. Had AltaLink accepted the position of the CTRC on this matter and been willing to accept an in-service date of later in 2015 (let alone 2018), it appears that a number of the additional costs incurred during WATL may have been avoided, noting there might be some offsetting increases if the project ramped up as early as it did.\(^560\) [footnotes omitted]

538. Bema maintained that the WATL project managers, in reviewing the progress of the work on the converter stations in the 2013/2014 winter timeframe, should have expected that the converter stations were significantly behind schedule and were unlikely to be energized in the winter of 2014/2015. While the project managers would not have had the benefit of completion reports from March 2014 onwards, the slow progress should have made evident that the April 22, 2015 ISD was not achievable.
539. In an IR, the Commission asked Bema to provide the timeline AltaLink should have followed for the WATL project once it became aware that the converter stations were behind schedule, and to also indicate the potential cost savings that would have resulted from the proposed schedule. In response, the CCA provided a graph that showed a comparison of the percentage of the 1325L transmission line that was completed in relation to the percentage of the Crossings and Sunnybrook converter stations that were completed. The CCA submitted that the graph showed that the transmission line expenditures occurred substantially before the work on the converter stations. Bema declined to provide an estimate of the potential cost savings that would have resulted had AltaLink followed Bema’s proposed timeline, but maintained that AltaLink could have substantially lowered costs by avoiding AFUDC, avoiding demobilization costs, and avoiding EPCM charges.

540. In its rebuttal evidence, AltaLink claimed that Bema was wrong and merely speculated that delaying work on the transmission line would have resulted in lower costs.

541. AltaLink submitted that it had already spent $14 million on matting costs at the time the PPS update was submitted to the AESO (PCP#6), and because a significant number of linemen from many countries were engaged for the WATL project, standing down these resources would have created unacceptable risk and uncertainty, and would have resulted in the foreign labour resources being lost. AltaLink further submitted that Bema was incorrect in stating that the transmission line was only required when the HVDC converter stations were completed:

The latest the transmission line could have been completed should allow sufficient time for the end-to-end commissioning of the HVDC system. This normally takes between 2-3 months and AltaLink had approximately 3 months in its schedule plus some additional float for unforeseen events between the planned completion of the transmission line and the final project ISD.

542. AltaLink claimed that the graphs prepared by the CCA and Bema in response to the Commission’s IR (CA-AUC-2018AUG17-011), which purported to show that the HVDC converter stations were behind schedule, were incorrect because they failed to compare actual progress against planned progress. To illustrate this point, AltaLink prepared a revised version of the CCA graph and added trend lines to illustrate expected completion. AltaLink submitted that its revised version of the CCA/Bema graph demonstrated that all work was planned and aligned so that the initial ISD of December 2014 would be met.

543. AltaLink explained that it was not recording the construction percentage complete for the converter stations’ until January, 2014. However, the work was already underway. AltaLink noted that the work for the converter stations was planned and aligned to meet the initial ISD provided by the AESO of December, 2014, and that is consistent with AltaLink’s revised version of the graph. The expectation was that Siemens would perform as expected. Any claim that

561 Exhibit 22542-X1868, CCA-AUC-2018AUG17-011.
563 Exhibit 22542-X1868, CCA-AUC-2018AUG17-011(b).
564 Exhibit 22542-X1043, Monthly reports to AESO, see October 2013 report, page 351, refers to filing of +/-10% PPS Update.
565 Exhibit 22542-X1885, paragraph 316.
566 Exhibit 22542-X1885, PDF page 86.
567 Exhibit 22542-X1885, paragraph 319.
 AltaLink knew or ought to have been aware that Siemens would be delayed in 2013 is false. 568 AltaLink also noted that the information available in the AESO monthly reports for the WATL project, 569 showing the HVDC converter stations progress, confirmed that the HVDC substation construction project in January 2014 was only 1.2 per cent behind plan and well within the schedule float for the project. Therefore, Bema’s claim that AltaLink and the project manager should have known by October of 2013 that the converter stations were at least 10 to 12 months delayed is incorrect.

544. AltaLink also made the following observations with respect to its coordination of the HVDC converter station projects and the transmission line project:

- Progress of only 0.5% was achieved for the HVDC substations in February, March and April 2014, resulting in a delay of 15% against plan by May 2014. Much of this delay was a result of the poor ground conditions and also affected the productivity of lines construction, resulting in transmission lines being 9.1% behind schedule by May 2014. AltaLink understood both lines and substations were similarly behind schedule, and no significant float was becoming available between the expected completion of the transmission line and when it would be needed for HVDC commissioning.

- While Bema suggests that there could have been material savings in the transmission line actual costs by delaying work, when AltaLink understood that the HVDC stations were delayed, all contractors had mobilized transmission line labour and equipment to site and delaying work at that time would not have changed this. 570

- When the issues with Siemens meeting their deadline arose, the transmission line portion of the WATL project was largely complete. Even with the benefit of hindsight, the cost of delay overwhelms the cost of continuing to complete the transmission line construction. The only potential savings of not working in June and July of 2014, would be that access mats could have been removed.

- Even with hindsight, the costs arising from mobilization and demobilization of crews, and from the removal and reinstallation of mats would have created significant costs. In this regard, AltaLink submitted that a simple estimate using reasonable assumptions indicates that pausing work for two months would have cost approximately 571 Accordingly, from both a cost and project risk perspective, delaying transmission line work once the HVDC station delay became known would have been a poor choice. 572

545. In argument, AltaLink reiterated its submissions from rebuttal evidence. 573

546. In argument, the CCA submitted that while AltaLink’s rebuttal evidence attempts to demonstrate that the converter station projects were only 1.2 per cent behind plan by January 2014, this statement must be considered in light of AltaLink’s disclosure in its rebuttal evidence that it was not recording the percentage completed until January 2014, which explains why

568 Exhibit 22542-X1885, paragraph 319.
569 Exhibit 22542-X1043.
570 Exhibit 22542-X1885, paragraph 338.
571 Exhibit 22542-X1885, paragraphs 329-330.
572 Exhibit 22542-X1885, paragraph 331.
573 Exhibit 22542-X1885-CONF, AltaLink rebuttal evidence, paragraphs 320-322, cited at Exhibit 22542-X1970, AltaLink argument, paragraph 373.
AltaLink’s graphs showed zero percentage complete from June 2013 to December 2013. The CCA submitted that AltaLink’s graph extrapolates a line from the observation of zero per cent complete at December 2013 to 11 per cent complete by January 2014 and, therefore, ignores progress prior to December 2013 which, if disclosed, would presumably have shown gradual progress.

547. The CCA further noted that while the AESO monthly report for January 2014 showed that construction was only slightly behind schedule (11.0 per cent compared to 12.2 per cent) at a relatively early stage of the WATL project, the same report also showed that:

- Sunnybrook HVDC Engineering was 54.5 per cent complete compared to 91.8 per cent planned
- procurement was 81.6 per cent complete compared to 100 per cent planned
- Crossings HVDC engineering was 54.5 per cent complete compared to 91.8 per cent planned
- procurement was 81.6 per cent planned complete compared to 100% planned

548. In reply argument, AltaLink restated it was not tracking the completion percentage until January 2014 and, as a result, there were no data points to include on AltaLink’s chart before that time. However, this did not mean that progress was not underway. In fact, AltaLink noted, the September 2013 AESO monthly report, shows that at the Sunnybrook substation:

- site grading was complete;
- driven piles were complete for the control building, valve hall, and transformers; and
- the main civil contractor was mobilizing to the site to start buildings.

549. Therefore, AltaLink stated that while it was not tracking percentage completion at this time, AltaLink was also not aware of any potential substation project delay, as evidenced by the work underway at both sites.

Commission findings

550. The construction of the HVDC converter stations represented the critical path for the WATL project and its expected completion date was therefore central to the determination of the project’s ISD. Although the WATL project was energized in December 2015, 14 months later than the originally planned ISD of October of 2014, AltaLink maintained that the project was executed efficiently:

The WATL Project was executed efficiently despite a number of challenges that arose throughout the execution of the Project including procedural delays, scope changes, right-of-way access issues, weather conditions, landowner concerns and subcontractor delays.

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574 Exhibit 22542-X1885, AltaLink rebuttal evidence, graph at PDF page 86, cited at Exhibit 22542-X1972, CCA argument, paragraph 167.
575 Exhibit 22542-X1043, PDF page 378, cited at Exhibit 22542-X1972, CCA argument, paragraph 169.
576 Exhibit 22542-X1043, PDF page 334.
577 Exhibit 22542-X1978, AltaLink reply argument, paragraph 156.
578 Exhibit 22542-X1038, page 195.
AltaLink continued to keep the AESO informed of these challenges and AltaLink’s response to those challenges as they arose throughout project execution.\textsuperscript{579}

551. The CCA, however, claimed that once AltaLink became aware that construction of the HVDC converter stations was delayed, it should have relaxed the schedule for the completion of the DC transmission line in order to reduce costs.

552. The Commission is of the view that the following questions must be answered:

(a) Based on what AltaLink knew or ought to have known at the time, was it reasonable for AltaLink to have represented to the AESO that the original ISD was achievable?

(b) When was it reasonable to expect that AltaLink should have become aware that the HVDC converter stations were behind schedule and the revised ISD was not achievable?

(c) Did AltaLink act prudently in negotiating the liquidated damages in the turnkey contract for the HVDC converter stations?

553. In answering the first question, the Commission considered the following facts:

- At the time AltaLink indicated to the AESO that the original ISD was achievable, AltaLink had already initiated the process for procurement of the HVDC equipment.

- AltaLink procured the HVDC converter station scope of work as a turnkey contract, as a mechanism to achieve cost and schedule certainty.

- AC substation construction for the WATL project was packaged separately for the AC portion of the HVDC Sunnybrook 510S Substation in the north, and for the Langdon 102S rebuild and Bennett 520S substations in the south to ensure that the work could be conducted efficiently and concurrently.

- The project’s Gantt chart indicates the proposed schedule to meet the original ISD was achievable and allowed a margin of flexibility.

- This project was legislatively prescribed and, at this time, there was no evidence to suggest that the government intended to suspend the project.

554. Based on the above, the Commission considers that AltaLink took reasonable steps to mitigate, to the extent possible, the risk of project delays by (a) expediting procurement of the HVDC converter stations, which represented the most significant procurement risk for the WATL project; and (b) procuring the HVDC converter station scope of work as a turnkey contract, thereby ensuring that costs associated with project delays would be borne by Siemens. The Commission also notes that AltaLink could not have anticipated that P&L would have been issued 12 months later than expected, or anticipated the magnitude of the flooding event in the spring of 2013,\textsuperscript{580} two events that significantly contributed to project delays. Accordingly, the

\textsuperscript{579} Exhibit 22542-X1037, WATL project summary report, paragraph 57.

\textsuperscript{580} Exhibit 22542-X1043, page 313, references wet spring and summer.
Commission finds that AltaLink had no reason to believe the original ISD was not achievable, and the CCA did not submit persuasive evidence to convince the Commission otherwise.

555. In considering when was it reasonable to expect that AltaLink should have become aware that the HVDC converter stations were behind schedule, the Commission examined AltaLink’s monthly reports to the AESO, and noted the following:

- The March 2012 report indicated that the ISD had been deferred to April 2015.
- The December 2012 report indicated that P&L had been issued and an ISD of April 2015 was still expected.
- The March 2013 report indicated that the April 2015 ISD was still on target with procurement and engineering well underway.
- The October 2013 report indicated that the PPS update had been submitted to the AESO and that the ISD remained April 2015.
- The February 2014 report indicated that AltaLink was currently “on track” to the April 2015 ISD with the critical path being the converter stations. Construction of the lines was 48 per cent complete.
- The July 2014 report indicated that Siemens had been progressing well over the last several months and was operating with approximately 320 workers across both sites. However, it indicated that the construction progress was behind schedule and that achieving the ISD was going to be challenging.
- The August 2014 report indicated a delay of 6-8 weeks was expected. Lines construction was 82 per cent complete.
- The November 2014 report indicated that the project ISD had been deferred to June, 2015. Lines construction was 97 per cent complete. The HVDC converter stations were still 64 per cent complete compared to an expected completion of 77 per cent at that point in time.
- The January 2015 report indicated that there were material delivery delays and construction quality concerns with the HVDC stations. The transmission line was ready for energization.
- The March 2015 report indicated that the progress at both the HVDC converter stations sites was slower than planned due to material delivery delays and construction quality concerns resulting in rework. The ISD was forecasted to slip to September, 2015.

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581 Exhibit 22542-X1043.
582 Exhibit 22542-X1043, page 389.
583 Exhibit 22542-X1043, page 430.
584 Exhibit 22542-X1043, page 477.
585 Exhibit 22542-X1043, page 499.
586 Exhibit 22542-X1043, page 501.
• The July 2015 report indicated that frequent rainstorms caused flooding, delaying the ISD to October 2015.\(^\text{587}\)

• The August 2015 report indicated that the ISD had been moved to November 2015.

• The November, 2015 report indicated that the HVDC system was energized and carried power.

556. Based on the above account of the project’s progress, up until February 2014, AltaLink was still on track to meet the April 2015 ISD. As indicated in the February 2014 AESO report, at that time, construction of both the transmission line and the converter stations were only slightly behind; the lines were 49 per cent completed, compared to the planned 55 per cent completion and the converter stations were 14 per cent completed compared to the planned 17 per cent completion.

557. The Commission is of the view that it was not until July 2014 that AltaLink could have reasonably known that the revised ISD was not likely achievable. As confirmed by the AESO reports, until July 2014 the project was developing essentially according to schedule and there was no indication of an imminent decline in Siemen’s progress. Although the project ISD was formally deferred to June 2015, until November 2014, the AESO reports reveal that by July and August 2014, it was reasonable to conclude that the planned execution of the converter stations was lagging. However, by August 2014, the lines were already 82 per cent complete.

558. The Commission accepts AltaLink’s explanation that when it became aware that the revised ISD was not achievable, the transmission line portion of the WATL project was largely complete and that delaying completion of the transmission line would not have resulted in costs savings. The Commission considers AltaLink’s decision to proceed to be reasonable and accepts AltaLink’s evidence that standing down would have created unacceptable risk and uncertainty, and may have resulted in the foreign labour resources being lost. In its rebuttal evidence, AltaLink calculated that pausing work for two months would have cost approximately $1 million. AltaLink restated this submission in argument:

AltaLink, in its Rebuttal, calculated that pausing work for two months would cost approximately $1 million. This does not include costs which could not be avoided by the delay such as ongoing costs to rent material yards, offices, laydown areas, and to compensate for key supervisory personnel so that they remain on the project. Nor does this consider intangibles such as the incremental risk of putting the transmission line on the critical path, or that as a result of demobilizing resources will not return to the project, or that they will have diminished productivity and safety performance as they ramp back up again.\(^\text{588}\)

559. Accordingly, the Commission finds that AltaLink prudently executed the project as it could not reasonably forecast the problems that would be encountered with the converter stations and the consequent effect on the ISD.

\(^{587}\) Exhibit 22542-X1043, page 576.

\(^{588}\) Exhibit 22542-X1970-CNF, AltaLink’s argument, paragraph 330.
560. The Commission also notes that despite Bema’s claim that AltaLink could have achieved cost savings by relaxing the transmission line schedule, it was not able to answer the Commission’s request for an estimate of the alleged potential costs savings. Therefore, the Commission assigns little weight to Bema’s evidence on this matter because it advanced suppositions that were not sufficiently supported by evidence.

561. In answering the question as to whether AltaLink prudently negotiated the quantum of the liquidated damages related to the quality and delay issues with the HVDC substations, the Commission considered the context in which AltaLink negotiated the liquidated damages, and what it knew or ought to have known at the time. The following facts have informed the Commission’s decision:

- AltaLink procured the HVDC converter station scope of work as a turnkey contract, which enabled it to secure a commitment from Siemens that the HVDC converter station would perform as designed to meet the functional requirements, but also allowed AltaLink to mitigate the risk of schedule uncertainties.
- Delays in the project were not solely attributed to Siemens’ performance.
- Six international HVDC manufacturers were invited to pre-qualify for the turnkey implementation of the two HVDC converter stations and all of the three suppliers that applied were pre-qualified and invited to submit bid proposals.
- In its application, AltaLink claimed that it was compensated in the full amount of approximately 589, pursuant to the liquidated damages provisions, and this amount, which was credited to the project costs, more than compensated for the costs caused by the delay of the HVDC contractor.
- Siemens was held to its contract and liquidated damages were enforced and paid in full. A number of Siemens’ requests for extra compensation were reviewed and rejected. 589

562. As noted above, the available pool of qualified HVDC suppliers is limited and this factor would have affected the leverage that AltaLink had to negotiate a higher quantum in liquidated damages. As well, all of the delays in the project were not solely attributable to Siemens’ performance and it would not be reasonable to have required AltaLink to negotiate a liquidated damages provision that encompassed all project cost and schedule uncertainties. Based on the above, the Commission finds that the amount negotiated in damages by AltaLink and recovered was reasonable.

4.1.2 WATL project labour costs

4.1.2.1 PMPC costs

563. In an IR to AltaLink, the Commission noted that several of the change orders for the WATL project included requests for budget increases for PMPC costs in conjunction with changes triggered by SNC’s subcontractors. The Commission asked AltaLink to explain its use of a multiplier of  on every change order for estimating the budget increases for

589 Exhibit 22542-X1970, AltaLink argument, paragraph 171.
PMPC costs. AltaLink’s use of the PMPC multiplier was also examined by counsel for the CCA and Commission counsel during the confidential module of the oral hearing.

564. In argument, AltaLink explained that it applied a PMPC multiplier to simplify the change order creation process and to reduce the cost of change orders. It added that this did not substitute AltaLink’s oversight and governance of SNC-ATP’s work and that AltaLink remained fully aware of the project’s progress and of what was being charged to the project at all times. AltaLink also submitted that it scrutinized all invoices it received.

565. AltaLink noted that Commission counsel asked the CCA panel whether it had concerns with this process. The CCA panel maintained that AltaLink’s approach raised the following questions:

- whether the multiplier should have been applied to the PMPC cost estimate before or after the SNC-ATP markups on construction labour and material costs were applied;
- whether approving the PMPC multiplier effectively acted as a pre-authorization for SNC-ATP to incur those costs; and
- whether the PMPC estimate multiplier should have been applied to all change orders.

566. With respect to the first question, AltaLink submitted that because the PMPC cost multiplier was derived on the basis of the total marked up cost of labour and materials, it was appropriate to apply the multiplier in the same fashion:

AltaLink points out that the [ ]% factor was generated based on the total marked up cost of labour and materials and therefore it was appropriate to apply it in the same fashion. Calculating the factor on base labour and materials would simply have resulted in a different factor (say [ ]%) that would need to be applied – and does not change the actual costs whatsoever.

567. Regarding the second question, AltaLink submitted that approval of the PMPC multiplier did not result in a pre-authorization for SNC-ATP to incur those costs because the PMPC multiplier was applied to both increasing and decreasing change orders and, in some cases, was not applied at all. AltaLink maintained that, in any event, the process for approving change orders and for approving invoices was separate, and all invoices were reviewed before they were approved for payment.

568. With respect to the third question, AltaLink submitted that the CCA’s view that the PMPC cost multiplier should only apply to change orders that result in an extension of time was incorrect, because it implied that the existing staff was always adequate to cover the management of a project change as long as it did not involve a time extension, which was not the case. AltaLink claimed that additional work by EPCm staff is required in response to changes that occur during construction to ensure that the additional work occurs safely, efficiently and to an acceptable level of quality.
569. AltaLink clarified that although it applied a multiplier to estimate PMPC cost increases resulting from change orders, the estimated PMPC costs were eventually trued up to actual hours. AltaLink further claimed that it was fully aware of the number of SNC-ATP resources deployed to the WATL project at all times and reviewed every invoice for accuracy. Therefore, it was confident that SNC-ATP invoices accurately reflected the hours SNC-ATP personnel actually expended on the WATL project. 596

570. Given the foregoing, AltaLink submitted that its PMPC costs for the WATL project should be considered to be reasonable, and should be approved, as filed. 597

571. In argument, the CCA submitted that AltaLink’s use of a multiplier to estimate PMPC cost increases essentially invited SNC-ATP to staff the project with PMPC personnel up to the approved budget, irrespective of whether additional PMPC resources were actually needed. 598

572. The CCA further noted that although AltaLink claimed that the estimate of PMPC costs arrived at with the multiplier came in very close to final PMPC costs, it did not explain whether the PMPC costs on the WATL project were, in fact, reasonable and necessary for the work performed and that the Commission has no way of knowing the answer to this question based on the record of this proceeding. 599

573. The CCA also maintained that AltaLink’s assertion that it is entitled to be compensated for all PMPC costs above its PPS estimate for the WATL project is tantamount to a claim for recovery using the “total cost claim” method. According to the CCA, the total cost claim method, however, is not a generally favoured approach in Canada or in the United States when assessing contract claims. Specifically, the CCA submitted that the total cost claim method can only be used when each of the following conditions has been met:

- it is impossible or impractical to calculate task-specific PMPC costs with reasonable accuracy
- the original (PPS stage) estimate was reasonable
- the actual costs (of AltaLink and SNC-ATP) were reasonable
- neither AltaLink nor SNC-ATP were responsible for the added expenses. 600

574. The CCA claimed that the above-noted conditions were not met in the case of WATL’s PMPC costs and, therefore, a total cost calculation assessment should not be used. 601

575. In reply argument, AltaLink indicated that in response to an IR from the CCA, it provided the amount of SNC’s total labour costs to the end of December 2015, and those equated to an actual amount of PMPC costs well under the estimated PMPC costs arrived at with the multiplier. Therefore, AltaLink submitted that it is clear that the use of the multiplier achieved

596 Exhibit 22542-X1970, AltaLink argument, paragraph 387.
597 Exhibit 22542-X1970, AltaLink argument, paragraph 388.
598 Exhibit 22542-X1972, CCA argument, paragraph 262.
599 Exhibit 22542-X1972, CCA argument, paragraph 265.
600 Exhibit 22542-X1972, CCA argument, paragraph 266.
601 Exhibit 22542-X1972, CCA argument, paragraph 267.
602 Exhibit 22542-X1589, PDF page 4, AML-CCA-2018JUN01-004 Attachment.
AltaLink’s objective of simplifying and lowering the cost of change orders without giving rise to the concerns identified by the CCA.  

576. AltaLink submitted that while it has demonstrated that its use of a multiplier to estimate PMPC costs was valid, it is important to recognize that a DACDA proceeding is about the approval of the reasonableness of its actual costs.  

Commission findings

577. The Commission questions the reasonableness of AltaLink’s use of a multiplier applied to direct project costs to estimate SNC-ATP’s PMPC costs charged to the WATL project. Particularly, the Commission is concerned with the potential incentives to SNC-ATP resulting from this practice. The Commission shares the CCA’s concern that SNC-ATP may have been incented to staff the project with its personnel to match the estimated PMPC cost increases, as opposed to basing its decision on the additional allocation of resources strictly on the basis of need. At a minimum, the automatic budget increase might have resulted in a less careful consideration by SNC-ATP when deciding on the need for additional PMPC resources. In addition, the Commission considers significant the fact that the WATL project was the only project for which AltaLink used a multiplier to estimate SNC-ATP’s PMPC costs arising from project changes.

578. The Commission likewise questions the functional form of the PMPC multiplier. AltaLink has assumed that PMPC costs will be a flat percentage (%) of subcontractor billings. The Commission does not believe that such a simple arithmetic relationship exists because it is the Commission’s view that many types of subcontractor cost changes do not represent a material increase in related PMPC costs. Accordingly, the Commission considers that this simple arithmetic multiplier likely allowed for more budget room than what was actually required to cover the PMPC costs increases resulting from the majority of the subcontractor cost changes.

579. The Commission acknowledges AltaLink’s submission that its actual PMPC costs up to December 31, 2015, came to an amount that corresponds to a lower multiplier than the multiplier that AltaLink used for PMPC cost estimation purposes. However, the Commission notes that in AltaLink’s response to AML-AUC-2018JUN01-058-CONF, AltaLink also explained that change orders for additions up to December 31, 2015, are estimated values, and that actual costs will be filed as trailing costs in a future DACDA. Given the expectation that future adjustments to the PMPC costs recorded to December 31, 2015, are subject to a further true-up, the Commission considers that it would be premature to either assess the reasonableness of AltaLink’s “actual” PMPC costs, or to approve them on a final basis at this time. PMPC costs could change with the receipt of final contract costs.

580. Given the foregoing, the Commission will approve AltaLink’s PMPC costs to December 31, 2015, on a placeholder basis only. Further, the Commission directs AltaLink to provide a full justification of all PMPC costs incurred in respect of the WATL project in the next AltaLink application where the Commission considers the trailing costs for the WATL project.

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603 Exhibit 22542-X1978, AltaLink reply argument, paragraph 173.
604 Exhibit 22542-X1978, AltaLink reply argument, paragraph 174.
605 Exhibit 22542-X1617, AML-AUC-2018JUN01-027-CONF.
606 Exhibit 22542-X1589, PDF page 4, AML-CCA-2018JUN01-004 Attachment.
4.1.2.2 RS Line tender

581. In its confidential evidence, Bema drew a comparison between the confidential bids from potential suppliers for the North Lot of the transmission line and confidential bids from potential suppliers for the south lot of the transmission line. With respect to the bids received for the North Lot, Bema reproduced the following table\textsuperscript{607} from AltaLink’s application:

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\[\text{Exhibit 22542-X1102-CNF, PDF page 4, Final Detailed Summary Table.}\]

582. Bema noted that there had been\textsuperscript{608}. AltaLink’s explanation for the adjustment is reproduced below:

\[\text{Exhibit 22542-X1819-CNF, paragraphs 95-98.}\]

583. Bema claimed that, from its review of the table above,\textsuperscript{609}. 

\[\text{Exhibit 22542-X1102-CNF, paragraph 4.5, PDF page 4.}\]

\[\text{Exhibit 22542-X1819-CNF, paragraph 100.}\]
584. Finally, to address its concern, Bema recommended that the Commission direct AltaLink to provide the original bid documents.

585. To address its concern, Bema recommended that the Commission direct AltaLink to provide the original bid documents.

586. In its rebuttal evidence, AltaLink submitted that while it has no information as to the rationale of RS Line, or of any other vendor, as to how they bid, it is clear that the procurement process worked and that the lowest cost vendor was selected.

587. Contrary to Bema’s suggestions, AltaLink stated that Bema’s underlying concern appears to be that...

588. AltaLink stated that Bema’s underlying concern appears to be that...

589. In argument, the CCA expressed particular concern regarding AltaLink’s explanation that...

590. In reply, AltaLink submitted that the CCA’s concerns about the...

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611 Exhibit 22542-X1819-CONF, paragraph 100.
612 Exhibit 22542-X1710-CONF.
613 Exhibit 22542-X1885, AltaLink rebuttal, paragraph 292.
614 Exhibit 22542-X1885, AltaLink rebuttal, paragraph 293.
615 Exhibit 22542-X1885, AltaLink rebuttal, paragraph 294.
616 Exhibit 22542-X1885, AltaLink rebuttal, paragraph 295, cited at Exhibit 22542-X1972, CCA argument, paragraph 88.
617 Exhibit 22542-X1972, CCA argument, paragraph 89.
618 Exhibit 22542-X1978, AltaLink reply argument, paragraphs 244-245.
Commission findings

591. The Commission accepts AltaLink’s explanation that [redacted]. Therefore, [redacted]. However, the Commission shares, in part, the CCA’s view that [redacted] could lead to a perception of bias by other participants, undermining the fairness of AltaLink’s tendering process and potentially affecting the number of participants in future tendering processes.

592. On a related note, the Commission is concerned about the nature of the CCA’s evidence and [redacted] Allegations of this nature can have serious consequences and must be supported by evidence. Unsupported allegations of this nature are of little assistance in clarifying the issues before the Commission and must be avoided.

4.1.3 WATL project line costs

4.1.3.1 Use of helicopters and its impact on matting costs

593. The CCA discussed, in the matting section of its evidence, the matting trackers used by AltaLink to manage matting costs. These trackers offered some information on the placement of matting along the ROW in the WATL project. In reviewing this data, the CCA identified what it considered to be contiguous sections of the ROW between structures with matting capable of accommodating heavy cranes. For example, from its examination of Exhibit 22542-X1631, Tab “Northern Mat & Bridge (Range),”[619] it appeared that the dates between installations at the next set of towers (measured by the increasing number system allotted to different structures on the ROW) are close in time. This suggested to the CCA that much of the line was set with access matting contiguously or nearly contiguously. The CCA contended that this was similar to the process used for the crane erection method, which is to have contiguous matting between sets of towers to ensure the heavy crane can move on to the next structure.

594. The CCA further stated that in some cases during the WATL project, matting was used so extensively that AltaLink could have accommodated heavy cranes between multiple structures as an alternative to utilizing helicopters for tower erection. It submitted that as matting costs mounted and circumstances that led to extensive matting arose in project planning, AltaLink should have considered that its current mat deployment could be more easily adapted to what would likely be a less costly tower erection method, because the access cost advantage AltaLink expected to derive from helicopter use was not materializing.

595. The CCA also noted that AltaLink had claimed that the use of helicopters would reduce access costs, including the use of matting, and that “In cases where the access point to the non-helicopter erected towers passed by helicopter erected towers, the access matting would have been capable of supporting the larger cranes.”[620] It stated this further established that in many instances the difference in matting requirements between crane use and helicopter use would have been minor.

596. AltaLink stated in rebuttal evidence that the transmission line bidding process for the project included details on the schedule, as well as environmental and access constraints on the project, and that the lowest cost bidder was awarded the contract based on its proposed construction methodology. For the North Lot, RS Line was selected based on a bid that used helicopters as the proposed method for tower erection.\footnote{Exhibit 22542-X1102-CONF.}

597. For the South Lot, the project took the additional step of asking the bidders to include pricing for both crane and helicopter erection options, as well as for a crane only erection option. All four vendors that bid provided helicopter erection pricing. Rokstad Wilson Joint Venture (RWJV) and RS Line were slightly lower for helicopter erection and the work was awarded to RWJV using the helicopter option.

598. AltaLink responded to the CCA’s position that access matting could have been used rather than helicopters by explaining that higher voltage transmission lines are taller and heavier and required heavier cranes to move the pieces into place. On the WATL project, cranes were required for monopoles and non-tangent towers, and these heavy cranes typically require more than a single layer of matting depending on the soil conditions. In addition, moving a heavy crane cross country is a significant undertaking requiring extensive matting and often multiple layers of matting.

599. AltaLink noted that for the WATL project, the CCA was requesting an unspecified and speculative disallowance for the use of helicopters on the project due to their perceived lack of a demonstrated savings.\footnote{Exhibit 22542-X1819, paragraph 389.} AltaLink argued this request was without merit and appeared to ignore the cost savings clearly demonstrated through the bidding process.

**Commission findings**

600. The Commission has dealt with the use of helicopters on a generic basis elsewhere in this decision, confirming the Commission’s previous findings that in principle, the use of helicopters can be beneficial in terms of cost, scheduling and for environmental considerations.\footnote{Decision 3585-D03-2016, paragraph 595.}

601. With respect to the WATL project in particular the Commission notes that the use of helicopters was the result of the competitive tendering process. The Commission also notes that total access costs for the WATL project were less than the revised PPS estimate.\footnote{Exhibit 22542-X1617, page 22.} In light of these facts, the use of helicopters is approved on this project.

**4.1.3.2 Use of access matting**

602. The CCA’s submissions and recommendations regarding AltaLink’s use of matting, although generic in nature, were provided in its evidence on the WATL project.

603. In evidence, Bema stated that AltaLink repeatedly claimed that circumstances outside of its control, such as weather conditions, required substantial use of matting.\footnote{Exhibit 22542-X1485-CONF, PDF pages 70-74 and in Exhibit 22542-X1617-CONF, PDF pages 21-25 for WATL.} In the CCA’s view, however, AltaLink’s frequent resort to the use of additional matting might have been driven by
factors unrelated to the merits of this practice. To illustrate its concern, the CCA referred to AltaLink’s bulk pricing deals with mat vendors, which provided

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604. The CCA maintained that AltaLink did not sufficiently justify its use of mats. Additionally, AltaLink refused to provide the disaggregation of the cost variances for the use of matting. For instance, although AltaLink indicated that unanticipated matting was required to address landowners’ concerns, it did not provide the respective amount it incurred to address each of the landowners’ concerns, nor the details supporting its decision to use additional matting as opposed to another alternative, because it maintained that compiling this information represented too large of an undertaking.627

605. The CCA asserted that AltaLink’s refusal to provide the requested information is unacceptable given that AltaLink itself confirmed that it held planning meetings with all subcontractors who provided mats to review “alternatives and specific needs and proper deployment for access matting in all areas.”628 The CCA maintained that AltaLink must have a record of these meetings and should have been able to provide those to the CCA.

606. The CCA also asserted that although AltaLink provided samples of matt tracking documentation for the WATL project and for the BW project,629 those samples are not sufficiently detailed to confirm whether the matting coordinators had enough information to make reasonable decisions. The CCA stated that examples of available alternatives that it would have expected mat coordinators to consider, include: requesting changes in the ISD to save on matting costs; renting or buying mats depending on the identified break-even points in upcoming matting costs; re-evaluating land management practices through negotiations and new agreements with landowners; and changing practices to avoid double-handling.

607. The CCA suggested that AltaLink should have conducted additional cost/benefit analysis of purchasing versus renting mats. The CCA referenced one example related to the WATL project where AltaLink opted to purchase mats instead of renting them because it saw an opportunity to save costs.630 In that case

626 Exhibit 22542-X1617-CONF, PDF page 70.
627 See AML-CCA-2018JUN01-043(a)(i) and AML-CCA-2018JUN01-043(a)(ii) in Exhibit 22542-X1588, PDF pages 99-100.
628 Exhibit 22542-X1617-CONF, PDF page 23.
630 Exhibit 22542-X1167.
631 Exhibit 22542-X1167, PDF page 1.
608. The CCA suggested it was not unreasonable to expect AltaLink to seek to lower costs by considering alternatives to the use of matting. The CCA prepared an analysis of mat usage on the WATL project and suggested a disallowance of $5.6 million to $10.2 million.\textsuperscript{632} The CCA maintained that a similar analysis could be conducted for Bowmanton Whitla (BW), North Foothills Transmission Project (NFTP), Pike, and SFTP and with respect to other projects with large mat usage. In rebuttal evidence, AltaLink explained that at the time it prepared the PPS for the WATL project, in late 2010, it assumed that the majority of the work would be carried out in dry or frozen conditions in the north, and that the remaining sections would parallel existing lines on disturbed farmland. AltaLink acknowledged that its assumption turned out to be incorrect and that, as the project progressed, it further developed its understanding of the need and benefits of access matting. Additionally, it noted that it was required to respond to the actual conditions encountered during construction of the WATL project.\textsuperscript{633}

609. As for the CCA’s assertion that AltaLink should have given more consideration to the alternative of purchasing mats, as opposed to renting them, AltaLink explained that when it realized that the anticipated frozen ground conditions did not materialize and that it would require a large quantity of mats to complete the project, it decided to hold a competitive bidding process to select a mat supplier. This procurement process AltaLink’s actual use of mats was far less, and therefore the reasonable decision was to rent.\textsuperscript{634}

610. AltaLink further noted that it did not have the manpower to maintain, clean, haul, marshal, or otherwise manage purchased mats and that maintenance costs for purchased mats would be incremental to the purchase price.\textsuperscript{635}

611. AltaLink also stated that the CCA was wrong in concluding that AltaLink could disaggregate the cost incurred for the use of access matting into various categories. AltaLink noted that, for example, a single location could have required access mats for a myriad of reasons: pipeline crossings, wetlands, environmental constraints, landowner requirements, clubroot presence, wet or low lying areas, compaction/soil admixing, workspace, material laydown, approaches, wash stations, stringing sites etc.\textsuperscript{636} It further stated that, in early 2012, it conducted an extensive review of access considerations for each tower structure, which was provided on the record.\textsuperscript{637}

612. In argument, the CCA claimed that AltaLink’s cost benefit analysis of purchasing versus renting mats.\textsuperscript{638}

\textsuperscript{632} Exhibit 22542-X1819, pages 103-104.
\textsuperscript{633} Exhibit 22542-X1037, paragraphs 68-69.
\textsuperscript{634} Exhibit 22542-X1885, page 67.
\textsuperscript{635} Exhibit 22542-X1885, paragraph 242.
\textsuperscript{636} Exhibit 22542-X1885, page 68.
\textsuperscript{637} Exhibit 22542-X1618-CONF, pdf 62, AML-AUC-2018JUN01-015-CONF Attachment 1.
613. The CCA also stated that AltaLink’s risk registers did not contemplate the risk of mat cost increases nor include an analysis of strategies for mitigation of such costs. The information provided consisted of the location of the tracked areas and whether or not access was reached. In response to an IR, AltaLink provided some detail on the live tools used to track matting costs, such as weekly meetings, but did not provide any information or analysis for the mitigation of such costs. The CCA maintained that for the WATL project, as well as for other projects that incurred substantial costs for mats, there is a serious lack of evidence regarding cost mitigation with respect to the use of mats.

614. In argument, AltaLink noted that the Commission had already held and accepted AltaLink’s evidence that the use of access mats is a standard practice for mitigation of the environmental effects of transmission line construction and for access to the construction ROW in wet or non-frozen conditions. The Commission also held that the use of mats must be considered on a project by project basis, and found that AltaLink’s description of its practice to determine whether to use access mats is, essentially, a form of a cost-benefit analysis.

615. Particularly with respect to the WATL project, AltaLink stated that when it understood that its matting needs were higher than originally anticipated, it went through the exercise of a cost/benefit analysis between renting and purchasing the mats for the different project lots. AltaLink maintained that for the North Lot it considered that For the South and Central Lots, because the number of mats needed were considerably higher, AltaLink determined that the most cost-effective alternative was to enter into a rental agreement with a subcontractor through a competitive bidding process.

616. To address the CCA’s concerns with management of mat costs, AltaLink referred to its response to Undertaking 006-CONF, where it provided reports that were generated by the workflow tool AltaLink used during planning meetings with subcontractors. AltaLink explained that the reports were used generally to assist with planning and provide a snapshot of the status of the project or a specific portion of the project. The reports filed were for construction, crossing agreement, historical, access, and a dashboard. One additional benefit of the workflow tool was that it allowed for focused removal of barriers which could have resulted in standby and remobilization charges.

640 Decision 3585-D03-2016, paragraphs 572-576.
641 Decision 3585-D03-2016, paragraph 574.
642 Exhibit 22542-1946-CONF.
643 Exhibit 22542-1969-CONF, AML-AUC-2018OCT04-01-CONF.
617. In reply argument, the CCA noted it had reviewed the documentation for matting costs referenced by AltaLink in support of its decisions to incur additional matting costs, but still found those explanations to lack sufficient detail and information to support the reasonableness of AltaLink’s matting costs. It further noted that it reviewed AltaLink’s explanation in argument with respect to its management of matting costs and its consideration of alternatives, and found that it largely ignored the option to buy mats.

618. In reply argument, AltaLink generally reiterated its submissions in evidence and argument. With respect to the CCA’s comment that AltaLink had

619. AltaLink reiterated that it used matting trackers to record mat use on a real-time basis and to plan access to construction sites when needed so that crew moves, standby and demobilization charges could be avoided. The live Execution Work Flow tool used in the WATL project assisted in identifying constraints such as access or AESRD (Alberta Environment and Sustainable Resource Development) requirements.

620. AltaLink also noted the following passage from the Commission’s decision on AltaLink’s 2012-13 DACDA, where the RPG (the Ratepayer Group) made a similar claim with respect to cost/benefit analysis for alternatives to using mats:

574. The RPG claimed that AltaLink has not undertaken a cost/benefit analysis of alternatives to the use of rig mats. The Commission disagrees. AltaLink’s decision to use rig mats on specific project locations was based on the results of its environmental evaluation, which considered input from landowners, facility owners and stakeholders. AltaLink explained that, as the construction progressed, its initial assessment for the need for rig mats was adjusted, depending on further consultation with stakeholders and landowners and on updated information of available right-of-way access. The Commission finds that AltaLink’s description of its practice to determine whether to use rig mats is, essentially a form of a cost-benefit analysis.

621. AltaLink maintained that its approach to matting use has not changed since the Commission’s decision on AltaLink’s 2012-13 DACDA.

Commission findings

622. The Commission has reviewed the evidence on the record as well as parties’ submissions, and considers that in assessing the prudence of AltaLink’s use of matting it must answer the following questions:

1. Did AltaLink adequately plan and manage the use of matting to complete its projects?

2. Was it reasonable for AltaLink to rent, rather than purchase mats?

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646 Transcript, Volume 1, page 189, lines 4-25.
647 Confidential Transcript, Volume 3, page 428, lines 3-18.
648 Decision 3583-D03-2016.
3. Were the actual costs incurred for matting prudent?

**Did AltaLink adequately plan and manage the use of matting to complete its projects?**

623. In Decision 3583-D03-2016,\(^{649}\) the Commission stated the following with respect to the reasonableness of AltaLink’s use of matting to complete its projects:

573. The Commission accepts AltaLink’s evidence that the use of access mats is a standard practice for mitigation of the environmental effects of transmission line construction and to allow access to the construction right-of-way in wet or non-frozen conditions. The Commission also accepts AltaLink’s evidence that the use of mats must be considered on a project by project basis. Therefore, comparison among utilities of the total costs incurred for access mats with respect to different construction projects is of limited assistance in the assessment of prudence. Rather, the Commission finds that the use of rig mats and related costs cannot be standardized across utilities. The evaluation of prudence must necessarily take into account the specific circumstances of each project, such as weather conditions, project deadlines, market conditions and the specific geographic area where the transmission line is located. The particular circumstances of each project will usually dictate the extent of mitigation measures required and thus, the magnitude of the costs for access mats alone, even if material, are not indicative of imprudence.

624. The Commission continues to be of the view that the use of mats must be considered on a project by project basis and, therefore, the magnitude of the costs for mats alone, even if material, are not indicative of imprudence. Against this backdrop, the Commission considered the following steps taken by AltaLink to inform its decision on the use of matting on some of the larger projects under review in this DACDA proceeding:

- AltaLink conducted an access study for the WATL project,\(^{650}\) which reviewed in detail the access requirements for the vast majority of the structure sites of the transmission line.
- AltaLink testified that an access study similar to the one prepared for WATL was also prepared for the NFTP.\(^{651}\)
- AltaLink filed copies of the mat trackers used for the WATL\(^{652}\) and BW projects,\(^{653}\) which tracked the location where mats were placed.
- AltaLink frequently met with the subcontractors for all of the major projects to discuss matting and access issues.\(^{654}\)
- AltaLink indicated that mats are not placed prior to the EPCm’s acknowledgement or direction.\(^{655}\)

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\(^{649}\) Decision 3583-D03-2016, paragraphs 573-574.

\(^{650}\) Exhibit 22542-X1618-CNF, PDF page 62, AML-AUC-2018JUN01-015-CNF Attachment 1.

\(^{651}\) Exhibit 22542-X1485-CNF, page 72 and Transcript 2 Conf, page 443.

\(^{652}\) The WATL matting trackers are in exhibits 22542-X1631-CNF, 22542-X1747, 22542-X1748, 22542-X1749, 22542-X1750, 22542-X1751 and 22542-X1752.

\(^{653}\) Exhibit 22542-X1488-CNF.

\(^{654}\) Transcript 2 Conf, page 434.

\(^{655}\) Transcript 2 Conf, pages 441-442.
625. Given the above evidence, the Commission considers that AltaLink had reasonable controls in place to manage its use of matting over the major projects in question.

626. While other access related costs other than matting did not receive significant attention in argument and were not subject to a recommendation of disallowance by the CCA, the Commission nonetheless reviewed these costs. A breakdown of total access costs as between matting and other access costs was obtained for the major projects.656 A review of procurement assessment evidence indicates that these access elements were competitively and reasonably procured.657 Given this evidence, the Commission approves the access costs not related to matting.

**Was it reasonable for AltaLink to rent rather than purchase mats?**

627. The CCA claimed that AltaLink’s cost/benefit analysis for considering the option of purchasing as opposed to renting mats was flawed because it did not account for the positive credit to AltaLink that would have resulted from the subsequent resale of the purchased mats. In essence, the CCA maintained that with respect to a number of projects, WATL being an example, AltaLink would have likely saved costs had it opted to purchase the mats instead of renting them. The CCA prepared a cost/benefit analysis which suggested that, on the WATL project, .

628. The Commission notes, however, that the results of the CCA’s analysis cannot be relied upon because, as AltaLink pointed out, the CCA assumed incorrect daily mat rental rates. The prudence of the actual rental costs incurred is addressed below.

629. Further, and more importantly, the CCA provided no evidentiary support for its estimated mat service life of between five and 10 years. The Commission does know, however, that the mats purchased for the WATL project did not survive beyond the life of this one project.660 This is the only evidence with respect to the lifespan of mats on the record. In addition, there is no evidence on the market value of any surviving mats, beyond the CCA’s tacit assumption that the market value is equivalent to the net book value of the mats. As such, the CCA’s claim that AltaLink would have earnings from the resale of the mats, without further evidence, constitutes mere speculation.

630. The Commission is also of the view that the cost associated with management of mats, assuming they outlast the life of one project, cannot be underestimated. AltaLink estimated such costs, which include cleaning and storage, to be of renting mats. Although this type of cost may vary among suppliers, it is reasonable to assume

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656 Exhibit 22542-X1617-CONF, information response 15 and Exhibit 22542-X1953-CONF, Undertaking detailing access costs for projects other than WATL.

657 Exhibits 22542-X0032, 22542-X0036, 22542-X0078, 22542-X0086, 22542-X0377, 22542-X0381, 22542-X0500, 22542-X0504, 22542-X1528 (IR response 13), and 22542-X1622.

658 Exhibit 22542-X1819, pages 103-104.


660 Transcript, Volume 1, page 189.
that they are nonetheless significant. Additionally, although AltaLink went through a period of significant transmission line construction projects, it subsequently transitioned into a period of substantially lower construction activity. As such, had it purchased a large quantity of mats, it would have been required to resell them almost immediately and the Commission has insufficient evidence to suggest that there would be a significant market for used mats. Given the evidence on the difference in rental costs, as compared to the purchase costs, the evidence that the life span of the mats was short, and the likelihood that AltaLink would have had to incur costs to clean and store at least some mats, the Commission considers that it was more prudent for AltaLink to rent mats than to purchase them.

Were the actual costs incurred for matting prudent?

631. With respect to AltaLink’s cost for mat rentals, the Commission notes that the rental price varied significantly among the different suppliers. For instance, Northern Mat, which supplied mats for the South and Central Lots of the WATL project charged $661 RS Line, the supplier for the North Lot, charged $661. Northern Mat’s rate was procured competitively and was the lowest rate obtained. Mats for the North Lot of the WATL project, as well as for other large AltaLink projects, were supplied by the subcontractors as part of their bids for construction of the respective transmission lines.

632. The Commission is satisfied that the matting costs contracted with Northern Mat for the WATL project were reasonable and, accordingly, they are approved as filed.

633. The Commission considers, however, that AltaLink did not sufficiently justify the reasonableness of the costs for mat rental for the North Lot of the WATL project and for the other AltaLink large projects, SFTP, NFTP and Pike. The mats for those projects were supplied at a $6/day compared to the rate obtained from Northern Mat, and AltaLink provided no compelling evidence on the record to explain these discrepancies. The mat rentals for the SFTP, NFTP and the Pike project were supplied after AltaLink’s agreement with Northern Mat for WATL; therefore, AltaLink presumably had Northern Mat’s rental rate to use as a benchmark when assessing the reasonableness of the rental costs for these other projects. The Commission has prepared the following Table 7 to illustrate the daily rental rate for access mats from the other mat suppliers:

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661 Exhibit 22542-X1087, bid analysis document for Northern Mat, bids received May, 2013; Exhibit 22542-X0125, Pike contract award to Valard dated December, 2013; Exhibit 22542-X0384 and X0385, SFTP contract with RS Line dated August 2013; Exhibit 22542-X1054, confidential undertaking refers to NFTP FNTP, Exhibit 22542-X0504 dated April 2014; Exhibit 22542-X0043, award to RS Line for the BW project, dated July 2011; Exhibit 22542-X1103, page 126, contract to RS Line for WATL northern package (access mat price was actually $6/day in this contract).
With respect to the North Lot section of the WATL project, the access requirement review was conducted in early 2012, well before the transmission line contract was awarded to RS Line. The Commission considers, therefore, that AltaLink knew, as early as 2012, the mat requirements for that lot and could have procured it competitively to reduce matting costs, as it did for the south and central lots. The Commission also notes that the contract with RS Line for the construction of the North Lot was not signed until May 9, 2013. Bids were received for the matting tender on May 30, 2013. However, it is unknown whether Northern Mat would have bid to supply matting for the North Lot as well.

Consequently, AltaLink would have known or should have known at that time that were obtainable but did not tender matting for those projects, nor does the evidence explain why AltaLink did not react to the prices it was receiving.

The Commission recognizes that unique economies of scale might have played a factor in Northern Mat’s rental rate. However, the mat requirements of AltaLink’s other projects were also large and could have afforded similar opportunities for economies of scale. The Commission also considered whether Northern Mat was the only company charging a which could have explained why AltaLink was not able to secure a from the other mat suppliers. Upon its review of the bid analysis document from mat suppliers for the WATL project, the Commission notes that was $/day for access mats.
Further, although the Commission has focused its assessment of rental rates with respect to access mats, which were the majority of mats used by AltaLink,\footnote{Exhibit 22542-X1617, page 24.} it also reviewed the rental rates for rig mats, cinch mats and mat management services, and noticed: 

\footnote{Exhibit 22542-X1617, page 22.}

Based on the above, the Commission considers that AltaLink knew or ought to have known that it could have entered into agreements with other mat suppliers for lower rental rates. Accordingly, the Commission finds that a portion of AltaLink’s costs for mats were not reasonable and a cost disallowance is warranted. The total matting costs AltaLink incurred for the northern lot of WATL and the three other projects (SFTP, NFTP and Pike) totalled in excess of $10.65 million. The Commission finds that a disallowance of $10.65 million is warranted. This is approximately of the matting costs incurred on these projects. AltaLink is directed to reduce its claimed capital expenditures by this amount in its compliance filing to this decision.

\subsection*{4.1.3.3 Tower inspection costs}

In a change order to AltaLink,\footnote{Exhibit 22542-X1141, change order CO-W-LN-0054 (redacted) PDF page 96.} CO-W-LN-0054, SNC requested approval to incur costs associated with additional tower inspections. In the summary description of the change order, it was indicated that AltaLink had requested an increase in tower inspections from per cent of the 925 towers, to 100 per cent of the towers.

In an IR,\footnote{Exhibit 22542-X1617-CONF, AML-AUC-2018JUN01-042-CONF.} the Commission asked AltaLink to explain the reason for its decision to increase the proportion of tower inspections from per cent to 100 per cent. In response, AltaLink stated:

\footnote{Exhibit 22542-X1617-CONF, AML-AUC-2018JUN01-042-CONF.}
642. In argument, AltaLink reiterated that the inspections were required to ensure the long term reliability of the transmission line. Further, all deficiencies raised through the quality control process were subsequently addressed by the construction contractors at their cost and AltaLink was satisfied with the final quality of the towers. AltaLink noted that its decision to require additional tower inspections allowed for deficiencies to be dealt with upfront and by the construction contractors. For instance, the deficiencies were caught on the ground in the helicopter lay-down yards, thus ensuring safe erection of the final tower. AltaLink also indicated that the number of deficient towers found was not a substantial proportion of the towers inspected.

643. AltaLink also submitted that increasing the number of tower inspections uniquely on WATL had “several obvious cost-effective and reliability benefits.” AltaLink listed the following benefits:

- First, inspecting at this stage of the project allows AltaLink to holdback payment to ensure the work is done properly and before the warranty period has expired. In short, the contractor fixes all deficiencies as determined by AltaLink and its EPC service provider or it is not paid. Obviously, this motivates the contractor to fix all required deficiencies and minimizes disputes;

- Second, repairing a structure after it is built is much more complex and requires access on landowner property possibly to an energized structure; and

- Third, AltaLink enforces its acceptance standards. However, whether or not work is accepted depends on what knowledge AltaLink has at the time. Increasing the level of tower inspections ensured contractual compliance and before final payments were made and further avoiding potential and time consuming legal disputes. If repairs are required after final acceptance based on matters that AltaLink had no knowledge of prior to acceptance and payment in full has been made to the contractor, then AltaLink must repair and claim damages against the contractor. In addition to actual repairs, AltaLink will likely incur costs for matting, land access, land owner disruption and may be required to conduct repairs on an energized line in addition to other consequential losses.

644. In argument, the CCA claimed that the incremental costs associated with the increase in tower inspections was too great to be justified. Accordingly, the CCA requested that the Commission disallow a substantial percentage of the incremental cost arising from AltaLink’s decision to inspect 100 per cent of the towers.

645. The CCA submitted that its recommendation for a disallowance was based on the following considerations:

- the perceived need for increased inspections was primarily driven by the inexperience of relevant subcontractors; and
the scope of the inspection program that AltaLink agreed to adopt was excessive and overly expensive.

With respect to its first concern, the CCA noted that in response to a Commission IR, AltaLink explained that the decision to inspect all of the towers reflected the fact that the towers used in the WATL project had never been constructed previously in Alberta, with the implication that subcontractors were not familiar with the construction of large lattice towers. However, the CCA submitted, lattice steel towers have been used in transmission line construction for decades. Furthermore, HVDC lines have been constructed elsewhere in North America and in other parts of the world. The CCA further noted that, in any event, most lattice towers follow a uniform design, consisting of a steel lattice framework that is riveted or bolted together and as AltaLink testified, tower erection deficiencies would generally be found at the moment of assembly and would thus be repaired by the subcontractor immediately to ensure that the parts “fit together.”

The CCA also submitted that the process for tendering construction subcontracts should involve a prequalification process to ensure that suppliers are competent for the undertaking they are bidding on. Given the foregoing, the CCA submitted that AltaLink’s justification for increasing the percentage of towers inspected was not supported.

The CCA provided a number of comments in support of its submission that the costs associated with the increased number of inspections were unreasonable. The Commission has summarized the CCA’s argument below:

- AltaLink’s approach to the tower inspections was not cost-effective as it involved two stages of inspection; the contractor should be responsible for ensuring that only necessary work is undertaken.
- There were too many inspectors.
- AltaLink’s approach to move from an initial position of inspecting 80 per cent of towers to 100 per cent of towers was extreme. A more reasonable approach would have been to increase the inspections gradually.

In reply argument, AltaLink took issue with the CCA’s assessment that its approach of inspecting 100 per cent of the towers was not reasonable because HVDC towers are assembled in the same manner as other tangent style lattice towers. AltaLink submitted that the CCA raised
this matter for the first time in argument, therefore it constitutes new evidence and should be rejected. 695

650. Further, AltaLink submitted that while the CCA is correct to state that AltaLink determined that all towers would be inspected, not all towers received the same level of inspection. Specifically, while some towers received a full inspection, a percentage of towers received a random inspection. Accordingly, not all towers received a 100 per cent inspection. 696

651. In response to the CCA’s observation that AltaLink’s inspections were not cost effective because they were inspected twice, AltaLink noted that a final inspection by AltaLink staff is always required to confirm that the equipment is suitable for energization. 697 As for the CCA’s comments on the fact that AltaLink’s personnel attend every inspection, AltaLink noted that this is required to confirm the quality of the third-party inspection as part of its quality review process. 698

652. In reply argument, the CCA noted that the inspections of the WATL towers did not identify a significant number of deficiencies to justify AltaLink’s approach of increasing its inspection rate to 100 per cent. 699

653. Further, the CCA noted that while AltaLink’s argument suggests that increased inspection avoided further costs by catching deficiencies on the ground, and prior to assembly, the real question is whether the extent of the inspections was reasonable. The CCA submitted that AltaLink provided no statistically derived expected failure rate or other concrete information in support of the reasonableness of its decision to raise the inspection rate to 100 per cent. 700 Finally, the CCA claimed that ratepayers should not be required to pay the cost of these additional and unnecessary inspections. 701

Commission findings

654. The Commission accepts AltaLink’s submission that it required a more rigorous review of towers to ensure the long term reliability of the transmission line and to take advantage of the fact that all deficiencies identified through the quality control process were to be fixed at the expense of the contractor. However, the Commission is not persuaded that AltaLink has sufficiently justified its decision to depart from its standard practice of inspecting 100 per cent of towers to inspecting 100 per cent of the WATL towers.

655. The Commission notes that the record provides no evidence suggesting that AltaLink had been facing issues with the construction quality of its towers, justifying an increase beyond its standard tower inspection rate. Similarly, AltaLink provided no cost/benefit analysis corroborating its understanding that inspection costs, no matter how great, can be justified because, if deficiencies are detected early enough they are the responsibility of the contractors and not AltaLink. Additionally, AltaLink did not explain why, under the circumstances at the

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695 Exhibit 22542-X1978, AltaLink reply argument, paragraph 176.
696 Exhibit 22542-X1978, AltaLink reply argument, paragraph 179.
697 Confidential Transcript, Volume 2, page 264, cited at Exhibit 22542-X1978, AltaLink reply argument, paragraph 183.
698 Exhibit 22542-X1978, AltaLink reply argument, paragraph 183.
699 Exhibit 22542-X1980, CCA reply argument, paragraph 311.
700 Exhibit 22542-X1980, CCA reply argument, paragraph 315.
701 Exhibit 22542-X1980, CCA reply argument, paragraph 320.
time, an increase from [ ] per cent to something less than 100 per cent would not sufficiently mitigate its concerns with tower deficiencies and satisfy the AltaLink Acceptance Standards.

656. The Commission considers that if it were AltaLink’s first time installing non-standard DC towers, in light of AltaLink’s concerns about the potential for late discovery of deficiencies to disrupt a tightly coordinated construction schedule, it would have been reasonable to increase its percentage of tower inspections from the [ ] per cent level to a substantially higher percentage, but nonetheless less than 100 per cent in the absence of specific concerns. However, the Commission notes that as the Heartland project involved DC towers, AltaLink and the subcontractors that worked on the Heartland project would have had DC tower installation experience.

657. In any event, the Commission considers that even if AltaLink and its tower erection contractors had no relevant experience with DC towers, it is not clear that a decision to inspect 100 per cent of the towers was reasonable based on the information available when this decision was made. Instead, the Commission considers that even if it had decided to start inspecting 100 per cent of the towers after installation, rather than inspecting only [ ] per cent of them, a decision to continue to inspect all towers should have been reassessed in light of the frequency and impact of any deficiencies identified as towers were erected. Accordingly, if a significant level of deficiencies was not identified through the inspection of every tower as they were being completed, the Commission considers that the decision to inspect 100 per cent of the towers should have been re-evaluated.

658. As AltaLink did not base its decision to go to inspecting 100 per cent inspection of the towers on the basis of problems it was encountering as the construction progressed, the Commission considers that AltaLink has not sufficiently demonstrated that the full amount of the cost associated with the decision to go from a [ ] per cent inspection level to a 100 per cent inspection level was reasonable.

659. For these reasons, the Commission directs that AltaLink’s costs for increased tower inspections should be reduced to [ ] of the amount approved by AltaLink in change order CO-W-LN-0054. This results in a disallowance of $1,873,768.

4.1.4 Cost of structure moves

660. In its evidence, Bema raised concerns with the cost of a number of structure moves on the WATL project. The change order (CO) related to the structure moves indicated that the costs associated to the moves were approximately $[ ]. Bema reproduced in its evidence the summary description of the change order, which stated the following:

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702 Exhibit 22542-X1141-CONF, PDF page 97.
703 50 per cent of $3,747,435.59.
704 Exhibit 22542-X1819-CONF, paragraphs 139-146.
705 Exhibit 22542-X1037-CONF, PDF page 19, EPC Change Order, table line 3.
661. Bema asked an IR to AltaLink on this issue and noted the following with respect to the AltaLink’s response:

662. In response to the CCA’s IR, AltaLink also clarified that:

663.

664.

706 Exhibit 22542-X1819-CONF, paragraph 139.
707 Exhibit 22542-X1819-CONF, paragraph 141.
708 Exhibit 22542-X1694-CONF, PDF pages 33-34.
709 Exhibit 22542-X1819-CONF, paragraph 144.
710 Exhibit 22542-X1879-CONF, CCA-AUC-2018AUG17-003-CONF.
665. In rebuttal evidence,\textsuperscript{711} AltaLink submitted that contrary to the CCA’s assertions in response to CCA-AUC-2018AUG17-003-CONF, the structure referred to in the IR was moving from preliminary to final design and actually involved the moving of three towers. Accordingly, AltaLink submitted that the CCA misrepresented the facts in its IR response.

666. AltaLink also stated that the preliminary siting of transmission towers is based on digital imagery and pipeline data; however, not all pipelines are recorded.\textsuperscript{712} Land access to stake and confirm tower locations is dependent on landowner approval. AltaLink rejected the change order, disagreed with the cost estimate, advised SNC that they should consider movement of towers from preliminary design to final design to be normal, and that there would be no increase in budget.

667. In argument, the CCA claimed that the substantial cost of the structure moves referenced in Bema’s evidence could have been avoided had AltaLink gathered additional field data, rather than relying primarily on desktop analysis to determine appropriate locations.\textsuperscript{713}

668. The CCA submitted that while AltaLink’s rebuttal evidence suggested that available digital imagery may not record all obstacles to locating structures (such as a pipeline), common sense suggests that expenditures on gaining early access to the land for the purpose of investigating potential structure conflicts would be more cost effective in the long run than the significant cost per meter that AltaLink experienced to move the structures identified in Bema’s evidence.\textsuperscript{714}

669. The CCA further submitted that although AltaLink claimed that the structures in question were moving from preliminary design to final design when the need for the moves was identified, this claim is contrary to the breakdown of the types of costs involved in the change order that described the need for the moves.\textsuperscript{715}

670. Finally, the CCA maintained that, in any event, whatever processes were necessary to determine the location of the structures identified, these processes should have been followed before the designs were sufficiently advanced to where they had incurred substantial costs. In instructing their EPCm that movement of towers from preliminary design to final design is normal, AltaLink was validating the current process which could have resulted in substantial costs all along the transmission line. The CCA submitted that these costs are unreasonable and the CCA recommended that the Commission disallow an amount up to the for the WATL project, as well as other expenditures incurred under similar circumstances.\textsuperscript{716}

\textsuperscript{711} Exhibit 22542-X1855-CONF, paragraph 345.
\textsuperscript{712} Exhibit 22542-X1855, paragraph 342.
\textsuperscript{713} Exhibit 22542-X1972, CCA argument, paragraph 185.
\textsuperscript{714} Exhibit 22542-X1972, CCA argument, paragraph 187.
\textsuperscript{715} Exhibit 22542-X1141-CONF, PDF page 75, Change order CO-W-LN-0052, referenced at Exhibit 22542-X1970, CCA argument, paragraph 189.
\textsuperscript{716} Exhibit 22542-X1972, CCA argument, paragraphs 190-191.
671. In reply argument, AltaLink claimed that the CCA continued to ignore AltaLink’s rebuttal evidence that preliminary tower siting decisions are based on available digital imagery that does not always indicate all constraints, especially underground facilities.\(^{717}\) AltaLink further maintained that while it endeavours to obtain access to land as soon as possible, the CCA has no factual basis for its assertion that the cost of obtaining early land access would be less expensive than moving a structure. Moreover, landowners opposed to projects often refuse access, in which case AltaLink may only gain entry through a right of entry order issued after permits and licences have been received.\(^{718}\)

672. AltaLink reiterated that it rejected the change order for an increase in budget and confirmed that it disagreed with the cost estimate, subsequently advising SNC-ATP that they should consider movement of towers from preliminary design to final design to be normal, and that there would be no increase in budget.\(^{719}\) AltaLink clarified that it instructed SNC-ATP to use the existing budget to cover costs associated with the tower move. AltaLink stated it followed the change process and the tower moves were considered variances from preliminary design to final design that did not require a change notice nor a budget increase.

673. Finally, AltaLink stated that by the very nature of the tower siting process, tower locations move right up to the point of construction staking for many reasons. These moves are normal and expected. AltaLink paid those costs that it approved and that it was contractually obliged to pay.\(^{720}\)

**Commission findings**

674. The Commission is satisfied with AltaLink’s explanation that it rejected the change order for an increase in budget associated with the tower moves and, therefore, only paid to SNC-ATP the amount it had contractually agreed to.\(^{721}\)

675. There is no evidence on the record suggesting that the costs from this change order were actually authorized and paid. Accordingly, the Commission dismisses the CCA’s recommendation for any disallowance of costs associated with change order 4.2. WATL substation costs

4.2.1 Effect of weather on substation construction

676. AltaLink stated the following with respect to substation costs in its project summary report for the WATL project:\(^{722}\)

60. Alberta experienced a significant flooding event in the spring of 2013. At this time, substation clearing was underway for the Bennett, Langdon, and Sunnybrook Substations. Excess water created site-grading issues for temporary Bennett Substation construction and compressed the construction schedule to ensure completion by mid-June in order to make the June 2013 outage required to relocate the 1201L transmission line. Wet conditions in 2013 also pushed construction for the Langdon Substation and the permanent Bennett substation into the winter construction season where foundations and

\(^{717}\) Exhibit 22542-X1978, AltaLink reply argument, paragraph 185.

\(^{718}\) Exhibit 22542-X1978, AltaLink reply argument, paragraph 187.

\(^{719}\) Exhibit 22542-X1978, AltaLink reply argument, paragraph 189.

\(^{720}\) Exhibit 22542-X1978, AltaLink reply argument, paragraph 191.

\(^{721}\) Exhibit 22542-X1141-CONF, PDF page 76.

\(^{722}\) Exhibit 22542-X1037, paragraphs 60-62.
civil works would require heating and hording. Weather conditions in the winter of 2013-2014 were also severe and extensive snowfall resulted in increased costs for snow removal, reduced construction productivity, and pushed the construction season into spring breakup.

61. Floods and rain in the spring and summer of 2014 impacted construction at the Sunnybrook and Crossings sites requiring revised water management plans and mitigations. Water issues also caused monopole foundation issues due to the size of the foundation excavations.

62. Much of the land in the South and Central Lots was owned by private landowners. Construction costs were impacted by landowner commitments regarding access, fencing, cattle guards, club root and weed management, and matting not anticipated in the PPS. [emphasis added by Bema]

677. In its evidence, Bema questioned the reasonableness of attributing costs and delays on the WATL substation project to weather conditions. In support of its claim, Bema provided the following:

- Weather data showing averages of precipitation (Appendix B1);
- Weather data showing averages of minimum and maximum temperatures in the Bennett/Langdon substation area (Appendix B2); and
- Weather data showing average precipitation in the Sunnybrook area for the years 2008 through 2015, based on information obtained from an Alberta Agriculture and Forestry website (Appendix B3).

678. Bema recognized that a significant flooding event occurred in the Calgary area in the spring of 2013. However, it submitted that the precipitation data in Appendix B1 shows that spikes of precipitation usually occur in June or July, and precipitation is reduced during the other months of the year. Therefore, Bema submitted that AltaLink should have anticipated that the June and July months would not have been suitable for substation construction work.

679. Bema submitted that while AltaLink continued the clearing and site-grading activities in an effort to meet a June 2013 scheduled outage that was required to accommodate the relocation of transmission line 1201L, AltaLink could have reduced its expenditures on grading and matting by delaying the clearing and grading work:

For the Bennett and Langdon substations, Bema notes that the months preceding and following the spring 2013 flooding event fell within the normal range of precipitation when compared to other years. AML has not confirmed whether, given the flood conditions, it sought an opportunity with the AESO to delay the June 2013 outage required to relocate the 1201L transmission line for even a couple of months. The clearing and site-grading issues after the flood continued as AltaLink incurred costs to meet the June 2013 outage required to relocate 1201L. Rather than spend the extra money

723 Cited at Exhibit 22542-X1819, paragraph 132.
724 Exhibit 22542-X1819, paragraphs 132-138.
725 Exhibit 22542-X1821.
726 Exhibit 22542-X1822.
727 Exhibit 22542-X1823.
on matting and grading, the work could have been delayed for 2 months as the project was delayed in any event.\textsuperscript{728}

680. Bema noted that even though the temperature information in Appendix B2 shows that the coldest month in 2013 was February, all other months were within the normal temperature range. As such, AltaLink’s claim that it required additional costs for heating and hoarding during the winter of 2013/2014 due to “severe” weather conditions is not supported by the objective data.

681. Bema further noted that the data in Appendix B3 provides a chart for the Sunnybrook Substation area indicating that precipitation for the months of April, 2014 to August, 2014 was average compared to previous years. It also showed that the years 2010, 2011 and 2012 received far more precipitation than the following years. Bema submitted that although AltaLink claimed that floods and rain in the spring and summer of 2014 impacted construction at the Sunnybrook and Crossings sites, requiring revised water management plans and mitigations, there seems to be no evidence of severe flooding in 2014 in the Sunnybrook area.\textsuperscript{729}

682. In summary, Bema suggested that the weather conditions during the construction years for WATL did not seem to be as problematic as AltaLink maintained and do not support AltaLink’s claim for additional costs. In fact, Bema claimed, had AltaLink sought to delay the 1201L outage, it could potentially have saved even more costs. Based on the above-noted considerations, Bema asserted that AltaLink failed to establish that the cost increases allegedly connected to weather events on this project were reasonable.\textsuperscript{730}

683. In rebuttal evidence, AltaLink explained that it was well aware when planning the WATL project that June and July are wetter months in Alberta. Notwithstanding, AltaLink submitted that because of knock-on effects on the sequencing of work and the need to work within the windows of required transmission line outages, delaying work was not practical.\textsuperscript{731}

684. In AltaLink’s view, Bema’s statements regarding heating and hoarding costs represented a random comment, which was presented without any context. AltaLink explained that the heating and hoarding costs were required as a result of delays in the construction schedule caused by the wet spring of 2013, which pushed foundation completion work into winter conditions. AltaLink stated that Bema’s weather data evidence is irrelevant, because it does not reflect the conditions that AltaLink actually experienced, and the real-time decisions that were made to respond to those conditions.

685. In response to Bema’s Appendix B3 presenting precipitation date in the Sunnybrook area, AltaLink noted that it did not include data related to snow water accumulation. AltaLink therefore prepared a revised document (revised Appendix B3), which included snow water accumulation data for the Sunnybrook area obtained from an Alberta Agriculture and Forestry website. AltaLink submitted that when the additional snow accumulation data is considered, it is evident that Sunnybrook could have experienced severe flooding conditions. AltaLink

\textsuperscript{728} Exhibit 22542-X1819, paragraph 135.
\textsuperscript{729} Exhibit 22542-X1819, paragraph 137.
\textsuperscript{730} Exhibit 22542-X1819, paragraph 138.
\textsuperscript{731} Exhibit 22542-X1885, paragraphs 335-336.
maintained that the data in its revised Appendix B3 accurately depicts the weather conditions it experienced at Sunnybrook.\textsuperscript{732}

686. In argument, the CCA submitted that because AltaLink confirmed in rebuttal evidence that it was aware that June and July are wetter months, it is logical to assume that it could have sequenced the work in a different manner, and arranged for line outages at a later time.\textsuperscript{733} Further, the CCA submitted that AltaLink’s explanation for the additional heating and hoarding costs incurred during the winter of 2013/2014 still does not provide any detailed construction schedule data or field reports to demonstrate that the delay occurred due to the alleged reason.\textsuperscript{734}

687. Further, with respect to AltaLink’s revised Appendix B3, the CCA noted that it only demonstrates what could have hypothetically happened. Therefore, absent detailed construction schedule data and field reports, AltaLink has failed to demonstrate that the slippage in the schedule was attributable to the “actual conditions encountered,” as it claimed.\textsuperscript{735} In addition, because AltaLink made no adjustments to the snow accumulation data for the fact that the volume of water depends on whether it occurs in cold or wet months (snow in spring is wet; snow in winter is dry), its revised Appendix B3 cannot be relied on to support its claim.\textsuperscript{736} Accordingly, the CCA maintained that AltaLink has provided no credible evidence in support of its claim that the alleged issues with weather conditions could not have been avoided with better planning.\textsuperscript{737}

688. In reply argument, AltaLink asserted that the revised Appendix B3 reflects what actually occurred on the ground at the Crossings and Sunnybrook substations during the relevant time periods, and corroborates the information drawn from weather sources and the testimony of AltaLink’s witnesses who were in the field throughout the execution of the WATL project.\textsuperscript{738}

689. AltaLink contested the CCA’s assertion that it was not possible to know the actual weather conditions without construction field notes or field reports, maintaining that Mr. McKenna testified that conditions attributable to the effects of snow and water were representative of what AltaLink experienced. Further, AltaLink submitted that as the AltaLink panel included Mr. Watson and Mr. McKenna, who had intimate knowledge of all aspects of the project, including the effect of weather conditions, the CCA could have questioned the panel on actual conditions if it did not believe their representations about the effects of weather were reasonable. Ultimately, AltaLink submitted that the record supports its contention that weather conditions resulted in construction delays and, therefore, increased costs.

**Commission findings**

690. The Commission accepts AltaLink’s submission that although it was aware of the potential impact of weather conditions on the construction of the WATL project, for instance that June and July are months with increased levels of precipitation, because it needed to avoid “knock-on” schedule effects and work within planned outage windows, AltaLink had limited opportunity to schedule construction on the basis of anticipated weather conditions. Further,

\textsuperscript{732} Exhibit 22542-X1885, paragraphs 337-338.
\textsuperscript{733} Exhibit 22542-X1972, CCA argument, paragraph 178.
\textsuperscript{734} Exhibit 22542-X1972, CCA argument, paragraph 179.
\textsuperscript{735} Exhibit 22542-X1972, CCA argument, paragraph 181.
\textsuperscript{736} Exhibit 22542-X1972, CCA argument, paragraph 182.
\textsuperscript{737} Exhibit 22542-X1972, CCA argument, paragraph 183.
\textsuperscript{738} Exhibit 22542-X1978, AltaLink reply argument, paragraph 164.
although AltaLink expected wetter conditions in June and July, the Commission considers that AltaLink could not have anticipated, or planned for, the extremely severe precipitation in the spring of 2013, and the CCA did not present evidence to suggest otherwise.

691. The Commission also accepts AltaLink’s explanation that the additional costs related to heating and hoarding were the result of schedule delays that pushed the foundation work to winter conditions. In addition, the Commission finds AltaLink’s representation of the weather conditions experienced during construction of the Sunnybrook substation reliable and, based on its witness’s testimony, accepts that snow accumulation resulted in the flooding conditions that required mitigation.

692. The Commission notes that although weather data for the period of the WATL project may be of assistance in providing a broad picture of the existing weather conditions at that time, it is not sufficient to challenge the reasonableness of AltaLink’s decisions in responding to weather conditions in real time, which were documented in the numerous change orders and subcontract amendments, and corroborated by the testimony of AltaLink’s witness at the oral hearing. As the Commission has found elsewhere in this decision, delaying construction of a project, or delaying construction of subsections of a project, is not always feasible and is unlikely to save costs. Further, any project delays may affect the project’s ISD, which is set by the AESO.

693. Based on the foregoing, the Commission declines to accept the CCA’s recommendation to deny increased project costs resulting from AltaLink’s responses to weather conditions.

4.2.2 EATL and WATL benchmarking analysis

694. In its evidence, Bema noted that, in an IR response, AltaLink indicated that it did not conduct any benchmarking to determine the reasonableness of any of the costs associated with the WATL project because although “a benchmarking process may provide guidance to management on potential continuous improvements, it cannot be used to assess specific project costs, develop an estimate or determine prudence.”

695. The CCA claimed that despite AltaLink’s conclusion that “benchmarking is not a process that helps determine whether certain costs for a project are reasonable, justified or prudent,” benchmarking can flag costs that appear to be unreasonable, so that they can be further investigated to address whether project-specific factors can confirm whether the costs that seem above normal are reasonable or not.

696. The CCA acknowledged it was more challenging for a high-level benchmarking analysis to produce useful information if costs are classified significantly differently between companies, if the scope of the work is materially different, if the development is conducted in very different economic conditions or if the design standards are different. However, the CCA claimed that, with respect to the EATL and WATL substation projects, in this case the converter stations were supplied by the same company (Siemens), were designed to very similar specifications and were built during a similar timeframe.

697. The CCA submitted that for the EATL and WATL substation projects, a benchmarking study conducted by people knowledgeable about the particular substation design, procurement

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739 Exhibit 22542-X1588, PDF pages 84-85.
and construction requirements and costs could adjust the costs to place them on a comparable basis. In the CCA’s view, the Commission is in a position to require detailed information to support such a study by requesting cost and performance audits. The CCA recommended that the Commission consider initiating a study of the WATL and EATL substation projects to determine if the cost differences can be justified on the basis of project-specific factors.

698. In rebuttal evidence, AltaLink claimed that assessing the prudence of the costs AltaLink incurred for the WATL project, based on the costs ATCO Electric incurred for the EATL project, was not reasonable because it did not reflect the information on the record regarding the Siemens HVDC contract nor the volume of other AC substation work required in the WATL project. All comparisons to another project must be normalized.

699. AltaLink further noted that it provided on the record the Siemens contract information, which indicated the total amount of the Siemens HVDC contract including subcontract amendments. AltaLink also supplied a graphic which illustrated there were large portions of substation work outside of the Siemens scope.

700. In argument, AltaLink reiterated its position that a benchmarking exercise of this nature is not helpful and explained that it had not undertaken that exercise because it would have to know the specific details of the EATL substation project to make a meaningful comparison, which it did not. AltaLink further noted that the witnesses at the hearing did not answer questions about benchmarking comparisons between EATL and WATL.

701. In argument, the CCA submitted that it continued to recommend that the Commission “consider initiating a study of the WATL and EATL substations to determine if the cost differences can be justified on the basis of project-specific factors.” The CCA further reiterated the concerns Bema raised in evidence.

702. The CCA maintained that it would be useful to have someone knowledgeable of substation design, procurement and construction to conduct a benchmarking study of the cost differences between EATL and WATL.

703. In reply argument, AltaLink submitted that the CCA continues to ignore the information filed in its rebuttal evidence that explained that the comparison of EATL and WATL would be flawed because the AltaLink substation costs included additional scope that was not included in the EATL substation costs. Given this, AltaLink submitted that benchmarking between EATL and the WATL projects would not help the Commission determine the prudency of the costs AltaLink incurred in the execution of the WATL project.

Commission findings

704. The Commission generally agrees with AltaLink that the WATL and EATL projects were substantially different in scope and, therefore, a benchmarking comparison would not be of assistance to assess the reasonableness of the costs AltaLink incurred to complete the WATL project. Further, the Commission is satisfied that the information already on the record is

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741 Exhibit 22542-X1885, page 74 refers to Exhibit 0036.00.AML-1045, PDF page 1-31, Appendix K-1 WATL FA.
742 Exhibit 22542-X1050-CONF, tab C34-SCA.
743 Exhibit 22542-X1885, page 75.
sufficient to allow it to assess the prudence of AltaLink’s costs on the WATL project.
Accordingly, the Commission declines the CCA’s request to order a benchmarking comparison.

4.2.3 Labour or material classification of HVDC turn key project costs

705. At Section 9.2.1 of the project summary report for the WATL project, AltaLink explained its decision regarding reallocation of certain HVDC project costs, as follows:

In AltaLink’s PPS estimate, all of the costs for the HVDC system were quantified as substation materials costs as this was a turnkey contract. However, to reflect the cost breakout between materials and labour, and how the costs were incurred, the HVDC system costs were subsequently reallocated in the PPS Update Estimate between materials and labour. The total variance for the substation materials is a reduction of $146.9M and the variance for substations labour is an increase of $182.7M for a total substation cost variance of $35.8M. Approximately $151.8M of the HVDC costs were reallocated from materials costs to labour costs. [footnotes omitted]

706. This decision is also documented in WATL project PCP#6 to the AESO.

707. In IR AML-AUC-2018JUN01-015, the Commission asked AltaLink the following questions with respect to its decision to reallocate a portion of the Siemens HVDC turnkey contract costs from materials to labour:

(a) Please indicate whether, as a result of AltaLink’s decision to break down the HVDC converter station costs between materials and labour, SNC was allowed to earn a higher markup than it would have had all of the HVDC converter station costs remained designated as materials costs. If not, please explain why not.

(b) If SNC was allowed to earn a higher markup as a result of AltaLink’s decision to break down the HVDC converter station costs between materials and labour, please explain why this was a prudent decision on the part of AltaLink.

708. AltaLink’s responses to these questions were as follows:

(a) SNC earned a higher mark-up (4%) on construction labour in comparison to materials (3%).

(b) The MSA between AltaLink and SNC did not contemplate turnkey contracts where a third party provides both material and labour. The HVDC contract consists primarily of material supply and labour. Although a lump sum contract, it has detailed line items for materials and labour activities and it was these line items that were allocated to more appropriately represent the scope of the work in line with the obligations set forth in the MSA. AltaLink considers it would be factually incorrect to allocate 100% to material.

744 Exhibit 22542-X1037, paragraph 86.
745 Exhibit 22542-X1044, PDF pages 103 and 109.
746 Exhibit 22542-X1598, AML-AUC-2018JUN01-015.
Commission findings

709. The Commission is not satisfied that AltaLink has sufficiently justified its decision to reclassify a portion of the Siemens contract costs as labour, from an initial classification as materials. As detailed above, as a result of this decision, SNC-ATP was allowed to earn a markup of four per cent on the portion of costs reclassified as labour, as opposed to the three per cent markup it would have earned had these costs remained classified as materials.

710. The Commission considers that the increased markup margin earned by SNC-ATP as a result of this reclassification was significant, and is not persuaded by AltaLink’s explanation that “it would be factually incorrect” to allocate all of the Siemens costs to materials for the purposes of calculating the markup. The Commission is of the view that because the Siemens contract was a turnkey contract, Siemens, and not SNC-ATP, was responsible for both the labour and material aspects of the project. Therefore, it would be unreasonable to allow SNC-ATP to earn the higher markup associated with the labour costs, when it did not actually perform the EPCm responsibilities associated with labour with respect to this particular project.

711. The Commission finds that 100 per cent of the increase in costs charged to the WATL project by virtue of the reclassification of a portion of the Siemens contract costs as labour, from an initial classification as materials, should not be included in the approved amount of the WATL project capital additions to be added to rate base. AltaLink indicated that approximately $151.8 million of the HVDC project costs were reallocated from materials costs to labour costs.\textsuperscript{747} In consideration of this amount, AltaLink is directed to reduce its WATL project cost by $1.518 million in its compliance refiling to this decision.

5 Other major system projects

5.1 Christina Lake

712. The Christina Lake Area Development plan provided for the construction of a looped 240 kV transmission line project in the Conklin region of Northern Alberta and was designed to serve future load growth in the Christina Lake area.\textsuperscript{748}

713. The Christina Lake Area Development plan (Christina Lake project) was built in three phases: the Black Spruce 154S project (AltaLink project D.0377), the Christina Lake Pike project (D.0387), and the Christina Lake Ipiatik project (AltaLink project D.0379).

714. The Black Spruce 154S project was the first phase of the Christina Lake project. It was energized in July 2013 and its costs were considered in AltaLink’s 2012-2013 DACDA proceeding.\textsuperscript{749}

715. The Christina Lake Pike project (D.0387) was the second phase of the Christina Lake project and involved the construction and involved the construction of a 240 kV substation to be named Pike 170S and a new 240 kV double circuit transmission line (1115L), approximately 22 km in length from a connection point at the Black Spruce 154S Substation to the proposed Pike

\textsuperscript{747} Exhibit 22542-X1037, paragraph 86.


\textsuperscript{749} Decision 3585-D03-2016, paragraph 1083.
170S Substation.\textsuperscript{750} AltaLink energized the Christina Lake Pike project on June 30, 2014.\textsuperscript{751} As set out in Table 8 below, AltaLink requested approval of capital additions prior to the re-accrual of AFUDC to December 31, 2015, in the amount of $128,639,268.

<table>
<thead>
<tr>
<th>Table 8. Christina Lake Pike (D.0378) project cost breakdown</th>
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<td><strong>PPS</strong></td>
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<td>Transmission line materials</td>
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<tr>
<td>Transmission line labour</td>
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<td>Substation materials</td>
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<td>Telecommunication materials</td>
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<td>OT: AFUDC (historical)</td>
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<td>Total costs prior to re-accrual</td>
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<td>OT: AFUDC re-accrual amount</td>
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<td>Less: Disallowances</td>
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<td>Total project costs</td>
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Source: Exhibit 22542-X0007, tab D.0378.

716. The Christina Lake Ipiatik project (AltaLink project D.0379) was the third phase of the Christina Lake Area Development plan, and involved the construction of one new 240 kV substation (the Ipiatik Lake 167S substation), one substation upgrade, 78 km of new 240 kV transmission line,\textsuperscript{752} 1 km of 138 kV transmission line and several upgrades to existing substations.\textsuperscript{753}

\textsuperscript{750} Exhibit 22542-X0066, PDF page 29.
\textsuperscript{751} Exhibit 22542-X0068.
\textsuperscript{752} This comprised 22 km of double circuit line, strung on one side, named the 1116L, which connected the Pike 170S substation to the Ipiatik Lake 167S substation, and 56 km of double circuit (one side string) line, named the 1117L, connecting the Heart Lake 898S substation to the Ipiatik Lake 167S substation. See Exhibit 22542-X0047, paragraph 13.
\textsuperscript{753} Exhibit 22542-X0477, paragraph 13.
717. AltaLink explained that the Christina Lake Ipiatik project was prepared for energization by June 2015, but was actually energized on August 21, 2015, to accommodate the requests of pipeline companies to implement safety mitigations.\(^{744}\)

718. As set out in Table 9 below, AltaLink requested approval of capital additions prior to the re-accrual of AFUDC to December 31, 2015, in the amount of $270,693,290 in respect of the Ipiatik project.

Table 9. Christina Lake Ipiatik (D.0379) project cost breakdown

<table>
<thead>
<tr>
<th></th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>36,210,180</td>
<td>47,300,113</td>
<td>46,903,285</td>
<td>46,939,194</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>100,166,327</td>
<td>146,963,902</td>
<td>142,688,518</td>
<td>150,742,090</td>
</tr>
<tr>
<td>Substation materials</td>
<td>8,677,632</td>
<td>10,514,845</td>
<td>9,839,097</td>
<td>9,832,599</td>
</tr>
<tr>
<td>Substation labour</td>
<td>21,128,139</td>
<td>27,632,026</td>
<td>23,706,428</td>
<td>23,879,884</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>506,086</td>
<td>404,813</td>
<td>408,429</td>
<td>394,751</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>1,750,541</td>
<td>2,500,329</td>
<td>2,955,819</td>
<td>2,966,093</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>699,630</td>
<td>973,035</td>
<td>972,316</td>
<td>972,317</td>
</tr>
<tr>
<td>O: facility applications</td>
<td>1,957,597</td>
<td>2,333,739</td>
<td>2,518,078</td>
<td>2,772,433</td>
</tr>
<tr>
<td>O: land rights - easements</td>
<td>1,109,349</td>
<td>1,121,727</td>
<td>1,373,699</td>
<td>1,578,097</td>
</tr>
<tr>
<td>O: land rights – damage claims</td>
<td>-</td>
<td>380,826</td>
<td>344,261</td>
<td>358,059</td>
</tr>
<tr>
<td>O: land rights – acquisitions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total owner costs</td>
<td>3,766,576</td>
<td>4,809,327</td>
<td>5,208,354</td>
<td>5,680,905</td>
</tr>
<tr>
<td>D: procurement</td>
<td>528,510</td>
<td>801,679</td>
<td>679,114</td>
<td>686,830</td>
</tr>
<tr>
<td>D: project management</td>
<td>11,739,507</td>
<td>18,599,069</td>
<td>11,347,230</td>
<td>11,849,370</td>
</tr>
<tr>
<td>D: construction management</td>
<td>16,785,534</td>
<td>27,312,377</td>
<td>17,814,123</td>
<td>18,570,960</td>
</tr>
<tr>
<td>D: escalation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D: contingency</td>
<td>46,000,000</td>
<td>35,710,791</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total distributed costs</td>
<td>75,053,551</td>
<td>82,423,916</td>
<td>29,840,467</td>
<td>31,107,160</td>
</tr>
<tr>
<td>OT: ES&amp;G</td>
<td>9,477,226</td>
<td>16,498,020</td>
<td>9,142,890</td>
<td>10,163,967</td>
</tr>
<tr>
<td>OT: AFUDC (historical)</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Total costs prior to re-accrual</td>
<td>256,736,258</td>
<td>339,047,291</td>
<td>270,693,291</td>
<td>281,706,643</td>
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<tr>
<td>OT: AFUDC re-accrual amount</td>
<td>-</td>
<td>-</td>
<td>9,858,034</td>
<td>9,858,037</td>
</tr>
<tr>
<td>Total project costs</td>
<td>256,736,258</td>
<td>339,047,291</td>
<td>280,551,324</td>
<td>291,564,680</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0379.

719. For the purposes of this decision, references to the Christina Lake project will refer to the Christina Lake Pike and Ipiatik projects.

5.1.1 AC mitigation on Christina Lake project

720. AltaLink explained that AC mitigation costs were considerably higher than forecast because at the time AltaLink prepared the PPS it estimated the AC mitigation costs to be $3.4 million and actuals to December 31, 2015 were $14.4 million.

721. The Commission has addressed AC mitigation costs for this project in Section 3.10.

5.1.2 Use of access matting

722. The Commission has addressed access matting costs for this project in Section 4.1.3.2.

\(^{744}\) Exhibit 22542-X0477, paragraph 66.
5.1.3 Management of Caribou Management Zone restrictions

723. In evidence, the CCA stated it had reviewed the Caribou Protection Plans and the additional costs AltaLink incurred to comply with the AESRD requirements for construction within the Caribou Management Zone (CMZ) for the Christina Lake Pike (D.0378) and the Christina Lake Ipiatik (D.0379) projects. Bema was concerned that AltaLink did not implement the requirements for the CMZ in a cost-effective manner and that additional costs AltaLink incurred associated with the restrictions were not reasonable.

724. The CCA noted the CMZ was created in 2005. Its establishment presented a potential risk to those industrial and construction companies whose activities would take place in the CMZ or within the surrounding area. Further, it was possible that changes to the CMZ could occur, including expansion of the zone or the imposition of more stringent restrictions within the existing zone. The CCA submitted that a prudent company operating in the CMZ or within the surrounding area would have considered and planned for this regulatory risk, and would have ensured that its project estimates reflected this risk. It determined that AltaLink did not do so for the Christina Lake Ipiatik and the Christina Lake Pike projects.

725. The CCA claimed that, at a minimum, it would have expected that costs for the pre-existent regulations would have been anticipated. It noted that in the project summary report, AltaLink stated:

At the time AltaLink’s PPS was developed, none of the Ipiatik Project was located in the Caribou Management Zone. The new requirements resulted in the entire Ipiatik Project being covered by the Caribou Zone after the expansion, affecting both cost and schedule with respect to work requirements and allowed windows of construction. This new restriction also limited the ability to implement certain risk mitigations such as helicopter construction if needed.

726. The CCA requested that AltaLink provide the information it received that indicated that the expansion had encompassed all of the Christina Lake Ipiatik project. AltaLink’s response was as follows:

There were no official notices specifically provided to AltaLink for the expanded Caribou Management Zone. The verbal notice was given to AltaLink during AESRD consultation meetings in late November 2012, and the notice was posted on AESRD’s website at the time.

727. The CCA was troubled that a significant portion of the $105 million transmission line cost overruns for the Christina Lake Ipiatik and Pike projects were the result of verbal notice and that no official correspondence was available. Furthermore, the lack of contingency and risk

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757 Exhibit 22542-X0069, Appendix 05-04 Final Cost Report Pike, Total transmission line difference from original budget $44,122,474 plus Exhibit 22542-X0425, Appendix 29-04 Final Cost Report Ipiatik, Total transmission line difference from original budget $61,304,776, equals a total combined of $105,427,250.
758 Exhibit 22542-X0421, Appendix 29, Project Summary Report – Christina Lake – Ipiatik, paragraph 51.
759 This is understood to mean that in November 2012, the expansion of the CMZ was posted (see Exhibit 22542-X1524, AML IR Responses to CCA 1-160, PDF page 190, Response paragraph a. ii.).
planning for the projects demonstrated that AML may not have acted on what it knew, or should have known, at the time of the PPS estimate. Finally, it considered that there was no indication of potential options that AltaLink considered to mitigate the cost increases.

728. The CCA stated that AltaLink had intended to concurrently construct both the Christina Lake Ipiatik and Christina Lake Pike projects over the winter of 2013-2014. However, AltaLink indicated that several factors, such as unanticipated depth of muskeg, which required a change to 3-pole H-frame towers and field adjustments, delayed the construction schedule. It further noted that ROW clearing under the CMZ restrictions required hand brushing which was also not anticipated by AltaLink. Instead, AltaLink made the following comment regarding these issues:

Generally the project was able to adapt to these changes but the mid-March shutdown requirement removed much, if not all, of the time available to recover the foundation progress issues.

729. The CCA considered this shutdown requirement to be just a guideline, stating:

AESRD recommends a timing restriction of February 15 to July 15 within caribou range to reduce impacts to pregnant cows and their calves. Exceptions include site preparation/construction that was initiated prior to February 15; activities using Class V roads; and activities within 100 m of an all-weather road provided ground conditions are favorable. Work can continue until adverse ground conditions are encountered (GOA 2013).

730. The CCA claimed that AltaLink had stated that AESRD gave approval to work into the caribou season during the second winter season of 2014-2015:

Ultimately, the Ipiatik Project was completed in two winter seasons by adding a second contractor and obtaining a variance from AESRD to work into the caribou season. The AESRD variance allowed construction to continue through completion one month into the caribou season.

731. Consequently, the CCA was concerned that a significant portion of the $105M in additional transmission line costs for the Christina Lake Pike and Ipiatik projects was incurred due to an AltaLink decision to delay construction during the first winter season of 2013-2014 rather than from an AESRD requirement to do so. The fact that AltaLink obtained permission to construct in the second winter season indicates that it could have asked for and received permission to do so in the first winter season. The CCA claimed that if AltaLink had not implemented its self-imposed restriction on the project timeline, then the need for a second construction season, the transfer of the Ipiatik foundation placement resources to the Pike

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761 Exhibit 22542-X0421, Appendix 29, Project Summary Report – Christina Lake – Ipiatik, paragraph 52.
762 Exhibit 22542-X0421, Appendix 29, Project Summary Report – Christina Lake – Ipiatik, paragraph 56.
763 Exhibit 22542-X0421, Appendix 29, Project Summary Report – Christina Lake – Ipiatik, paragraph 54.
765 Exhibit 22542-X1570, AML responses to CCA Attachments IR 065-066, PDF page 28, Caribou Timing and Windows Scheduling, Mitigation measure 6.
766 Exhibit 22542-X0421, Appendix 29, Project Summary Report – Christina Lake – Ipiatik, paragraph 73.
767 Exhibit 22542-X0069, Appendix 05-04 Final Cost Report Pike, Total transmission line difference from original budget $44,122,474 plus Exhibit 22542-X0425, Appendix 29-04 Final Cost Report Ipiatik, Total transmission line difference from original budget $61,304,776, equals a total combined of $105,427,250.
project\textsuperscript{768}, and engagement of an additional contractor\textsuperscript{769} all may have been avoided, saving substantial time, resources and costs.

732. Bema proposed that AltaLink could have worked through the 2013-2014 winter season and avoided the second season without contravening the AESRD recommendations, or, alternatively, it could have obtained express approval to do so from the AESRD, as AltaLink demonstrated the following year. In view of the above, the CCA recommended that the Commission disallow a portion of the cost overages that resulted from the second season construction delay. The CCA suggested that a portion of the $30M amount that AltaLink calculated as savings for eliminating the

733. In rebuttal, AltaLink stated that the CCA failed to understand the development and construction timelines for both the Christina Lake Pike and Ipiatik projects, as outlined in the PPS, PPS update and stage gates. The functional specification indicated a required ISD of Quarter 2 (Q2) 2014 for Pike and Q2 2015 for Ipiatik. Although both projects began construction in December 2013, shortly after receipt of permits and licences, the Pike project was planned to be completed in June 2014 and the Christina Lake Ipiatik project was always planned to be completed in 2015. The two winter construction seasons for Ipiatik was in no way a result of a decision made by AltaLink to extend Ipiatik for a second winter construction season due to restrictions of the CMZ.

734. AltaLink maintained that despite the variance explanation outlined in the PSRs and IRs, the CCA completely ignored the evidence provided and wrongly concluded that a significant portion of the $105 million transmission line actual cost for the Christina Lake, Ipiatik and Pike projects was a result of verbal notice, and that no official correspondence was available.\textsuperscript{770} This was not correct.

735. As well as referring to the variance explanations in the Pike and Ipiatik PSRs, AltaLink also noted that in AML-CCA-2017DEC20-CONF-004,\textsuperscript{771} It was fully aware that the CMZ was in the area of the Christina Lake Pike and Ipiatik projects as it had outlined the potential risk in Appendix 29-08a-1 PPS Stage Gate (Ipiatik), Changes in Caribou zones\textsuperscript{772}, and in Appendix 29-08a-2-2 PPS Risk Register Final (Ipiatik), Caribou Season Restriction.\textsuperscript{773} What AltaLink did not know when developing the PPS was the extent of the requirements that would be imposed by AESRD to protect the woodland caribou.

736. AltaLink further stated that the CCA ignored its response to AML-CCA-2017DEC20-066 where it described its engagement with AESRD, including notification of the expanded CMZ into the entire Christina Lake Pike and Ipiatik projects, and the requirements and iterative process to establish the Caribou Protection Plan for the woodland caribou.\textsuperscript{774} In summary,
AltaLink asserted that it complied with the obligations set out in the Caribou Protection Plan including receiving all required approvals from AESRD.

737. In argument, the CCA expressed concern that the Caribou Protection Plan developed for AltaLink by Tera Environmental Consultants,775 exceeded the recommendations of AESRD and resulted in additional costs for the Christina Lake projects. The CCA asserted that it was apparent that the CMZ recommendations impacted the majority of AltaLink’s construction activities in the Christina Lake region for transmission lines, substations, ROW clearing, helicopter usage for stringing, and a variety of other costs. The CCA determined that, had only minimum requirements been followed, or had a less stringent interpretation of the CMZ recommendations been utilized, then significant cost savings may have been achieved while still respecting the environmental concerns for woodland caribou.

738. It recommended that, given the lack of evidence on the record from the AESRD website of the notice that the CMZ was expanding, it was unreasonable to rely on an oral statement for such a critical obligation involving the expansion of the CMZ and the major consequences for costs. It stated that if the projects had always been within the CMZ, then the decision processes and project cost estimations for these projects were seriously questionable as to their reasonableness. Because AltaLink was unable to produce evidence that AESRD posted the increase in the CMZ on its website, or any other correspondence indicating confirmation of the CMZ expansion, the CCA proposed that a large portion of the Christina Lake $83.9 million cost overruns for transmission construction cannot be considered reasonable and should be disallowed.

739. The CCA was also concerned with AltaLink’s lack of proactive risk management or calculation of a contingency. It noted that the Caribou Protection Plan for which AltaLink received AESRD approval, was based on the existing 2005 document Alberta Woodland Caribou Recovery Plan, 2004/05-2013/14.776 AltaLink based its plan on the recommendations of this document, as stated in testimony:

777

740. The CCA reviewed the risk registers for the Christina Lake Pike project and determined that there was no quantification of the risk, and no value was placed into contingency; however, the construction readiness stage gate risk register clearly indicated the risk of shortening the construction window by 4 months and forcing construction activities into the second winter of 2014-2015.778 The CCA argued that, if it was concerned with the identification of a potential four-month delay779 pushing the construction into a second season, it was unreasonable for AltaLink to not ascribe some value to the risk for a project the size of Pike and establish a contingency.

741. The CCA stated that AltaLink chose to pull the foundation construction resources from the Christina Lake Ipiatik project to allow for the Christina Lake Pike project to meet the ISD of

775 Exhibit 22542-X1570 AML IR Responses to CCA Attachments (IR 065-066), PDF page 16.
776 Exhibit 22542-X1570, AML IR Responses to CCA Attachments (IR 065-066), PDF page 18.
778 Exhibit 22542-X0077, Appendix 05-08c-2 CR Risk Register (Pike), Excel cell reference F32.
779 Exhibit 22542-X0077, Appendix 05-08c-2 CR Risk Register (Pike), Excel cell reference F32.
June 2014. This action resulted in a recovery schedule being implemented for the Christina Lake Ipiatik project. Additional costs relating to this decision included helicopter stringing, camp costs, and the addition of a second contractor.\textsuperscript{780}

742. The CCA was concerned that AltaLink acted unilaterally in what it perceived were the best interests of woodland caribou at the expense of ratepayers in Alberta. It was clear that the recommendations of the Government of Alberta\textsuperscript{781} allowed for the work to be conducted further into the year because AltaLink indicated in the PPS estimate that Christina Lake Pike construction would continue through to June.\textsuperscript{782} This would have allowed both Christina Lake Pike and Ipiatik to proceed as planned.

743. The CCA concluded that if AltaLink had worked through the 2013-2014 winter season and allowed for more reasonable recommendations in dealing with the CMZ, as outlined in the substantiating documents for its Caribou Protection Plan, then the construction seasons may have been conducted as assumed in the PPS estimate and the need for the additional costs to recover scheduling would have been completely avoided.

744. In its argument, AltaLink reiterated that it was fully aware the CMZ was in the area of the Pike and Ipiatik projects.\textsuperscript{783} In December 2012, AESRD announced that a CMZ located north of the project area would be expanded to include the entire Christina Lake Ipiatik and Pike project area.\textsuperscript{784} Costs associated with mitigation and potential schedule impacts could not be determined until AESRD provided notice of what mitigations could be employed and, as a result, costs associated with the CMZ were not included in the PPS.\textsuperscript{785}

745. AltaLink noted that during the oral hearing it confirmed that it was given verbal notice for the expanded CMZ on November 29, 2012. It was unable to locate the specific date that the notice was provided on the website. AltaLink also provided the following from its December 2012 AESO Monthly Report for the Christina Lake Pike project from Exhibit 22542-X0427, PDF page 115 showing that notice was posted by AESRD on or before December 2012:

\begin{quote}
AESRD has posted notice that the Caribou Management Zone will be expanded in the Christina Lake Area and an expected date of compliance to the zone will be April 1, 2013. Review of draft maps indicates the Christina Lake- Pike project is inside this planned management zone. Inclusion in this zone will restrict construction timing and may impact both cost and schedule.\textsuperscript{786}
\end{quote}

746. AltaLink further noted its explanation during the oral hearing that, while it had to do some additional ROW management that was different from what it had done in the past to mitigate the caribou interaction with the ROW, it had no substantial impact on its execution of

\textsuperscript{780} Exhibit 22542-X0421, Appendix 29 Ipiatik Project Summary Report, paragraph 72, and Exhibit 22542-X0065, Appendix 05 Pike Project Summary Report.
\textsuperscript{781} Exhibit 22542-X1570, AML Responses to CCA Attachments (IR 065-066), PDF page 28, Caribou Timing and Window Scheduling, Mitigation measure 6.
\textsuperscript{782} Exhibit 22542-X0065, Appendix 05 Pike Project Summary Report, PDF page 9, paragraph 51
\textsuperscript{783} Exhibit 22542-X1885, AML rebuttal evidence, paragraph 363. See also Transcript, Volume 2, pages 336-337.
\textsuperscript{784} Exhibit 22542-X0421, Ipiatik Project Summary Report; Exhibit 22542-X0065, Pike Project Summary Report.
\textsuperscript{785} Exhibit 22542-X0071 Appendix 5-6, PDF pages 157 and 112-120.
\textsuperscript{786} Exhibit 22542-X1931 Undertaking No. 002 - Date re: caribou management zone.
the first winter construction period for Christina Lake Pike and the two winter construction periods for Christina Lake Ipiatik.\textsuperscript{787}

747. Further, in its reply argument, AltaLink stated that a review of the facility applications shows that it was expecting the CMZ to impact the project after filing.\textsuperscript{788} The environmental evaluation prepared by Tera for the Christina Lake Area Development, stated:\textsuperscript{789}

The Project is located within a proposed provincially identified Caribou Management Area that will be officially recognized by AESRD on April 1, 2013 for the Cold Lake herd. A Project-specific Caribou Protection Plan (CPP) will be prepared and submitted to AESRD prior to October 15, 2013.

748. AltaLink stated that the CCA’s claim that Tera’s plan exceeded the requirements of the AESRD was unfounded. Although the environmental evaluation is dated January 2012, the particular page where this quote was obtained was updated in January 2013 after notice was given to AltaLink and after the date when it would have been available on the AESRD website. Tera was aware of the requirements and prepared the CPP, with the knowledge of the expanded CMZ.\textsuperscript{790} Further, Tera continued to update the CPP through 2016.\textsuperscript{791}

749. AltaLink maintained that the actual issue was how late into spring could construction continue. The AESRD set a timing restriction of February 15 to July 15 with specific conditions required for adverse ground conditions, site prep/construction initiated before February 15, activities on Class V roads and activities within 100 m of an all-weather road.\textsuperscript{792} As well, each transmission tower is considered a separate construction site.\textsuperscript{793}

750. AltaLink stated it did not have a choice as to whether or not it complied with CMZ restrictions imposed by AESRD. As set out in its response to AML-CCA-2017DEC20-066 Attachment 3, it sought and obtained permission from AESRD to work until April 15, 2014, due to the “extensive effort AltaLink has undertaken to mitigate any potential damage from the unseasonably warm weather in early March.” The extension allowed AltaLink to complete its “power line construction, cleanup and roll back”.\textsuperscript{794} The key was that there be no caribou in the area.\textsuperscript{795}

751. AltaLink submitted that its management of the change in environmental requirements was reasonable and, regardless of how construction was characterized by the CCA, neither the notice of the expansion of the CMZ, nor the expansion itself, created a significant impact on the construction of Christina Lake Pike and Ipiatik, other than some additional ROW management.\textsuperscript{796}

\textsuperscript{787} Transcript, Volume 2, page 340.
\textsuperscript{788} Exhibit 0002.00.AML-2377 paragraph 37 (Pike) and Exhibit 0002.00.AML-2530 paragraph 39 (Ipiatik).
\textsuperscript{789} Exhibit 0016.00.AML-2377 PDF page 135 (Pike) and Exhibit 0016.00.AML-2350 PDF page 167 (Ipiatik).
\textsuperscript{790} Exhibit 22542-X1570, PDF page 16, AML-CCA-2017DEC20-066 Attachment 1, CPP Approval No. NE1-045-ALTALINK-13-14.
\textsuperscript{791} Exhibit 22542-X1570, PDF page 43 (CPP Approval No: NE1-038-AltaLink-14-15) and PDF page 69 (CPP AEP Acceptance No.: NE1-031-Altaling Management Ltd.-15-16).
\textsuperscript{792} Exhibit 22542-X1570, PDF page 28, AML-CCA-2017DEC20-066 Attachment 1 (2013 CPP).
\textsuperscript{793} Transcript, Volume 1, page 158 lines 21-23.
\textsuperscript{794} Exhibit 22542-X1570, pdf 116, AML-CCA-2017DEC20-066 Attachment 3.
\textsuperscript{795} Transcript, Volume 2, page 341 lines 2-12.
\textsuperscript{796} Transcript, Volume 2, page 340 lines 4-15.
Commission findings

752. The CCA’s position that AltaLink has acted imprudently in its management of construction within the CMZ for the Christina Lake Pike and Ipiatik projects, and its subsequent recommended disallowance of costs, is premised on its understanding that AltaLink adhered to more stringent environmental standards than required which resulted in increased and imprudent costs.

753. The evidence does not support this conclusion. The Commission accepts AltaLink’s evidence that the AESRD expanded the scope of the CMZ in the Christina Lake area as it had reported to the AESO and as AltaLink had provided in its facility application. The fact that AltaLink could not produce the notice posted to the AESRD does not negate this evidence. AltaLink’s witness made this claim under oath. Further, the Commission notes AltaLink’s explanation that the Tera study was updated in October 2013, well after the date that the AESRD issued revised environmental guidelines.

754. The Commission also notes the testimony of Mr. Fedorchuk that the changes resulted in minimal changes to the construction plan:

And I think, Mr. Wachowich, at the end – the caribou protection plan, I'm not really sure -- I know where you had gone in your evidence with it. It has no bearing on how we then constructed the Pike and Ipiatik project. Yes, we had to do some additional right-of-way management which was different from what we had done in the past in terms of providing sight lines and cut lines to support the caribou and how they interact with the right-of-way, but that had no bearing necessarily on how we were then executing in the first winter Pike and then the second winter – two winter constructions for Ipiatik.

755. Given the above evidence the Commission considers that AltaLink managed the project prudently.

5.1.4 Water diversion and ice roads

756. The issue of additional costs due to water diversion and ice roads was first raised in the CCA’s argument. AltaLink had applied for 12 temporary water diversion licences to facilitate ice road construction but only three were approved by the AESRD. This required additional water hauling which then caused construction delays and additional costs totalling $1.3 million. The CCA argued that the additional costs incurred may not have been required.

757. In particular, the CCA was concerned that some ice roads might have been constructed for the Christina Lake Ipiatik project which were not utilized due to the transfer of resources to the Christina Lake Pike project, and that AltaLink had access to sufficient ice roads through a road-use agreement with Devon Energy which would have largely or entirely negated the need to construct ice roads for the Pike project. The CCA noted that the road-use agreements in place provided for some 130 km of ice roads whereas the total length of the Christina Lake Pike and Ipiatik transmission lines was 110 km. The CCA submitted that AltaLink intended to have ice....

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798 Transcript, Volume 2, page 340.
799 Exhibit 22542-X1972, CCA argument, Section 12.1.4.1.
800 Exhibit 22542-X1524.01, AML-CCA-2017DEC20-071(a) and (b), PDF pages 207-208.
801 Exhibit 22542-X1524.01, AML-CCA-2017DEC20-071(c)iii, PDF page 208.
roads in order to access the entire length of the transmission lines,\textsuperscript{802} which should have been entirely provided for under the road-use agreements. Alternatively, AltaLink was required to use rig (access) matting along the ROW once the ice roads melted so, in the CCA’s submission, matting could have been used throughout the duration of the projects. The CCA recommended a disallowance of $3.3 million for the increased costs related to ice roads and to the access coordinator.\textsuperscript{803}

758. In reply argument, AltaLink confirmed that no ice roads were constructed for line 1117L Ipiatik in the first season. However, ice roads were constructed for 1116L Ipiatik and were used for access to the ROW prior to resources being reassigned to Christina Lake Pike. AltaLink argued that it could not have reasonably known that resources would be reassigned and that consequently, the ice roads would not be required.\textsuperscript{804}

759. With respect to the pre-existing ice roads, AltaLink noted that the road-use agreements covered a large portion of 1116L Ipiatik followed by 1115L Pike. However, the access roads did not parallel the lines and, therefore, additional access was still required. References were provided to the road-use agreements that listed the access roads that formed the agreement and included a plan showing access to the transmission lines.\textsuperscript{805} AltaLink stated that it acted reasonably by using pre-existing ice roads where possible and constructing ice roads where additional access was required.\textsuperscript{806}

760. With respect to the suggestion that access matting could have been used rather than ice roads, AltaLink stated that the “cost to complete Ipiatik using mats would have been prohibitive.” AltaLink noted that resources were re-assigned to Christina Lake Pike in February when spring break-up was beginning so the access mats available on 1116L Ipiatik were in use to store tower structures.

5.1.5 Utilization of access coordinator

761. The role of an access coordinator is first mentioned in the Christina Lake Ipiatik project summary report, where AltaLink states: “AltaLink was required to engage an access coordinator to facilitate the non-linear construction.”\textsuperscript{807} In response to an IR, AltaLink further expanded on this noting that the need for an access coordinator was determined in the first season of construction on the Christina Lake Pike project so access coordinators were in place for the second season. In AltaLink’s submission, “Field representation was essential during the construction phase to support stakeholder engagement.”\textsuperscript{808}

762. The issue of costs for an access coordinator was first raised as a concern in the CCA argument,\textsuperscript{809} in conjunction with the issue of water diversion and ice roads. The CCA

\textsuperscript{802} Exhibit 22542-X1524.01, AML-CCA-2017DEC20-071(a) stated: “The project plan in the PPS considered that 100% of the right-of-way would be developed into ice roads.”

\textsuperscript{803} Exhibit 22542-X1972, CCA argument, paragraphs 432-442.

\textsuperscript{804} Exhibit 22542-X1978, AltaLink reply argument, paragraphs 220 and 225.

\textsuperscript{805} Exhibit 22542-X1571, AML-CCA-2017DEC20-068 Attachment 3 Road Use Agreements, PDF pages 65-139.

\textsuperscript{806} Exhibit 22542-X1978, AltaLink reply argument, paragraphs 223-224.

\textsuperscript{807} Exhibit 22542-X0421, Appendix 29 Project Summary Report Redacted (Ipiatik), paragraph 55.

\textsuperscript{808} Exhibit 22542-X1524.01, AML-CCA-2017DEC20-071(f), PDF page 209.

\textsuperscript{809} Exhibit 22542-X1972, CCA argument, Section 12.4.1.2.
recommended that $3.3 million, which includes cost variances attributable to the requirement for an access coordinator,\textsuperscript{810} be disallowed.

763. In the CCA’s submission, the additional costs for the access coordinator were unwarranted because AltaLink should have known that an access coordinator would be required when the PPS was prepared. Therefore, the costs for the access coordinator should have been included in the PPS estimate. By not including an access coordinator in the project plan until the second season of construction, AltaLink acted unreasonably and “[i]t speaks of poor decision processes for the Christina Lake projects.”\textsuperscript{811} The CCA supported its assertion that AltaLink should have known of the need for an access coordinator by noting that AltaLink has stated it always uses access coordinators on other transmission line projects, and because AltaLink is a sophisticated TFO with experience constructing projects in the Fort McMurray region.

764. The CCA also expressed concern that AltaLink did not explore the alternative of having an access coordinator with shared responsibilities for managing access roads with a third party in the area, such as Devon Energy. Finally, the CCA expressed concern that the role of access coordinator was not included in AltaLink’s invitation to tender package during the procurement process. The CCA concluded that the resultant costs were unreasonable.\textsuperscript{812}

765. In reply argument, AltaLink argued that it had not known the extent of stakeholder engagement and interaction points until the project was in the execution stage, at which time the access coordinator was added to the EPC. AltaLink submitted that had it known about the need for the role, it would have added the role at the PPS stage. Regardless, the actual costs would not have changed; the PPS estimate simply would have increased.\textsuperscript{813}

**Commission findings**

766. Because the CCA recommendations for ice roads and access coordinators were combined, the Commission accordingly is addressing the sections together.

767. As the Commission has stated in previous decisions, cost variances from a baseline (or from the PPS) estimate are not necessarily an indicator of imprudence, rather, variances can be an indicator of areas which require further examination in a DACDA proceeding.\textsuperscript{814} The test for prudence is whether the decisions made by the TFO, in light of what it knew or should have known at the time, were reasonable at the time they were made.\textsuperscript{815} In this case, the costs for access coordinators were not included in the PPS and the water hauling costs for constructing ice roads increased compared to the PPS estimates; these variances were explored in IRs and argument.

768. With respect to the increased costs for ice road construction, the evidence demonstrates that AltaLink had always intended to have access to the transmission ROW by ice road\textsuperscript{816} and

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\textsuperscript{810} Exhibit 22542-X1524.01 – AltaLink’s response to AML-CCA-2017DEC20-071(f) at PDF page 209 shows costs for access coordinators on the Christina Lake projects as $2.01 million.

\textsuperscript{811} Exhibit 22542-X1972, CCA argument, paragraphs 443 and 447.

\textsuperscript{812} Exhibit 22542-X1972, CCA argument, paragraphs 446 and 450-453.

\textsuperscript{813} Exhibit 22542-X1978, AltaLink reply argument, paragraphs 229-230.

\textsuperscript{814} Decision 2014-263, paragraph 77.

\textsuperscript{815} Decision 2013-358, paragraph 393.

\textsuperscript{816} Exhibit 22542-X0422, Appendix 29-01 - Ipiatik PPS, PDF page 33.
could not have known at the time of the PPS, prepared on December 19, 2012, that additional water hauling for the ice roads would be required.\textsuperscript{817}

769. The Commission considers that the use of ice roads is reasonable given that the construction was planned to be entirely during frozen ground conditions, and the fact that construction could only occur in the winter due to the AESRD caribou management zone. In addition, the Commission finds that ice roads are a simple, common way to access normally inaccessible locations in the winter season. While access mats are one alternative to ensure access to the ROW and have the advantage of providing access to the ROW year-round, AltaLink was limited to construction within a specific time period by the AESRD, and had it opted for the use of access mats it would incur rental costs outside of the construction window, or would have to incur additional costs to deploy and then remove the access mats at break-up, which is the largest portion of access matting costs.\textsuperscript{818} Therefore, the Commission finds that the additional costs for ice road construction on the Christina Lake projects to be prudent.

770. The evidence before the Commission with respect to access coordinators is that AltaLink uses or has used access coordinators, or a similar role, on other transmission line projects and that the access coordinators were required on the Christina Lake projects due to the number of stakeholders and “interaction points.” AltaLink submitted that the PPS was created nearly two years in advance of construction and it could not have known, at that time, the number of “interaction points.”\textsuperscript{819} The Commission agrees. There is limited information available and known at the PPS stage regarding stakeholder identification and involvement. This type of information is further detailed at and after the facility application stage when the routing is proposed and subsequently approved. At this time, the Commission would expect that AltaLink and its EPCm would have had a better understanding of the potential need for field representation to support stakeholder engagement. Consequently, the Commission would expect AltaLink to have known sooner than at the beginning of the first construction season that an access coordinator would likely be required on the Christina Lake projects.

771. However, this finding does not mean that AltaLink acted unreasonably in approving the addition of access coordinators to the project team in time for the second season of construction. The evidence presented supports the position that access coordinators were required on the project due to a large number of stakeholders, therefore the Commission finds that the additional costs for access coordinators were prudently incurred. The Commission notes that the CCA did not dispute that access coordinators were required but rather how and when they were added to the project team.

772. For the reasons discussed above, the Commission denies the CCA’s requested disallowance for ice roads and access coordinators.

\textsuperscript{817} According to IR response AML-CCA-2017DEC20-071 (Exhibit 22542-X1524.01), the temporary diversion licenses were sought at the construction planning stage and the license application cannot be submitted until the applicant has obtained road-use agreements to access the water sources.

\textsuperscript{818} As illustrated in AltaLink’s rebuttal (Exhibit 22542-X1885-CONF at paragraph 242), costs related to mat cleaning, moving and maintenance, in the specific case of Northern Mat & Bridges, accounted for 40 per cent of the total access matting costs.

\textsuperscript{819} Transcript, Volume 2, pages 349-350.
5.1.6 Additional costs attributable to schedule recovery

773. In evidence, the CCA maintained that although constructing the Christina Lake Pike and Ipiatik projects concurrently might have resulted in efficiencies, once a decision was made to move resources from the Ipiatik project to the Pike project in order to complete the Pike project in one season, additional costs were incurred which were “potentially not reasonable.”\(^{820}\)

774. The CCA took issue, in particular,\(^{821}\)

The CCA recommended that the Commission consider a disallowance for these costs.\(^{821}\)

775. The additional costs associated with the storage of structures for Ipiatik was first mentioned in the project summary report, wherein AltaLink noted that following the decision to re-allocate the foundation resources, “the focus of the Ipiatik work shifted to making the work already done safe, secure, and ready for the second season of construction,” including additional geotechnical work to refine the foundation design for the second season and disassembly and cribbing of structures that could no longer be set.\(^{822}\) The costs associated with this work were captured in change notice 008 from B&M.\(^{823}\) Additional information was provided in response to a CCA IR.\(^{824}\)

776. AltaLink did not specifically address the issues of structure storage costs or the Margie yard standby charges in rebuttal evidence; however, AltaLink submitted that the CCA had misunderstood the construction schedules for the Christina Lake projects in that Ipiatik had always had a second winter construction season planned, so that the project would be completed in 2015.\(^{825}\)

777. The CCA expanded on its concerns in argument, stating that the storage of structures on the ROW “created unnecessary additional costs, exposure of the towers to possible corrosion and damage, and demonstrates the management of construction progress along the ROW was inefficient and lacked appropriate supervision.”\(^{826}\)

778. The CCA noted that while AltaLink had stated that placing the structures on access matting was more cost-effective than moving the structures to the Margie storage yard, AltaLink had not provided a cost-benefit or other analysis to support this statement. The CCA refined its recommendations in argument to request a disallowance of the structure storage costs.\(^{827}\)

\(^{820}\) Exhibit 22542-X1819, Bema evidence part 1, paragraph 225.
\(^{821}\) Exhibit 22542-X1819, Bema evidence part 1, paragraphs 236 and 238.
\(^{822}\) Exhibit 22542-X0421, Appendix 29 Project Summary Report Redacted (Ipiatik), paragraph 59.
\(^{823}\) Exhibit 22542-X0479-CONF, PDF page 49.
\(^{824}\) Exhibit 22542-X1482-CONF, AML-CCA-2017DEC20-007(a)-CONF, PDF page 31.
\(^{825}\) Exhibit 22542-X1885, AltaLink rebuttal evidence, paragraph 359.
\(^{826}\) Exhibit 22542-X1972, CCA argument, paragraph 455.
costs and costs for the Margie yard standby charges. Based on the CCA’s analysis of the project schedules, the transfer of resources to the Pike project occurred during spring break up, which casts doubt on the amount incurred to move the structures when the ROW was accessible with access matting. Additionally, the CCA argued that the delays experienced in the foundation construction should have led AltaLink and its EPCm to alter the timing for assembling the structures.827

779. With respect to the Margie yard and standby charges, the CCA noted that the Margie yard experienced a lack of material, due to a decision by the EPCm to stop material shipments to the yard, at the relevant time that resources were transferred to the Pike project. The result being that an additional additional in standby charges were incurred. The CCA argued that the yard crew could have been mobilized to move the assembled unerected structures on 1116L to the storage yard. In the CCA’s submission, this demonstrated that the additional costs were unreasonable and should be disallowed.828

780. In reply argument, AltaLink reiterated that returning the assembled structures from 1116L to the storage yard was not cost effective and therefore, using the Margie crew to move the structures would not have been reasonable. Furthermore, the Margie yard personnel were required to handle materials en route to the Ipiatik project, despite a slowdown in shipments.

781. AltaLink also noted that foundation work typically moves faster than tower assembly, therefore tower assembly is typically started in advance.829 AltaLink could not have anticipated the issues experienced with foundation installation,830 which resulted in structures being assembled but unable to be erected until the second construction season.

Commission findings

782. While the CCA has raised two specific cost overruns as concerns, it is necessary to examine the context in which those costs were incurred in order to assess reasonableness. Therefore, the Commission must first determine whether the decision to move the second foundation construction crew from Christina Lake Ipiatik to Christina Lake Pike was reasonable given what AltaLink knew or ought to have known at the time the decision was made, and then evaluate the specific decisions which relate to the schedule recovery; specifically, the decision to store structures on the 1116L Ipiatik ROW and the decision to expand the Margie storage yard and slow down material shipments.

783. In the Christina Lake Ipiatik facility application, AltaLink indicated that the Christina Lake area was 60 per cent “peat lands,” which required that construction be completed during frozen ground conditions, i.e., December to March. AltaLink acknowledged that this is a “very short construction window for a line of this size and in this type of terrain.” AltaLink indicated that should there be a risk of not meeting the ISD, then additional costs would be incurred to mitigate the risk, such as accelerating construction by adding crews or specialized equipment.831

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827 Exhibit 22542-X1972, CCA argument, paragraphs 455, 457-458 and 460.
828 Exhibit 22542-X1972, CCA argument, paragraphs 464-468.
829 Exhibit 22542-X1978, AltaLink reply argument, paragraph 236.
830 At paragraph 53 of Exhibit 22542-X0421, AltaLink stated that the geotechnical conditions were different than those anticipated at the PPS stage.
831 Exhibit 0002.00.AML-2530, Ipiatik facility application, paragraph 351.
784. The Commission has previously determined that the legislative scheme in place requires the TFO to comply with the direction of the AESO unless doing so would put its facilities or the safety of the TFO’s employees or the public at risk. This would include making reasonable efforts to meet the ISD and to inform the AESO of any issue which may jeopardize the timing, routing or cost of a project. In this case, AltaLink indicated that the AESO was kept informed of foundation progress and issues encountered, and that the decision to move the foundation placement resources from the Christina Lake Ipiatik project to the Christina Lake Pike project in order to prevent both projects from missing their ISDs by one year, was made in consultation with the AESO. The Christina Lake Pike project was selected as the project to be completed in the first season due to its length (shorter than 1116L), because it was closer to all-season roads, and because it had progressed enough that schedule recovery was feasible. AltaLink submitted that the costs for schedule recovery on the Christina Lake Ipiatik project would have been “prohibitive.” Based on these factors, the Commission considers it reasonable for AltaLink to have instituted measures for schedule recovery on the Christina Lake Pike project, including re-allocation of foundation resources from the Ipiatik project.

785. Of the points raised in the CCA’s argument, the Commission is unclear how storing the structures on the ROW would expose the structures to environmental conditions which could cause corrosion, fatigue or other damage, resulting in additional future maintenance costs. If the structures were placed on cribbing during frozen ground conditions and then were placed on access mats during unfrozen conditions, the structures would have limited, if any, exposure to the muskeg. It is not clear if the structures were protected from snowfall or other precipitation during storage, however, the structures would be expected to be exposed to these environmental conditions once erected. Furthermore, had the structures been stored at the Margie storage yard, it is likely that the structures would be exposed to similar environmental conditions at that location as well.

786. The Commission notes that in reply argument, AltaLink referenced its IR response as evidence that AltaLink had conducted a cost-benefit analysis of storing the structures on site versus in the Margie yard. However, no alternative cost information was provided in that response to demonstrate why the costs of storing the structures in the Margie yard would ultimately have been more costly. Only a summary of the tasks involved in storing the structures at the Margie site was provided.

787. Notwithstanding the lack of a cost-benefit analysis, the Commission accepts AltaLink’s explanation of the challenges it would have faced if it had attempted to move the assembled tower structures to the Margie yard instead of storing them on the ROW until the next winter season. The Commission also accepts that the construction process required that the tower structures were assembled on site and in advance of the foundation work. When considering

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832 Decision 2044-D01-2016, paragraph 115.
833 Decision 2044-D01-2016, paragraphs 114-115.
834 The issue of foundation delays first appeared in the January 2014 monthly report to the AESO (Exhibit 22542-X0071 at PDF page 247).
835 Exhibit 22542-X0421, Appendix 29 Project Summary Report Redacted (Ipiatik), paragraphs 53, 57 and 58.
836 Exhibit 22542-X1970, AltaLink argument, paragraph 446.
837 Exhibit 22542-X1972, CCA argument, paragraphs 455-464.
838 In response to IR AML-CCA-2017DEC20-007(a) (Exhibit 22542-X1482, PDF page 31), AltaLink notes that storing the structures at the Margie site would have required disassembly, transport and handling of the materials to the yard, handling of the materials at the yard, then transport and handling of the materials back to site followed by re-assembly of the structures.
these together with the direction by the AESO to keep Pike on track for its planned ISD, the Commission finds that storing the Ipiatik structures on the ROW and incurring additional matting costs was a reasonable decision at the time it was made.

788. Once a decision was made to store the structures on the ROW, access matting or some other form of support would reasonably have been required to prevent loss or damage to the structures. This is supported by numerous statements that muskeg was prevalent on the ROW and that the muskeg was deeper than anticipated requiring deeper foundations.\textsuperscript{839} There would have been a risk that the structures would sink into the muskeg and either be damaged, lost entirely or be irretrievable once frozen ground conditions returned which is when the site would have become accessible again.

789. For the reasons set out above, the Commission denies the CCA’s request to disallow some portion of costs related to the storage of structures on the 1116L ROW.

790. With respect to the Margie yard crew standby costs, while the Commission agrees with the CCA that standby costs can be an indication of an inefficient project and construction management, this does not appear to be the case here. AltaLink stated that the Margie yard crew was required to support ongoing construction on 1115L, which the CCA does not dispute, and the standby charges were due to a suspension of material shipments to the 1116L site because of erection delays and the re-allocation of resources to the Pike project. The Commission finds that AltaLink could not have anticipated the foundation installation delays and, as above, that AltaLink acted reasonably in the measures taken for schedule recovery, including the decision to suspend shipment of materials to a site that would no longer be actively under construction. Therefore, the Commission does not find that the standby charges were imprudently incurred and denies the CCA’s request to disallow all standby charges.

5.1.7 Requirement for Ipiatik substation move

791. In the project summary report, AltaLink explained that based on geotechnical data collected during the second season of construction and the site conditions encountered, the muskeg in that location was deeper than anticipated at the PPS stage. The depth of the muskeg would have added significant costs for civil works and added risk of differential settlement of the site. The proposed solution was to amend the original permit and licence to allow for a 165 m move of the Ipiatik substation to the northeast, which was understood to have minimal engineering impacts, and no additional stakeholder impacts and, further, that the additional costs could be “absorbed through contingency.”\textsuperscript{840}

\textsuperscript{839} The project summary report (Exhibit 22542-X0421) at paragraph 53 notes deeper muskeg conditions, which is supported by a subcontract amendment for foundations which mentions deep muskeg and soft conditions (PDF page 42 of Exhibit 22542-X0476-CONF).

\textsuperscript{840} Exhibit 22542-X0421, Appendix 29 Project Summary Report Redacted (Ipiatik), paragraph 64.

\textsuperscript{841} Exhibit 22542-X1482-CONF, AML-CCA-2017DEC22-005(dii)-CONF, PDF page 22.

\textsuperscript{842} Exhibit 22542-X0439-CONF, PDF page 7 for line 1116L and PDF page 31 for line 1117L.
792. In response to an IR, AltaLink provided additional cost information to compare the original and amended proposed substation locations. AltaLink considered the additional costs to be reasonable.844

793. In argument, the CCA expressed concern that the original and amended proposed substation footprint overlapped, which may indicate that the relocation did not fully mitigate the geotechnical issues. Additionally, the CCA was concerned with the subcontractor selected to construct the substation, noting performance issues that arose in relation to the same contractor in Proceeding 3585. In the CCA’s submission, AltaLink could not rely on the subcontractor’s experience for solutions to the geotechnical issues, and therefore, the relocation might not have been required. Finally, the CCA argued that AltaLink had not supported its costs by providing detailed geotechnical information on the record, nor information regarding the decision process, nor whether any other locations might have been more cost effective. The CCA recommended that a portion of the additional costs be disallowed.845

794. In reply argument, AltaLink indicated that the maligned subcontractor is a large construction company with significant experience in infrastructure projects. The performance issues experienced in Proceeding 3585 related to line construction on the Heartland project, which AltaLink argued had no relationship to the construction of the Ipiatik substation.

795. AltaLink provided a reference to the project geotechnical information which was filed with the application.846 AltaLink further submitted that the amended proposed substation location had more suitable, dry conditions, which reduced the scope of civil works. In addition, AltaLink noted that because of its proximity to the original proposed location, the substation layout and design could largely remain the same, and many of the original design structures could be reconfigured and used.847

Commission findings

796. The CCA’s argument largely appears to be that AltaLink did not provide sufficient information to support the additional costs of relocating the Ipiatik substation. The Commission agrees that AltaLink did not provide a geotechnical study specific to the Ipiatik substation; however, the geotechnical reports did contain information from boreholes close to the substation and generally demonstrate that muskeg is prevalent in the project area. From its evidence, it is unclear whether the CCA (a) is suggesting that AltaLink selected the new location arbitrarily; (b) is concerned that moving the substation had no benefit; or (c) is of the view that some other

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843 Exhibit 22542-X0460-CONF, change notices 0001 and 0002, PDF pages 1 and 6.
844 Exhibit 22542-X1482-CONF, AML-CCA-2017DEC20-005(d)i-CONF, PDF pages 20-21.
845 Exhibit 22542-X1972, CCA argument, paragraphs 470-478.
847 AltaLink referred to exhibits 22542-X0118-CONF to 22542-X0121-CONF. The Commission notes that these geotechnical reports are for the Christina Lake transmission lines (1115L, 1116L and 1117L) not the substations.
location might have been more cost-effective. In any case, the evidence on the record is that overall cost savings of [redacted] were achieved by relocating the substation 165 m to the northeast. Additionally, the amended substation location was approved by the Commission, with the understanding that the relocation would result in increased project costs which would be covered by contingency.\textsuperscript{849} The Commission, therefore, finds that the decision to relocate the substation was reasonable. Therefore, a portion, if not all, of the substation relocation costs can be deemed prudent.

797. However, the Commission is not prepared to approve the costs as final in this decision because the quantum of costs that relate to the substation relocation is unclear. The amount provided in response to AML-CCA-2017DEC20-005(d)i-CONF does not appear to total one specific change order, nor do the change orders identified in the paragraphs above total to the amount in the IR response. The Commission requires additional information in order to make its determinations. Accordingly, AltaLink is directed, in the compliance filing, to provide the following information:

(i) references to the change notices that relate directly or indirectly to the Ipiatik substation relocation;

(ii) an explanation of why the Ipiatik substation elevation change and subgrade gravel thickness was required, or a reference to where this information is provided; and

(iii) an explanation of how the amounts in AML-CCA-2017DEC20-005(d)i-CONF correspond to the amounts in the referenced change notices.

5.1.8 Lack of alternatives reviewed in subcontract amendments

798. In its argument, the CCA presented a schedule, attached as Appendix 2,\textsuperscript{850} which it asserted provided a selection of “SCA’s, in excess of $1M, which documents that within the referenced SCAs, the supporting Extra Work Request (EWR), and any other letters, correspondence, attachment, or documentation that has been provided on the record in association with the SCA is lacking in any mitigation strategy, description of the decision process, or list of alternative strategies available and considered on behalf of AML, the EPC, or the subcontractors.”\textsuperscript{851}

799. One of the identified SCAs was SCA 13, which included a requested change approval for [redacted] relating to the costs incurred to accelerate the schedule to complete the construction of the Ipiatik line in two seasons in contrast to extending the schedule into a third season. The CCA claimed that AltaLink did not sufficiently justify its decision, nor provide an analysis of potential alternatives.

800. The CCA also questioned SCA 6 relating to the Pike portion of the project. This SCA for [redacted] related largely to matting and their structure move costs along the ROW to facilitate stringing of the transmission line.

801. In reply, AltaLink again stated that it is the change notices that provide the factual underpinnings for the SCAs. Because the SCAs document the changes to the contracts, it would


\textsuperscript{850} Exhibit 22542-X1975

\textsuperscript{851} Exhibit 22542-X1972, CCA Argument at pdf 46 (paragraph 145.)
be unreasonable to expect those documents also include the factual analysis leading to the decision to amend the contracts. Specifically, with respect to SCA 13, AltaLink claimed that it provided references to where the CCA could find the information supporting its decision to accelerate the schedule.\textsuperscript{852} Further, as set out in AltaLink’s reply argument, in addition to the information set out in SCA 13, AltaLink had also provided, among other documentation:

For example in PCP 8, AltaLink includes a presentation to AESO with proposals of schedule recovery for Ipiatik. In AltaLink’s proposal to recover schedule for Ipiatik, three options were considered to complete the required work for 428/457L: 1) 5 day outage; 2) temporary bypass and hot line work; 3) delay work and complete as separate project.\textsuperscript{853}

802. With respect to SCA 6, AltaLink indicated that the backup supporting documentation was attached to the SCA.

Commission findings

803. The Commission provided its findings regarding the CCA’s Appendix 2 in Section 3.6.1 regarding the adequacy of the supporting documentation provided by AltaLink to explain the SCAs, including SCAs 13 and 6. The Commission has reviewed all the information referenced by AltaLink, and considers that these SCAs have been sufficiently supported and justified. The Commission will not direct any disallowance for the Christina Lake Pike and Ipiatik project costs on the basis that there was insufficient information provided to support these two SCAs.

5.1.9 Other variances - Christina Lake – Pike

804. In its Project Summary Report, AltaLink identified two areas for further examination:

• transmission line labour
• transmission line material\textsuperscript{854}

805. The cost variance was $27.5 million for transmission line labour. AltaLink indicated that the main drivers for the increase in costs were escalation, AC mitigation and ROW access and preparation. In particular, it noted that the variance from the revised PPS with respect to transmission line subcontractor costs was approximately $7 million.

806. AltaLink explained that AC mitigation costs were considerably higher than forecast because at the time AltaLink prepared the PPS it estimated the AC mitigation costs to be $3.4 million and actuals to December 31, 2015, were $14.4 million.

807. AltaLink claimed that additional ROW preparation included access matting, additional subcontractor and lines crews required to make-up schedule, and helicopter use for stringing. The amount related to increased ROW access in transmission line costs was estimated at approximately $6 million.

808. With respect to the transmission line material, the major increase in cost was market escalation between AltaLink’s PPS estimate and the actual cost AltaLink was able to obtain in the market. AltaLink maintained it competitively procured all contracts on the Pike project in

\textsuperscript{852} Exhibit 22542-X0428. Exhibit 22542-X1485, PDF pages 66 and 74-76. Exhibit 22542-X1482, PDF pages 10-17 and Exhibit 22542-X0427, PDF page 332.
\textsuperscript{853} Exhibit 22542-X1978, AltaLink reply argument, paragraph 89.
\textsuperscript{854} Exhibit 22542-X0093, paragraph 9.
compliance with ISO Rule 9.1.5. In addition, material pricing for the tubular steel structures was greater than AltaLink’s revised PPS estimate by approximately $2.8 million.

**Commission findings**

809. The Commission has reviewed all the supporting contract pricing and SCA information referenced in the procurement assessment summaries and finds that these costs have been prudently incurred by AltaLink. In particular, the Commission accepts AltaLink’s evidence that it competitively procured the transmission line and material in accordance with ISO Rule 9.1.5 and that these costs were reflective of the market rate at the time of procurement.

5.1.10 Other variances – Christina Lake Ipiatik

810. On a total project basis, AltaLink’s variance from the PPS at December 31, 2015, was $14 million.\(^{855}\) In the Project Summary Report AltaLink identified two areas for further examination:

- transmission line material
- transmission line labour\(^{856}\)

811. AltaLink indicated that with respect to the transmission line material, the major cost variance related to market escalation price differences between AltaLink’s PPS estimate and the actual price paid in the market compounded by the increase in volume of steel. Material pricing for the tubular steel structures was greater than AltaLink’s PPS estimate by approximately $10.7 million. The increase in the amount of steel and subsequent cost was driven by the refinement of design resulting in an increased weight of structures from what was assumed in the PPS. The design changes were necessary to accommodate the increase in loading requirements, change in minimum embedment and the AESRD requirements that resulted in modifications of structure design to allow for operations and maintenance personnel to climb structures.

812. With respect to transmission line labour costs, the main drivers for the increase in cost were schedule recovery, escalation, AC mitigation, field adjustments related to ROW access issues, shortened winter construction seasons and unanticipated soil conditions.

813. AltaLink explained that the most significant cost increase in the Christina Lake Ipiatik Project, was the cost incurred to achieve the ISD. AltaLink stated that it discussed options with the AESO to control costs while attempting to meet the ISDs for the Christina Lake Pike and Ipiatik projects. The Christina Lake Ipiatik foundation resources were moved to the Christina Lake Pike Project to ensure the ISD for that project could be met. Regardless, the shortened construction window due to the woodland caribou season meant that all foundation work could not be completed by one contractor as planned in the first winter season. A recovery schedule for the second season of construction was required. Options were assessed to optimize project cost and schedule.

814. Ultimately, the Christina Lake Ipiatik Project was completed in two winter seasons by adding a second contractor and obtaining a variance from AESRD to work into the

\(^{855}\) The December 19, 2012 PPS cost estimate was 256.7 million. The final costs requested for recovery are $270.7 million. The difference is $14 million. Exhibit 22542-0477, PDF page 2.

\(^{856}\) Exhibit 22542-X0477, PDF page 3.
woodland caribou season. The AESRD variance allowed construction to continue through completion, one month into the woodland caribou season.

815. Another driver of increased costs for transmission lines labour was market escalation between AltaLink’s PPS estimate and the actual cost AltaLink was able to obtain in the market. Transmission line subcontractor pricing was greater than AltaLink’s PPS estimate by approximately $12.1 million. A further driver of increased transmission lines labour cost on the Ipiatik Project was field adjustments related to increased ROW preparation, shortened winter construction seasons and unanticipated soil conditions.

Commission findings

816. The Commission has provided its findings regarding the costs attributable to accommodate the CMZ restrictions in Section 5.1.3, and the costs attributable to the schedule recovery and ice roads in sections 5.1.4 and 5.1.6.

817. With regard to the increased costs incurred for transmission line materials and labour that were not a consequence of these above issues, the Commission has reviewed all the supporting contract pricing and SCA information referenced in the procurement assessment summaries and finds that these costs have been prudently incurred by AltaLink. In particular, the Commission accepts AltaLink’s evidence that it competitively procured the transmission line and material in accordance with ISO Rule 9.1.5 and that these costs were reflective of the market rate at the time of procurement.

818. The Commission has reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

5.2 D.0304 – SATR Bowmanton-Whitla project

819. The Bowmanton-Whitla (BW) project is part of the AESO’s Southern Alberta Transmission Reinforcement (SATR) development project, a 240 kV looped system to connect up to 2,700 MW of wind power in the southern Alberta region.857

820. The scope of the BW project included the construction of a new 240 kV switching station called the Whitla 251S substation, and approximately 110 km of new 240 kV double circuit transmission line between Whitla 251S and Bowmanton 244S substations (transmission line 964L/983L). The BW project also included augmentation of protection and control, SCADA, and supporting communication systems required to accommodate these developments.858 AltaLink noted that the BW Project was executed at the same time as the Cassils to Bowmanton (CB) project, which was considered in AltaLink’s 2012-2013 DACDA application and approved in Decision 3585-D03-2016.859

821. The BW project was energized on March 25, 2014, meeting the ISD planned in the proposal to provide service.860 As set out in Table 10 below, AltaLink requested the approval of

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857 Exhibit 22542-X0019, PDF page 2.
858 Exhibit 22542-X0047, paragraph 20.
859 Exhibit 22542-X1970, AltaLink argument, paragraph 461.
860 Exhibit 22542-X0047, paragraph 59.
capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $267,934,275.

Table 10.  Bowmanton-Whitla (D.0304) project cost breakdown

<table>
<thead>
<tr>
<th></th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>52,230,000</td>
<td>39,696,000</td>
<td>39,523,861</td>
<td>40,536,082</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>105,992,000</td>
<td>130,945,002</td>
<td>146,564,450</td>
<td>152,447,607</td>
</tr>
<tr>
<td>Substation materials</td>
<td>9,541,000</td>
<td>12,512,000</td>
<td>8,344,706</td>
<td>8,344,706</td>
</tr>
<tr>
<td>Substation labour</td>
<td>5,438,000</td>
<td>12,701,000</td>
<td>12,009,885</td>
<td>12,046,745</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>151,000</td>
<td>151,000</td>
<td>136,584</td>
<td>136,584</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>406,000</td>
<td>459,000</td>
<td>735,925</td>
<td>735,925</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>468,000</td>
<td>571,000</td>
<td>476,719</td>
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<tr>
<td>O: facility applications</td>
<td>10,300,000</td>
<td>11,013,000</td>
<td>11,895,054</td>
<td></td>
</tr>
<tr>
<td>O: land rights - easements</td>
<td>6,760,000</td>
<td>6,947,000</td>
<td>7,541,988</td>
<td></td>
</tr>
<tr>
<td>O: land rights – damage claims</td>
<td>750,000</td>
<td>1,564,000</td>
<td>1,454,607</td>
<td></td>
</tr>
<tr>
<td>O: land rights – acquisitions</td>
<td>156,000</td>
<td>220,000</td>
<td>203,954</td>
<td></td>
</tr>
<tr>
<td>Total owner costs</td>
<td>18,434,000</td>
<td>20,315,000</td>
<td>21,572,322</td>
<td>21,914,053</td>
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<tr>
<td>D: procurement</td>
<td>311,652</td>
<td>4,558,036</td>
<td>2,564,138</td>
<td></td>
</tr>
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<td>D: project management</td>
<td>12,608,068</td>
<td>11,580,000</td>
<td>14,304,741</td>
<td></td>
</tr>
<tr>
<td>D: construction management</td>
<td>11,417,788</td>
<td>21,305,000</td>
<td>11,727,188</td>
<td></td>
</tr>
<tr>
<td>D: escalation</td>
<td>27,302,000</td>
<td>859,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D: contingency</td>
<td>50,372,000</td>
<td>24,433,000</td>
<td></td>
<td></td>
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<tr>
<td>Total distributed costs</td>
<td>102,011,508</td>
<td>62,735,036</td>
<td>28,596,067</td>
<td>31,927,528</td>
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<tr>
<td>OT: ES&amp;G</td>
<td>15,948,000</td>
<td>16,713,000</td>
<td>9,616,638</td>
<td>10,570,699</td>
</tr>
<tr>
<td>OT: AFUDC (historical)</td>
<td>42,602,000</td>
<td>817,000</td>
<td>832,838</td>
<td>1,097,030</td>
</tr>
<tr>
<td>Total costs prior to re-accrual</td>
<td>352,753,508</td>
<td>296,944,038</td>
<td>267,934,275</td>
<td>279,756,919</td>
</tr>
<tr>
<td>OT: AFUDC re-accrual amount</td>
<td>-</td>
<td>-</td>
<td>28,357,770</td>
<td>28,357,770</td>
</tr>
<tr>
<td>Total project costs</td>
<td>352,753,508</td>
<td>296,944,038</td>
<td>296,292,045</td>
<td>308,114,689</td>
</tr>
<tr>
<td>Disallowances (Directive 23)*</td>
<td>-</td>
<td>-</td>
<td>(347,838)</td>
<td>-</td>
</tr>
<tr>
<td>Total Including disallowances and AFUDC</td>
<td>352,753,508</td>
<td>296,944,038</td>
<td>295,944,206</td>
<td>308,114,689</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0304.

5.2.1  Use of access mats

822.  The Commission has addressed access matting costs for this project in Section 4.1.3.2.

5.2.4  Use of helicopters

823.  In evidence, the CCA claimed that the SNC-ATP business case supporting helicopter erection in the BW project was based upon information contained in the exhibit 22542-X00064-CONF, PDF page 9. It claimed the business case provided no unit quantities or unit prices and therefore one could not assess the reasonableness of the business case. Further, the forecast savings were minimal. It also noted that a number of the amounts in the table for the BW project were identical to the CB project as shown in Table 9.2-1 of the CCA’s evidence. Given that the CB project was 130 km, whereas the BW project was 110 km, the CCA suggested a number of these estimates were in error. Further, because AltaLink had not mentioned this problem, it appears that it, and presumably SNC-ATP, accepted this analysis without any careful scrutiny.

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861  Exhibit 22542-X0064-CONF, PDF page 9.
862  Proceeding 3585, Exhibit 0017.00.AML-3585, Appendix 04-01, paragraph 1.
863  Exhibit 22542-X0019, paragraph 3.
824. The CCA also reviewed the amendments to the construction contract for the BW project and found that significant cost increases through amendments after the creation of the BW helicopter business case were due to helicopter erection-related work. These additional costs dwarfed the savings from helicopter use that AltaLink expected for this project. The BW project also incurring significant additional matting costs in EPCm change orders. It submitted AltaLink was unreasonable in assuming that it would accrue savings from matting simply due to not using heavy cranes as much for tower erection and there was no evidence after the fact that using helicopters saved on matting costs, given the significant extra matting costs that were incurred.

825. Finally, the CCA noted that part of the justification for the use of helicopters in the business plan was the following:

By using helicopters to erect the structures, it will allow tower assembly to continue regardless of right of way restrictions. This will ensure that all of the towers are ready to erect when right of way access is granted. With the use of the helicopter, the erection window can be greatly reduced allowing us to maintain or regain the original schedule.

826. The CCA submitted that AltaLink ought to have known that maintaining the original schedule no longer comprised a valid justification for the use of helicopters because it was the CCA’s understanding that AltaLink knew during construction that there was no longer a customer at the end of the transmission line. This called into question the reasonableness of positions taken by AltaLink which suggested that costs should be incurred to stay on schedule. Consequently, in its confidential evidence, the CCA recommended a disallowance.

827. AltaLink stated in rebuttal evidence that the SNC helicopter recommendation document used for both the CB and BW projects, including updates, and the draft version of the RS Line recommendation document outline the benefits of using helicopters for tower erection on BW. In addition to ROW and environmental concerns, savings are achieved through a reduction in crew mobilization costs. Further, these helicopter recommendation documents are the same as those used on the CB project, using information provided by SNC-ATP and RS Line, and accepted by the Commission in the 2012-2013 DACDA decision.

828. AltaLink observed the CCA’s concern with the use of helicopter erection on the BW project appeared to be related to the use of matting on the project and project schedule. It contended that neither of these items were major drivers in the recommendation to use helicopter erection.
helicopters for tower erection on BW and, as such, are irrelevant to a discussion of helicopter use for this project.

829. AltaLink also dismissed the CCA’s concern that the same individual prepared the helicopter recommendations for its Cassils BowmantonWhitla (CBW) project\(^\text{873}\) and SFTP while working for different organizations. AltaLink noted it had previously stated that the helicopter recommendations are SNC-ATP and RS Line prepared documents\(^\text{874}\) and it was clear to anyone looking at the draft RS Line recommendation for CBW that the document submitted by SNC-ATP had taken parts of the RS Line document into consideration. AltaLink explained that the cost savings shown in the SNC-ATP document were less than in the RS Line document which demonstrates that SNC-ATP reviewed those numbers before submitting them. Other similarities between these documents and the future NFTP and SFTP documents were expected, because the benefits for using helicopters on these projects were also similar given similarities in design, terrain and environmental issues.

830. AltaLink also rejected the CCA’s assertion that the values used in the CBW recommendation estimate were in error and had not been scrutinized.\(^\text{875}\) It explained that these were mobilization costs taken from the bid and were based on the number of mobilizations and not line distance. This was clear in the explanation of the document and was expected to be the same for the estimate. Likewise, the cost of the catch brackets did not change for the projects because that cost was also independent of line length.

831. AltaLink also stated that the CCA’s recommendation of a cost disallowance on the BW project was not justified, nor was it explainable based on the information on the record. The CCA incorrectly categorized the cost increases as amendments above the values included in the helicopter recommendation.\(^\text{876}\) It was clear looking at the BW procurement assessment\(^\text{877}\) that the majority of the costs were executed as part of the final award of the RS Line contract and that only a minimal amount of that value was incurred as an amendment on SCA 19. Further, that amount was included in the procurement assessment.\(^\text{878}\)

832. In argument, the CCA maintained that AltaLink knew or ought to have known by 2012, during construction of the BW project, that there were going to be no customers connecting to the BW line after energization for some time. Therefore, because the savings from helicopters relied on a need to meet or beat an unnecessary ISD, the savings were not credible. It was concerned that an endless list of scenarios can be invented to create the compressed schedule necessary to make the savings from helicopter use appear credible. Across all projects that used helicopters, AltaLink claimed that the ISD necessarily compressed the construction schedules, which meant the savings from helicopters appeared more credible. In the case of BW, the CCA submitted it was clear that AltaLink should have been aware and notified the AESO that the scheduled in-service date was unnecessary because there were little to no BW customers.\(^\text{879}\)

\(^{873}\) As noted above, the CBW project was part of the SATR project. The CBW had two sections, the Cassils to Bowmanton (CB) section and the Bowmanton to Whita (BW) section. The costs for the CB section were addressed in Decision 3585-D03-2016.

\(^{874}\) Exhibit 22542-X1482-CONF, AML-CCA-2017DEC20-015-CONF.

\(^{875}\) Exhibit 22542-X1819, paragraph 377.

\(^{876}\) Exhibit 22542-X1819-CONF, paragraph 378.


\(^{878}\) Exhibit 22542-X0032-CONF, L05 – SCAs Tab, cells E407 and F407.

\(^{879}\) Exhibit 22542-X1819-CONF, PDF page 150.
833. In reply argument, AltaLink explained that a review of the helicopter business case stresses the advantages of using helicopters as follows:

The both scenarios show that using helicopters to erect towers should result in overall lower unit costs for both lines due to a reduction in the # of mobilizations and demobilizations as a result of keeping the construction crews busy during the summer months assembling tower components.

Better access to, and along, the RoW will be required if heavy cranes and haul trucks need to be mobilized along the entire ROW. This will in turn increase access costs, access matts and restoration costs. The other item that has not been estimated is the likelihood of standby time for the assembly and erection crews due to lack of access. Inevitably standby costs will be incurred using either method, but as with the access, those costs will likely be greater using conventional methods.\(^{880}\)

**Commission findings**

834. The Commission has addressed the use of helicopters in erecting towers in Section 3.1.2, confirming the Commission’s previous findings that the use of helicopters can be beneficial in terms of cost, scheduling and for environmental considerations.\(^{881}\)

835. With respect to the BW project in particular, the Commission notes that much of the evidence regarding BW was filed in the previous DACDA application, and was reviewed and accepted by the Commission at that time.\(^{882}\) The Commission also accepts AltaLink’s evidence above with respect to addressing environmental concerns and reducing mobilization costs. The use of helicopters is approved on this project.

5.2.2 **Lack of alternatives reviewed in SCAs**

836. In Appendix 2 to their argument,\(^{883}\) the CCA questioned the validity of a number of SCAs relating to the BW project. The CCA raised concerns with the following SCAs:

- **SCA 1:**\(^{884}\) This SCA relates to work performed by Helical Pier and requested an The CCA maintained that there was no explanations for these costs.

- **SCA 12:** This SCA relates to work performed by RS Line for a The procurement assessment information filed\(^{885}\) indicates the bulk of the cost was incurred to provide portable wash stations. The CCA maintained that there was no explanations for this cost.

- **SCA 15:**\(^{886}\) This SCA relates to work performed by RS Line at a The procurement assessment information filed\(^{887}\) indicates the bulk of the cost was incurred to provide additional matting services. The CCA maintained that there was no explanations for this cost.

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\(^{880}\) Exhibit 22542-X0064-CONF, PDF 10.

\(^{881}\) Decision 3585-D03-2016, paragraph 595, pdf 132, page 122.

\(^{882}\) Decision 3585-D03-2016, paragraph 661.

\(^{883}\) Exhibit 22542-X1975-CONF.

\(^{884}\) Exhibit 22542-X0046-CONF, PDF page 1.

\(^{885}\) Exhibit 22542-X0032-CONF.

\(^{886}\) Exhibit 22542-X0046-CONF, PDF pages 38-39.

\(^{887}\) Exhibit 22542-X0032-CONF.
• SCA 21: This SCA relates to work performed by RS Line at a [redacted] The procurement assessment information filed\textsuperscript{888} indicates the bulk of the cost was incurred to provide additional matting and also for bird flight diverters. The CCA maintained that there was no explanations for this cost.

• SCA 25:\textsuperscript{889} This SCA relates to the replacement of [redacted] at a [redacted] The procurement assessment information filed\textsuperscript{890} indicates this cost was addressed through a back charge to the applicable subcontractor which was under dispute.

**Commission findings**

837. The Commission has reviewed all of the above-referenced SCAs. SCAs 15 and 21 relate to additional costs for matting and matting services. The prudence assessment of AltaLink’s costs for matting is addressed elsewhere in this decision.

838. With respect to SCA 25, for the replacement of [redacted] in the amount of [redacted] the Commission is of the view that this charge should be back charged to the bolt supplier or recovered under the SNC-ATP warranty. Accordingly, AltaLink is directed to remove this charge in the amount of [redacted] in its compliance filing to this decision.

839. As for SCAs 1 and 12, the Commission accepts AltaLink’s explanations for the additional costs incurred and finds that they were supported by the provisions contained in the subcontractor contracts. Accordingly, the Commission is satisfied that the costs in these SCAs were prudently incurred.

**5.2.3 Mismanagement of construction contracts**

840. In argument, the CCA claimed there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) related to BW with a significant cost impact to ratepayers. The CCA referenced the following three categories:

a) ineligible change orders

where change orders were granted in deference to the enforcement of existing contractual rights as against the Subcontractors. These instances evidence AltaLink’s failure to reasonably conduct project developments or otherwise manage projects risks to the reasonable benefit of the ratepayers. Since AltaLink’s contracts with SNC were based on a “cost plus” methodology and the latter’s contracts and subcontract amendments with Subcontractors, were frequently based on a “cost plus”, “unit price” or “time and materials” methodology, SNC and the Subcontractors had a fiscal motivation to pass through change requests to AltaLink.\textsuperscript{891}

b) PPS overruns

… There are dozens of examples of significant PPS cost overruns on change orders without concrete evidence of SNC/Subcontractor compliance with the relevant

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\textsuperscript{888} Exhibit 22542-X0032-CONF.
\textsuperscript{889} Exhibit 22542-X0046-CONF, PDF page 69.
\textsuperscript{890} Exhibit 22542-X0032-CONF
\textsuperscript{891} Exhibit 22542-X1972, CCA’s argument, paragraph 347.
contractual rules for the raising of change orders. These cost overruns range from millions to tens of millions of dollars and are set forth in Appendix B (PPS Cost Overruns regarding Change Procedures).  

The CCA submits that the Commission has a reasonable basis at law to calculate and disallow a portion of the costs associated with each of these cost overruns, unless AltaLink adduces evidence showing that all material contractual requirements for these changes have been met. In the alternative, the CCA submits that the Commission could undertake an independent cost and performance audit of each contract to ensure SNC/Subcontractor compliance with the relevant contractual rules for the raising of change orders to fairly determine what portion of AML’s costs ought to be disallowed.

Given the large number and size of the overruns, it is highly unlikely that there has been compliance in every case.

c) project delays (delayed ISD or project delays)

Under most of the contracts governing the Subcontractor scope, the Subcontractor was obligated to pay liquidated damages and/or effect cost mitigation where the delay was due to the Subcontractor’s acts or omissions.

It is not clear in many of those instances whether: (a) those delays were triggered by Subcontractor act or omission; and (b) SNC required the relevant Subcontractors to pay liquidated damages/effect cost mitigation per the terms of the relevant contracts and (c) whether the benefit of any liquidated damage payments or cost mitigation were passed up to AltaLink under its MSA/Project Agreements with SNC. Where this was not done, AltaLink (and ultimately the ratepayer), was not compensated for any additional capital expenditures associated with facilities suffering delayed In-Service Dates.

The CCA prepared three separate schedules (Appendix A1, Appendix A2, and Appendix A3) with examples of individual subcontracts for each of the above listed categories.

Commission findings

The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.2.4 Other project variances

In the project summary report, AltaLink identified three areas for further examination:

- Transmission line labour
- Substation labour
- Project management/construction management

AltaLink identified a cost variance of $40.6 million in transmission line labour. It attributed it to market escalation, landowner commitments and access. AltaLink funded the
increases through contingency, with additional offsets from savings realized elsewhere on the BW Project, particularly reduced material costs. 896

845. With respect to substation labour, AltaLink identified a $6.6 million cost variance, which it attributed to market escalation and additional site work. As with transmission line labour, AltaLink funded the increases through contingency.

846. AltaLink also identified a cost variance of $4.3 million related to procurement and project/construction management. There were also additional costs totalling $1.6 million related to procurement management, contract administration, purchasing, material expediting and material control. 897 AltaLink submitted that project management and construction management variances were a result of mitigation of environmental risk, an increased focus on safety management and increased levels of coordination with other projects.

Commission finding

847. The Commission reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable with the one exception noted above, that being SCA 25 issued to RS Line. The Commission ruled on this SCA in Section 5.2.2 above.

848. The Commission has reviewed all the evidence with respect to the cost of the BW project. With the exception of SCA 25, related to the replacement costs of [redacted] the capital additions related to the BW project are approved as filed.

5.3 D.0306 - SATR South Foothills Transmission Project

849. The South Foothills Transmission Project (SFTP, AltaLink project D.0306) formed part of the original SATR project, which was considered in Proceeding 171. The Needs Identification Document (NID) application for the SFTP project was approved by Commission in Decision 2009-126. 898

850. AltaLink explained that although in the original SATR NID application it described the SFTP project as being required for a replacement of transmission line 911L with a 240 kV double-circuit transmission line from South Calgary to the Peigan Substation, the AESO subsequently filed an amendment to the SATR NID application to switch the southern termination from Peigan Substation to Windy Flats Substation. AltaLink explained that the amendment also removed one 240 kV transformer, which was included in the original project scope. As a result of the amendment, the SFTP project was revised and the final project scope comprised the following elements:

- approximately 120 km of new double-circuit 240 kV line 1037L/1038L from the Windy Flats 138S substation to the Foothills 237S substation
- construction of a new 240 kV Windy Flats 138S substation located of west of Fort McLeod adjacent to transmission line 967L/968L

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896 Exhibit 22542-X0760-CONF, Appendix 4-13-1, PDF page 36 (CO 8).
897 Exhibit 22542-X0760-CONF, Appendix 4-13-1, PDF page 36 (CO 8).
- construction of a 240 kV line termination at Foothills 237S substation
- construction of a new 240 kV Series Capacitor Station SC1 266S, located on the line approximately 70 km from Windy Flats 138S Substation and approximately 50 km on the new line 1037L/1038L from Foothills 237S Substation
- modification of the existing 240 kV transmission line 967L/1084L to transition it into and out of Windy Flats 138S substation

851. AltaLink explained that while the initial cost estimate for the SFTP project at the time of its PPS was approximately $427.4 million, this figure was subsequently increased to an estimated cost of approximately $438.9 million, reflecting further clarifications regarding the scope of the Windy Flats 138 kV project.

852. The SFTP project was fully energized on August 20, 2015. As set out in Table 11 below, AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $420,045,966.

**Table 11. South Foothills Transmission (D.0306) Project cost breakdown**

<table>
<thead>
<tr>
<th>Description</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>67,066,000</td>
<td>78,575,397</td>
<td>71,159,336</td>
<td>69,692,826</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>127,335,000</td>
<td>225,542,038</td>
<td>224,258,464</td>
<td>229,973,160</td>
</tr>
<tr>
<td>Substation materials</td>
<td>16,944,000</td>
<td>23,294,952</td>
<td>18,513,558</td>
<td>18,477,027</td>
</tr>
<tr>
<td>Substation labour</td>
<td>12,300,000</td>
<td>29,608,496</td>
<td>22,961,175</td>
<td>23,142,551</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>500,000</td>
<td>708,925</td>
<td>204,845</td>
<td>204,845</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>488,000</td>
<td>675,694</td>
<td>627,446</td>
<td>635,421</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>1,440,000</td>
<td>1,516,000</td>
<td>1,422,630</td>
<td></td>
</tr>
<tr>
<td>O: facility applications</td>
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<td>22,295,689</td>
<td>21,439,927</td>
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<td>14,701,000</td>
<td>15,174,593</td>
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<td>Total owner costs</td>
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<td>D: procurement</td>
<td>2,269,000</td>
<td>2,824,000</td>
<td>2,758,118</td>
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<tr>
<td>D: project management</td>
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<td>18,112,694</td>
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<tr>
<td>D: construction management</td>
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<td>7,936,552</td>
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<td>D: escalation</td>
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<td>5,000,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>D: contingency</td>
<td>66,721,000</td>
<td>23,500,000</td>
<td>-</td>
<td></td>
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<tr>
<td>Total distributed costs</td>
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<td>67,639,694</td>
<td>26,492,419</td>
<td>29,380,280</td>
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<tr>
<td>OT: ES&amp;G</td>
<td>18,198,000</td>
<td>26,282,115</td>
<td>14,676,696</td>
<td>15,457,732</td>
</tr>
<tr>
<td>OT: AFUDC (historical)</td>
<td>30,070,000</td>
<td>489,000</td>
<td>928,368</td>
<td>928,368</td>
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<tr>
<td><strong>Total costs prior to re-accred</strong></td>
<td>438,876,000</td>
<td>497,189,000</td>
<td>420,045,966</td>
<td>428,905,561</td>
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<td>-</td>
<td>24,219,221</td>
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<td><strong>Total project costs</strong></td>
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<td>444,265,187</td>
<td>453,124,782</td>
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</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0306.

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899 Exhibit 22542-X0391, paragraph 14.
900 Exhibit 22542-X0391, paragraphs 16 and 17.
901 Exhibit 22542-X0391, paragraph 63.
5.3.1 Use of access mats

The concerns of the CCA with respect to the use and cost of matting have been addressed in Section 4.1.3.2.

5.3.2 Use of helicopters

In evidence, the CCA stated the business case to support helicopter use in erecting towers anticipated savings due to an expected reduction in matting costs, “by removing unnecessary crane traffic from the right of way.” The same document assumed a direct relationship between crane use and matting requirements. The CCA argued that the assumption of a simple 1:1 or even 0.5:1 ratio was not reasonable considering AltaLink’s experience with matting. Although heavy cranes may often require the most matting, the extent and cost of matting can change due to other factors. AltaLink has claimed that landowner concerns, landscape specificities, weather and seasonal conditions, and rental or ownership scenarios of matting can impact matting costs. The CCA stated a reasonable business case should have examined all drivers of the needs for access mats and not relied on only one driver of need to forecast the impact of the use of heavy cranes.

The CCA identified subcontract amendments due to helicopter costs which exceeded the lower range of the forecast savings AltaLink expected to derive from the helicopter erection. It also noted significant subcontract amendments due to matting in this project. Based on this analysis, the CCA questioned the reasonableness of AltaLink’s decision to use helicopters on the SFTP project.

AltaLink stated in its rebuttal evidence that the RS Line helicopter recommendation document used for SFTP included information on cost and schedule savings associated with using helicopters on the project, as well as additional benefits arising from safety and ROW workspace. It claimed that the CCA ignored in its analysis the other benefits included in the recommendation. Further, AltaLink already placed on the record an explanation of the matting costs for this project, which would have increased further with the need to move larger cranes along the ROW and with the increase of matting required around the tower locations to support large crane tower erection. AltaLink submitted the CCA’s recommendation of a cost disallowance on SFTP was not justified, nor was it explainable based on the information on record.

Commission findings

The Commission has addressed the use of helicopters in erecting towers in Section 3.1.2, confirming the Commission’s previous findings that the use of helicopters can be beneficial in terms of cost, scheduling and for environmental considerations.
With respect to this project in particular, the Commission has reviewed and accepts the information provided in the business case. The issue of matting costs in conjunction with helicopter usage is dealt with in Section 4.1.3.1 and Section 4.1.3.2 of this decision. The costs related to the use of helicopters are approved on this project.

5.3.3 Lack of alternatives reviewed in SCAs

In Appendix 2 to its argument, the CCA questioned the validity of a number of SCAs relating to the SFTP project. The CCA raised concerns with the following SCAs:

- **SCA 1:** This SCA relates to material supplied by Anixter at a cost of $[Redacted]. The procurement assessment information AltaLink provided indicates that the material supplied related to conductor and associated reel deposits. The CCA maintained it was not clear why these charges were allocated to this project.

- **SCA 4:** This SCA relates to work performed by RS Line at a cost of $[Redacted]. The procurement assessment information AltaLink filed indicates that the bulk of the charges related to the use of helicopters for the installation of towers and for rental of additional mats. The CCA maintained that there was no sufficient explanation for the charges.

- **SCA 5:** This SCA relates to work performed by RS Line at a cost of $[Redacted]. The procurement assessment information AltaLink filed indicates that the charges were for conductor and stringing. The CCA maintained that there was no sufficient explanation justifying these costs.

- **SCA 7:** This SCA relates to work performed by RS Line at a cost of $[Redacted]. The procurement assessment information AltaLink filed indicates that the bulk of the charges related to matting and matting services. The CCA maintained that there was no sufficient explanation for the charges.

- **SCA 8:** This SCA relates to work conducted by RS Line at a cost of $[Redacted]. The procurement assessment information AltaLink filed indicates that the costs related to costs associated with conductor, stringing and site close out. The CCA maintained there was no description of why the costs were added nor were any alternatives considered.

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908 Exhibit 22542-X0420-CONF.
909 Exhibit 22542-X1975-CONF.
910 Exhibit 22542-X0415-CONF, PDF page 6.
911 Exhibit 22542-X0377-CONF.
912 Exhibit 22542-X0390-CONF, PDF page 13.
913 Exhibit 22542-X0377-CONF.
914 Exhibit 22542-X0390-CONF, PDF page 46.
915 Exhibit 22542-X0377-CONF.
916 Exhibit 22542-X0390-CONF, PDF pages 69-83.
917 Exhibit 22542-X0377-CONF.
918 Exhibit 22542-X0390-CONF, PDF pages 84-88.
919 Exhibit 22542-X0377-CONF.
Commission findings

860. The Commission notes that SCAs 4 and 7 relate primarily to matting and the use of helicopters. The prudence of AltaLink’s cost related to the use of matting and helicopter is addressed in Section 4.1.3.1 and Section 4.1.3.2.

861. SCAs 5 and 8 are charges related to the conductor and stringing. Although the quantum of these SCAs is significant, the Commission finds that the work was necessary to complete the transmission line and was contemplated in the original contract. Accordingly, the Commission is satisfied that the costs in SCAs 5 and 8 were prudently incurred.

862. Similarly, the Commission has reviewed SCA 1, related to material supplied by Anixter, and is satisfied that the amount of $ was for material required to be used on this project and prudently incurred.

5.3.4 Mismanagement of construction contracts

863. In argument, the CCA claimed there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the SFTP project.

Commission findings

864. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.3.5 Other project variances

865. In the project summary report AltaLink identified three areas for further examination:

- Transmission line labour
- Substation labour
- Distributed costs – project management

866. With respect to transmission line labour, AltaLink explained that issues related to land access delays, foundation design and installation, and wildlife restrictions resulted in construction delays and increased costs. The use of helicopters to set tangent towers, in addition to revisions to the work schedule, assisted in mitigating these impacts. The total variance from the PPS is $96.9 million, of which $16.8 million resulted from scope transfers from the NFTP ($7.3 million); (b) the inclusion of the Windy Flats 138 kV PPS in the amount of $1.3 million; and (c) the Series Compensation Station in the amount of $8.2 million.

867. AltaLink also explained that market escalation between when AltaLink’s PPS estimate was created and when the contract was signed resulted in significant increases at the actual market rates. The initial contract value for line construction labour was $22.5 million more than AltaLink anticipated in its PPS estimate for lines labour of $119.6 million.

868. Another driver of increased transmission lines labour cost were the additional costs incurred for construction access. This increase is largely a result of the change in construction seasonality due to a six-month permit and licence issue delay. The majority of the $31.2 million related to these costs was the result of additional access matting to mitigate environmental
impacts to sensitive land and wildlife features. Access mats were also used to protect other infrastructure at crossing locations.

869. AltaLink further noted that changes in project scope caused increases in transmission lines labour costs on the SFTP of approximately $31.8 million. At the PPS estimate stage, AltaLink had not considered the amount of temporary line that needed to be constructed to keep 911L energized for the duration of the project; a total of $7.0 million. In addition, AltaLink stated that after the PPS was created, the 138 kV transmission line scope was added to the RS Line contract. Following geotechnical investigations, unfavorable soil conditions were discovered, which required modifications to the length of the screw piles used for the project. These changes increased the project costs by $16.6 million. Changes were required to the foundations for the structures located at the Oldman River crossing after the hydrology studies were completed. These changes further increased the costs by $4.5 million.

870. As for substation labour, the increase in costs related to market escalation, a change in construction seasonality and an estimating assumption regarding the ampacity of the substation. The PPS estimate was prepared using AltaLink’s 3000A ampacity design for substations because a 5000A design was not available at that time. AltaLink assumed that this ampacity design would be sufficient for estimating purposes. The PPS estimate also used summer labour rates as that was the schedule assumption at the time the estimate was prepared. The net cost impact of these changes was $11.4 million.

871. The PPS estimate for project management of $10.4 million increased to $15.8 million at the end of December 2015. The delay in obtaining the Permit and Licence and the addition of the Windy Flats Scope increased the need for project management costs as it drove a significant planning exercise to update the execution plan for the approved project.

Commission findings

872. The Commission has reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds that they were supported by the provisions set out in the subcontractor contracts. Accordingly, the Commission is satisfied that the costs in these SCAs were prudently incurred.

873. The Commission has reviewed all the evidence with respect to the cost of the SFTP project. The Commission is satisfied that these costs were prudently incurred, the capital additions for the South Foothills project are approved as filed.

5.4 D.0390 - FATD East North Foothills Transmission Project

874. AltaLink project D.0390 is a component of the Foothills Area Transmission Development East Region (FATD East) project, and is generally referred to as the FATD East NFTP. AltaLink explained that the overall FATD East project was required in order to address the need for transmission reinforcement in areas of southeast Calgary, Okotoks and High River, due to load growth, the need for capacity to allow wind generation to flow to load centres and to accommodate gas-fired generation projects in the south Calgary and High River areas.²²⁰

875. The NFTP was initially composed of the following components:

²²⁰ Exhibit 22542-X1970, AltaLink argument, paragraph 579.
• construction of a new 240 kV/138 kV substation to be called Foothills 237S
• construction of a new 240 kV double-circuit line of approximately 51 km in length\textsuperscript{921} between the Foothills 237S substation and the ENMAX No. 65 substation to be called 1106L/1107L
• reconfiguration of lines at the ENMAX No. 65 substation
• the connection of the reconfigured and new lines to the ENMAX No. 65 switching station.\textsuperscript{922}

876. In Decision 2013-369,\textsuperscript{923} however, the Commission approved an alternate location for the Foothills 237S substation, thereby changing the length of the NFTP by approximately 5 km. For project execution purposes, AltaLink decided to transfer 5 km of transmission line construction from the NFTP to the SFTP. Accordingly, as a result of this transfer, the authorized budget for the NFTP was reduced by approximately $12 million compared to the PPS stage cost estimate, which was prepared prior to the transfer.\textsuperscript{924}

877. In addition, prior to commencement of construction, the AESO approved AltaLink’s request to transfer the NFTP’s Foothills 237S substation to the Foothills 138 kV (project D.0392) element of the FATD East project. AltaLink explained that this transfer was required to simplify project control and project reporting and to reduce coordination costs between the NFTP and the Foothills 138 kV project. After the PCP was approved by the AESO, the estimated cost of the NFTP was reduced by a further $19.7 million.\textsuperscript{925}

878. The NFTP was energized on November 28, 2015. As set out in Table 12 below, AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $161,100,018:

Table 12. North Foothills Transmission (D.0390) Project cost breakdown

<table>
<thead>
<tr>
<th></th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
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<td>22,199,844</td>
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<td>-</td>
<td>-</td>
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<td>Telecommunication labour</td>
<td>158,000</td>
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<td>O: proposal to provide service</td>
<td>639,000</td>
<td>587,636</td>
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<td>O: facility applications</td>
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<td>8,742,330</td>
<td>9,317,123</td>
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</tr>
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<td>O: land rights - easements</td>
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<td>4,809,101</td>
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</tr>
<tr>
<td>Total owner costs</td>
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<td>29,188,155</td>
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<tr>
<td>D: procurement</td>
<td>4,388,000</td>
<td>8,952,957</td>
<td>7,996,616</td>
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</tbody>
</table>

\textsuperscript{921} Exhibit 22542-X0487, paragraph 33.
\textsuperscript{922} Exhibit 22542-X0487, paragraph 15.
\textsuperscript{924} Exhibit 22542-X0543, paragraph 35.
\textsuperscript{925} Exhibit 22542-X0543, paragraph 46.
5.4.1 Use of access mats

879. The Commission has addressed access matting costs for this project in Section 4.1.3.2.

5.4.2 Use of helicopters

880. In evidence, the CCA noted the business case supporting helicopter use by SNC-ATP used unit prices from the RS Line bid to determine the forecast savings from the use of helicopters on this project. The CCA also noted that SNC-ATP assumed additional savings from the avoided use of mats when in fact, it was required to use significantly more matting than forecast as shown in the EPCm change orders.926 The CCA maintained that the amounts for helicopter use and matting were significant, and it was not credible for AltaLink to have claimed it would expect extensive savings in matting given the extent to which it incurred further matting costs.

881. AltaLink stated in rebuttal evidence that the SNC recommendation document used for the NFTP927 for helicopter use included information on reduced costs as compared to crane erection in addition to other benefits such as safety, reduced environmental impacts, reduced ROW workspace requirements and reduced matting requirements. It submitted that the CCA’s concern with the use of helicopter erection on the NFTP appears to be with the use of matting on the project. In response, AltaLink submitted that the need for matting on the NFTP had already been explained on the record928 and would be greater for crane erection than for helicopter erection due to the requirement for larger cranes on the ROW resulting in additional matted workspaces around each tower needed to support the larger cranes. AltaLink further noted that the CCA had not made claims for disallowances on this project.

Commission findings

882. The Commission has addressed the use of helicopters in erecting towers in Section 3.1.2, confirming the Commission’s previous findings that the use of helicopters can be beneficial in terms of cost, scheduling and for environmental considerations.929

883. With respect to this project in particular, the Commission has reviewed and accepts the information provided in the business case.930 The business case was prepared by SNC-ATP

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926 Exhibit 22542-X1485-CONF, PDF page 69.
927 Exhibit 22542-X0522-CONF.
928 Exhibit 22542-X0487, paragraphs 50-51.
929 Decision 3585-D03-2016, paragraph 595.
930 Exhibit 22542-X0522-CONF.
and illustrates that the RS Line helicopter option was the lowest bid received for tower erection in addition to the other benefits. The issue of matting costs has been dealt with in Section 4.1.3.2 of this decision. The use of helicopters is approved on this project.

5.4.3 Lack of alternatives reviewed in SCAs

884. In Appendix 2 to its argument, the CCA questioned the validity of a number of SCAs relating to the NFTP. The CCA raised concerns with the following SCAs:

- SCA 2: This SCA relates to work performed by RS Line in the amount of [redacted]. In the procurement assessment information AltaLink provided, it indicated that the costs were primarily for matting and matting related services. The CCA maintained that there were no details justifying the need for these costs nor were alternatives considered.

- SCA 3: This SCA relates to work performed by RS Line in the amount of [redacted]. In the procurement assessment information AltaLink provided, it is indicated that these costs were primarily required for matting and matting related services. The CCA maintained that there were no details justifying the need for these costs nor were alternatives considered.

Commission findings

885. The Commission notes that SCAs 2 and 3 relate primarily to matting. The prudence of AltaLink’s cost for the use of matting is addressed in Section 4.1.3.2 in this decision.

5.4.4 Mismanagement of construction contracts

886. In argument, the CCA claimed that there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the NFTP project. Specifically related to NFTP’s PPS cost overruns, addressed in Appendix 2 of its argument, the CCA expressed concerns with variances in salvage costs.

Commission findings

887. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.4.5 Other project variances

888. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line labour
- Transmission line material
- Substation costs – labour and materials
- Owner costs – land access

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931 Exhibit 22542-X1975-CONF
932 Exhibit 22542-X0758-CONF, PDF page 2.
933 Exhibit 22542-X0500-CONF
934 Exhibit 22542-X0758-CONF, PDF page 32.
935 Exhibit 22542-X0500
936 Exhibit 22542-X0385.01.
937 Exhibit 22542-X1972, PDF page 176.
• Distributed costs – project management

889. With respect to transmission line labour, the additional costs incurred related to access matting and market escalation. For transmission line labour, there was a $10 million variance in market rates between the 2011 PPS estimate costs and the costs of the lines contract in 2014. The NFTP also incurred increased costs for materials management above what was contemplated in the PPS estimate. This contract was competitively procured at a cost of 1.9 million.

890. AltaLink incurred total costs of $19.4 million for access matting, which was approximately $8.6 million higher than the PPS estimate. AltaLink explained that the wetter than anticipated conditions, combined with the decision to construct triple-circuit monopoles, increased the amount of access matting required for the project. The use of triple-circuit towers changed the foundation type from screw pile to caisson. This increased the amount of matting required due to the need to have heavy concrete trucks access each tower location.

891. With respect to transmission materials, since 5 km of the transmission line scope was transferred to the SFTP, approximately $2.6 million of lattice tower steel was also scoped out of the NFTP Project. Tubular steel monopoles were procured for $4.5 million less than assumed in the PPS estimate.

892. AltaLink explained that substation costs for labour and material were significantly lower than the PPS estimate primarily due to the transfer of the NFTP’s Foothills 237S Substation scope to the Foothills 138 kV Project.

893. AltaLink noted that although the Foothills 237S Substation was removed from the scope of the NFTP, it still incurred costs in relation to substation materials and labour for a new, temporary 850L switching substation. Variances for substation labour of $2.7 million and substation materials of $1.7 million were attributable to the construction of the temporary 1140S Substation.

894. With respect to owner costs – land access, AltaLink’s actual costs were lower than anticipated in the PPS estimate. AltaLink explained that during the land acquisition phase, the market rates for land access were lower than assumed in the PPS estimate. Amounts associated with damage payments were also lower than the PPS estimate. The PPS estimate also used a route length that was greater than what was eventually constructed, resulting in a reduction from AltaLink’s PPS estimate of $14.9 million.

895. AltaLink incurred increased costs for procurement, project management, and construction management because of an increased level of coordination with other projects due to outage constraints, a schedule extension, mitigation of environmental risks, and increased focus on safety management. These changes amounted to a $3.6 million increase above the PPS estimate.

Commission findings

896. The Commission has reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

897. The Commission has reviewed all the evidence with respect to the cost of the NFTP. The Commission finds the capital costs of the NFTP to be prudently incurred and they are approved as filed.
5.5 D.0391 - FATD East Langdon to Janet

898. Project D.0391, the Langdon to Janet (LTJ) project, is one of three projects included in AltaLink’s 2014-2015 DACDA application related to the AESO’s FATD East project. The LTJ portion of the FATD East project is composed of a double-circuit 240 kV transmission line between the Langdon 102S and Janet 74S substations for the purposes of increasing capacity into Calgary and to allow the ENMAX Shepard Energy Centre to reach full output.938

899. The LTJ project is located in the service territories of both ENMAX and AltaLink. However, all elements of the LTJ project, including the sections located within ENMAX’s service territory were constructed by AltaLink.

900. The LTJ project involved the following elements:

- construction of the approximately 18 km double-circuit 240 kV line 1064L/1065L from the Langdon 102S substation to the Janet 74S substation
- various expansions and alterations of the Janet 74S substation
- addition of two diameters of 240 kV switchgear at the Crossings 511S substation and connection of 936L/937L
- connection of transmission line 1064L/1065L to the existing transmission line 936L/937L termination points at the Langdon 102S substation
- construction of approximately 300 m of direct bury 240 kV line 917L underground crossing under transmission line 929L/932L and transmission line 901L/902L
- removal of 936L/937L terminations at the Janet 74S substation and the connection to transmission line 917L/1077L resulting in two new circuits designated as 936L/937L with terminals at the East Calgary 5S and Crossings 511S substations
- connection of transmission line 1064L/1065L and 985L at the Janet 74S substation
- relocation of approximately 2 km of transmission line 850L/911L at Shepard corner
- relocation of 2 km of the 936L/937L at the Langdon 102S substation
- salvage of approximately 6 km of transmission line 911L/850L.939

901. At the time of the PPS estimate, the estimated cost of the entire LTJ project was approximately $102.7 million, of which approximately $80.1 million was attributed to project works located within AltaLink’s service territory and approximately $22.7 million related to works located in ENMAX’s service territory.

902. The LTJ project was energized on June 1, 2015, approximately 10 months later than the originally planned ISD.940 In respect of the portion of the LTJ project located within AltaLink’s service territory, AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $92,270,485 as set out in Table 13 below.

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938 Exhibit 22542-X1970, AltaLink argument, paragraph 591.
939 Exhibit 22542-X0579, paragraph 22.
940 Exhibit 22542-X0579, PDF page 55.
Table 13.  
FATD East – Langdon to Janet (D.0391) project cost breakdown

<table>
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<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
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<td>Transmission line labour</td>
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<td>Substation materials</td>
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<tr>
<td>Substation labour</td>
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<td>Telecommunication labour</td>
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<td>205,064</td>
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<td>O: proposal to provide service</td>
<td>346,000</td>
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<td>307,791</td>
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<tr>
<td>O: facility applications</td>
<td>4,378,000</td>
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<td>3,931,925</td>
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<td>6,891,993</td>
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<tr>
<td>D: construction management</td>
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<td>2,412,044</td>
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<td>D: escalation</td>
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<td>D: contingency</td>
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<td>OT: AFUDC (historical)</td>
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<td>45,053</td>
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<td>94,967,004</td>
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</tr>
</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0391.

5.5.1 Mismanagement of construction contracts

903. In argument, the CCA claimed that there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the NFTP project.\(^{941} \)\(^{942} \)\(^{943} \)

904. Specifically related to LTJ’s PPS cost overruns, addressed in Appendix 2 of its argument, the CCA expressed concerns with variances in salvage costs.\(^{944} \)

Commission findings

905. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.5.2 Other project variances

906. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line labour
- Substation costs - labour

\(^{941} \) Exhibit 22542-X0385.01.
\(^{942} \) Exhibit 22542-X0177.
\(^{943} \) Exhibit 22542-X0206.01.
\(^{944} \) Exhibit 22542-X1972, PDF pages 176-177.
• Substation costs – materials
• Project management

907. With respect to transmission line labour, the cost increases related primarily to market escalation and advancement of the ISD. AltaLink explained that the AESO requested advancement of the ISD to May 31, 2015, for this project to allow for testing of the HVDC equipment on the WATL project. The additional costs associated with advancement of the ISD were $3 million.

908. The total line item variance for transmission line labour was $21 million. The original contract values associated with line labour totaled approximately $48.3 million, resulting in an increase of $20.4 million compared to the PPS estimate.

909. AltaLink identified substation labour as a second area for further examination. The largest and most significant variance in substation costs were price and labour increases, which were $14.7 million greater than the PPS estimated cost. Scope changes involved an ampacity upgrade of the 74S bus and the completion of the L15 diameter, resulting in additional labour costs of $5.7 million.

910. As for substation material, the variance from the PPS estimate was $3.1 million. The largest and most significant variance in the substation material cost resulted from scope changes.

911. The variance from the PPS estimate with respect to project management costs was $7.3 million. AltaLink attributed this variance to an increased level of coordination with other projects due to outage constraints, delay in the issuance of a permit and licence, an extended schedule, management of work activities alongside and in energized substations, mitigation of environmental risk and increased focus on safety management.

Commission findings

912. The Commission has reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

913. The Commission has reviewed all the evidence with respect to the cost of the Langdon to Janet project. The Commission finds that the capital costs for the Langdon to Janet project were prudently incurred and the capital additions are approved as filed.

5.5.3 Langdon to Janet – ENMAX elements

914. In argument, ENMAX explained that the FATD East – Landgon to Janet project was composed of two primary elements, namely, a substation and a transmission line. ENMAX constructed, and now operates, the substation component of the project. AltaLink constructed the entire 18 km length of the transmission line portion of the project, including both a section of approximately 7 km in length located in ENMAX’s service territory and a section of approximately 11 km in length located in AltaLink’s service territory. ENMAX clarified that while it assigned a project manager to oversee the section of the transmission line built in its service territory, AltaLink is the party responsible for demonstrating the prudence of the costs incurred for the construction of both sections of the transmission line in the LTJ project. As such,

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ENMAX submitted, it relies on the submissions of AltaLink in respect of the prudence of the costs associated with the construction of the transmission line.\textsuperscript{946}

915. ENMAX also noted that in Decision 22089-D01-2018, the Commission approved a placeholder in the amount of $34.30 million for the ENMAX section of the FATD East LTJ project, within which the Commission approved, as filed, $4.8 million in costs related to the substation portion of the project.\textsuperscript{947} ENMAX further noted that the final cost of the section of the transmission line project located in its service territory was $29.39 million. Finally, ENMAX submitted that the Commission should approve these expenditures on a final basis at this time.\textsuperscript{948}

**Commission findings**

916. As indicated above, the Commission has approved the full amount of AltaLink’s expenditures on the LTJ project, as filed. Accordingly, the full amount of the $34,296,903 placeholder in respect of the ENMAX portion of the project, set out in Decision 22089-D01-2018, is approved on a final basis.

5.6 **D.0392 - FATD East Foothills 138 kV**

917. Project D.0392, the Foothills 138 kV project is the third of three projects included in AltaLink’s 2014-2015 DACDA application related to the AESO’s FATD East project. At the time of AltaLink’s proposal to provide service for the FATD East development, the Foothills 138 kV project represented the 138 kV portion of the FATD East development and included the following distinct elements:

- addition of two 240/138 kV, 240/320/400 MVA transformers at the Foothills 237S substation
- completion of two diameters of 138 kV switchgear at the Foothills 237S substation
- addition of two 138 kV Line terminations at the Foothills 237S substation for circuits to the High River 65S and Okotoks 678S substations
- additions to the High River 65S substation to extend the bus to accommodate an additional 138 kV circuit for 646L
- additions to the Okotoks 678S substation to extend the bus to accommodate an additional 138 kV circuit 434L
- construction of approximately 14 km of double circuit 138 kV line (transmission line 434L/646L) between the Foothills 237S and High River 65S substations
- rebuild of approximately 7 km of the existing transmission line 727L to double circuit 138 kV 727L/434L from High River to Aldersyde area
- reconfiguration of the existing 911L from the Aldersyde area to near the Okotoks 678S substation
- construction of approximately 800 m of double circuit 138 kV line 727L/850L from the existing 911L to the Okotoks 678S substation

\textsuperscript{946} Exhibit 22542-X1971, ENMAX Power argument, paragraph 25.
\textsuperscript{948} Exhibit 22542-X1971, ENMAX Power argument, paragraphs 26-27.
reconfiguration of the existing 911L from 240 kV to 138 kV as transmission line 850L from a location near the Okotoks 678S substation to the existing transmission line 850L at corner where it turns east towards Carseland

- replacement of the existing 911L overhead shield wire to optical ground wire from the ENMAX No. 65 substation to the ENMAX No. 25 substation

- salvaging of approximately 30 km of existing 727L from the Janet 74S substation to the Okotoks 678S substation.

In Decision 2013-369, issued on October 7, 2013, the Commission approved an alternate location for the Foothills 237S substation and a hybrid route that utilized elements of the preferred and alternate routes for the 138 kV transmission line discussed in the facility proceeding for the Foothills 138 kV project. This decision resulted in scope changes to the project and, consequently, additional costs, which were included as part of PCP’s submitted to the AESO, that totalled approximately $41.1 million.

All work performed on the Foothills 138 kV project other than work associated with decommissioning and salvage work was completed by December, 2015. As set out in Table 14 below, AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $112,023,789.

Table 14.  FATD East – Foothills 138kV (D.0392) project cost breakdown

<table>
<thead>
<tr>
<th>Item</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
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<tbody>
<tr>
<td>Transmission line materials</td>
<td>15,782,000</td>
<td>11,004,000</td>
<td>8,539,038</td>
<td>8,476,747</td>
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<tr>
<td>Transmission line labour</td>
<td>16,531,000</td>
<td>31,780,000</td>
<td>37,418,136</td>
<td>42,159,921</td>
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<td>Substation materials</td>
<td>8,146,000</td>
<td>15,649,000</td>
<td>15,687,499</td>
<td>15,806,303</td>
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<tr>
<td>Substation labour</td>
<td>5,477,000</td>
<td>24,766,000</td>
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<td>25,470,570</td>
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<tr>
<td>Telecommunication materials</td>
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<td>244,000</td>
<td>91,470</td>
<td>682,187</td>
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<td>Telecommunication labour</td>
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<td>515,707</td>
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<td>183,000</td>
<td>176,000</td>
<td>175,609</td>
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<tr>
<td>O: facility applications</td>
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<td>4,645,677</td>
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</tr>
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<td>160,000</td>
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</tr>
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<tr>
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<tr>
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<tr>
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<td>-</td>
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<td>-</td>
<td></td>
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<td>D: contingency</td>
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<td>6,663,246</td>
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<td>27,217</td>
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<td>-</td>
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<td>114,733,580</td>
<td>124,767,399</td>
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</table>

Source: Exhibit 22542-X0007, tab D.0392.

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949 Exhibit 22542-X0564, paragraph 20.
950 Exhibit 22542-X0564, paragraph 96.
951 Exhibit 22542-X0565.
5.6.1 Lack of alternatives reviewed in SCAs

920. In Appendix 2 to its argument, the CCA questioned the validity of a number of SCAs relating to the Foothills 138 kV project. The CCA raised concerns with the following SCAs:

- SCA 2: This SCA relates to work performed by CAP Management. The procurement assessment information AltaLink provided indicates that this SCA was for site preparation related services.

- SCAs 4 and 5: These SCAs relate to work performed by RS Line, each for approximately The procurement assessment information AltaLink provides indicates that both SCAs were primarily for conductor and stringing.

Commission findings

921. The Commission has reviewed the information and backup documentation related to the SCAs identified above and satisfied that the work performed was required for completion of the line and the costs were reasonable. Accordingly, the Commission finds that the costs associated with SCAs 2, 4 and 6 were prudently incurred and they are approved as filed.

5.6.2 Mismanagement of construction contracts

922. In argument, the CCA claimed there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the Foothills 138 kV project.

923. Specifically related to the Foothills 138 kV project’s PPS cost overruns, addressed in Appendix 2 of its argument, the CCA expressed concerns with variances in salvage costs.

Commission findings

924. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.6.3 Other project variances

925. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line costs – labour
- Substation costs – labour
- Substation costs – material

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952 Exhibit 22542-X1975-CONF.
953 Exhibit 22542-X0592-CONF, PDF page 9.
954 Exhibit 22542-X0577-CONF.
955 Exhibit 22542-X0582-CONF, PDF pages 53-58.
956 Exhibit 22542-X0582-CONF, PDF page 59.
957 Exhibit 22542-X0577-CONF.
958 Exhibit 22542-X1975-CONF.
959 Exhibit 22542-X1972, PDF pages 168-172.
960 Exhibit 22542-X1972, PDF page 175.
• Distributed costs – project management

926. With respect to transmission line labour, the increase in costs was attributed to market escalation and land access delays, resulting in a the total variance of $20.9 million. Of this total variance, $7.8 million related to a variance in market escalation costs from the PPS estimate, which is dated November 2011. Changes in structure and foundation type, as well as additional costs required for ROW preparation, amounted to a $7 million increase. Additional access matting amounted to a $1.2 million increase. The change from IMPLO type connectors to compression sleeves increased costs by $0.8 million. Additional foundations casings amounted to a $1.3 million increase. Finally, land access delays leading to demobilization of construction crews amounted to a $2.8 million increase.

927. With respect to substation labour, the total variance was $19.1 million, of which $9.2 million related to the construction scope transfers from the NFTP and the SFTP to the new Foothills 237S Substation. Market escalation for the labour contracts exceeded the PPS estimate and increased the project costs by $4.2 million and $0.8 million, respectively, due to design changes. Finally, in a prior Commission decision, the approval of an alternate substation location added another $5.0 million to the project cost. AltaLink explained that the alternate substation site required more earth work than what was assumed in the PPS estimate.

928. The variance for substation materials was $7.5 million, of which $5.8 million related to the construction scope transfers detailed above. AltaLink explained that despite the unanticipated costs associated with the retendering of the transformers, the overall costs for the transformers were still lower than they would have been had AltaLink awarded the contract to the original supplier because AltaLink would have had to incur additional import duty costs. In addition, extra substation steel was required over what was anticipated in the PPS estimate.

929. With respect to project management costs, the total variance from the PPS estimate to the end of December, 2015, was $5.4 million. AltaLink attributed the variance to the additional effort required to coordinate the construction scope transfers detailed above, the delay in issuing the P&L and the selection of the alternate substation site.

Commission findings

930. The Commission also reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

931. The Commission has reviewed all the evidence with respect to the cost of the Foothills project. The Commission finds the capital costs for the East Foothills 138 kV project to be prudently incurred and the capital additions are approved as filed.

5.7 D.0410 - East Calgary Transmission Project/Shepard Energy Centre Interconnection

932. AltaLink project D.0410, the East Calgary Transmission Project/Shepard Energy Centre Interconnection (ECTP/Shepard) project, is a combination of system and customer projects. The system project is the East Calgary Transmission Project (ECTP) that was proposed to increase transmission system capacity in East Calgary and to ensure reliability in light of the projected load growth for the South Calgary and High River Planning Areas. The ECTP was executed in tandem with the ENMAX Shepard Energy Centre Interconnection project, a customer project required to enable the connection of the ENMAX’s 800 MW natural gas-fired combined cycle
generating facility to the Alberta Interconnected Electric System (AIES). Accordingly, when considered on a combined basis, the ECTP/Shepard project was a combined system and customer project.\footnote{Exhibit 22542-X1970, AltaLink argument, paragraph 614.}

933. The ECTP/Shepard project consisted of the following major component:

- an upgrade to the East Calgary 5S substation, including the addition of a new transformer
- reconfiguration of the 240-kV transmission line between the East Calgary 5S substation and the Janet 74S substation, including:
  - construction of a new 240-kV circuit from the East Calgary 5S substation to past the Janet 74S substation, to be designated as 1077L, using the existing 2.80L, a section of 917L, and a new section of line
  - re-use of existing sections of conductors previously being used by the 917L and 23.80L transmission lines for a new 91&L transmission line between East Calgary 5S and Janet 74S
  - moving the 240-kV line termination at the Janet 74S substation to remove the 1080L termination and replace it with a termination of transmission line 1003L
- new 240-kV overhead and underground transmission lines to be designated as 985L/1003L going between the Janet 74S substation and the ENMAX No. 25 substation, involving:
  - the construction of approximately 4 km of 240-kV double-circuit overhead transmission lines
  - riser structures and cable in a duct bank crossing under the 850L/1080L, the 936L/937L, the 727L transmission lines and Calgary road 100 St S.E.
- the connection of the Shepard Energy Centre to the ENMAX No. 25 substation, involving:
  - a tie of the 1080L transmission line from the ENMAX No 65 substation into the ENMAX No. 25 substation
  - transmission line 1003L, connecting the ENMAX No. 25 substation with the Janet 74S substation\footnote{Exhibit 22542-X0606, paragraph 18.}

934. The ECTP/Shepard project was energized in four stages:

- the Shepard Energy Centre was interconnected with the 911L (1080L)/1003L transmission line between the Janet 74S substation and the ENMAX No. 25 switching station on September 30, 2013
- the East Calgary 5S substation expansion and transformer addition project was energized on March 4, 2014
- the 240-kV transmission line 917L was moved on November 4, 2014
- the replacement of transformer #1 within the East Calgary 5S substation was energized on October 19, 2015

935. In addition to the above, certain project close-out activities continued into 2017.
Because some components of the ECTP/Shepard project were located in the service area of AltaLink and some were located in the service area of ENMAX, AltaLink and ENMAX were required to coordinate their respective components of the project. In general, however, ENMAX and AltaLink were responsible for the design and construction of elements of the ECTP/Shepard project located in their respective service territories.

Approval of the total capital additions for the ENMAX components of the ECTP/Shepard project were applied for Commission review in Proceeding 22089. Proceeding 22089 dealt with ENMAX’s application for approval of distribution deferral accounts for the year 2014, and ENMAX’s transmission deferral accounts for the years 2014 and 2015. However, in a Commission letter dated June 13, 2017, in Proceeding 22089, the Commission determined that as a result of AltaLink’s contribution to the ECTP/Shepard project, the examination of ENMAX’s expenditures for that particular project were to be reviewed in Proceeding 22542. Therefore, in Proceeding 22089 the Commission approved ENMAX’s applied-for gross capital addition for its portion of the ECTP/Shepard project in the amount of $66,449,512 on a placeholder basis only. The Commission has assessed ENMAX’s capital addition on the ECTP/Shepard project on a final basis in this decision.

AltaLink’s cumulative capital additions in respect of its portion of the ECTP/Shepard project to December 31, 2015 totalled $76,524,168 before the re-accrual of AFUDC, as set out in Table 15 below:

Table 15. East Calgary/Shepard Energy Centre Interconnection (D.0410) project cost breakdown

<table>
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<tr>
<th>Item</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
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<td>Transmission line labour</td>
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<td>Substation materials</td>
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<td>10,050,612</td>
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<td>Substation labour</td>
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<td>14,513,938</td>
<td>14,776,177</td>
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<td>Telecommunication materials</td>
<td>303,000</td>
<td>46,000</td>
<td>54,694</td>
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<td>-</td>
<td></td>
</tr>
<tr>
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<td></td>
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<td>Total distributed costs</td>
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<td>16,034,685</td>
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<td>2,722,240</td>
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<td>5,132,000</td>
<td>61,000</td>
<td>60,127</td>
<td></td>
</tr>
<tr>
<td>Total costs prior to re-accrual</td>
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<td>77,323,000</td>
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<td>77,929,417</td>
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<td>-</td>
<td>2,944,291</td>
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<tr>
<td>Total project costs</td>
<td>70,058,000</td>
<td>77,323,000</td>
<td>79,468,460</td>
<td>80,873,708</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0410.

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964 Decision 22089-D01-2018, paragraph 101.
5.7.1 Mismanagement of construction contracts

939. In argument, the CCA claimed there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the ECTP/Shepard project.

940. Specifically related to the ECTP/Shepard project’s PPS cost overruns, addressed in Appendix 2 of its argument, the CCA expressed concerns with variances in salvage costs.

Commission findings

941. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.7.2 Other project variances

942. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line material and labour
- Substation costs labour
- Project management

943. The variance associated with transmission line labour and material related to project delays, scope and design changes, and field adjustments, as further detailed below. In the PPS estimate, AltaLink addressed the transmission line material and labour costs separately, however the contract was awarded for “supply and install” and, as such, the relevant transmission line material costs were included within the transmission labour costs.

944. AltaLink explained that Permits and Licences were received later than anticipated, resulting in increased construction and dwell costs. Spring 2013 construction conditions were affected by soft ground and flooding rains resulting in the increased need for access matting.

945. The requirement of a temporary bypass for the 916L/917L lines at East Calgary 5S also contributed to additional costs. This bypass was required because scheduling outages were not an option in this case.

946. Design changes and field adjustments also contributed to additional lines costs. The interface between East Calgary 5S substation and the ENMAX No. 2 substation required additional H-frame structures on the low side of the 240/138 kV transformers. The underground lines construction encountered difficulties with soil conditions during construction for interconnection of the four underground circuits going to ENMAX No. 25. The underground bypass construction at Janet 74S substation was delayed waiting for all necessary P&Ls, which resulted in remobilization costs. Also, additional costs were incurred for new riser structures. Further, an underground construction specialist was brought in to oversee the design of this scope of work, which also resulted in additional costs.

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965 Exhibit 22542-X1975-CONF.
966 Exhibit 22542-X1972, PDF pages 172-173; exhibits 22542-X0625, 22542-X0629.01, 22542-X0621.01.
967 Exhibit 22542-X1972, PDF page 175.
947. The cost variance associated with substation labour was attributed to escalation, procedural and project delays, scope and design changes, and field adjustments, as detailed below. The original contract values associated with substation labour totaled approximately $8.1 million, $3.8 million more than AltaLink anticipated in its PPS estimate for substation labour of $4.3 million.

948. The receipt of P&L was later than anticipated resulting in considerable dwell costs, particularly for the East Calgary 5S substation construction, which was delayed by six months to avoid winter construction of foundations and grading. The temporary bypass for the 916L/917L lines at East Calgary 5S also caused further delays.

949. There were several design changes and field adjustments associated with the substation construction. For instance, to interface with the ENMAX No. 2 substation, control cables needed to be moved. Also, the substation needed to be expanded to both the east and south and an additional control building was necessary to house the new telecommunication battery bank, and a new oil containment solution, which was required for both transformers.

950. Substation costs were also impacted by damage to the GIS equipment during shipping. Replacing the transformer #1 at East Calgary 5S substation resulted in a significant delay.

951. The Project/Construction/Procurement Management variance was in the amount of $10.3 million. AltaLink explained that despite the numerous project delays, project and construction management was still required to manage interactions and communications among all parties, including subcontractors. The project team remained responsible for reporting and implementing controls on the project. Standby costs were also incurred while waiting for either construction start or for remobilization.

952. There significant scope additions and changes during the design and construction phase of the project, the complexity of a brownfield project, and the interaction with other projects that were also experiencing delays added to the increased project costs. As a result of project scope changes, additional costs were incurred for management to coordinate the complex outage sequencing and interfaces between the ECTP and the ENMAX Shepard Energy Centre interconnection.

Commission findings

953. The Commission also reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

954. The Commission has reviewed all the evidence with respect to the cost of the East Calgary Transmission Project. The Commission finds the capital costs for AltaLink’s portion of the East Calgary project to be prudently incurred and the capital additions are approved as filed.

5.7.3 ENMAX expenditures on ECTP/Shepard project

955. In Decision 22089-D01-2018, the Commission determined that it would review ENMAX’s expenditures on the ECTP/Shepard project, including the allocation of the customer contribution as between ENMAX and AltaLink, within this proceeding.968

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968 Decision 22089-D01-2018, paragraph 17.
In argument, ENMAX noted that, in general, AltaLink was responsible for the transmission reinforcement of the project, while ENMAX was responsible for the portion of the project required to connect the Shepard Energy Centre. However, ENMAX noted that, for practical reasons, the implementation of the project resulted in ENMAX carrying out some work on facilities located in AltaLink’s service territory and AltaLink working on some facilities located within ENMAX’s service territory.  

In a footnote to its argument, ENMAX explained that AltaLink paid the work it performed on facilities located in AltaLink’s service territory and, as a result, ENMAX did not record the cost of this work as ENMAX expenditures nor did it request a rate base addition related to this amount. Similarly, ENMAX explained that it paid AltaLink for the work performed by AltaLink on the facilities located in its service territory. ENMAX noted that, as set out in its response to EPC-AUC-2017APR07-017, ENMAX’s contribution to AltaLink was $79,439 and AltaLink’s contribution to ENMAX was $553,133. ENMAX explained that despite this small amount of overlapping work, no part of AltaLink’s capital additions on the ECTP/Shepard project involved the allocation of costs between AltaLink and ENMAX and, likewise, no part of ENMAX’s capital addition involved the allocation of any costs.

ENMAX provided a table with a breakdown of the costs for its portion of the ECTP/Shepard project at various stages of the project. In a footnote to the amount in the table ENMAX identified as the “actual” capital additions ($66.48 million), ENMAX explained that this number varied from the approved placeholder cost by $0.03 million due to a change in the AESO contribution decision, which its discussed in detail in another section of its argument.

ENMAX submitted that the level of detail in the information it provided in support of its expenditures on the ECTP/Shepard project was comparable to the level of detail it provided in support of other ENMAX direct assign projects that the Commission approved in Decision 22089-D01-2018. Accordingly, as:

- it provided a comprehensive reference package for the ECTP/Shepard project expenditures on the record of Proceeding 22542,
- interveners and the Commission asked information requests about the ECTP/Shepard project when it was being considered in Proceeding 22089,
- no intervener evidence was filed in the current proceeding about the project,
- neither the Commission nor interveners asked IRs of EPC regarding the project

ENMAX submitted that the evidence on the record demonstrated that its final expenditures on the ECTP/Shepard project were prudent.

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970 Exhibit 22542-X0840, EPC-AUC-2017APR07-017(c) Attachment.
971 As shown in EPC-AUC-2017APR07-017(c) Attachment, these amounts were netted off, resulting in a net payment of $473,694 plus GST from AltaLink to ENMAX Power.
972 Table entitled “ECTP Shepard Capital Additions ($M),” Exhibit 22542-X1971, ENMAX Power argument, PDF page 6.
973 Exhibit 22542-X1971, ENMAX Power argument, footnote 19.
974 Exhibit 22542-X1971, ENMAX Power argument, paragraph 15.
975 Exhibit 22542-X1971, ENMAX Power argument, paragraph 16.
961. In its argument, ENMAX submitted that, in deciding that ENMAX’s ECTP/Shepard project costs should be examined in proceeding 22542, the Commission identified a number of issues with customer contributions, including the following:

i. Based on EPC’s IR responses in Proceeding 22089, the Commission understands that the contribution addition offset amounts proposed by EPC and AML in their respective applications reflect an apportioning formula established by the AESO based on the respective EPC and AML shares of the elements of the ECTP Shepard project that the AESO has classified as “participant-related,” and is subject to change.

ii. In determining the customer contribution amount, EPC relied on an AESO customer contribution decision (“CCD”) dated July 30, 2013, while in its application, AML relied on a CCD dated February 11, 2014.

iii. EPC indicated that it has complied with the AESO’s determination of customer contribution amounts. However, the Commission has decided that inputs into this determination, including decisions regarding the classification of project elements as system-related and participant-related are within the scope of Proceeding 22542, and assessment of the ECTP Shepard project costs within one proceeding will ensure that the scope of the assessment for this project will be consistent.976

962. ENMAX submitted that the issues described in points (i) and (ii) above related to the fact that customer contribution decision documents evolve as the project proceeds. ENMAX noted that its ECTP/Shepard project costs in proceeding 22089 relied on a stage five AESO customer contribution decision dated July 13, 2013,977 and that it was not aware of the existence of a second stage five AESO customer contribution decision, dated February 11, 2014.978

963. ENMAX noted that since that time, the AESO has issued a stage six customer contribution decision,979 which reflects a final customer contribution amount for the ENMAX portion of the ECTP/Shepard project of $17.324 million. ENMAX indicated that it “… collected $17.358 million in customer contributions based on the AESO’s Stage 5 CCDs, resulting in an over-collection of approximately $0.034 million. Accordingly, accounting for the final approved customer contribution increases the 2015 capital additions by this amount.”980 In footnote 25 to its argument, ENMAX noted that PDF pages 1 to 4 of Exhibit 22542-X1516 “show all of the changes to the ECTP record necessitated by this over-collection.”981

964. In reply argument, ENMAX reiterated its view that it explained the basis for all material variances, and submitted that the fact the CCA did not raise issues or concerns about the project in its argument submission also supports its contention that its final costs were prudent.982

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976 Exhibit 22542-X1971, ENMAX argument, paragraph 19. The Commission understands that ENMAX is primarily referring to discussion following paragraph 8 of a Commission letter dated June 13, 2017 filed as Exhibit 22089-X0138.

977 Exhibit 22089-X0073.

978 Exhibit 22542-X1516, PDF pages 22-36.

979 Exhibit 22542-X1516, PDF pages 5-17.

980 Exhibit 22542-X1971, ENMAX argument, paragraph 21.

981 Exhibit 22542-X1971, ENMAX argument, footnote 25.

982 Exhibit 22542-X1979, ENMAX reply argument, paragraphs 7-8 and 12.
Commission findings

Prudence of expenditures

965. The Commission notes that the work performed by each TFO on facilities in the other TFO’s territory is described in detail in EPC-AUC-2017APR07-017(c) Attachment. Based on the Commission’s review of this document, the Commission considers that the charges applied by ENMAX and AltaLink to the specific tasks described are reasonable. Furthermore, while the Commission considers the “net” treatment of the AltaLink and ENMAX charges, which results from subtracting the costs associated with AltaLink’s work on ENMAX’s portion of the project was somewhat unusual, it is nevertheless an acceptable approach given the relatively small amount of charges involved.

966. Based on the above, the Commission considers that ENMAX’s gross capital additions on its portion of the ECTP/Shepard project to December 31, 2015 were prudent. The Commission is satisfied that the capital addition amount of $66,449,512, approved in Decision 22089-D01-2018 on a placeholder basis, reflects the prudent costs of ENMAX’s portion of the ECTP/Shepard project to that date, after the deduction customer contributions as they were known to ENMAX at that time. However, for the reasons provided below, the Commission is not prepared to approve this amount on a final basis until it has sufficient information to determine whether the approximately $34,000 addition to this amount should be considered to be part of ENMAX’s prudent costs for this project to December 31, 2015.

Determination of contribution adjustment

967. As examined by the Commission in some detail in proceeding 22089, ENMAX’s accounting practice for recording customer contributions differs from that of AltaLink. The key difference is that while AltaLink shows its calculation of contribution offsets to its gross additions on direct assign projects in a transparent manner, ENMAX effectively incorporates the net amount of the contribution that it considers applicable to its transmission function into the net rate base addition that it is requesting on a project. As a consequence of ENMAX’s “net of contribution” presentation of its rate base requests, the Commission expended considerable effort in the discovery phase of proceeding 22089 to “unpack” many of ENMAX’s capital addition approval requests, including ENMAX’s expenditures on the ECTP/Shepard project.

968. The Commission considers that neither ENMAX’s argument, nor its reference in a footnote in that argument to a table showing “potential adjustments to EPC documents filing on June 27, 2017” provide sufficient explanation as to the basis for the addition of approximately $34,000 to the ECTP/Shepard placeholder amount approved in Decision 22089-D01-2018. In particular, the Commission notes that the fact that ENMAX referenced the AESO customer contribution decision dated August 9, 2017, well after December 31, 2015, raises concerns that the $34,000 increment amount to ENMAX’s application may include costs incurred on the ECTP/Shepard project after December 31, 2015. The Commission notes that any costs incurred after December 31, 2015, would not have been tested in either Proceeding 22089 or in Proceeding 22542.

969. The Commission is also concerned with ENMAX’s explanation that it was unaware of the AESO customer contribution decision dated February 11, 2014 and therefore, used the customer contribution decision dated July 30, 2013 in support of capital additions, presented net

983 Exhibit 22542-X0840.
of customer contributions, ending in a period well after either of these dates. In this regard, the Commission notes that both the July 30, 2013 and February 11, 2014 AESO customer contribution decisions are based on the AESO’s 2011 tariff, reflect the same DTS and STS contract capacities, and reflect the same formula used to classify ECTP/Shepard project costs as between customer-related and system-related costs, and as between ENMAX and AltaLink. Given this, the Commission considers that with a basic understanding of the assumptions and methods used by the AESO to prepare the 2013 and 2014 customer contribution decisions, ENMAX could have, by itself, determined the contribution amount that should be applied to its gross additions on its portion of the ECTP/Shepard project as at December 31, 2015. It failed to do so.

970. The Commission notes that, from a ratepayer perspective, it is important to understand how ENMAX determined the customer contribution amounts related to the ECTP/Shepard project because the amount associated with this project that is not paid by ENMAX Green Power Inc., a non-regulated entity, will necessarily fall to the account of transmission ratepayers. As such, the Commission is concerned that ENMAX’s application for approval of capital additions to December 31, 2015, may not accurately reflect all relevant customer contribution amounts. The Commission also finds troubling that ENMAX appears to have relied entirely on the AESO’s assessment from the AESO’s customer contribution decisions, to ensure that its transmission ratepayers interests were protected.

971. Accordingly, the Commission directs ENMAX to confirm, in its compliance filing to this decision, that the final capital addition applied for amount of $66.48 million does not include any expenditures on the ECTP/Shepard project dated after December 31, 2015. In addition, ENMAX is directed to provide in its compliance filing application a full cost reconciliation showing how it arrived at the final capital addition amount of $66.48 million. Specifically, ENMAX’s cost reconciliation, showing all amounts to the dollar, should identify:

- The total amount of ENMAX’s gross capital additions to December 31, 2015, on its elements of the ECTP/Shepard project.
- The classification of this total as between customer-related and system-related elements in accordance with applicable provisions of the AESO’s approved 2011 tariff.
- The amount of the customer contribution the ENMAX considers should be applied against ENMAX’s total gross capital additions to December 31, 2015 in accordance with applicable provisions of the AESO’s approved 2011 tariff.

5.8 D.0479 - Fidler 312S Substation Interconnection Project

972. AltaLink project D.0479, the Fidler 312S substation interconnection project (the Fidler project), was a system project built to address the need for increased transmission capacity north of the Town of Pincher Creek, to provide system access for new aggregated wind generating facilities in the area and to alleviate transmission system constraints.
AltaLink explained that the Fidler project was planned to be completed in two stages. However, the capital additions under consideration in AltaLink’s 2014-2015 DACDA application relate only to stage 1 of the project, which consisted of the following components:

- construction of a new 240-kV substation named Fidler 312S with two new 240-kV line terminations for lines 994L and 1071L and with two new 138 kV line terminations for lines 893L and 624L
- installation of a new 240/320/400 MVA 245/144 kV LTC autotransformer
- installation of install required major equipment, protection and control (P&C), supervisory control and data acquisition (SCADA) and telecommunications
- construct a new 240 kV double circuit line, 1071L and 994L; approximately 9 km long, from the interconnection point around structure 1071L/16 to Fidler 312S substation.
- renumbering of the current 1071L transmission line interconnecting Goose Lake 103S and Castle Rock Ridge 205S as follows:
  - 994L for the segment from Goose Lake 103S to Fidler 312S
  - 1071L for the segment from Castle Rock Ridge 205S to Fidler 312S
- construction a new double circuit 138-kV transmission line 624L/893L, approximately 1.6 km long, with a summer/winter rating of approximately 177/212 MVA, from Fidler 312S to an in and out connection around existing structure 893AL/65, with the new lines designated as 893L and 624L
- construction of a new single circuit 138-kV transmission line to be designated as 624L approximately 1.9 km long from the in and out connection around existing structure 893AL/65 to the Summerview 354S substation
- construction of a new 138-kV transmission line approximately 3.5 km long, from an in and out connection around existing structure 893AL/65 to the existing structure 893AL/32 to be designated as 893L from Goose Lake 103S to Fidler 312S
- installation of an Optical Ground Wire fiber-optic system:
  - for transmission line 994L/1071L from the interconnection point around existing structure 1071L/16 to Fidler 312S
  - for transmission line 624L kV between Summerview 324S and Fidler 312S
  - for transmission line 893L between Goose Lake 103S and Fidler 312S.  

The Fidler project was energized in stages, commencing on May 15, 2014, and ending on June 27, 2014. As set out in Table 16 below, AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $75,892,546.
Table 16. **Fidler 312S Substation Interconnection (D.0479) project cost breakdown**

<table>
<thead>
<tr>
<th></th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
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<td>Transmission line materials</td>
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<td>5,780,974</td>
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<tr>
<td>Transmission line labour</td>
<td>21,086,000</td>
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<td>23,724,725</td>
<td>23,828,776</td>
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<td>Substation materials</td>
<td>7,759,200</td>
<td>8,975,000</td>
<td>8,798,990</td>
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<tr>
<td>Substation labour</td>
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<td>15,510,000</td>
<td>15,987,456</td>
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<td>Telecommunication materials</td>
<td>250,000</td>
<td>252,000</td>
<td>134,291</td>
<td>134,291</td>
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<tr>
<td>Telecommunication labour</td>
<td>363,000</td>
<td>582,000</td>
<td>683,976</td>
<td>670,776</td>
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<tr>
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<td>500,000</td>
<td>401,000</td>
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<tr>
<td>O: facility applications</td>
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<td>1,782,000</td>
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<tr>
<td>O: land rights - easements</td>
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<td>1,178,000</td>
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<td>O: land rights – damage claims</td>
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<td>Total owner costs</td>
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<td>D: contingency</td>
<td>9,222,000</td>
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<td>-</td>
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<tr>
<td>Total distributed costs</td>
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<td>OT: AFUDC (historical)</td>
<td>130,000</td>
<td>130,000</td>
<td>130,450</td>
<td>130,450</td>
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<tr>
<td>Total costs prior to re-accrual</td>
<td>78,379,000</td>
<td>83,255,000</td>
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<tr>
<td>Total project costs</td>
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<td>83,255,000</td>
<td>80,388,791</td>
<td>76,193,310</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0007, tab D.0479.

5.8.1 **Lack of alternatives reviewed in SCAs**

975. In Appendix 2 to its argument, the CCA questioned the validity of one SCA related to the Fidler project, SCA 2.

976. **SCA 2** related to work performed by RS Line for the amount of $20,284,000. The procurement assessment information AltaLink filed indicates that the work associated with this SCA related to concrete foundations, conductor and stringing.

**Commission findings**

977. The Commission has reviewed the back up documentation filed in support of SCA 2 and finds that the work was required and the costs were reasonable. Accordingly, the Commission finds that the costs associated with SCA 2 were prudently incurred and are approved as filed.

5.8.2 **Mismanagement of construction contracts**

978. In argument, the CCA claimed there are three categories of potential mismanagement of construction development contracts by AltaLink (either directly or indirectly via SNC-ATP) with

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990 Exhibit 22542-X1975-CONF.
991 Exhibit 22542-X0189-CONF, PDF page 57.
992 Exhibit 22542-X0174-CONF.
a significant cost impact to ratepayers. The CCA raised a similar claim with respect to the Fidler project.993

979. Specifically related to the Fidler project’s PPS cost overruns, addressed in Appendix 2 of its argument,994 the CCA expressed concerns with variances in salvage costs.

Commission findings

980. The Commission has addressed the issues raised by the CCA above in the common matters section of the decision, Section 3.

5.8.3 Other project variances

981. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line labour
- Substation labour
- Project management, project controls, construction management

982. The total variance in transmission labour cost was $2.6 million, which was attributed to geotechnical conditions leading to additional design requirements for structures in the Oldman River valley and field adjustments related to 240 kV line foundation construction.

983. AltaLink explained that it incurred increased costs of $0.9 million for hydrology studies to assess the geotechnical conditions in the Oldman River valley and to retain a design consultant, and increased costs of approximately $0.5 million related to transmission line structure changes in the Oldman River valley.

984. Escalation accounted for $0.9 million as bids came in higher than the estimated budget.

985. The additional work on the 240 kV line foundation construction related to the requirement for screw pile extensions and a change in the piles used. This additional work amount to a cost increase of approximately $0.5 million.

986. The total variance in substation labour costs was $3.9 million and was attributed primarily to material and labour price increases. As with transmission line labour, AltaLink competitively procured the substation labour services and the final contract award was approximately $2.7 million above the PPS estimate. The geotechnical conditions at the site also resulted in increased labour costs of approximately $0.2 million.

987. The total variance in engineering costs was $1.2 million, and was attributed to complex outage coordination with Fortis’s underbuild lines, and two wind farms and a hydroelectric dam, which required additional protections, controls and temporary telecommunications.

988. The total cost variance for project management, procurement and construction management was $4.4 million. AltaLink attributed this variance to project delays that ultimately

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993 Exhibit 22542-X0044.
994 Exhibits 22542-X1975-CONF, 22542-X0206.01, 22542-X0191.01, 22542-X0177.01 and 22542-X0039.01.
resulted in the withdrawal of the initial NID and FA filings by the AESO and AltaLink in Q4 2012.

**Commission findings**

989. The Commission also reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.

990. The Commission has reviewed all the evidence with respect to the costs of the Fidler project. The Commission finds that the capital costs for the Fidler project were prudently incurred and the capital additions are approved as filed.

5.9 **D.0458 – East HVDC interface project**

991. AltaLink project D.0458, the East HVDC converter station interface project (East HVDC project), was required to connect ATCO Electric Ltd.’s Eastern Alberta Transmission Line (EATL) project to the AIES through the alteration of existing transmission facilities owned by AltaLink. The East HVDC project was designated as a critical transmission infrastructure project under the [Electric Utilities Act](#). 995

992. The East HVDC project was spread across a wide geographic area, that concentrated on the north and south district interconnection areas. The major project components, described separately for the north and south interconnection, areas were as follows:

- North interconnection area: - the upgrade of the Heartland 12 substation with three 500-kV circuit breakers to accommodate ATCO Electric 500-kV lines 12L70 and 12L85

- South interconnection area:
  - cutting into transmission line 950L and the construction of new structures to reroute line to pass east-west beneath the new ATCO owned HVDC line and then parallel the HVDC line on the east to rejoin the original 950L route
  - 931L and 933L double-circuit lines, flattened by the CBW project to facilitate the crossing of the 240-kV line 1053L and the extension of the south one span to allow the HVDC line to also cross 931L/933L
  - rerouting and flattening of transmission line 1053L after it crosses transmission line 931L/933L to allow for the 500-kV HVDC line to cross over it;
  - cutting into the 923L 240-kV transmission line where it is intersected by new ATCO 240-kV lines and build additional structures required to create two circuits: one from Milo 356S Substation to East South HVDC 2075S converter station and one from East South HVDC 2075S CS to Cassils 324S Substation
  - cutting into transmission line 1035L where it is intersected by new ATCO 240-kV lines and the building of additional structures required to create two circuits
  - designing and constructing a new telecommunications tower and associated equipment at the Bowmanton 244S Substation.

- At both the North and South interconnections:
  - P&C and SCADA additions at all substations affected by the HVDC converter station interconnection

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[996] Exhibit 22542-X1171, paragraph 3.
o telecom additions at all substations affected by the HVDC converter station interconnection
o P&C, SCADA and telecom additions to facilitate special protection scheme required by the AESO for the HVDC converter station interconnection

993. Energization of the East HVDC project was completed in July 2013. AltaLink requested the approval of capital additions to December 31, 2015, before the re-accrual of AFUDC, in the amount of $62,492,435 as set out in Table 17 below:

Table 17. East HVDC interface (D.0458) project cost breakdown

<table>
<thead>
<tr>
<th></th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated Final Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>2,229,808</td>
<td>6,685,583</td>
<td>4,963,550</td>
<td>4,994,511</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>7,388,421</td>
<td>31,878,347</td>
<td>21,792,599</td>
<td>21,796,286</td>
</tr>
<tr>
<td>Substation materials</td>
<td>5,638,325</td>
<td>7,238,232</td>
<td>6,828,896</td>
<td>6,863,888</td>
</tr>
<tr>
<td>Substation labour</td>
<td>5,896,225</td>
<td>17,943,734</td>
<td>15,185,541</td>
<td>15,783,721</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>2,065,206</td>
<td>1,227,446</td>
<td>315,646</td>
<td>331,301</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>2,622,022</td>
<td>2,678,049</td>
<td>1,709,972</td>
<td>1,987,216</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>150,000</td>
<td>176,921</td>
<td>176,922</td>
<td>177,543</td>
</tr>
<tr>
<td>O: facility applications</td>
<td>547,000</td>
<td>333,897</td>
<td>424,008</td>
<td>479,931</td>
</tr>
<tr>
<td>O: land rights - easements</td>
<td>-</td>
<td>518,895</td>
<td>522,991</td>
<td>523,348</td>
</tr>
<tr>
<td>O: land rights – damage claims</td>
<td>-</td>
<td>249,565</td>
<td>68,922</td>
<td>68,922</td>
</tr>
<tr>
<td>O: land rights – acquisitions</td>
<td>100,000</td>
<td>16,917</td>
<td>16,917</td>
<td>16,917</td>
</tr>
<tr>
<td>Total owner costs</td>
<td>797,000</td>
<td>1,296,195</td>
<td>1,209,760</td>
<td>1,266,661</td>
</tr>
<tr>
<td>D: procurement</td>
<td>395,513</td>
<td>1,190,811</td>
<td>1,125,881</td>
<td>1,138,187</td>
</tr>
<tr>
<td>D: project management</td>
<td>3,045,973</td>
<td>4,331,560</td>
<td>5,225,909</td>
<td>5,686,209</td>
</tr>
<tr>
<td>D: construction management</td>
<td>1,438,043</td>
<td>4,765,299</td>
<td>2,302,452</td>
<td>2,474,195</td>
</tr>
<tr>
<td>D: escalation</td>
<td>2,154,241</td>
<td>2,126,288</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D: contingency</td>
<td>3,151,654</td>
<td>5,000,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total distributed costs</td>
<td>10,185,424</td>
<td>17,413,959</td>
<td>8,654,243</td>
<td>9,298,591</td>
</tr>
<tr>
<td>OT: ES&amp;G</td>
<td>2,227,442</td>
<td>4,532,555</td>
<td>1,832,229</td>
<td>1,933,180</td>
</tr>
<tr>
<td>OT: AFUDC (historical)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total costs prior to re-accrual</td>
<td>39,049,873</td>
<td>90,894,100</td>
<td>62,492,435</td>
<td>64,255,355</td>
</tr>
<tr>
<td>OT: AFUDC re-accrual amount</td>
<td>-</td>
<td>-</td>
<td>2,359,635</td>
<td>-</td>
</tr>
<tr>
<td>Total project costs</td>
<td>39,049,873</td>
<td>90,894,100</td>
<td>64,852,069</td>
<td>64,255,355</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1033, tab D.0458.

5.9.1 Key project variances

994. In the Project Summary Report, AltaLink identified the following areas for further examination:

- Transmission line labour
- Transmission line material costs
- Substation labour costs
- Project management and project construction costs

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997 Exhibit 22542-X1171, paragraph 17.
998 Exhibit 22542-X1171, paragraph 46.
999 Per Exhibit 22542-X1033, Tab D.0458, AltaLink requested the approval of a capital addition of $48,893,788 in respect of 2014, and $13,598,647 in respect of 2015.
With respect to transmission line labour variance, the main drivers of the cost increase were schedule delays, which impacted the expected synergies with the Hanna and Heartland projects already underway and created the need for temporary bypass lines, the 1206L/1212L re-termination, market escalation and access matting. The cost of the scope change associated with increased construction complexity and the 931L/933L and 923L/935L temporary bypass lines was approximately $5.4 million. Transmission line construction costs increased by approximately $3.6 million and project engineering costs increased by approximately $1.7 million.

AltaLink explained that the 1206L/1212L re-terminations were not included in the scope of work at the time of the PPS. The PPS estimate assumed that the Heartland project would construct 1206L/1212L in its final position after the project was completed. The cost increase associated with modifications at 1206L/1212L was $3.2 million.

Additionally, proposals for the transmission line construction came in higher than anticipated, and accounted for approximately $2.2 million of the cost increase. Matting was required to facilitate construction, increasing transmission line labour costs by approximately $1.8 million.

With respect to transmission line material variance, the main drivers of cost increase were the schedule delay, which impacted the expected synergies with the Hanna and Heartland projects already underway and created the need for temporary bypass lines and the 1206L/1212L re-termination. Material for the 931L/933L and 923L/935L temporary bypass lines added approximately $1.7 million to transmission line material.

With respect to substation labour variance, the main drivers of cost increase were market escalation, additional RAS scope, and additional scope that was inadvertently missed in the PPS estimate. Proposals for the substation labour subcontracts came in higher than anticipated in the PPS and accounted for approximately $4.1 million of the substation cost increase.

Additional RAS scope included in the February 2012 Functional Specification increased substation labour and engineering costs by approximately $1.1 million. The PPS estimate did not include electrical mobilization and demobilization and assembly and installation of steel support structures at Heartland 12S, increasing the substation labour project costs by approximately $1.7 million.

AltaLink also identified project management and project construction for further examination based on a variance of $3.0 million from the PPS estimate. The main drivers of cost increase were the complexity of altering existing AltaLink facilities dependent on outage scheduling and the schedule delay, which impacted the expected synergies with the Hanna and Heartland projects, changing the construction execution strategy by creating the need for temporary bypass lines.

Commission findings

The Commission also reviewed all the contract pricing and SCA information provided in the procurement assessment summaries and finds them to be reasonable.
1003. The Commission has reviewed all the evidence with respect to the cost of the East HVDC Converter Stations Interface Project. The Commission finds the capital costs for the East HVDC project to be prudently incurred and the capital additions are approved as filed.

5.10 Red Deer Area Transmission Development

1004. The Red Deer Area Transmission Development (RDATD) involved a number of new 240 kV/138 kV substation developments, additions to existing substations, new 138 kV transmission line developments, 138 kV transmission line rebuilds and discontinued operation of existing 138 kV transmission lines. AltaLink included the following five projects, each of which had in-service dates in 2015, in the current DACDA application:

- D.0464 - Rebuild 80L N
- D.0465 - Rebuild 80L S
- D.0467 - Rebuild 648L/637L
- D.0468 Johnson 281S
- D.0469 Wolf Creek 288S

1005. AltaLink requested approval of capital additions, excluding re-accrued AFUDC, totalling $161,720,316 to December 31, 2015, in respect of the five RDATD projects as follows in Table 18:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0464 - 80L Rebuild North</td>
<td>17,869,000</td>
<td>20,091,000</td>
<td>19,393,314</td>
<td>19,867,952</td>
</tr>
<tr>
<td>D.0465 - 80L Rebuild South</td>
<td>19,459,000</td>
<td>22,502,000</td>
<td>21,786,112</td>
<td>23,043,309</td>
</tr>
<tr>
<td>D.0467 - 648L/637L Rebuild</td>
<td>32,735,000</td>
<td>40,008,000</td>
<td>35,888,838</td>
<td>38,989,598</td>
</tr>
<tr>
<td>D.0468 Johnson 281S</td>
<td>49,520,000</td>
<td>49,042,000</td>
<td>36,711,629</td>
<td>37,031,833</td>
</tr>
<tr>
<td>D.0469 Wolf Creek 288S</td>
<td>49,520,000</td>
<td>49,042,000</td>
<td>47,940,423</td>
<td>48,989,169</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169,103,000</strong></td>
<td><strong>180,685,000</strong></td>
<td><strong>161,720,316</strong></td>
<td><strong>167,921,861</strong></td>
</tr>
</tbody>
</table>


1006. Comments in argument related to the RDATD project related exclusively to the 648L/637L rebuild project, for which the component elements are summarized in more detail in Table 19 below:

<table>
<thead>
<tr>
<th>Project Name</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission line materials</td>
<td>6,319,000</td>
<td>4,802,000</td>
<td>4,779,574</td>
<td>4,642,248</td>
</tr>
<tr>
<td>Transmission line labour</td>
<td>13,021,000</td>
<td>21,267,000</td>
<td>19,817,880</td>
<td>19,922,296</td>
</tr>
<tr>
<td>Substation materials</td>
<td>410,000</td>
<td>179,000</td>
<td>96,868</td>
<td>166,345</td>
</tr>
<tr>
<td>Substation labour</td>
<td>929,000</td>
<td>2,377,000</td>
<td>1,292,768</td>
<td>2,283,607</td>
</tr>
<tr>
<td>Telecommunication materials</td>
<td>37,000</td>
<td>32,000</td>
<td>19,346</td>
<td>31,466</td>
</tr>
<tr>
<td>Telecommunication labour</td>
<td>189,000</td>
<td>171,000</td>
<td>110,681</td>
<td>167,584</td>
</tr>
<tr>
<td>O: proposal to provide service</td>
<td>46,000</td>
<td>171,000</td>
<td>163,371</td>
<td>171,341</td>
</tr>
<tr>
<td>O: facility applications</td>
<td>1,008,000</td>
<td>1,283,000</td>
<td>1,259,150</td>
<td>1,458,544</td>
</tr>
<tr>
<td>O: land rights - easements</td>
<td>41,000</td>
<td>329,000</td>
<td>232,266</td>
<td>238,546</td>
</tr>
<tr>
<td>O: land rights – damage claims</td>
<td>-</td>
<td>254,000</td>
<td>20,710</td>
<td>24,528</td>
</tr>
</tbody>
</table>

1006 Exhibit 22542-X1970, AltaLink argument, paragraph 479.
### Table: PPS and Estimated Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>PPS</th>
<th>+/- 10 update</th>
<th>Additions to Dec 31, 2015</th>
<th>Estimated final costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>O: land rights – acquisitions</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>39,478,055</td>
</tr>
<tr>
<td>Total owner costs</td>
<td>1,095,000</td>
<td>2,037,000</td>
<td>1,675,497</td>
<td>1,892,959</td>
</tr>
<tr>
<td>D: procurement</td>
<td>383,000</td>
<td>826,000</td>
<td>626,470</td>
<td>793,206</td>
</tr>
<tr>
<td>D: project management</td>
<td>2,416,000</td>
<td>2,880,000</td>
<td>2,816,435</td>
<td>3,501,632</td>
</tr>
<tr>
<td>D: construction management</td>
<td>1,909,000</td>
<td>3,913,000</td>
<td>2,533,216</td>
<td>3,280,512</td>
</tr>
<tr>
<td>D: escalation</td>
<td>2,094,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D: contingency</td>
<td>2,333,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total distributed costs</td>
<td>9,135,000</td>
<td>7,618,000</td>
<td>5,976,121</td>
<td>7,575,350</td>
</tr>
<tr>
<td>OT: ES&amp;G</td>
<td>1,590,000</td>
<td>1,469,000</td>
<td>2,110,180</td>
<td>1,700,826</td>
</tr>
<tr>
<td>OT: AFUDC (historical)</td>
<td>10,000</td>
<td>56,000</td>
<td>10,123</td>
<td>606,917</td>
</tr>
<tr>
<td>Total costs prior to re-accredual</td>
<td>32,735,000</td>
<td>40,008,000</td>
<td>35,888,838</td>
<td>38,989,598</td>
</tr>
<tr>
<td>OT: AFUDC re-accredual amount</td>
<td>-</td>
<td>-</td>
<td>488,457</td>
<td>488,457</td>
</tr>
<tr>
<td><strong>Total project costs</strong></td>
<td><strong>32,735,000</strong></td>
<td><strong>40,008,000</strong></td>
<td><strong>36,377,296</strong></td>
<td><strong>39,478,055</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1033, Tab D.0467.

5.11 **D.0467 – 648L.637L rebuild project**

1007. In evidence, the CCA noted that the transmission line labour variance for this project was $6.8 million.\(^{1001}\) It noted that AltaLink explained the variance was a reflection of the actual measure of market prices at the time.\(^{1002}\)

1008. 

1009. 

1010. 

1011. Specifically, the CCA maintained that AltaLink provided no evidence establishing that:

- the price trend was increasing
- AltaLink had explored the nature and extent of the market trend, for example, by testing whether the trend was a year-over-year trend that would not have affected a rebidding process taking place in a few weeks

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\(^{1001}\) Exhibit 22542-X1819, page 73 refers to Exhibit 22542-X1281, Appendix 44c - Project Summary Report, D.0467 648L/637L, paragraph 51.

\(^{1002}\) Exhibit 22542-X1281, Appendix 44c - Project Summary Report, D.0467 648L/637L, paragraph 52.

\(^{1003}\) Exhibit 22542-X1694-CONF, paragraph d.
- AltaLink explored whether a short deferral in the ISD could have been obtained
- AltaLink explored whether some of the savings in a retendering process could have been used to accelerate another part of the project by, for example, authorizing some overtime hours

1012. It submitted that the evidence on the record calls into question the reasonableness of AltaLink’s conclusions regarding market trends and its decision not to retender the project or engage a broader range of subcontractors in bid clarifications. Because AltaLink failed to explore practical options to determine if a portion of the $6.8 million cost increase could have been reduced, the CCA recommended that the Commission consider a disallowance of a portion of this cost increase.

1013. In its rebuttal evidence, AltaLink stated that it appropriately procured labour and materials for D.0467 RDATD– Rebuild 648L/637L and received market competitive rates. It added that it undertook reasonable steps to meet the project requirements, including the procurement activities, and executed procurement in compliance with ISO Rule 9.1.5 procurement rules. The results reflected prevailing market rates at the time, which were higher than estimated in the PPS. 1004

1014. AltaLink explained that the meetings it held clarified the scope of work and confirmed compliance with the technical specifications. In the clarification meetings SNC-ATP asked that the bidders resubmit costs using revised compliant bids (CBs) that were provided by SNC-ATP (engineering and construction revisions) because the original submissions would not allow a fair commercial evaluation. The changes to the CBs were done in order to allow a comparison between similar solutions and quantities.

1015. Further, AltaLink disagreed with the CCA’s suggestion that a retender process would have been comparable to spending two weeks meeting with six contractors. Although a retender would not require a repeat of all stages of a procurement process, it would require the reissuance of the RFP package, set time for vendor response, commercial and technical evaluation, clarification meetings and negotiation to meet requirements. It argued that this would take longer than two weeks and would come at a cost higher than having six clarification meetings. Consequently, it considered that its decision to hold clarification meetings and have bidders resubmit costs was the most reasonable course of action.

1016. In response to the CCA’s claim that AltaLink failed to support AltaLink’s market trend view, AltaLink stated that the CCA ignored the evidence on the record that market trends were increasing during the time of project execution. It asserted that from the bids received for all Red Deer projects, as well as for other AltaLink projects, it was clear that the trend for labour costs was increasing. Specific to the Red Deer projects, it identified in the June 2012 AESO monthly progress report that “Competitive bids for construction on FA1 projects are significantly higher than anticipated in the PPS estimates,” 1005 which corresponds to the PPS submission date for the Red Deer projects in this application.

1017. AltaLink further explained recognizing that any analysis of construction capacity requirements would be forward-looking, the review of labour market studies provided in AML-
CCA-2017DEC20-013 Attachment 2.\textsuperscript{1006} along with the transmission construction forecast for North America, indicated that there would not have been an optimal time to delay work, because doing so would have only pushed the work into a similarly constrained period of time. Consequently, a short deferral in the ISD for the 648L/637L project would have implications on various other Red Deer developments, and potentially on other projects under construction.

1018. AltaLink maintained there was no ability to conduct a new process. Further, there was no certainty contractor prices would have been reduced given other transmission projects planned or underway at the time. Rather, it was just as likely that prices from a retender process would have been even higher than the initial responses, or stayed consistent with the initial bid.

1019. In its argument, the CCA refined its recommended disallowance from its evidence and recommended a disallowance of up \textsuperscript{1007} It referenced an IR response to the Commission in which it commented on ATCO Electric Transmission (AET) retendering of the Bourque to Bonnyville line.\textsuperscript{1007} The CCA maintained that with retendering, there may have been a significant cost savings.

1020. It asserted that the process need not have been onerous because a large portion of the work of tendering would have already been completed by the contractors in their initial bids, and with an opportunity to retender, as AET demonstrated, a reduction of the bid prices may have occurred. In the CCA’s view, AltaLink should have known that retendering can be a viable option given this has been effective for at least one other TFO.

1021. In reply AltaLink stated that the CCA’s basis for concluding retendering was possible and would result in lower costs through reference to an ATCO Electric project, entirely unrelated to RDATD, and in a different area of the province and where there were non-compliant bids\textsuperscript{1008} was inappropriate and contrary to procurement law. AltaLink explained that binding legal obligations are created through compliant bid processes.\textsuperscript{1009} If a compliant bid is submitted, and that bidder is the low bidder under the terms of the tender, there is a legal obligation to move forward and award the contract. In the case of RDATD, the clarification meetings were held to clarify the scope of work and to confirm compliance with the technical specifications.\textsuperscript{1010} Unlike the ATCO Electric example relied upon by the CCA, there were no non-compliant bids.

1022. To retender at that stage would require AltaLink to breach the contract, and further open itself up to damages. AltaLink submitted there was no evidence whatsoever on the record that retendering would have resulted in lower costs but it was certain that doing so in this case would have been a breach of contract.

**Commission findings**

1023. As stated previously in Section 3.4, the Commission has determined that both AltaLink and the CCA are in agreement that retendering bids may be used as a tool to reduce costs. However, the ability to do so is not unfettered as there are legal obligations that arise during a tendering process.

\textsuperscript{1006} Exhibit 22542-X1529.
\textsuperscript{1007} Exhibit 22542-X1879-CONF, PDF page 47, Response (a).
\textsuperscript{1008} Exhibit 22542-X1972, CCA argument, paragraph 486.
\textsuperscript{1009} Exhibit 22542-X1970, AML argument, paragraph 796.
\textsuperscript{1010} Exhibit 22542-X1324-CONF, PDF page 7.
1024. Whether AltaLink has acted reasonably in not retendering this project must be examined on the specific facts known at the time. The Commission notes that the ATCO Electric procurement involved bids that were non-compliant which provided latitude to repackage the specifications and seek new bids. The bids received by AltaLink were compliant and the Commission accepts AltaLink’s evidence that it could not retender the work without exposing itself to penalties. Further, setting aside this restriction, if AltaLink had been able to retender the work, the Commission accepts AltaLink’s evidence that this process would have taken longer than the two weeks it expended to meet with the six compliant bid proponents, even allowing for the fact that a lot of the tendering package could have been re-used. As well, the facts available to AltaLink were that labour market studies, along with the transmission construction forecast for North America, indicated there would not have been time to delay work for the Red Deer projects. Given all of the above, the Commission finds that the evidence does not demonstrate that rebidding the project may have resulted in lower costs.

1025. For all of these reasons, the Commission finds that AltaLink’s decision to proceed with the bids and not retender the bids on this project was prudent.

5.11.1 Other project variances

1026. In the Project Summary Report, AltaLink identified three areas for further examination:
- Transmission line labour and material costs
- Substation labour and material costs
- Owner costs
- Project management and project construction costs

1027. The transmission line material variance of $-1.5 million\(^{1011}\) is largely due to removal of the requirement to accommodate Fortis underbuild work.

1028. The transmission line labour variance of $6.8M was primarily due to market conditions and delays to the 648L/637L Project. The PPS estimate differed from the actual bids AltaLink was able to obtain in the market.

1029. The variance in substation costs resulted from price and labour increases. As with transmission line labour, AltaLink competitively procured the substation labour. Initial subcontractor pricing was greater than AltaLink’s PPS estimate by $0.4 million.

1030. Owner costs with a variance totalling $0.3 million was another area of further examination. The variance was a result of increased costs for preparing the facilities application.

1031. The final area for further examination is related to project management and project construction costs with a variance of $1.3 million. AltaLink explained that it grouped the individual components in FAs based on similarities in scope, stakeholders, and anticipated timelines. This approach also enabled a project team to manage shared activities and resources across the full RDATD. During execution, the complexity of managing the multiple project components grew as a result of the number of new and existing facilities involved, the relationships between those facilities, stakeholder intervention, limited outage opportunities, the

\(^{1011}\) Exhibit 22542-X1281, paragraph 50.
urban settings for construction, and the need for close coordination of outages in the construction timeframe. Delays in the project lifecycle also contributed to increased cost.

Commission findings

1032. The Commission has reviewed all the evidence with respect to the cost of all five individual sub-projects related to the Red Deer Area Transmission Development. The Commission finds that the capital costs relating to the Red Deer transmission projectswere prudently incurred and the capital additions are approved as filed.

6 Other system projects

1033. In addition to the WATL project and the other major system projects discussed above, AltaLink sought approval of capital additions of $1,674,654 for three small system projects to December 31, 2015, as set out in Table 20 below:

<table>
<thead>
<tr>
<th>Project</th>
<th>PPS estimate</th>
<th>Additions to Dec 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0214  – ENMAX SS-10 69kV Conversion</td>
<td>844,100</td>
<td>1,239,019</td>
</tr>
<tr>
<td>D.0481  – AE Enbridge Janvier Pump station</td>
<td>121,000</td>
<td>132,122</td>
</tr>
<tr>
<td>D.0398  – WISP Synchronizer PMU Upgrade</td>
<td>568,000</td>
<td>303,513</td>
</tr>
<tr>
<td><strong>Total project costs</strong></td>
<td><strong>1,533,100</strong></td>
<td><strong>1,674,654</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1034.

1034. Project D.0214, the ENMAX SS-10 69 kV conversion project, was a project to connect the ENMAX SS-10 substation to transmission line 832L using an in-and-out configuration. AltaLink explained that the majority of the variance of the PPS stage forecast variance with the final cost arose due to scope changes and the fact that materials and labour were procured more than four years after the initial estimate was prepared. Other costs arose due to crew mobilization related to outages, and costs associated with regulatory delay.\(^{1012}\) AltaLink noted that it had provided further explanation in response to a Commission information request regarding the project.\(^{1013}\)

1035. Project D.0481, the ATCO Electric Enbridge Janvier Pump station project, was a project to review and revise the existing protection and teleprotection schemes between the Leismer 72S and Kinosis 856S substations for the purpose of accommodating a new ATCO Electric substation.\(^{1014}\) AltaLink explained that minor additional costs arose when it was determined that the existing telecom scheme between the Leismer 72S and Kinosis 852S substations could not be reused, thereby requiring additional costs for the procurement, design and construction of a new multi-protocol label switching telecom circuit.\(^{1015}\) AltaLink also noted that it responded to a Commission information request on the project.\(^{1016}\)

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\(^{1012}\) Exhibit 22542-X1970, AltaLink argument, paragraph 733.

\(^{1013}\) Exhibit 22542-X1970, AltaLink argument, paragraph 734.

\(^{1014}\) Exhibit 22542-X1970, AltaLink argument, paragraph 756.

\(^{1015}\) Exhibit 22542-X1970, AltaLink argument, paragraph 759.

1036. The WISP Synchrophasor PMU Upgrade project was a project to install phasor measurement unit (PMU) meters and related network communications components at AltaLink’s Sundance 310S and Langdon 102S substations over the period 2012 to 2015. AltaLink explained that the project was completed below the forecast cost.

1037. The projects shown in Table 20 above were not addressed in the Bema evidence, or in the CCA’s argument or reply.

Commission findings

1038. The Commission has reviewed AltaLink’s variance explanations for projects D.0214, D.0481 and D.0398 and considers the variance amounts to be reasonable and supported by the evidence provided to explain the variances from PPS to final costs. Accordingly, the Commission finds AltaLink’s requested capital additions to December 31, 2015, for these projects to be prudently incurred and they are approved as filed.

Customer projects

7.1 Fortis projects

1039. AltaLink sought approval for gross capital additions totalling $198,275,689 for 22 interconnection projects in which Fortis was the market participant, as set out in Table 21 below:

Table 21. Fortis connection project costs

<table>
<thead>
<tr>
<th>Project Code</th>
<th>Project Name</th>
<th>PPS estimate</th>
<th>+/- 10 update</th>
<th>Gross addition to Dec 31, 2015</th>
<th>Contrib. to Dec 31, 2015</th>
<th>Net addition to Dec 31, 2015</th>
<th>Estimated final project cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0382 – Buck Lake 454S Upgrade</td>
<td>12,353,000</td>
<td>17,740,368</td>
<td>16,608,148</td>
<td>(14,923,892)</td>
<td>1,684,256</td>
<td>16,608,146</td>
<td></td>
</tr>
<tr>
<td>D.0404 – Nilrem 574S Substation Expansion</td>
<td>8,150,000</td>
<td>7,918,000</td>
<td>6,664,173</td>
<td>-</td>
<td>6,664,173</td>
<td>6,664,174</td>
<td></td>
</tr>
<tr>
<td>D.0418 – Underwood 183S New Substation</td>
<td>22,857,000</td>
<td>29,251,637</td>
<td>26,286,351</td>
<td>(20,341,500)</td>
<td>5,944,851</td>
<td>28,978,998</td>
<td></td>
</tr>
<tr>
<td>D.0420 – Hays 421S Transformer Addition</td>
<td>5,689,398</td>
<td>5,925,000</td>
<td>5,023,435</td>
<td>(3,884,687)</td>
<td>1,136,513</td>
<td>4,924,005</td>
<td></td>
</tr>
<tr>
<td>D.0423 – Spring Coulee 385S Upgrade</td>
<td>7,652,337</td>
<td>7,078,462</td>
<td>5,337,180</td>
<td>(5,337,157)</td>
<td>23</td>
<td>6,249,509</td>
<td></td>
</tr>
<tr>
<td>D.0424 – Pegasus Lake 659S Upgrades</td>
<td>5,633,159</td>
<td>5,118,912</td>
<td>4,239,723</td>
<td>(4,239,723)</td>
<td>-</td>
<td>4,441,275</td>
<td></td>
</tr>
<tr>
<td>D.0433 – Hull 257S</td>
<td>14,875,000</td>
<td>10,251,694</td>
<td>10,164,657</td>
<td>(2,228,186)</td>
<td>7,936,471</td>
<td>10,249,218</td>
<td></td>
</tr>
<tr>
<td>D.0437 – NW Sturgeon</td>
<td>47,565,000</td>
<td>61,040,586</td>
<td>60,778,405</td>
<td>(48,772,865)</td>
<td>12,005,540</td>
<td>61,035,476</td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 22542-X1970, AltaLink argument, paragraph 762.
1040. Included within this list of projects was the Whitecourt Industrial 364S upgrade project (AltaLink project D.0395). Capital additions for this project occurring prior to December 31, 2013, were previously approved by the Commission in Decision 3585-D03-2016. In this proceeding, AltaLink sought approval of capital additions totalling $6,720,020 for the years 2014
and 2015. Consequently, the 2014-2015 period capital additions in respect of the Whitecourt project are addressed as part of Fortis’s customer project trailing costs.

Commission findings

1041. Neither Fortis, nor any end-use customer of Fortis that receives service from a transmission connection project included in Table 21 above, participated in this proceeding for the purposes of demonstrating that expenditures on one or more of the Fortis connection projects described above were excessive or unreasonable.

1042. The Commission also takes note of the following finding from Decision 3585-D03-2018:

… In circumstances where the costs were incurred primarily to meet an end-use customer’s request, and the end-use customer that benefited from the requested change paid for the associated incremental costs through an increased contribution, the Commission will not consider AltaLink to have imprudently incurred costs to meet those requests.1018

1043. Consistent with this finding from Decision 3585-D03-2018, and in the absence of any evidence from Fortis, or any end-use customer of Fortis to the contrary, the Commission also considers that the costs incurred by AltaLink to construct each of the Fortis projects noted in Table 21 above were incurred in order to meet service requirements or timelines required by Fortis or its end-use customer.

1044. The contribution amounts shown in Table 21 above, were applied as an offset to AltaLink’s gross capital additions on customer projects, with the effect that increased contribution amounts reduced the amount of the net amount of the capital addition to rate base arising from those projects. The Commission understands that the contribution amounts shown in Table 21 also reflected the information known to AltaLink regarding the contributions Fortis made towards the cost of each of its connection projects at the time of AltaLink’s application or application update.

1045. Moreover, in accordance with the provisions of the AESO’s tariff that govern the determination of customer contribution amounts and provisions that govern the refund of customer contributions in certain circumstances, these customer contribution amounts in respect of any of AltaLink’s customer projects may be subject to change. Significantly, with regard to Fortis’s projects, changes in the tariff contract capacity that Fortis may elect to make over time in respect of the point of interconnection with AltaLink’s transmission system may trigger contribution adjustments that would, in turn, affect the contribution offset applied to the Fortis projects included in this application.

1046. In AML-AUC-2018JUN01-006(b),1019 the Commission asked AltaLink to discuss the implications of its finding in Decision 22741-D01-2018 regarding the reconciliation of the amounts that AltaLink has applied as an offset to its gross capital additions on Fortis connection projects:

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1018 Decision 3585-D03-2018, paragraph 1303.
1019 Exhibit 22542-X1598, AML-AUC-2018JUN01-006(b).
Request:
(b) In Decision 22741-D01-2018, the Commission issued directions to Fortis which were expected to change the amount of the AESO contribution that Fortis would be required to provide in respect of Fortis’ connection projects. Please provide a full description of the status of discussions, if any that have occurred with Fortis in light of findings in Section 7.1.2 of Decision 22741-D01-2018. In your response, please provide a complete description of the changes to the current or future AltaLink DACDA applications that AltaLink expects to make in light of the Commission findings in Section 7.1.2 of Decision 22741-D01-2018.

Response:
(b) AltaLink has not had conversations with Fortis on this matter. It is AltaLink’s understanding that Commission has initiated its own review of its findings in Decision 22741-D01-2018 relating to the finalization of AESO contributions program amounts (to enable Fortis’s transition to the next generation PBR) to allow parties to make submissions to address this matter. [Footnote omitted] When the Commission makes its final decision concerning the AESO contribution changes that Fortis would be required to provide, AltaLink would file any associated revenue requirement adjustments of these Fortis contribution changes in its next DACDA application.

1047. The Commission also notes the following finding from Decision 22741-D01-2018:

… because any changes to Fortis contributions in respect of AltaLink transmission connection projects have a direct effect on the net rate base of AltaLink, the Commission considers it to be important that this information can be reconciled accurately between the two Commission-regulated utilities.\textsuperscript{1020}

1048. Decision 23505-D01-2018\textsuperscript{1021} was issued in respect of the Commission-initiated review and variance application referenced in AltaLink’s response to AML-AUC-2018JUN01-006(b) above on November 7, 2018.

1049. In consideration of the foregoing, and considering the possibility that the contribution amounts provided by Fortis in respect of the projects listed in Table 21 above may have changed since they were initially adopted by AltaLink for its application or application update, the Commission directs AltaLink to provide an update to the contribution amounts for each of the projects shown in Table 21 at the time of its refiling application. For the purposes of this direction, AltaLink shall reflect any changes in applicable investment allowances under the AESO’s tariff applicable to each project that may have occurred since the contribution amounts described in Table 21 above were calculated. In addition, the Commission directs AltaLink to use the amount of AltaLink’s cumulative gross capital additions to December 31, 2015, when it performs its recalculation of the contribution for each project.

1050. Further, in Section 7.1.2.6 of Decision 22741-D01-2018, the Commission discussed the issue of whether expenditures on projects that are initially conceived in one form, but which are subsequently cancelled prior to completion and replaced with a different completed project

\textsuperscript{1020} Decision 22741-D01-2018, paragraph 128.

located in the same general area, should be eligible for recovery through the Fortis AESO contribution capital tracker mechanism. The Commission determined:

116. Given the construction commitment agreements discussed in Decision 21538-D01-2017, the Commission considers that the onus is on AltaLink to demonstrate why costs eligible for recovery from Fortis as cancellation costs should be included as part of the capital addition amount for which AltaLink is requesting approval in the context of an AltaLink DACDA proceeding.

117. Fortis’ response to Direction 11 from Decision 21538-D01-2017 and supporting argument in this proceeding have not persuaded the Commission that the mere fact that costs were incurred on initial projects developed to meet an area problem and ultimately solved by a different final project, is sufficient to justify the prudence of these costs in the final project or, by extension, that these costs are a part of Fortis’ AESO contribution on the final project. The Commission remains similarly unpersuaded that prudence is met because the AESO was aware that these costs were assigned to the final project.

1051. The Commission directs AltaLink to address this issue as part of the reconciliation of the Fortis customer connection projects to be completed in AltaLink’s refiling application. Accordingly, AltaLink is directed to confirm that for any Fortis projects included in Table 21 or Table 29, no portion of the final project costs includes costs transferred from a cancelled project. Further, if this cannot be confirmed, AltaLink is directed to identify any projects that include transferred costs and to indicate the amount of the costs so transferred.

1052. Any expenditures that AltaLink has made on Fortis connection projects that have been examined in this proceeding, including trailing costs on Fortis projects discussed in Section 9.5.1 below, have been examined and have been determined to be prudent. Accordingly, for any projects for which AltaLink has indicated that a transfer of costs from cancelled projects has occurred, the Commission considers that AltaLink will be entitled to be fully compensated for its cost, but may be required to recover a portion of the approved final cost directly from Fortis pursuant to the applicable customer commitment agreement.

1053. The Commission considers that the determination of any amounts that AltaLink should recover by way of the applicable customer commitment agreement should be determined as part of AltaLink’s refiling application proceeding. As Fortis is registered as an observer in this proceeding, the Commission considers that Fortis will have notice of the Commission’s decision in this regard.

7.2 Non-Fortis projects

1054. AltaLink requested approval of gross capital additions on seven connection projects for customers other than Fortis during 2014 and 2015 totalling $72,596,643. These gross additions were offset with customer contributions to December 31, 2015, of $56,086,872. These figures are summarized in Table 22, below:

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1022 Capital additions in 2014 and 2015 are $637,518 less than cumulative additions to December 31, 2015, in consideration of capital addition on project D.0434 in this amount approved in AltaLink’s prior DACDA application proceeding.
Table 22. **Non-Fortis connection project costs**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0406 – Enbridge Edmonton Terminal Transformer Addition</td>
<td>4,580,434</td>
<td>5,667,226</td>
<td>(5,667,226)</td>
<td>-</td>
</tr>
<tr>
<td>D.0411 – Oldman River Wind Project</td>
<td>3,077,000</td>
<td>3,455,171</td>
<td>(3,455,171)</td>
<td>-</td>
</tr>
<tr>
<td>D.0434 – Greengate – Blackspring Ridge Wind Farm Interconnection</td>
<td>27,485,000</td>
<td>31,875,399</td>
<td>(31,875,399)</td>
<td>-</td>
</tr>
<tr>
<td>D.0486 – Enbridge Bernese 293S Substation</td>
<td>13,802,866</td>
<td>12,110,228</td>
<td>(3,873,724)</td>
<td>8,236,504</td>
</tr>
<tr>
<td>D.0487 – Enbridge Strome 223S Transformer Addition</td>
<td>6,629,726</td>
<td>6,142,770</td>
<td>(2,936,655)</td>
<td>3,206,115</td>
</tr>
<tr>
<td>D.0488 – Enbridge Sunken Lake Substation Expansion</td>
<td>6,483,419</td>
<td>5,266,825</td>
<td>(3,031,155)</td>
<td>2,235,670</td>
</tr>
<tr>
<td>D.0489 – Enbridge Queensland 301S</td>
<td>9,871,439</td>
<td>8,716,196</td>
<td>(5,247,196)</td>
<td>3,469,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>71,929,884</strong></td>
<td><strong>73,234,161</strong></td>
<td><strong>(56,086,872)</strong></td>
<td><strong>17,147,289</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1034.

1055. Five of the seven connection projects were constructed on behalf of Enbridge Pipelines Inc. (Enbridge) to support pump station loads or other Enbridge pipeline operations. The other two projects were constructed to allow generation developers to deliver power to the transmission grid from their generation facilities.

1056. In argument, AltaLink noted that it had responded to information requests from the Commission in respect of the Oldman River Wind (D.0411) and Blackspring Ridge (D.0434) projects, and to information requests from the CCA in respect of the Enbridge Bernese (D.0486), Strome (D.0487) and Sunken Lake (D.0487) projects. AltaLink submitted that it reasonably executed each of the projects and the costs for each of these projects should be approved as filed.

**Commission findings**

1057. As set out in Section 7.1, the costs in Table 21 were incurred primarily to meet the needs of an end use customer that will pay most or all of any incremental costs through the requirement to pay an increased contribution.

1058. The Commission has reviewed AltaLink’s submissions in support of the costs associated with these connection projects and finds that AltaLink has satisfactorily explained the reasons for the variances from initial forecasts observed in respect of these projects. With these explanations, the Commission finds that AltaLink prudently executed these projects and its requested 2014-2015 capital additions for these projects are approved.

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1025 Exhibit 22542-X1524, AML-CCA-2017DEC20-060, parts (a), (d) and (e).
Further, unlike the customer connection projects AltaLink has constructed on behalf of Fortis, where there is a need to align the contributions between two Commission-regulated utilities, any future changes to the customer contribution amounts associated with any of the projects in Table 22 may be considered within a future DACDA when trailing costs on these projects are considered.

8 Cancelled projects

AltaLink requested approval of $54.77 million for expenses incurred from projects cancelled by the AESO in 2014, 2015, and 2016. As part of this approval, AltaLink also requested that it be authorized to recover this amount in the form of a lump sum charge to the AESO. In light of this proposed treatment, AltaLink explained that expenditures on the cancelled projects identified would not be included in its rate base.1027

AltaLink added that it had previously collected revenue requirement allowance for the Cope Creek project included in the list of cancelled projects above, therefore it proposed to offset its request for a one-time recovery for cancelled system projects of $55.77 million by $0.33 million to reflect this previous over collection. AltaLink’s calculation of the $0.333 million Cope Creek project refund amount was described in more detail in an appendix to the application.1028

The cancelled system projects are summarized as follows:

Table 23. Summary of cancelled system projects

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Project name</th>
<th>Expenditure amount not considered in prior DACDAs</th>
<th>AFUDC amount per Decision 3524-D01-2016</th>
<th>Amount requested for approval</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0185</td>
<td>708L Thermal Capacity Upgrade</td>
<td>42,298</td>
<td>11,121</td>
<td>53,419</td>
</tr>
<tr>
<td>D.0189</td>
<td>807L Thermal Capacity Upgrade</td>
<td>45,507</td>
<td>11,964</td>
<td>57,471</td>
</tr>
<tr>
<td>D.0255</td>
<td>Athabasca Area System Upgrade</td>
<td>734,986</td>
<td>163,874</td>
<td>898,660</td>
</tr>
<tr>
<td>D.0309</td>
<td>SATR Goose Lake to Etzikom Coulee</td>
<td>12,920,813</td>
<td>3,063,038</td>
<td>15,983,851</td>
</tr>
<tr>
<td>D.0312</td>
<td>SATR Picture Butte to Etzikom Coulee</td>
<td>12,184,630</td>
<td>3,098,706</td>
<td>15,283,336</td>
</tr>
<tr>
<td>D.0313</td>
<td>SATR Etzikom Coulee to Whilla</td>
<td>10,239,965</td>
<td>2,739,064</td>
<td>12,979,029</td>
</tr>
<tr>
<td>D.0401</td>
<td>FATD WEST - Foothills to Sarcee</td>
<td>218,688</td>
<td>54,904</td>
<td>273,592</td>
</tr>
<tr>
<td>D.0494</td>
<td>Central East Region Transmission Development</td>
<td>5,691,598</td>
<td>1,250,298</td>
<td>6,941,896</td>
</tr>
<tr>
<td>D.0540</td>
<td>Vermillion to Red Deer &amp; Edgerton to Provost 240kV</td>
<td>673,595</td>
<td>75,917</td>
<td>749,512</td>
</tr>
<tr>
<td>D.0547</td>
<td>Calgary Downtown Transmission Reinforcement</td>
<td>93,320</td>
<td>3,509</td>
<td>96,829</td>
</tr>
<tr>
<td>D.0560</td>
<td>Vauxhall Empress Medicine Hat Region</td>
<td>480,046</td>
<td>18,287</td>
<td>498,333</td>
</tr>
<tr>
<td>D.0561</td>
<td>Alberta - British Columbia Interline IC</td>
<td>250,056</td>
<td>19,793</td>
<td>269,848</td>
</tr>
<tr>
<td>D.0090</td>
<td>500 kV Edmonton Area – Fort McMurray</td>
<td>622,786</td>
<td>0</td>
<td>622,786</td>
</tr>
<tr>
<td>D.0292</td>
<td>Glenwood Area 69kV Conversion to 138kV</td>
<td>50,000</td>
<td>12,897</td>
<td>62,897</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>44,248,289</strong></td>
<td><strong>10,522,972</strong></td>
<td><strong>54,771,259</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, AltaLink application, Table 5-13; and Exhibit 22542-X0007.

1063. In addition, in Section 5.12.3 of its application,1029 AltaLink explained that 16 customer projects were cancelled over the period from 2014 to 2016. As set out in Table 24 below,

1027 Exhibit 22542-X0002.04, paragraph 34.
1028 Exhibit 22542-X0006.
1029 Exhibit 22542-X0002.04, paragraphs 648-649.
because the relevant customer for each project funded the expenditures, AltaLink was not seeking any addition recovery of incurred expenses.

Table 24. Summary of cancelled customer projects

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Project name</th>
<th>Expenditure ($ million)</th>
<th>Customer offset ($ million)</th>
<th>Approval amount requested ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0383</td>
<td>Cope Creek</td>
<td>12.66</td>
<td>(12.66)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0396</td>
<td>Vista Coal Project</td>
<td>1.36</td>
<td>(1.36)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0430</td>
<td>PC006 McLaughlin Wind Power</td>
<td>0.38</td>
<td>(0.38)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0431</td>
<td>BluEarth Bull Creek Wind Project</td>
<td>0.34</td>
<td>(0.34)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0452</td>
<td>Willowridge Wind Farm</td>
<td>0.38</td>
<td>(0.38)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0529</td>
<td>TAU – Sundance Unit 7</td>
<td>0.49</td>
<td>(0.49)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0557</td>
<td>Welsch Wind Farm Project</td>
<td>0.10</td>
<td>(0.10)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0581</td>
<td>Energy East S2 New PÖD</td>
<td>0.08</td>
<td>(0.08)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0610</td>
<td>South Mayerthorpe 443S</td>
<td>0.08</td>
<td>(0.08)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0380</td>
<td>Harmattan Energy Centre Connection</td>
<td>0.55</td>
<td>(0.55)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0508</td>
<td>Northern Gateway - Bruderheim</td>
<td>0.03</td>
<td>(0.03)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0509</td>
<td>Northern Gateway – Whitecourt</td>
<td>0.03</td>
<td>(0.03)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0512</td>
<td>AILP Energy Storage</td>
<td>0.01</td>
<td>(0.01)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0567</td>
<td>BowArk Energy – Drywood Gas Plant</td>
<td>0.21</td>
<td>(0.21)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0570</td>
<td>Tucuman 478S Upgrades</td>
<td>0.26</td>
<td>(0.26)</td>
<td>0.00</td>
</tr>
<tr>
<td>D.0585</td>
<td>New Heartland Area Substation</td>
<td>0.10</td>
<td>(0.10)</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17.06</td>
<td>(17.06)</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, AltaLink application, Table 5-14.

Commission findings

1064. The Commission accepts AltaLink’s representation that the 16 cancelled customer projects set out in Table 5-14 were fully offset by amounts received from the relevant customers that initiated the expenditures on the projects shown. Further, because no amounts are being sought for recovery by AltaLink in this application, the Commission has not assessed whether AltaLink prudently executed these cancelled customer projects.

1065. The Commission has reviewed AltaLink’s calculation of the proposed Cope Creek project over-collection refund as set out in Exhibit 22542-X0006, and considers it to be reasonable. Accordingly, the Commission finds that the refund that AltaLink receives in respect of the cancelled system projects should be offset by the $0.333 million amount calculated by AltaLink.

1066. With the respect to the cancelled system projects set out in Table 5-13 from the application and summarized in Table 23 above, the Commission has reviewed AltaLink’s submissions in support of the costs incurred on these cancelled projects and is satisfied that these costs were prudently incurred by AltaLink.

1067. The Commission further finds that the full amount of the expenditures accrued to these projects, totalling $44,248,289 should be refunded to AltaLink by way of a one-time refund from the AESO. However, as further discussed in Section 13.1, the Commission has sought additional clarification about AFUDC amounts, to be provided in AltaLink’s refiling application. Accordingly, the Commission will not determine the amount of the AFUDC amount to be associated with the cancelled system projects until that time.
9 Trailing costs

9.1 System projects

1068. As set out in Table 25 below, AltaLink has requested approval of $16,349,797 for aggregate trailing costs and adjustments for the year 2014, and approval of $21,105,426 for the year 2015:

Table 25. Summary of trailing costs on system projects

<table>
<thead>
<tr>
<th>Project name</th>
<th>Amounts approved in prior DACDAs</th>
<th>2014 additions</th>
<th>2015 additions</th>
<th>Cumulative additions to Dec 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0030.01 - Yellowhead Hinton/Edson</td>
<td>70,138,203</td>
<td>(502,314)</td>
<td>(31,248)</td>
<td>69,604,641</td>
</tr>
<tr>
<td>D.0030.02 - Yellowhead Cold Creek</td>
<td>2,000,000</td>
<td>(14,354)</td>
<td>-</td>
<td>1,985,646</td>
</tr>
<tr>
<td>D.0030.03 - Yellowhead Cherrhill</td>
<td>21,805,600</td>
<td>127,522</td>
<td>91,066</td>
<td>22,024,188</td>
</tr>
<tr>
<td>D.0030.04 - Yellowhead Drayton</td>
<td>34,317,999</td>
<td>248,513</td>
<td>36,949</td>
<td>34,603,461</td>
</tr>
<tr>
<td>D.0108 - SE Brooks</td>
<td>26,358,198</td>
<td>-</td>
<td>(49,376)</td>
<td>26,308,822</td>
</tr>
<tr>
<td>D.0213 - Edmonton Region 240kV debottlenecking</td>
<td>22,667,152</td>
<td>(548)</td>
<td>(152,852)</td>
<td>22,513,752</td>
</tr>
<tr>
<td>D.0213 - Avalon Power Park Upgrade</td>
<td>16,056,464</td>
<td>31</td>
<td>574,305</td>
<td>16,630,800</td>
</tr>
<tr>
<td>D.0305 - SATR Cassils to Bowmanton (CB)</td>
<td>345,534,536</td>
<td>14,651,385</td>
<td>2,411,218</td>
<td>362,597,139</td>
</tr>
<tr>
<td>D.0307 - SATR New Milo Substation 356S</td>
<td>32,993,197</td>
<td>467</td>
<td>76,772</td>
<td>32,916,892</td>
</tr>
<tr>
<td>D.0316 - SATR Russell PST</td>
<td>18,591,794</td>
<td>(32,093)</td>
<td>-</td>
<td>18,559,701</td>
</tr>
<tr>
<td>D.0353 - Hanna Area – Nilrem</td>
<td>93,091,819</td>
<td>(95,481)</td>
<td>6,963,979</td>
<td>95,692,033</td>
</tr>
<tr>
<td>D.0354 - Hanna Area – Hansman Lake</td>
<td>87,753,471</td>
<td>(443,702)</td>
<td>3,509,452</td>
<td>90,819,221</td>
</tr>
<tr>
<td>D.0355 - Hanna Area – Ware Junction</td>
<td>109,848,152</td>
<td>1,027,289</td>
<td>1,886,020</td>
<td>112,761,461</td>
</tr>
<tr>
<td>D.0407 - Interconnection of Enmax SS-SS Sub</td>
<td>365,588,210</td>
<td>6,963,979</td>
<td>435,552,189</td>
<td></td>
</tr>
<tr>
<td>D.0377 - Christina Lake - Black Spruce 154S</td>
<td>27,471,453</td>
<td>(323,006)</td>
<td>2,750,922</td>
<td>29,899,369</td>
</tr>
<tr>
<td>D.0409 - Interconnection of ENMAX SS-65 Sub</td>
<td>7,707,432</td>
<td>90</td>
<td>225,220</td>
<td>7,932,742</td>
</tr>
<tr>
<td>D.0459 - Red Deer - Split 768L &amp; 778L</td>
<td>6,665,847</td>
<td>372,978</td>
<td>(48,984)</td>
<td>6,999,841</td>
</tr>
<tr>
<td>D.0460 - Red Deer - TX add at Benalto 17S</td>
<td>8,347,438</td>
<td>76,199</td>
<td>(68,892)</td>
<td>8,354,745</td>
</tr>
<tr>
<td>D.0461 - Red Deer - Capbank at Joffre 535SS</td>
<td>4,271,410</td>
<td>542,397</td>
<td>(10,430)</td>
<td>4,803,377</td>
</tr>
<tr>
<td>D.0462 - Red Deer - Capbank at Prentiss 276S</td>
<td>3,836,700</td>
<td>161,326</td>
<td>(1,862)</td>
<td>3,996,164</td>
</tr>
<tr>
<td>D.0463 - Red Deer - Capbank at Ellis 332S</td>
<td>3,577,764</td>
<td>422,335</td>
<td>(3,783)</td>
<td>3,996,316</td>
</tr>
</tbody>
</table>

Total | 1,377,650,497 | 16,349,797 | 21,105,426 | 1,415,105,720 |

Source: Prepared by Commission staff from Exhibit 22542-1034.

1069. At paragraph 676 of Decision 3585-D03-2016, the Commission approved a placeholder in the amount of $20,803,000 in respect of costs incurred prior to December 31, 2013, on pipeline mitigation costs for the SATR Cassils to Bowmanton project (D.0305). As further discussed in Section 9.3, the Commission has considered AltaLink’s pipeline mitigation costs for this project on a final basis as part of its consideration of cumulative capital additions to December 31, 2015, for project D.0305 as part of this decision.

1070. The Commission similarly approved placeholder amounts in respect of pipeline mitigation costs and land acquisition costs for the Heartland project in Decision 3585-D03-2016. Specifically, at paragraph 798, the Commission approved a placeholder in the amount of $43 million for pipeline mitigation costs for the Heartland project for costs incurred prior
December 31, 2014. At paragraph 897 of that decision, the Commission approved a placeholder in the amount of zero for land acquisition costs incurred on the Heartland projects.

The Commission has considered AltaLink’s final expenditures on pipeline mitigation and land acquisition costs for the Heartland project in sections 9.2.1.1 and 9.2.1.2 below.

9.2 Heartland project

9.2.1 Heartland AC mitigation costs

In Decision 3585-D03-2016, the Commission approved $43 million as a placeholder amount for AC mitigation on the Heartland project and directed AltaLink to provide final AC mitigation costs and additional information in its next DACDA:

796. … the Commission considers that it requires further information to make a determination on the prudence of these costs. Particularly, the Commission would like additional explanation for AltaLink’s decision to avoid cost increases by deferring mitigation measures by revising the 10-year loading parameters.

798. The Commission is prepared to approve, as a placeholder for purposes of this application, the entire pipeline mitigation amount of $43 million. The Commission will consider this amount for final approval in AltaLink’s next DACDA.

799. AltaLink is directed, therefore, to include in its compliance filing, for purposes of rate base and return calculations, the actual amount of pipeline mitigation costs.

800. AltaLink is also directed to include the pipeline mitigation amount in AltaLink’s next DACDA where it will be reviewed for final approval. AltaLink can supply full supporting documentation for the claimed amount at that time, including an explanation of the discrepancy between the $43 million and $50.1 million estimates for final costs. Further, the Commission directs AltaLink to provide evidence to demonstrate the net present value of deferred pipeline mitigation costs due to the reduction in 10-year loading parameters.

[Direction 27]

In the application, AltaLink confirmed that all Heartland AC mitigation work is complete and that it is applying for $39,097,570 in final AC mitigation costs for the Heartland project. These final costs were incurred by AltaLink for installation of mitigation at approximately 200 unique sites and 50 corrosion monitoring sites for 23 facility owners. A cost breakdown was provided by AltaLink in response to a Commission IR:

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1030 Note that because Heartland project costs are to the end of December 2014 rather than to December 31, 2013, which is the date for other projects considered in Decision 3585-D03-2016, the amount shown as prior DACDA approvals, $428,588,210, includes amounts incurred during 2014. It is for this reason that no amount is shown for 2014 for the Heartland project in Table 25.

1031 Exhibit 22542-X0002.04, application, paragraphs 565 and 569.

1032 Exhibit 22542-X0002.04, application, paragraph 575.
Table 26. Heartland AC mitigation costs by year

<table>
<thead>
<tr>
<th>Project name</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Total ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0371 - Heartland</td>
<td>-</td>
<td>26,917,778</td>
<td>12,179,792</td>
<td>-</td>
<td>39,097,570</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1491, AML-AUC-2017DEC20-060(iif, PDF page 94.

1074. In response to the Commission’s direction to reconcile the final cost estimates,\(^{1033}\) AltaLink noted that the $43.0 million referenced in Decision 3585-D03-2016 was an estimate of the final AC mitigation costs for the project. At the time of the 2012-2013 deferral account application, around April 2015, AltaLink had provided this estimate based on completion of all of the detailed engineering studies, procurement of materials and services, and a portion of the actual work. Therefore, it explained that the $50.1 million referenced in the AESO change order was an estimate prepared in 2013 based on a scoping study using the 10-year loading parameters and was not meant to be accepted as final costs.\(^{1034}\)

1075. In response to the Commission’s direction to provide the net present value of the deferred pipeline mitigation costs due to the reduction in the 10-year loading parameters, AltaLink provided an explanation of its methodology and assumptions to calculate a net present value reduction from deferring costs of $7.12 million. The inputs for the calculation were as follows:

- the estimate for AC mitigation under full loading conditions was $72 million
- the actual cost of AC mitigation using the 10-year loading parameters was $39.1 million
- the assumed cost of bringing AC mitigation up to full loading conditions was an additional $33 million in 2017 dollars

1076. Applying a discount rate of 5.02 per cent and an inflation rate of 2.5 per cent, AltaLink calculated that the net present value of $33 million in 10 years would be $25.88 million resulting in a $7.12 million value of deferring pipeline mitigation costs.\(^{1035}\)

1077. As requested by the Commission, AltaLink also provided additional information in support of the actual final AC mitigation costs\(^{1036}\) in its application. It submitted that it kept the AESO informed of emerging trends and issues throughout the project through month end reporting and project change proposals and provided its assumptions for the PPS cost estimate,\(^{1037}\) which was prepared in 2010, as well as a summary of the project timeline as found in the month end reports to the AESO.\(^{1038}\)

\(^{1033}\) See the first sentence of paragraph 800 of Decision 3585-D03-2016.

\(^{1034}\) Exhibit 22542-X0002.04, application, paragraphs 567-568.

\(^{1035}\) $7.12 million = $33 million - $25.88 million. See PDF page 105 of the application (Exhibit 22542-X0002.04) for the detailed calculation.

\(^{1036}\) For a detailed discussion of Heartland AC mitigation costs and the change management and estimation process, please see Section 4.2.2.9 of Decision 3585-D03-2016.

\(^{1037}\) The assumptions were listed on PDF page 106 of the application (Exhibit 22542-X0002.04).

\(^{1038}\) Extracts of the month end reports which identify AC mitigation were provided in PDF pages 106-109 of the application in this proceeding (Exhibit 22542-X0002.04). The original month end reports can be found in Exhibit 0094.00.AML-3585.
1078. AltaLink stated that two change proposals were issued and approved following its previous DACDA filing. These change proposals revised the final cost report deadline due to delays with pipeline facility owners completing induction mitigation. AltaLink also provided a list of the actual mitigations installed for the respective facility owners, along with the relevant detailed engineering design completion dates and closeout letter execution dates.

1079. In response to a Commission IR, AltaLink provided additional information on delays with the AC mitigation work related to loading parameters. For work not completed in 2014, it requested facility owners to adjust the contingency steady state loading and maximum fault state current levels (inputs into various safety calculations) downward. It explained that this action reduced the AC mitigation measures required. AltaLink further explained that these changes also caused a delay of mitigation work into 2015. However, it stated that the delay costs were “not as significant as they would be for AltaLink internal labour for ongoing engagement with the facility owner.” It concluded that its pipeline mitigation strategy contributed to actual final costs being less than those estimated for the project change proposal submitted to the AESO and that its approach to pipeline mitigation was “reasonable and accords with long standing practices within Alberta”.

1080. Applied-for Heartland AC mitigation final costs and 10-year loading parameters were not specifically addressed in the CCA’s evidence, argument or reply argument. However, the CCA did reference the revised 10-year loading parameters (an input for pipeline induction studies) as an example of a measure that AltaLink could take to mitigate increased AC mitigation costs.

Commission findings

1081. In the application, AltaLink has provided an explanation of the variance between its mitigation costs estimate from the previous DACDA and its final actual costs. AltaLink also provided calculations and the underlying assumptions to explain the net present value of deferred pipeline mitigation costs due to the reduction in 10-year loading parameters in the application. For these reasons, the Commission finds that AltaLink has complied with Direction 27 from Decision 3585-D03-2016.

1082. In Decision 3585-D03-2016, the Commission found that AltaLink was obligated to construct the transmission line on the route approved by the Commission at the facility application stage and that AltaLink had acted prudently in the selection of the location of the line within the transportation utility corridor. With respect to the quantum of final actual costs, the Commission approved a placeholder amount in Decision 3585-D03-2016, indicated that additional information was required in order to assess the costs and stated that a final determination of prudence would be made in a subsequent DACDA, being this application.

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1039 The change proposals were filed in Exhibit 22542-X1516, AML-AUC-2017DEC20-060 Attachment 2, PDF pages 59-96.
1040 Exhibit 22542-X0002.04, application, paragraphs 579-580.
1041 Exhibit 22542-X0002.04, application, paragraph 585, PDF pages 110-111.
1042 Exhibit 22542-X1491, AML-AUC-2017DEC20-060(i)g and (i)h, PDF page 94.
1043 Exhibit 22542-X0002.04, application, paragraphs 584 and 588.
1044 Exhibit 22542-X1972, CCA argument, paragraphs 396-398.
1045 Decision 3585-D03-2016, paragraphs 794-795.
1046 Decision 3585-D03-2016, paragraphs 796 and 798.
1083. The AC mitigation costs for Heartland raise two issues:

(i) Was it reasonable for AltaLink to revise the loading parameters such that additional mitigation, and therefore additional costs, would be required in the future? Is this an intergenerational equity issue?

(ii) Was the quantum of costs reasonable given the conditions that existed?

1084. With respect to the first issue, the Commission has previously stated the following on the issue of intergenerational equity:

113. In considering this existing intergenerational inequity and the public interest, the Commission has employed inter-temporal cost-benefit analysis to help inform its decision making. This necessarily involves the choice of a discount rate that allows the decision maker to incorporate the idea that future consumption or future welfare may be regarded differently than current consumption.\textsuperscript{1047}

1085. In general terms, intergenerational equity principles try to determine how ratepayers now, and in the future, should pay for assets from which they now enjoy a benefit in proportion to the benefit enjoyed in future. Intergenerational equity can be achieved by smoothing payments made by ratepayers to the asset owner. For example, AC mitigation is considered a necessary project cost but it can be implemented in phases. Therefore, it is possible to implement AC mitigation in a finite number of phases as load increases and to include the costs in rate base as they are incurred. Alternatively, AC mitigation can be implemented for full or maximum expected loads up front in which case, all costs would be included in rate base at the time of energization and depreciated over the expected life of the asset. The implementation of these two options would have differing affects on current and future ratepayers. Applying the former option defers some of the AC mitigation costs to future ratepayers as load increases whereas applying the latter option imposes those future load mitigation costs on current ratepayers.

1086. When implementing AC mitigation in stages, as AltaLink has proposed to do in this case, it must be shown that neither current nor future ratepayers will be unduly burdened in comparison to the benefit enjoyed. A simplistic way to evaluate this is to compare the net present value of both alternatives. The net present value calculation provided in the application shows that overall, implementing AC mitigation in phases, or using 10-year loading parameters at time of construction, results in a reduction in total AC mitigation costs assuming that the discount rate used is supportable. As previously stated by the Commission:

113. …The discount rate reflects the degree to which future costs are traded off against current costs. If the discount rate is too high; i.e., it does not reflect a decision maker’s actual rate of time preference, then the rate at which future costs are substituted for current costs will be wrong. Either current ratepayers are paying too much or too little. Typically, if the discount rate is too high, then too many costs are shifted into the future.\textsuperscript{1048}

1087. The discount rate (or after tax weighted average cost of capital) used by AltaLink in its calculation was 5.02 per cent, derived from the approved return on equity and equity thickness


\textsuperscript{1048} Decision 21341-D01-2017, paragraph 113.
for 2015,\footnote{These values match what was filed in AltaLink’s 2015-2016 GTA compliance third filing (see Exhibit 22930-X0004.01 - MFR Schedules).} and a return on debt of 4.24 per cent. The net present value was calculated using an inflation rate of 2.5 per cent.

1088. It is not clear to the Commission how AltaLink derived the return on debt and inflation rates. AltaLink’s MFR schedules from its 2015-2016 GTA third compliance filing indicate that the return on debt for 2015 was 4.03 per cent\footnote{Exhibit 22930-X0004.02, MFR schedules.} and forecast inflation in its amended 2017-2018 GTA was 1.9 per cent.\footnote{Exhibit 21341-X0030, amended application, PDF page 31.} Using these revised values, the discount rate becomes 4.92 per cent\footnote{\(0.36 \times 0.083 + (1 - 0.36) \times (1 - 0.25) \times 0.0403 = 4.92\%\).} and the net present value of the remaining mitigation becomes $24,636,194.\footnote{\(33,000,000 \times ((1 + 0.019)^{10})/(1 + 0.0492)^{10} = 24,636,194\).}

1089. Comparing the total forecast cost to complete AC mitigation at full loading to the net present value of AC mitigation in 10 years plus the actual costs incurred to date, using the revised inputs, is $8.3 million\footnote{\$72 million – ($24,636,194 + $39,097,570) = $8,266,236.} rather than the $7.12 million value resulting from AltaLink’s calculation.

1090. Using either result, the Commission considers that the record is sufficient to conclude that AltaLink acted reasonably in revising the loading parameters for AC mitigation in 2014 for the Heartland project.

1091. With respect to the second issue, the Commission notes that the increase in AC mitigation costs from the PPS to the final actual costs was nearly 200 per cent.\footnote{Per cent difference = ($39 million – $13 million) / $13 million = 200\%.}

1092. AltaLink provided a list of its assumptions for its PPS estimate for AC mitigation, which reflected what AltaLink knew at the time. In January 2014, AltaLink submitted a project change proposal to the AESO for a $50.7 million increase in AC mitigation costs, again reflecting AltaLink’s best estimate of costs based on what it knew at that time. As stated in this project change proposal, AltaLink had “significantly underestimated the complexity of the pipeline facilities and their interactions within the transportation utility corridor, and the uniquely inordinate density of pipelines.”\footnote{Exhibit 3585-X0042, AML-AUC-2015MAR05-055(a), PDF page 488.} The density of the pipelines causes induction effects from pipeline to pipeline, which an AltaLink witness in the Proceeding 3585 oral hearing stated required that they be modelled together to determine how one pipeline affects an adjacent one, which in turn affected the AC mitigation required.\footnote{Proceeding 3585, Transcript Volume 6, page 1161, line 24 to page 1162, line 12.}

1093. Notwithstanding, the Commission notes that the initial estimate for pipeline mitigation assumed that 206 mitigation sites would be required\footnote{Exhibit 0093.00.AML-3585, Project Change Proposal 11, PDF page 122.} which is approximately the number of mitigation sites ultimately required. This would suggest that AltaLink was aware of the proliferation of pipelines in the area at the PPS stage time but was unaware of the extent to which the pipelines interacted with each other until later. The question that must be determined is whether AltaLink should have known earlier.
1094. The Commission finds that the Heartland project was unique and complex and that there were unexpected challenges associated with working in a transportation utility corridor that AltaLink could not have anticipated. Additionally, based on the evidence provided in Proceeding 3585 and in this proceeding, it was difficult to engage facility owners earlier so AltaLink did not have the benefit of input from facility owners until a later stage of the project. Further, the approved route was modified from the preferred applied-for route which affected the location of pre-existing facilities in relation to the transmission line and therefore affected the mitigation ultimately required. For these reasons, the Commission does not find that AltaLink should have been imputed with earlier knowledge of the AC mitigation that was required.

1095. Based on the evidence provided in Proceeding 3585 and in this proceeding, the Commission finds that AltaLink acted prudently. The Commission expects that the experience AltaLink gained from the Heartland project will allow it to more accurately forecast for AC mitigation costs in the future and better manage the AC mitigation component of future projects. The Commission approves the Heartland AC mitigation costs for 2014 and 2015, as filed.

9.2.1.2 Heartland land compensation

1096. Paragraph 390 of Decision 2011-436, Heartland Transmission Project, and paragraph 898 of Decision 3585-D03-2016, stated:

390. The Commission will not examine the purchase and sale of property acquired by the applicants under their land acquisition policy within this proceeding, or the prudence of the applicants’ policy to resell all of the properties required as a result of their buyout policy no later than the first day of the sixth full month after energizing the project and include the cost differential (positive or negative) as part of the project capital costs. Examination of these matters is properly considered within the scope of a rate application.

898. The Commission directs AltaLink, in the trailing cost application, to make submissions in support of the prudence of its policy to “resell all of the properties required as a result of its buyout policy no later than the first day of the sixth full month after energizing the project and include the cost differential (positive or negative) as part of the project capital costs,” and to justify deviation from its policy to resell all of the purchased properties within six months following energization.

1097. AltaLink provided an update on land sales for the Heartland project in response to the Commission’s direction in Decision 3585-D03-2016 in this proceeding.

1098. The Heartland project involved constructing 65 km of 500 kV transmission line from a substation south of Edmonton to a new Heartland substation, as well as another 22 km of 240 kV transmission line to connect the new Heartland substation to the AIES. As part of the Heartland project, AltaLink purchased 25 properties under its buyout policy for a total purchase price of $24 million.

1099. AltaLink explained that its buyout policy for the Heartland project had originally proposed that landowners be offered an option for a buyout of their property under the following circumstances:

- if the ROW crosses a property and the residence is within 150 m of the centreline, or
• if the ROW crosses a parcel of land and the ROW affects 20 per cent or more of the total parcel.\textsuperscript{1059}

1100. However, as part of the P&L hearing process for the Heartland project, AltaLink was asked by the Commission to develop some principles or criteria that the Commission might use to look at exceptional circumstances for buyouts in the context of the Heartland project, given the unprecedented size of the Heartland project and the potential impact to landowners. AltaLink’s response to the request was outlined in an undertaking (UT082) that was provided by AltaLink during the hearing process for the Heartland project.\textsuperscript{1060} AltaLink proposed to adopt, for the Heartland project, exceptions for buyouts where the transmission line is routed through privately held land outside of the transportation utility corridor. The exceptions were based on the following principles:

(i) Residences within approximately 200 m of the transmission line.

(ii) Parcels bordered on two sides by the transmission line.

(iii) Businesses subject to significant potential impact due to the transmission line.

(iv) Multiple residences within the same yard site, where one is within approximately 200 m; all are considered for buyout.

(v) Multiple transmission facilities, including terminal station, uniquely impacting a single quarter section with a residence.

1101. Under the proposed buyout policy, all buyouts would be offered on the following terms:

• A buyout price will be determined from the average of three appraisals. The landowner and the applicants shall each choose one appraiser. The third appraiser will be jointly selected and agreed upon by the landowner’s and the applicants’ appraisers.

  a) An appraisal will be discarded and not considered for the determination of buyout price if it differs from the average of the other two appraisals by greater than 20 per cent

  b) Should the highest and lowest appraisal differ from the middle appraisal by greater than 20 per cent, all appraisals shall be rejected, and the appraisal process shall be restarted with new appraisers.

• The process above will be binding on the applicants and the landowner for the purposes of the determination of the buyout price.

• The appraisals will be sealed and submitted to the applicants. The appraisals will remain sealed until a meeting between the landowner and the applicants.

\textsuperscript{1059} Exhibit 22542-X1491, AML-AUC-2017DEC20-042, PDF page 63.

\textsuperscript{1060} Exhibit 22542-X1498, AML-AUC-2017DEC20-042 Attachment
• The buyout price will be presented to the landowner as an offer to purchase. The landowner may accept or reject this offer.

• All buyout offers will be conditional upon receipt of permit and licence and only be fully executed against the approved alignment, or agreed-to amendments.

• If the offer is accepted, the landowner and the applicants will select a third party relocation agent to produce a budget for reasonable relocation expenses.

• The landowner may elect to receive a lump sum payment of this budgeted amount or proceed under the relocation budget and be reimbursed for actual expenditures incurred.

1102. As part of the revised buyout policy, AltaLink stated that it intended to have the properties resold no later than the first day of the sixth full month after project energization, so that the cost differential (positive or negative) could be included with the 180-day final cost report it submits to the AESO.

1103. AltaLink confirmed the following in an IR response:

The 25 properties that were resold were similar in that they were all rural residential acreage holdings or agriculture holdings located within a 21 km area. Three properties were located in the Northerly boundary of the City of Edmonton and 22 properties were within Sturgeon County. The Heartland properties had the following common similarities:

- The three properties within the City of Edmonton would have been recognized within the MLS listings as Rural Residential Acreage Holdings and under 80 Acres in size.

- The 22 properties within Sturgeon County were primarily Agriculture holdings with approximately seven of the properties having residential acreages subdivided out as first parcels.  

1104. AltaLink stated that it acted prudently in engaging local realtors to develop a sales strategy and relied on the expertise of its real estate brokerage firms and its best judgement in order to ensure the execution of the resale strategy was reasonable. In accordance with that strategy, it was decided not to put all of the properties for sale at once to avoid flooding the market and thus driving the prices down. Second, AltaLink wanted to provide sufficient time for the market to evaluate and react to the available properties listed. After selecting a realtor and gathering inventory, AltaLink began listing the properties within six months of the transmission energization date of the Heartland project, which occurred at the end of December 2013. The sale of these properties coincided with an economic downturn in Alberta, resulting in a depressed real estate market beginning in 2014. AltaLink explained that this downturn made it impractical for AltaLink to sell all of the Heartland properties by no later than the first day of the sixth month after energizing the project, as maximum resale values of the properties would not be achieved. AltaLink submitted that it acted prudently during the resale process by deviating from its intention outlined in UT082 and choosing not to flood the real estate market. AltaLink stated that it worked with its real estate brokerage to resell the properties in a timely manner while

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Exhibit 22542-X1524.01, AltaLink IR Responses to CCA, PDF page 131.
balancing rate payers’ interests by achieving the best return for the properties that the market would support.

1105. AltaLink sold all of the 25 properties by October 31, 2017, for a total of $11.2 million. The total sales by year are broken down below:1062

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$</td>
<td>$3.0</td>
<td>$0.8</td>
<td>$2.4</td>
<td>$5.0</td>
<td>$11.2</td>
</tr>
</tbody>
</table>

1106. AltaLink applied the $11.2 million credit against the $24 million land acquisition cost for the Heartland project. AltaLink requested net capital additions of $16.2 million, consisting of $12.8 million for net property costs and $3.4 million for other related costs.1063

1107. AltaLink argued that its actions with respect to the purchase and sale of the Heartland properties were in accordance with the Commission’s statement in Decision 2011-436 that there should be flexibility in how a buyout policy is applied.1064

1108. AltaLink stated that it did not consider the following statement in UT082 to be a directive:

> It is AltaLink’s intention to have resold these properties no later than the first day of the sixth full month after the Project Energization of the Project so that the cost differential (positive or negative) can be included with the Final Cost Report as per AESO Rule 9.1.3.6(b).1065

1109. As a result, AltaLink considered its actions to deviate from the intended timeline were not unauthorized and if there was a direction by the Commission, AltaLink’s failure to comply was inadvertent and AltaLink acted in good faith at all times. As such, AltaLink did not seek a variance, but requested one from the Commission after the fact, if required.1066

1110. The CCA examined the sales documentation in information requests, but it did not address the sale of the properties in their evidence submission. In argument, the CCA submitted that AltaLink should not be permitted to have the net capital additions of $16.2 million, consisting of $12.8 million for net property costs and $3.4 million for other related costs, realized as an actual project cost for the Heartland project and included in rate base. The CCA also suggested that the Commission was probably not mindful of the new reality or full effects of UAD when the Commission made its comments in paragraph 390 of Decision 2011-436 and paragraph 898 of Decision 3585-D03-2016.

1111. The CCA submitted that the assets were not put into service and therefore have never entered rate base, because the deferral mechanism has the effect of delaying the formal entry of assets into rate base. The CCA submitted that, at most, AltaLink should only be entitled to its financing costs for these assets, not the value of the assets themselves.

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1062 Exhibit 22542-X0005.02, Appendix 01-3 Deferral account calculations Heartland land sale, Schedule 1-3-3.
1063 Exhibit 22542-X0005.02, Appendix 01-3 Deferral account calculations Heartland land sale, Schedule 1-3-3.
1064 Decision 2011-436, paragraph 385.
1065 Exhibit 22542-X1978, AltaLink reply argument, paragraph 138.
1066 Exhibit 22542-X1978, AltaLink reply argument, paragraph 138.
1112. The CCA referenced a Commission ruling in the current application with respect to a future proceeding to be initiated by a Commission bulletin to consider transmission asset utilization. In the ruling the Commission stated:

The Commission remains of the view that the scope of the deferral account proceedings should not be extended to consideration of the utilization of the assets for which final cost approval is sought. Consequently, the participation of the AESO in proceedings 22393 and 22542 will not be directed.

Notwithstanding the above, the Commission has determined that it is necessary to address the issue of transmission asset utilization raised by the CCA and how the corporate and property law principles applied by the courts in the Alberta legislative context as referenced in the UAD decision may relate.

1113. The CCA stated that it understood this ruling was intended to address assets that are underutilized or which are no longer being used to provide utility service but are proposed to be added to rate base in this proceeding. In the case of the Heartland properties, however, the costs proposed to be added to rate base do not represent underutilized property, but assets no longer even owned by AltaLink. These costs do not appear to fall within the spirit of the utilization proceeding to be initiated by a Commission bulletin and therefore should be considered in this proceeding. The CCA argued that since the Heartland properties were never required or used to provide utility service and accordingly were sold by AltaLink, the costs arising from the loss on sale cannot be properly added to rate base. The assets cannot be included in the rates given the Commission’s statement in Decision 2013-417:

The Commission has no authority to include in rates the cost of assets that are not presently used, reasonably used or are likely to be used in the future to provide services to customers regardless of whether the statutory requirement is described as being “used or required to be used” to provide gas utility service or “used” or “necessary to” the provision of electric utility services.

1114. The CCA went on to state that if the Commission considers these costs to lie within its intention for the utilization proceeding, the CCA recommended these assets be treated on a placeholder basis.

1115. The CCA argued that if the Commission should decide it is not bound by the UAD decision and does not accept the CCA’s argument, then the Commission should take into account AltaLink’s representation to the Commission that it would sell all properties within six months of energization and that it never sought relief from this commitment. The CCA stated that AltaLink’s actions resulted in substantial loss in the value of the properties and their subsequent resale. The costs resulting from these arbitrary and unauthorized actions were not reasonable and should not be permitted in rate base.

1116. In reply argument, AltaLink stated that the CCA’s claim that AltaLink’s resale strategy was arbitrary and resulted in significant loss in the value and sale of the properties is incorrect and unsupported. AltaLink reiterated that its resale strategy was reasonable and that it considered

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1067 Exhibit 22542-X0757, Ruling on the Consumers’ Coalition of Alberta’s request for clarification of the Commission ruling regarding participation of the Alberta Electric System Operator, PDF page 2.
1068 Exhibit 22542-X1972, CCA argument, paragraph 375.
1069 Exhibit 22542-X1972, CCA argument, paragraph 377.
UT082 when reselling the properties. Its intention to resell the properties within six months of project energization was formed during the hearing and was determined with a view to project timelines. AltaLink also reiterated that it relied on expert advice from its real estate professionals (to use a staggered approach rather than flooding the market) to get the best return for the properties. AltaLink stated that one of the buyouts did not even close until six months after energization, so it could not have been resold within the six-month timeframe.

1117. AltaLink asserted that UAD is not applicable, given the Commission determined asset utilization would not be considered in this proceeding in its June 20, 2017 ruling. AltaLink added that UAD does not apply to the Heartland land sales, because these properties were never utility assets, but rather reasonable project costs to get the Heartland project built.

1118. AltaLink stated that the costs pertaining to the Heartland land sales are analogous to the costs pertaining to obtaining a right-of-way agreement or right-of-entry order for a transmission line. To ensure fair treatment of landowners, given the circumstances, AltaLink developed a policy to obtain the necessary land rights by way of buyout rather than obtaining a ROW agreement or right-of-entry order. As such, AltaLink submitted that the net costs after all properties were resold are properly and reasonably categorized as project costs and appropriately included in a deferral account proceeding.

1119. In response to AltaLink’s argument, the CCA submitted that AltaLink has not explained and therefore, the CCA is unclear why the net costs should be “realized as an actual project cost to the Heartland Project.” The CCA stated that AltaLink appears to avoid the substantive issue of explaining how the net land acquisition costs of these properties can be justified for inclusion in rate base in a manner that accords with the current regulatory principles and practice in Alberta. The CCA submitted that AltaLink only repeats its submission that the buyout process was prudent and fails to address the unique aspects of the issue.

1120. The CCA concluded by stating that, now that all properties have been sold, and that there is now no property remaining and devoted to utility service, there cannot be any costs properly added to rate base. The CCA argued that if AltaLink intends to have its losses related to the Heartland land sales paid by ratepayers, it should have provided a full argument addressing this, but failed to do so. The CCA maintained, for these reasons, that the Commission should disallow recovery from customers of the amounts associated with the acquisition of these properties.

**Commission findings**

1121. The Commission has reviewed the parties’ evidence filed on the record pertaining to the Heartland land sales. The Commission reconfirms its June 20, 2017 ruling that the scope of this deferral account proceeding will not be extended to consideration of the utilization of the assets for which final cost approval is sought.

1122. The Commission disagrees with the CCA’s argument that AltaLink should not be permitted to have a prudent amount of the net property costs realized as an actual project cost for the Heartland project. The Commission accepts AltaLink’s argument that these costs are analogous to the cost of obtaining a ROW agreement or right-of-entry order for a transmission

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1070 Exhibit 22542-X0757, Ruling on the Consumers’ Coalition of Alberta’s request for clarification of the Commission ruling regarding participation of the Alberta Electric System Operator, PDF page 2.

1071 Exhibit 22542-X1980, CCA reply argument, paragraph 292.
line. Because these costs were necessarily incurred in conjunction with the construction of the Heartland project, and because they were acquired in accordance with the buyout policy, the Commission finds these costs, if prudently incurred, were required to complete the Heartland project.

1123. Because these costs were a necessary component of the Heartland project, the Commission finds that the legal principles reviewed by the Commission in the UAD decision do not apply. The application of UAD principles is fact dependent. For example, had the properties been acquired on the basis that they were considered necessary for the construction of the project and it was subsequently determined that the properties were no longer necessary, then the UAD principles might be applicable to those specific properties. However, this was not the case. The properties purchased and subsequently sold were acquired as necessary to gain access rights on the properties following determination and approval of the line route for Heartland.

1124. The Commission recognized in Decision 2011-436 that it could not examine the prudence of AltaLink’s actions related to the purchase and sale of property under the revised buyout policy within the Heartland project permit and licence hearing process, and until all the properties were sold. In its amended application, AltaLink confirmed that all properties have been sold and it is now applying for the approval of the costs differential and related transactional costs to be added to rate base. As a result, the Commission examined AltaLink’s purchase and sale of property under the land acquisition policy set out in UT082 and assessed the prudence of AltaLink’s actions, including its deviation from its stated intention to the Commission to resell all of the properties no later than the first day of the sixth full month after energizing the project and to include the cost differential (positive or negative) as part of the project capital costs.

1125. The Commission acknowledges that AltaLink was faced with unique circumstances in managing the Heartland project land buyouts and resales and it recognizes that AltaLink would necessarily incur some costs in completing this buyout and resale process. In Decision 2011-436, the Commission found that there should be flexibility in how a buyout policy is applied, in order to take into account the particular circumstances of properties that are directly affected by the transmission line. However, in the Commission’s view, this reference to flexibility was with respect to how a buyout policy is applied to landowners, it did not refer to flexibility in the timing of the resale process, as suggested by AltaLink.

1126. In Decision 2011-436, the Commission found that the new exceptions put forward by AltaLink in UT082 were warranted in the circumstances. Inherent in the Commission’s acceptance of the buyout policy was that AltaLink would be permitted to add the cost differential (positive or negative) to the cost of the Heartland project. However, this was predicated on the representation made to the Commission in UT082 that AltaLink intended to resell the properties no later than the first day of the sixth full month after project energization. The Commission also determined that prudence was to be tested within the scope a DACDA application.

1127. The Commission considers that AltaLink followed through on its commitment to implement the buyout policy using a market value approach and that AltaLink upheld its commitment to keep landowners whole. The Commission acknowledges that AltaLink, by taking

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1072 Decision 2011-436, paragraph 390.
1073 Decision 3585-D03-2016, paragraph 906.
1074 Exhibit 22542-X0002.04, paragraph 503.
1075 Decision 2011-436, paragraph 384.
into account the particular circumstances of a property and by taking steps to keep landowners whole, would likely incur costs above the buyout offers that were based on the appraised values.

1128. The Commission calculates the amount that AltaLink had to pay above market to keep the landowners whole to be $5.1 million. This number was obtained by calculating the difference between the buyout offers arrived at through the appraisal process and the ultimate purchase price for those properties where the purchase price was higher than the buyout offer. The Commission finds this amount was prudently incurred.

1129. However, based on the evidence before it, the Commission does not consider that AltaLink acted prudently with respect to the timing of the resale process.

1130. AltaLink correctly points out that the Commission did not direct that all property had to be sold by a certain date. Notwithstanding, the Commission expects that AltaLink would have undertaken all reasonable efforts to satisfy the commitment it had set for itself in the revised buyout policy. This does not appear to be the case; instead it appears that AltaLink did not act with reasonable diligence in reselling the properties and appears to have relied on the expectation that the cost differential (positive or negative) would be included with the final cost report and recovered from customers, as stipulated in the buyout policy.

1131. AltaLink explained that it had deviated from the deadline set out in its buyout policy in order to avoid flooding the market so as to achieve the best return for the properties. AltaLink also explained that it undertook this strategy based on the expert advice it received from its real estate professionals.

1132. The Commission has reviewed the Heartland Land Acquisition and Resale table and the listing sheets that were provided by AltaLink and notes the following:

- AltaLink had closed on the purchase of a property under its buyout policy as early as December 1, 2011 (PID 13); however, the first listing to resell any of the acquired properties did not occur until March 29, 2014 (PID 2), three months after project energization. The average number of days between purchasing a property and listing the property for resale is 734 days, or roughly two years.

- The total value of properties (based on purchase price) that were listed for sale before the six months after-energization resale deadline AltaLink had set out for itself and the Commission approved was only $5.2 million, or 20 per cent of the total $24 million (PIDs 2, 6, 7, 16, 64, 65, 66, and 67). Only one property was sold within the deadline (PID 6).

- A total of 15 properties, or 60 per cent of the 25 properties, were listed within four weeks of each other (July 24, 2015 to August 18, 2015) and all these properties were listed with the same real estate brokerage firm. Thirteen of the 15 properties were

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1076 Exhibit 22542-X1540.01, calculated as the difference between the columns AML Buyout Offer and Purchase Price for those instances where the purchase price was higher than the buyout offer.
1077 Exhibit 22542-X1540.01.
1078 Exhibit 22542-X1723.02.
1079 PIDs 1, 3, 4, 5, 8, 9, 13, 14, 15, 57, 61, 62, 63, 73 and 76.
1080 PIDs 1, 3, 4, 5, 8, 9, 13, 15, 57, 61, 62, 63, and 73.
listed on the same day, July 28, 2015. The total purchase price of the 15 properties was $18.6 million, which represents 78 per cent of the total $24 million.

- The last properties purchased by AltaLink were purchased on June 28, 2014 (PIDs 73 and 76), just prior to the resale deadline that AltaLink had set out in its buyout policy.

1133. Based on these facts, the Commission is not persuaded that AltaLink’s handling of the resale process was reasonable. The evidence suggests that AltaLink waited too long (an average of two years) before initiating the resale of properties, which is in sharp contrast to the commitment it had set out in its buyout policy. Listing a property for resale in close proximity to the purchase date reduces the risk of market fluctuations and increases the probability that the resale value will not differ significantly from the purchase price. The Commission, by approving in the Heartland decision the sale commitment in AltaLink’s buyout policy and the inclusion of the cost differential (positive or negative) in the final cost report, had reflected the amount of risk it was prepared to accept.

1134. The Commission considers that the properties could have been listed during the construction process and that the timeline set out in the buyout policy provided AltaLink with sufficient time to sell most, if not all, of the properties by the deadline. The Commission considers that AltaLink could have reasonably started the resale process earlier. AltaLink did not begin to list any properties until March 2014, just three months before the June 2014 deadline to have all the properties sold. AltaLink did not make a concerted effort to sell the properties until late July 2015, over a year after its self-imposed timeline. The Commission also observes that some of the properties listed with the one real estate broker engaged by AltaLink took up to five years from the purchase date to sell. In deviating from the timeline set out in its buyout plan and by not informing the Commission of the deviation, the Commission finds that AltaLink assumed at least some of the risk related to the outcome of the sale process in managing the disposition of the Heartland properties.

1135. Further, AltaLink ultimately listed 15, or 60 per cent, of the properties, valued at 78 per cent of the total purchase price, all within four weeks of each other and with the same broker (13 of which were listed on the same day), which is contrary to its stated strategy of not flooding the market by staggering the listings.

1136. The Commission finds that it would have been reasonable for AltaLink to inform the Commission of any deviation from its commitment to resell the properties and to provide justification before the deadline occurred, or shortly thereafter. It failed to do so and accordingly, the Commission had no opportunity to address the situation. As such, the Commission finds that AltaLink must accept at least some of the risk of the impact of subsequent market fluctuations on the proceeds from the resale of the properties.

1137. AltaLink explained that the difference between the total purchase price ($24 million) and the total amount received from the sale of the properties ($11.2 million) results in a net property cost of $12.8 million. AltaLink also explained that there were other related costs of $3.4 million,1081 which increased the total net additions to $16.2 million. The Commission accepts that AltaLink would incur related costs associated with the purchase and sale of the properties. The Commission has reviewed the breakdown of costs in this category and considers

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1081 The breakdown of these costs is provided in Exhibit 22542-X1598, AML-AUC-2018JUN01-005, PDF page 15.
the $3.4 million to be prudently incurred. Further, as noted above, the Commission has approved the $5.1 million in costs incurred by AltaLink to keep landowners whole.

1138. However, the Commission considers that the remaining $7.7 million of the loss differential reflects an amount that was influenced in part by how AltaLink implemented its resale process. The Commission recognizes that market trends factored into the sale price and that the location of the line on the property could potentially influence the final sale price. However, the extent that either of these factors influenced the sale price is not known with certainty.

1139. Nonetheless, and for the reasons set out above, the Commission finds that AltaLink did not act prudently in carrying out its resale of the Heartland properties and disallows 50 per cent of the $7.7 million, or $3.85 million related to the sale of the Heartland properties. Accordingly, the Commission approves $12,322,311 as the total net capital additions related to the Heartland project. AltaLink is directed to update its capital additions for the Heartland project in its compliance filing to this decision.

9.3 D.0305 – SATR Cassils to Bowmanton project AC mitigation costs

1140. In Decision 3585-D03-2016, the Commission approved $20.8 million as a placeholder amount for AC mitigation on the Cassils to Bowmanton (CB) project and directed AltaLink to include the final AC mitigation costs for the project in trailing costs, and to provide additional information in the next DACDA:

673. AltaLink is required to mitigate the negative effects from its new facilities on existing facilities. When the Commission approved the final route for this project in Decision 2011-250, it approved the preferred route applied-for by AltaLink. It is reasonable to conclude that AltaLink would have known or should have known at the time that the CB project area had a high density of existing oil and gas and pipelines facilities which would have required significant AC mitigation measures.

…

675. The Commission finds that there was insufficient information on the record of this proceeding to determine prudence …

676. The Commission is prepared to approve, as a placeholder for purposes of this application, the entire pipeline mitigation amount of $20.8 million. The Commission will consider this amount for final approval in AltaLink’s next DACDA.

677. AltaLink is therefore directed to include in its compliance filing, for purposes of rate base and return calculations, the actual amount of pipeline mitigation costs.

678. AltaLink is also directed to include the pipeline mitigation amount in trailing costs in AltaLink’s next DACDA where it will be reviewed for final approval. AltaLink can supply full supporting documentation for the claimed amount at that time.

1141. In response to a Commission IR, AltaLink provided the following breakdown of AC mitigation costs for the CB project:
Table 27. Cassils to Bowmanton AC mitigation costs by year

<table>
<thead>
<tr>
<th>Project name</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0305 - CB</td>
<td>410,714</td>
<td>9,283,337</td>
<td>704,722</td>
<td>297,278</td>
<td>1,752,789</td>
<td>12,448,840</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1491, AML-AUC-2017DEC20-060(f), PDF page 93.

1142. AltaLink requested that $10,398,773 for actual AC mitigation costs incurred up to December 31, 2015, be approved for the CB project. Costs incurred in 2016 and 2017 will be included in a future DACDA as trailing costs.

1143. AltaLink noted that the placeholder amount of $20.8 million approved in Decision 3585-D03-2016 was a forecast, not an actual cost.

1144. The final actual costs were for installation of mitigation at approximately 300 unique sites and 80 corrosion monitoring sites.\(^{1082}\) AltaLink noted that the list of pipeline facility owners and mitigations listed in the application pertained to costs incurred in 2014 and 2015. In addition to those listed, an additional three facility owners incurred costs in 2016 and 2017.\(^ {1083}\) AltaLink further confirmed that the actual AC mitigation costs are not final, as at the time of IRs, as AltaLink anticipated receiving the last invoice and closing out the project in Q3 or Q4 of 2018. Costs not included in this application will be applied for as trailing costs in a future application.\(^ {1084}\)

1145. As requested by the Commission, AltaLink also provided additional information in support of the actual final AC mitigation costs\(^ {1085}\) in its application. AltaLink provided a summary of the project timeline as found in the month end reports to the AESO.\(^ {1086}\) AltaLink submitted that, through the month end reporting and project change proposals, it kept the AESO informed of emerging trends and issues throughout the project. One project change proposal was issued to account for the expected increase in AC mitigation costs, and four change proposals were issued to change the final cost report deadline due to delays completing induction mitigation with pipeline facility owners. All project change proposals were approved or acknowledged by the AESO.\(^ {1087}\) AltaLink also provided a list of the actual mitigations installed for the respective facility owners, along with the relevant detailed engineering design completion dates and closeout letter execution dates.\(^ {1088}\)

1146. AltaLink noted that its PPS estimate was based on available data showing that there were 210 pipelines within 100 m of the proposed transmission line route, of which 50 would require mitigation. Furthermore, the PPS estimate used the CSA standards that were in effect at the time, which were subsequently revised such that consultation was required for facilities within 300 m

\(^ {1082}\) Exhibit 22542-X0002.04, application, paragraph 547.
\(^ {1083}\) Exhibit 22542-X1491, AML-AUC-2017DEC20-060(e), PDF page 93.
\(^ {1084}\) Exhibit 22542-X1491, AML-AUC-2017DEC20-060(b)-(d), PDF page 93.
\(^ {1085}\) For a detailed discussion of CB AC mitigation costs and the change management and estimation process, please see Section 4.2.1.7 of Decision 3585-D03-2016.
\(^ {1086}\) Extracts of the month end reports which identify AC mitigation were provided in PDF pages 100-103 of the application in this proceeding (Exhibit 22542-X0002.04). The original month end reports can be found in Exhibit 0025.00.AML-3585.
\(^ {1087}\) Exhibit 22542-X0002.04, application (clean), paragraph. The original project change proposals number 5, 6 and 7 were provided in Proceeding 3585, Exhibit 0024.00.AML-3585. Project change proposals 8 and 9 were issued after the submission of AltaLink’s 2012-2013 DACDA.
\(^ {1088}\) Exhibit 22542-X0002.04, application (clean), paragraph 561, PDF pages 103-104.
of the proposed route, and further for pipelines which are paralleled for more than 5 km. Under the revised standard, the number of pipeline crossing was increased to 1159.\textsuperscript{1089}

1147. The process outlined by AltaLink in the application for consultation with facility owners, completion of induction studies, detailed engineering, implementation of mitigation or monitoring measures, verification and payment of invoices is discussed generally in Section 3.10 above. The CB project was executed under that process.\textsuperscript{1090}

\textbf{Commission findings}

1148. In Decision 3585-D03-2016, the Commission approved AltaLink’s AC mitigation costs as a placeholder amount because it required additional information to assess the prudence of those costs. The Commission indicated that the final determination of prudence would be made in a subsequent DACDA,\textsuperscript{1091} being this application, and directed the following:

\begin{enumerate}
\item 22. AltaLink is also directed to include the pipeline mitigation amount in trailing costs in AltaLink’s next DACDA where it will be reviewed for final approval. AltaLink can supply full supporting documentation for the claimed amount at that time.\textsuperscript{1092}
\end{enumerate}

1149. The Commission remains concerned by the six times increase in AC mitigation from the PPS to the final actual costs.\textsuperscript{1093} As stated in Decision 3585-D01-2016, “It is reasonable to conclude that AltaLink would have known or should have known at the time that the CB project area had a high density of existing oil and gas and pipelines facilities which would have required significant AC mitigation measures.”\textsuperscript{1094} In that decision, the Commission listed what information had not been provided to support the applied-for AC mitigation costs:

There is no evidence on the record to show that AltaLink considered alternatives to manage the cost increases in pipeline mitigation costs. The Commission accepts that AltaLink has a process in place for pipeline mitigation that includes consultation with pipeline companies, review of the proposed mitigation measures and review of the invoices for installation of the mitigation measures. However, apart from AltaLink’s assertion in its reply argument that it submitted five route amendments as a result of new information regarding pipeline facilities, there is no evidence to show that at any point, AltaLink rejected or proposed alternatives to the pipeline mitigation measures submitted by the pipeline companies. By comparison, AltaLink filed evidence that showed it attempted to reduce the cost effects of pipeline mitigation on the Heartland project by recalculating the 10 year loading parameters.

The estimated costs for final pipeline mitigation costs are 10 times the costs estimated at the PPS stage whereas the number of pipeline crossings is 5.5 times greater. There is no evidence on the record that explains this disconnect nor why the PPS estimate was not within the +20/-10 per cent accuracy requirement.

\begin{itemize}
\item \textsuperscript{1089} Exhibit 22542-X0002.04, application (clean), paragraphs 550 and 552.
\item \textsuperscript{1090} Exhibit 22542-X0002.04, application (clean), paragraphs 549, 551, 556, 557, 560, 562 and 563.
\item \textsuperscript{1091} Decision 3585-D03-2016, paragraphs 796 and 798.
\item \textsuperscript{1092} Decision 3585-D03-2016, paragraph 678.
\item \textsuperscript{1093} As stated in Exhibit 22542-X0002.04, application (clean) at paragraph 550, the PPS estimate included $2 million in AC mitigation costs. AltaLink’s estimate for final costs is $12.5 million which is 3.25 times greater than the $2 million PPS estimate.
\item \textsuperscript{1094} Decision 3585-D03-2016, paragraph 673.
\end{itemize}
AltaLink has not adequately explained why a delay on the part of pipeline owners to complete mitigation studies contributed to the increase in pipeline mitigation costs nor what measures it took to discuss with the pipeline owners the effect of this delay.

Finally, the Commission issued its Decision on the facility application on June 8, 2011 and construction began in September 2011, but AltaLink did not notify the AESO of delays with the pipeline mitigation studies until the end of 2013 when the transmission line was energized. There is no explanation for this delay in notification when the evidence on the record suggests that pipeline mitigation measures are typically installed during construction. [Footnotes omitted]

1150. In the application, AltaLink provided (i) descriptions of alternate mitigation measures to those proposed by the facility owners, which AltaLink considered to be more cost effective; (ii) details regarding the assumed and actual number of sites requiring mitigation, as well as the number of facility owners who were required to be consulted; and iii) an explanation clarifying that some of the delays for pipeline mitigation were attributable to AltaLink’s request for the facility owners’ consultants to re-evaluate proposed mitigation measures. AltaLink explained, however, that any delays attributable to the facility owners contributed minimally to increases in costs.

1151. The Commission finds that the information provided by AltaLink, referenced above, addresses most of the matters raised in the Commission’s findings on AltaLink’s CB AC mitigation in Decision 3585-D03-2016. However, with respect to the delay in notifying the AESO of the pipeline mitigation studies, although AltaLink provided a summary of the monthly reports and the project change proposals it submitted to the AESO, and although it maintained that the AESO was informed at all times of the project’s progress, the Commission considers that this information does not specifically respond to the Commission’s concern regarding the notification delay in question. Notwithstanding, given that the Commission did not specify what type of information it required AltaLink to provide in support of its CB AC mitigation costs, the Commission is prepared to accept the information AltaLink provided to address the Commission’s concerns in Decision 3585-D03-2016.

1152. Accordingly, the Commission finds that AltaLink has complied with Direction 22 from Decision 3585-D03-2016.

1153. Because the CCA evidence and argument included the Cassils to Bowmanton and Bowmanton to Whitla projects’ AC mitigation costs in a general section on AC mitigation, the Commission has included its specific findings on the quantum of final AC mitigation costs for Cassils to Bowmanton in Section 3.10 – AC mitigation matters, above.

9.4 Other system project trailing costs

1154. In addition to the trailing costs for the Cassils to Bowmanton and Heartland projects discussed above, AltaLink requested approval of trailing costs or other adjustments totalling $1,698,412 for 2014 and $11,730,229 for 2015 for the following projects included in Table 28 below:
Table 28.  Trailing costs on other system projects

<table>
<thead>
<tr>
<th>Project name</th>
<th>Amounts approved in prior DACDAs</th>
<th>2014 additions</th>
<th>2015 additions</th>
<th>Cumulative additions to Dec 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0030.01 - Yellowhead Hinton/Edson</td>
<td>70,138,203</td>
<td>(502,314)</td>
<td>(31,248)</td>
<td>69,604,641</td>
</tr>
<tr>
<td>D.0030.02 - Yellowhead Cold Creek</td>
<td>2,000,000</td>
<td>(14,354)</td>
<td>-</td>
<td>1,985,646</td>
</tr>
<tr>
<td>D.0030.03 - Yellowhead Cherhill</td>
<td>21,805,600</td>
<td>127,522</td>
<td>91,066</td>
<td>22,024,188</td>
</tr>
<tr>
<td>D.0030.04 - Yellowhead Drayton</td>
<td>34,317,999</td>
<td>248,513</td>
<td>36,949</td>
<td>34,603,461</td>
</tr>
<tr>
<td>D.0108 - SE Brooks</td>
<td>26,358,198</td>
<td>-</td>
<td>(49,376)</td>
<td>26,308,822</td>
</tr>
<tr>
<td>D.0213 - Edmonton Region 240kV debottlenecking</td>
<td>22,667,152</td>
<td>225,220</td>
<td>7,932,742</td>
<td></td>
</tr>
<tr>
<td>D.0238 - Altabasca Telecom Upgrade</td>
<td>2,000,000</td>
<td>(14,354)</td>
<td>-</td>
<td>1,985,646</td>
</tr>
<tr>
<td>D.0307 - SATR New Milo Substation 356S</td>
<td>32,993,197</td>
<td>467</td>
<td>(76,772)</td>
<td>32,916,892</td>
</tr>
<tr>
<td>D.0308 - SATR Russell PST</td>
<td>6,027,658</td>
<td>130,763</td>
<td>404,799</td>
<td>6,563,220</td>
</tr>
<tr>
<td>D.0316 - SATR Ware Junction In/Out</td>
<td>2,000,000</td>
<td>(14,354)</td>
<td>-</td>
<td>1,985,646</td>
</tr>
<tr>
<td>D.0354 - Hanna Area – Hansman Lake</td>
<td>87,753,471</td>
<td>(443,702)</td>
<td>-</td>
<td>90,819,221</td>
</tr>
<tr>
<td>D.0355 - Hanna Area – Ware Junction</td>
<td>109,848,152</td>
<td>1,886,020</td>
<td>95,692,033</td>
<td></td>
</tr>
<tr>
<td>D.0377 - Christina Lake - Black Spruce 154S</td>
<td>27,471,453</td>
<td>(323,006)</td>
<td>2,750,922</td>
<td>29,899,369</td>
</tr>
<tr>
<td>D.0409 - Interconnection of ENMAX SS-65 Sub</td>
<td>7,078,632</td>
<td>90</td>
<td>225,220</td>
<td>7,303,852</td>
</tr>
<tr>
<td>D.0459 - Red Deer - Split 768L &amp; 778L</td>
<td>6,565,847</td>
<td>372,978</td>
<td>48,984</td>
<td>6,999,841</td>
</tr>
<tr>
<td>D.0460 - Red Deer - TX add at Benallo 17S</td>
<td>8,347,438</td>
<td>76,199</td>
<td>(68,892)</td>
<td>8,354,745</td>
</tr>
<tr>
<td>D.0461 - Red Deer - Capbank at Joffre 535SS</td>
<td>4,271,410</td>
<td>542,397</td>
<td>(10,430)</td>
<td>4,803,377</td>
</tr>
<tr>
<td>D.0462 - Red Deer - Capbank at Prentiss 276S</td>
<td>3,836,700</td>
<td>161,326</td>
<td>(1,862)</td>
<td>3,996,164</td>
</tr>
<tr>
<td>D.0463 - Red Deer - Capbank at Ellis 332S</td>
<td>3,577,764</td>
<td>422,335</td>
<td>(3,783)</td>
<td>3,996,316</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>603,527,751</strong></td>
<td><strong>1,698,412</strong></td>
<td><strong>11,730,229</strong></td>
<td><strong>616,956,392</strong></td>
</tr>
</tbody>
</table>

Source: Prepared by Commission staff from Exhibit 22542-1034.

1155. In the application, AltaLink explained that trailing costs are typically the actual costs incurred for final activities necessary to close a project from both an administrative and work site standpoint. Trailing cost work is often completed after energization, and trailing cost activities typically include:

- costs incurred for site remediation or reclamation
- AC mitigation costs
- return data (drawings and manufacture documentation)
- resolution of a final “punch list”1096

1156. In accordance with Direction 1 from Decision 2010-284, AltaLink provided a table that provided high-level explanations for trailing cost variances representing more than 5 per cent of total project costs. For the projects noted in Table 28 above, AltaLink provided variance explanations in respect of:

- D.0316 - SATR Ware Junction In/Out
- D.0377 - Christina Lake - Black Spruce 154S1097

1157. No parties commented on trailing costs for any projects noted in Table 28 above.

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1096 Exhibit 22542-X0002.04, Application, paragraphs 460 to 461.
1097 Exhibit 22542-X0002.04, Application, Table 5-1, PDF pages 84 to 86.
Commission findings

1158. In consideration of the magnitude of the trailing cost amounts for the projects in Table 28 and the explanations provided by AltaLink in respect of projects D.0316 and D.00377, the Commission approves AltaLink’s requested 2014 and 2015 trailing cost addition amounts for the projects shown in Table 28, as filed.

9.5 Customer project trailing costs

9.5.1 Fortis project trailing costs

1159. As set out in Table 29 below, AltaLink requested the approval of trailing costs and trailing cost adjustments on Fortis customer connection projects totaling $7,214,762 for the year 2014 and $5,662,920 for the year 2015:

Table 29. Fortis trailing projects

<table>
<thead>
<tr>
<th>Project name</th>
<th>Amounts approved in prior DACDAs</th>
<th>2014 additions</th>
<th>2015 additions</th>
<th>Cumulative additions to Dec 31, 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0093 - Leduc 325S substation Fortis</td>
<td>31,816,349</td>
<td>(373,938)</td>
<td>(30,022)</td>
<td>31,412,389</td>
</tr>
<tr>
<td>D.0179 - Kirby SAGD Interconnection - CNRL</td>
<td>17,888,700</td>
<td>217,279</td>
<td>(155,634)</td>
<td>17,950,345</td>
</tr>
<tr>
<td>D.0192 - Christina Lake 723S Trans Add - Fortis</td>
<td>8,400,000</td>
<td>(8,783)</td>
<td>-</td>
<td>8,391,217</td>
</tr>
<tr>
<td>D.0200 - Dry Creek 186S-Trans and Breaker Addition</td>
<td>5,336,448</td>
<td>(6,502)</td>
<td>-</td>
<td>5,329,946</td>
</tr>
<tr>
<td>D.0201 - Balzac 391S-Trans Repl &amp; Brkr Addition</td>
<td>5,900,000</td>
<td>(5,711)</td>
<td>-</td>
<td>5,894,289</td>
</tr>
<tr>
<td>D.0202 - Westwood 422S-Fort Sask Area-New Sub</td>
<td>17,781,890</td>
<td>92,077</td>
<td>536,390</td>
<td>18,410,357</td>
</tr>
<tr>
<td>D.0222 - Cold Creek 602S Capacity Increase</td>
<td>5,800,000</td>
<td>(9,854)</td>
<td>-</td>
<td>5,790,146</td>
</tr>
<tr>
<td>D.0241 - Fort Assiniboine 234S-Trans &amp; Brkr Add</td>
<td>3,951,347</td>
<td>(24,663)</td>
<td>-</td>
<td>3,926,684</td>
</tr>
<tr>
<td>D.0248 - Cochrane 291S-Transformer Addition</td>
<td>9,140,804</td>
<td>-</td>
<td>81,716</td>
<td>9,222,520</td>
</tr>
<tr>
<td>D.0267 - Round Hill Area Substation</td>
<td>46,443,247</td>
<td>(1,479)</td>
<td>46,441,768</td>
<td></td>
</tr>
<tr>
<td>D.0281 - Willesden Green 68S Upgrade</td>
<td>6,326,617</td>
<td>(632)</td>
<td>(3,146)</td>
<td>6,322,839</td>
</tr>
<tr>
<td>D.0283 - Winefred 818S Substation</td>
<td>6,594,546</td>
<td>120,489</td>
<td>27,622</td>
<td>6,742,657</td>
</tr>
<tr>
<td>D.0284 - Thompson Substation – Lac La Biche Area</td>
<td>10,525,328</td>
<td>(353,200)</td>
<td>(349,351)</td>
<td>9,822,777</td>
</tr>
<tr>
<td>D.0336 - Sundre 575S Project</td>
<td>2,261,097</td>
<td>20,209</td>
<td>-</td>
<td>2,281,306</td>
</tr>
<tr>
<td>D.0345 - Moon Lake 131S Upgrade</td>
<td>2,582,854</td>
<td>(37,584)</td>
<td>-</td>
<td>2,545,270</td>
</tr>
<tr>
<td>D.0360 - Onoway 352S Upgrade</td>
<td>2,109,486</td>
<td>(115,994)</td>
<td>-</td>
<td>1,993,492</td>
</tr>
<tr>
<td>D.0388 - Tilley 498S Upgrade</td>
<td>7,196,852</td>
<td>92,297</td>
<td>(3,107)</td>
<td>7,286,042</td>
</tr>
<tr>
<td>D.0393 - Bruderheim 127S Upgrade</td>
<td>7,253,322</td>
<td>272,702</td>
<td>471,162</td>
<td>7,957,186</td>
</tr>
<tr>
<td>D.0395 – Whitecourt Industrial 364S upgrade</td>
<td>10,288,048</td>
<td>4,619,695</td>
<td>2,100,325</td>
<td>17,008,068</td>
</tr>
<tr>
<td>D.0413 - MEG Amelia 108S - Fortis</td>
<td>16,507,755</td>
<td>592,102</td>
<td>198,633</td>
<td>17,298,490</td>
</tr>
<tr>
<td>D.0425 - Keystone 384S Upgrade</td>
<td>9,670,357</td>
<td>92,556</td>
<td>(26,199)</td>
<td>9,736,714</td>
</tr>
<tr>
<td>D.0426 - Rimby 297S Upgrade</td>
<td>10,942,923</td>
<td>682,050</td>
<td>(276,845)</td>
<td>11,348,128</td>
</tr>
<tr>
<td>D.0427 - Lodgepole 61S Upgrade</td>
<td>6,554,138</td>
<td>204,596</td>
<td>231,107</td>
<td>6,989,841</td>
</tr>
<tr>
<td>D.0435 - Cherhill 338S Transformer Addition</td>
<td>8,387,197</td>
<td>361,412</td>
<td>423,068</td>
<td>9,171,677</td>
</tr>
<tr>
<td>D.0447 - Jackfish 698S Substation</td>
<td>36,909,585</td>
<td>156,718</td>
<td>2,419,582</td>
<td>39,485,885</td>
</tr>
<tr>
<td>D.0454 - Ponoka 331S Upgrade</td>
<td>7,069,217</td>
<td>569,217</td>
<td>19,098</td>
<td>7,657,532</td>
</tr>
<tr>
<td>D.0485 - BUCC/SDC Fortis Airdrie Telecomm.</td>
<td>774,666</td>
<td>58,224</td>
<td>-</td>
<td>832,890</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>304,412,773</strong></td>
<td><strong>7,214,762</strong></td>
<td><strong>5,662,920</strong></td>
<td><strong>317,290,455</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-22542-1034.

1160. As shown in Table 29, the largest Fortis customer project trailing cost additions during the 2014-2015 time period were made with respect to the Whitecourt Industrial 364S upgrade (AltaLink project D.0395) and totalled $6,720,020. As AltaLink capital additions on project D.0395 prior to December 31, 2013, were approved on a final basis in Decision 3585-D03.
the Commission has only assessed AltaLink’s prudence in respect of the $6,720,020 of capital additions occurring after this date in this decision.

1161. The CCA requested further detail regarding the Whitecourt project cost variances which was provided by AltaLink in its response to AML-CCA-2017DEC20-0581099.

1162. In argument, AltaLink explained that the variance between its PPS stage estimate for the Whitecourt project from $12.3 million in 2012 to the cumulative amount of additions to December 31, 2015 totalling just over $17.0 million, was primarily explained by:

- the effect of market escalation between the time of the PPS stage estimate and the time project inputs were procured
- the need to expand the site to provide room for necessary telecommunications equipment, leading to additional costs related to the need for a new control building and the effect of poor soil conditions.1100

Commission findings

1163. The Commission has examined AltaLink’s variance explanations and finds that AltaLink acted prudently in its final execution of the Whitecourt project in response to the conditions that arose at that time. Accordingly, the Commission approves AltaLink’s requested 2014-2015 period addition of $6,720,020 for the Whitecourt project, as filed.

1164. The Commission has also examined AltaLink’s trailing costs and trailing adjustments for the other projects described in Table 29 and finds that AltaLink acted prudently in its final execution of these projects and they are approved, as filed.

1165. As with AltaLink’s current period capital additions in respect of Fortis customer projects discussed in Section 7.1 above, it is important that contribution amounts recorded by AltaLink in respect of Fortis projects be in alignment with contribution amounts recorded by Fortis in respect of the same projects.

1166. Accordingly, the Commission directs AltaLink to provide an update to the contribution amounts for each of the projects shown in Table 29 at the time of its refiling application. For the purposes of this direction, AltaLink shall reflect any changes in applicable investment allowances under the AESO’s tariff applicable to each project that may have occurred since the contribution amounts described in Table 29 above were calculated. In addition, the Commission directs AltaLink to use the amount of AltaLink’s cumulative gross capital addition to December 31, 2015, when it performs its re-calculation of the contribution for each project shown in Table 29.

9.5.2 Non-Fortis project trailing costs

1167. AltaLink requested approval of trailing costs or adjustments of $1,654,066 for the difference in total capital additions between 2014 and 2015 for the following non-Fortis connection projects:

1098 Decision 3585-D03-2016, paragraph 44.
1100 Exhibit 22542-X1970, AltaLink argument, paragraph 641.
Table 30. Non-Fortis trailing projects

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Amounts approved in prior DACDAs</th>
<th>2014 additions</th>
<th>2015 additions</th>
<th>Cumulative additions to Dec 31, 2015 ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0041 - Picture Butte 120S</td>
<td>14,891,748</td>
<td>(59,635)</td>
<td>94,506</td>
<td>14,926,619</td>
</tr>
<tr>
<td>D.0073 - Castle Rock Ridge Wind Farm Connection</td>
<td>47,780,802</td>
<td>(42,395)</td>
<td>(3,237)</td>
<td>47,735,170</td>
</tr>
<tr>
<td>D.0171 - Shell AOSP Downstream Exp - Comm Power</td>
<td>7,995,866</td>
<td>(29,496)</td>
<td>-</td>
<td>7,966,370</td>
</tr>
<tr>
<td>D.0191 - Windfall Power Generating Station</td>
<td>2,009,177</td>
<td>(1,328)</td>
<td>-</td>
<td>2,007,849</td>
</tr>
<tr>
<td>D.0251 - Ardenville-TA - 10km 138kV Line</td>
<td>4,700,000</td>
<td>(120,978)</td>
<td>-</td>
<td>4,579,022</td>
</tr>
<tr>
<td>D.0275 - Enbridge Abee Connection Project</td>
<td>8,872,386</td>
<td>1,116</td>
<td>594,147</td>
<td>9,467,649</td>
</tr>
<tr>
<td>D.0279 - Weasel Creek Project</td>
<td>6,380,502</td>
<td>5,127</td>
<td>1,199,843</td>
<td>7,585,472</td>
</tr>
<tr>
<td>D.0407 - Sunday Creek Trans Line - Cenovus</td>
<td>6,326,617</td>
<td>(632)</td>
<td>(3,146)</td>
<td>6,322,839</td>
</tr>
<tr>
<td>D.0482 - Halkirk I Wind Project</td>
<td>910,044</td>
<td>20,174</td>
<td>-</td>
<td>930,218</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99,867,142</strong></td>
<td>(228,047)</td>
<td><strong>1,882,113</strong></td>
<td><strong>101,521,208</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1034.

Commission findings

1168. Further to the Commission’s findings in Section 7.2, AltaLink’s requested trailing cost additions for the projects indicated in Table 30 are approved as filed.

10 Non-DACDA deferral account reconciliations

10.1 Long-term debt deferral account

1169. The Commission approved the continuation of deferral treatment on AltaLink’s long-term debt for 2014 and 2015 in Decision 2013-4071101 and Decision 3524-D01-2016.1102

1170. AltaLink provided calculations to show the difference between its forecast and actual incremental long-term debt costs for 2014 and 2015. The 2014 and 2015 calculations have been reproduced in Table 31 and Table 32 below. The calculations result in a $1.7 million variance to forecast that is to be collected by AltaLink for 2014.

Table 31. 2014 long-term debt calculation

<table>
<thead>
<tr>
<th>Issue date</th>
<th>Maturity date</th>
<th>Term in years</th>
<th>Principal amount</th>
<th>Adjusted principal amount</th>
<th>Embedded cost</th>
<th>Interest expense</th>
<th>($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Apr-13</td>
<td>1-Apr-43</td>
<td>30</td>
<td>300.0</td>
<td>300.0</td>
<td>4.014</td>
<td>12.0</td>
<td>1101</td>
</tr>
<tr>
<td>1-Jun-13</td>
<td>1-Jun-23</td>
<td>10</td>
<td>325.0</td>
<td>325.0</td>
<td>3.172</td>
<td>10.3</td>
<td>1102</td>
</tr>
<tr>
<td>1-Nov-13</td>
<td>1-Nov-43</td>
<td>30</td>
<td>350.0</td>
<td>350.0</td>
<td>4.283</td>
<td>15.0</td>
<td></td>
</tr>
<tr>
<td>Draft Notional Debt 2013 as per GCOC Decision</td>
<td>40.1</td>
<td>40.1</td>
<td>4.279</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1101 Decision 2013-407, paragraph 1109.
1102 Decision 3524-D01-2016, paragraph 995.
### 2014 long-term debt issues – approved

<table>
<thead>
<tr>
<th>Issue date</th>
<th>Maturity date</th>
<th>Term in years</th>
<th>Principal amount</th>
<th>Adjusted principal amount</th>
<th>Embedded cost</th>
<th>Interest expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draft Notional Debt 2014 as per GCOC Decision</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-Mar-14</td>
<td>1-Mar-21</td>
<td>7</td>
<td>300.0</td>
<td>150.0</td>
<td>3.263</td>
<td>4.9</td>
</tr>
<tr>
<td>1-Jul-14</td>
<td>1-Jul-44</td>
<td>30</td>
<td>325.0</td>
<td>162.5</td>
<td>4.782</td>
<td>7.8</td>
</tr>
<tr>
<td>1-Nov-14</td>
<td>1-Nov-24</td>
<td>10</td>
<td>350.0</td>
<td>175.0</td>
<td>4.239</td>
<td>7.4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1,510.4</td>
<td></td>
<td>59.4</td>
<td></td>
</tr>
</tbody>
</table>

### 2014 long-term debt Issues – actual

<table>
<thead>
<tr>
<th>Issue date</th>
<th>Maturity date</th>
<th>Term in years</th>
<th>Principal amount</th>
<th>Weighted average</th>
<th>Effective cost</th>
<th>Interest expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-Jul-13</td>
<td>11-Jul-53</td>
<td>40</td>
<td>250.0</td>
<td>250.0</td>
<td>4.484</td>
<td>11.2</td>
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<tr>
<td>17-Sep-13</td>
<td>17-Sep-20</td>
<td>7</td>
<td>125.0</td>
<td>125.0</td>
<td>3.705</td>
<td>4.6</td>
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<tr>
<td>17-Sep-13</td>
<td>17-Sep-43</td>
<td>30</td>
<td>350.0</td>
<td>350.0</td>
<td>4.964</td>
<td>17.4</td>
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<tr>
<td>4-Nov-13</td>
<td>6-Nov-23</td>
<td>10</td>
<td>500.0</td>
<td>500.0</td>
<td>3.733</td>
<td>18.7</td>
</tr>
<tr>
<td>6-Jun-14</td>
<td>6-Jun-24</td>
<td>10</td>
<td>350.0</td>
<td>200.4</td>
<td>3.463</td>
<td>6.9</td>
</tr>
<tr>
<td>6-Jun-14</td>
<td>6-Jun-64</td>
<td>50</td>
<td>130.0</td>
<td>74.4</td>
<td>4.305</td>
<td>3.2</td>
</tr>
<tr>
<td>12-Sep-14</td>
<td>30-Jun-42</td>
<td>28</td>
<td>225.0</td>
<td>68.4</td>
<td>4.028</td>
<td>2.8</td>
</tr>
<tr>
<td>21-Nov-14</td>
<td>21-Nov-44</td>
<td>30</td>
<td>295.0</td>
<td>33.1</td>
<td>4.089</td>
<td>1.4</td>
</tr>
<tr>
<td>WACD Substitution</td>
<td></td>
<td></td>
<td>(151.6)</td>
<td>4.071</td>
<td>(6.2)</td>
<td></td>
</tr>
<tr>
<td>STD Substitution</td>
<td></td>
<td></td>
<td>60.6</td>
<td>1.762</td>
<td>1.1</td>
<td></td>
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<tr>
<td>Total</td>
<td></td>
<td></td>
<td>1,510.4</td>
<td></td>
<td>61.1</td>
<td></td>
</tr>
</tbody>
</table>

Variance refund / (collection) | (1.7)

Source: Exhibit 24036-X0002.04, Table 5-9, PDF page 96.
Table 32. 2015 long-term debt calculation

<table>
<thead>
<tr>
<th>Issue date</th>
<th>Maturity date</th>
<th>Term in years</th>
<th>Principal amount</th>
<th>Adjusted principal amount</th>
<th>Embedded cost</th>
<th>Interest expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2015</td>
<td>June 30, 2045</td>
<td>30</td>
<td>350.0</td>
<td>175.0</td>
<td>4.101</td>
<td>7.2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>175.0</td>
<td></td>
<td>7.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Maturity Date</th>
<th>Term in Years</th>
<th>Principal Amount</th>
<th>Weighted Average</th>
<th>Effective Cost</th>
<th>Interest Expense</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2015</td>
<td>June 30, 2045</td>
<td>30</td>
<td>350.0</td>
<td>177.4</td>
<td>4.127</td>
<td>7.3</td>
</tr>
<tr>
<td>WACD Substitution</td>
<td></td>
<td></td>
<td></td>
<td>(1.6)</td>
<td>4.033</td>
<td>(0.1)</td>
</tr>
<tr>
<td>STD Substitution</td>
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<td></td>
<td></td>
<td>(0.8)</td>
<td>1.116</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td>175.0</td>
<td></td>
<td>7.2</td>
</tr>
</tbody>
</table>

Variance refund / (collection) -

Source: Exhibit 24036-X0002.04, Table 5-12, PDF page 98.

1171. Interveners did not provide evidence on the long-term debt deferral or provide comments in their argument or reply argument submissions.

Commission findings

1172. In Decision 3524-D01-2016, the Commission approved AltaLink’s request to discontinue construction work in progress (CWIP)-in-rate base treatment and resume AFUDC accounting treatment effective January 1, 2015. In that same decision, the Commission also approved the refund of previously collected CWIP-in-rate base amounts, with the exception of those projects that had been finalized, and directed AltaLink to adjust all DACDA projects not approved on a final basis to include AFUDC in accordance with normal historic regulatory accounting practices.\(^{1103}\)

1173. In Decision 2011-453, the Commission provided the following explanation on the accounting treatment of AFUDC:

783. As the Commission explained in Decision 2011-134,\(^{1104}\) under current accounting procedures, during the period under which a utility is building new infrastructure, it does not earn a cash return on the value of that asset until that asset is able to be used to provide electric service to the utility’s customers. A non-cash return, known as an allowance for funds used during construction (AFUDC), is provided to the utility by adding the return to the rate base of the asset under construction. That is, utilities are permitted to capitalize the interest cost and foregone earnings during the years the asset remained under construction. These capitalized costs are added to the concrete costs of

\(^{1103}\) Decision 3524-D01-2016, paragraphs 921 and 953-954.

the asset and are included as part of the value of the asset for the purpose of establishing the value of the utility rate base.

784. In other words, assets under construction are included in CWIP and do not generate any cash flow until they are used to provide electric service to the utility’s customers, even though the utility must incur and service additional debt and equity to finance the construction program throughout the construction cycle.

1174. In an information request, the Commission asked AltaLink to breakdown the use of its 2014 debt issuances on capital expenditures between capital expenditures added to rate base, capital expenditures in CWIP (where interest is capitalized as AFUDC), and debt not used for DACDA projects.

1175. In response to the Commission’s request, AltaLink provided the information produced in the table below:

Table 33. Use of 2014 long-term debt proceeds

<table>
<thead>
<tr>
<th>Long-term debt proceeds</th>
<th>Net direct assigned capex in additions ($ million)</th>
<th>Net direct assigned capex in closing work-in-progress</th>
<th>Total financed by long-term debt</th>
<th>Net direct assigned capex financed by short-term debt</th>
<th>Net direct assigned capex financed by equity</th>
<th>Total 2014 net direct assigned capex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>475.2</td>
<td>524.8</td>
<td>1,000.00</td>
<td>14.6</td>
<td>570.7</td>
<td>1,585.30</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X1491, response to AML-AUC-2017DEC20-071 (c).

1176. During the oral hearing, Commission counsel asked AltaLink’s panel to explain how AltaLink’s debt deferral mechanism does not result in the collection or refund of debt interest that has also been capitalized as AFUDC.\(^{1106}\) AltaLink’s panel did not have a witness that was able to speak on the subject and accepted the question as an undertaking.

1177. In response to the undertaking, AltaLink provided the following response:\(^{1106}\)

AltaLink’s Long Term Debt Deferral Account (LTDDA) mechanism does not result in the collection or refund of debt interest that has been capitalized as AFUDC. The LTDDA reconciles the forecast costs on new long term debt issues to actuals. The true-up is not capitalized.

1178. As explained by AltaLink, the debt deferral reconciles the forecasted costs (interest expense) of the long-term debt issues to the actual cost of the long-term debt issue. The true-up provided in AltaLink’s application calculates the variance on the long-term debt expense and collects or refunds the difference on a cash basis. As described in Decision 2011-453 and Decision 2011-134 above, a utility is not entitled to earn a cash return on assets that are under construction. It is clear from the table above, that some portion of AltaLink’s debt issuances that it included in the debt deferral true-up calculation were used to fund assets still under construction.

\(^{1106}\) Transcript, Volume 3, page 524.
\(^{1106}\) Exhibit 22542-X1940, Undertaking 007.
1179. AltaLink is permitted to include the interest costs on the portion of debt that was used to fund assets under construction to the cost of the asset, however, the Commission finds that AltaLink’s debt deferral calculations, that are on a cash basis, would also result in the collection of debt interest that was used to fund a portion of assets under construction. This would result in AltaLink recovering a portion of interest expense through the debt deferral that is also being added to the cost of the asset through AFUDC. Conversely, if AltaLink had calculated a refund on its long-term debt deferral, it would have been refunding, on a cash basis, amounts that it would capitalize as part of its project costs.

1180. AltaLink is directed in a compliance filing to calculate the true-up of its long-term debt deferral, using the same true-up mechanism, on only the portions of debt that have been used to fund assets added to rate base.

### 11 Taxes other than income taxes

1181. In decisions 2013-407\(^{1107}\) and 3524-D01-2016,\(^{1108}\) the Commission approved the continuation of deferral account treatment for taxes other than income taxes for 2014 and 2015 respectively.

1182. AltaLink applied to collect $1.3 million relating to its 2014 variance to approved forecast. No refund or collection was required for 2015 as its variance to approved forecast was zero. The calculations of these variances between AltaLink’s approved tariff amounts and its actual expenditures, for 2014 and 2015, have been reproduced in tables 34 and 35 below:

#### Table 34. 2014 taxes other than income taxes

<table>
<thead>
<tr>
<th></th>
<th>Approved</th>
<th>Actual</th>
<th>Variance refund / (collection)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($ million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 1 – December 31, 2014</td>
<td>28.0</td>
<td>29.3</td>
<td>(1.3)</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, Table 5-11, PDF page 99.

#### Table 35. 2015 taxes other than income taxes

<table>
<thead>
<tr>
<th></th>
<th>Approved</th>
<th>Actual</th>
<th>Variance refund / (collection)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>($ million)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January 1 – December 31, 2015</td>
<td>36.4</td>
<td>36.4</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Source: Exhibit 24036-X0002.04, Table 5-12, PDF page 100.

1183. AltaLink explained that its 2014 actual expenditures were higher than forecast as a result of higher than forecasted substation and telecontrol capital additions, AltaLink added that the increases from higher capital additions were partially offset by a lower than forecasted assessment year modifier and mill rates on existing assets.\(^{1109}\)

1184. Interveners did not provide comments in their argument or reply argument submissions.

\(^{1107}\) Decisions 2013-407, paragraph 268.
\(^{1108}\) Decision 3524-D01-2016, paragraph 234.
\(^{1109}\) Exhibit 22542-X0002.04, 2014 DACDA deferral accounts reconciliation application redacted, paragraph 493.
Commission findings

1185. The Commission finds AltaLink’s actual taxes other than income taxes expenditures to be reasonable and approves its request to collect $1.3 million for 2014 as filed.

11.1 Annual structure payments

1186. In Decision 2013-407, the Commission approved the continuation of AltaLink’s annual structure payment deferral account. Annual structure payments reflect the aggregate amount of the payments made by AltaLink to landowners for the use of transmission structures located on their land. In that decision, the Commission stated the following:

Consistent with findings in past AltaLink GTAs, the Commission remains of the view that the cost of annual structure payments is subject to sufficient uncertainty, and is sufficiently beyond AltaLink’s ability to control, to warrant the continuation of deferral account treatment for this expense. Continued placeholder treatment was not opposed by any party.\footnote{Decision 2013-407, paragraph 243.}

1187. In Decision 3524-D01-2016, the Commission approved the continuation of the annual structure payment deferral treatment for the years 2015 and 2016.\footnote{Decision 3524-D01-2016, paragraph 995.}

1188. AltaLink requested that the Commission approve its request to collect $0.6 million in 2014, and $0.2 million in 2015, related to its variance-to-forecast in each of those years. The variance calculations have been reproduced in tables 36 and 37 below:

Table 36. 2014 annual structure payment variances

<table>
<thead>
<tr>
<th></th>
<th>Approved</th>
<th>Actual</th>
<th>Variance refund / (collection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1-December 31, 2014</td>
<td>12.0</td>
<td>12.6</td>
<td>(0.6)</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, Table 5-5, PDF page 93.

Table 37. 2015 annual structure payment variances

<table>
<thead>
<tr>
<th></th>
<th>Approved</th>
<th>Actual</th>
<th>Variance refund / (collection)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1 - December 31, 2015</td>
<td>14.0</td>
<td>14.2</td>
<td>(0.2)</td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, Table 5-5, PDF page 93.

1189. AltaLink explained that its 2014 actual expenditures were $0.6 million higher than forecast primarily due to the fact that its annual structure payments on its WATL project were forecast to occur in 2013 but were paid in 2014. It explained that its $0.2 million variance-to-forecast in 2015 was primarily due to payments on its WATL project forecast for 2014 but paid in 2015.\footnote{Exhibit 22542-X0002.04, 2014 DACDA deferral accounts reconciliation application redacted, paragraph 494.}

1190. Interveners did not provide comments in their argument or reply argument submissions.

\footnote{Decision 2013-407, paragraph 243.}
\footnote{Decision 3524-D01-2016, paragraph 995.}
\footnote{Exhibit 22542-X0002.04, 2014 DACDA deferral accounts reconciliation application redacted, paragraph 494.}
Commission findings

1191. The Commission finds AltaLink’s actual annual structure payments to be reasonable and approves its request to collect $0.6 million for 2014 and $0.2 million for 2015 as filed.

12 Compliance with directions

12.1 Decision 3585-D03-2016 Direction 20 – land management reporting

1192. As set out in Section 5.7.2 of the application, AltaLink was required to provide certain specified information related to land compensation programs arising from directions issued in prior Commission decisions.

1193. In Decision 2011-453, the Commission directed AltaLink to provide a complete schedule showing the amounts of each type of easement program paid with respect to specific projects in its next DACDA application and in all future DACDA applications.\footnote{Direction 21, Decision 2011-453, paragraph 1112.} The Commission reaffirmed this direction in Decision 2013-407.\footnote{Direction 20, Decision 2013-407, paragraph 257.} AltaLink provided the information pursuant to these directions in Table 5-6 of the application and includes costs for 2014 and 2015. Damages are paid to compensate for damage to livestock, fences, crops, pastures and shelter belts during the construction of the transmission line and were further explained in Appendix 3-2.\footnote{Exhibit 22542-X0010.} The total amount of easement program costs is set out below:

<table>
<thead>
<tr>
<th></th>
<th>Project easement costs</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Easements</td>
<td>Damages</td>
<td>General expenses</td>
<td>Labour</td>
</tr>
<tr>
<td>2014</td>
<td>Total</td>
<td>73.4</td>
<td>7.9</td>
<td>0.6</td>
</tr>
<tr>
<td>2015</td>
<td>Total</td>
<td>43.9</td>
<td>3.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Commission findings

1194. The Commission has reviewed AltaLink’s proposed compliance with Direction 20 from Decision 3583-D03-2016, as set out in Table 5-6 of the application and finds that AltaLink has complied with these directions. AltaLink is directed to provide comparable information in future DACDA applications.

12.2 Decision 3585-D03-2016 Direction 32 – removal amounts for risk/reward payments

1195. In Decision 3585-D03-2016 the Commission issued Direction 32, which stated:
32. Consistent with the Commission’s findings in Section 4.1.14.3 above, the risk reward mechanism costs for projects where an arrangement had already been made prior to Decision 2013-407, are not approved for inclusion in the project costs for these DACDA projects. Accordingly, AltaLink is directed to remove the risk reward mechanism costs from the applied-for additions for the Black Spruce 154S project in the compliance filing. [Paragraph 1094]

1196. Having considered this direction, AltaLink stated that it removed the risk reward payments made to the EPCm in the actual project additions as part of this application.

1197. The projects to which the adjustment has been made for risk reward costs incurred in 2014 were in Table 5-2 reproduced below:

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Project name</th>
<th>Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0378</td>
<td>Pike Project 170S</td>
<td>(1.3)</td>
</tr>
<tr>
<td>D.0488</td>
<td>Sunken Lake Substation Expansion</td>
<td>(0.1)</td>
</tr>
<tr>
<td>D.0388</td>
<td>Tilley 498S Upgrade</td>
<td>(0.2)</td>
</tr>
</tbody>
</table>

1198. The projects to which the adjustment has been made for risk reward costs incurred in 2015 were provided in Table 5-3 in the application, and are reproduced below:

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Project name</th>
<th>Adjustments</th>
</tr>
</thead>
<tbody>
<tr>
<td>D.0423</td>
<td>Spring Coulee Upgrade Project</td>
<td>(0.05)</td>
</tr>
<tr>
<td>D.0418</td>
<td>Underwood 183S</td>
<td>(0.9)</td>
</tr>
<tr>
<td>D.0395</td>
<td>Whitecourt 364S Upgrade</td>
<td>(0.6)</td>
</tr>
<tr>
<td>D.0377</td>
<td>Christina Lake – Black spruce 154S</td>
<td>(1.0)</td>
</tr>
<tr>
<td>D.0435</td>
<td>Cherhill 338S transformer Addition</td>
<td>(0.3)</td>
</tr>
<tr>
<td>D.0393</td>
<td>Bruderheim 127S Upgrade</td>
<td>(0.2)</td>
</tr>
</tbody>
</table>

Commission findings

1199. The Commission has reviewed the adjustments proposed by AltaLink and finds them to be reasonable and reflective of the Commission’s direction in Decision 3585-D03-2016 regarding the recovery of risk reward payments. The adjustments are approved as filed.

12.3 Decision 3585-D03-2016 Direction 23 – removal amounts for moldy crates

1200. In Decision 3585-D03-2016, the Commission issued Direction 23, which stated:

23. The Commission has reviewed Tab 10 of AltaLink’s rebuttal evidence and can find no indication that this amount was ever charged back. The Commission also reviewed the PO/contract log and could find no evidence that a credit was processed against KEC. AltaLink is directed, therefore, to deduct the total amount of this change order from its compliance filing. AltaLink is also directed to deduct from its costs any management surcharge amount it may have paid to SNC-ATP to manage this change order. [Paragraph 685]

1201. In compliance with Direction 23, AltaLink stated the dollars referenced in the direction related to moldy crate remediation expenses totalling ($0.3 million), which were removed from the actual project additions as part of the application as set out in Table 5-4 reproduced below:
### Commission findings

1202. The Commission has reviewed the adjustments proposed by AltaLink and finds them to be reasonable and reflective of the Commission’s direction regarding the recovery of costs for moldy crate remediation in Decision 3585-D03-2016. The adjustments are approved as filed.

### 13 True-up

#### 13.1 AFUDC re-acrual matters

1203. The Commission permitted AltaLink, in Decision 3524-D01-2016, to recapitalize AFUDC on DACDA projects, and refund to customers previously collected CWIP-in-rate base returns, as well as directing AltaLink to resume traditional AFUDC accounting for DACDA projects in CWIP starting January 1, 2015.

1204. AltaLink stated that a portion of the recapitalized AFUDC was included in the actual 2012 and 2013 capital additions for the 2012-2013 DACDA reconciliation and the 2014 Heartland capital project addition. AltaLink included recapitalized AFUDC for the remaining 2014 gross capital additions and the 2015 actual gross capital additions in this application. The amount of AFUDC recapitalized was summarized by AltaLink, and is reproduced below:

<table>
<thead>
<tr>
<th>DACDA Reconciliation</th>
<th>($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013 DACDA</td>
<td>29</td>
</tr>
<tr>
<td>2014 Heartland</td>
<td>20.2</td>
</tr>
<tr>
<td>2014 Projects</td>
<td>43.7</td>
</tr>
<tr>
<td>2015 Projects</td>
<td>114.7</td>
</tr>
<tr>
<td><strong>Total reconciled to date</strong></td>
<td><strong>207.5</strong></td>
</tr>
<tr>
<td>Future DACDA proceedings</td>
<td>29.6</td>
</tr>
<tr>
<td><strong>Total Recapitalized AFUDC</strong></td>
<td><strong>237.1</strong></td>
</tr>
</tbody>
</table>

Source: Exhibit 22542-X0002.04, Table 6-4, PDF page 130.

### Commission findings

1205. In a Commission IR, AltaLink was asked to provide the expenditures for all projects, including the calculation (formula) of all AFUDC amounts for which AltaLink was seeking final approval. In response, AltaLink submitted a spreadsheet that provided calculations for AFUDC for the years 2014 and 2015\(^{1116}\) but did not provide AFUDC calculations for any projects for the years 2013 and prior. In the hearing, the Commission requested the calculations back to the inception of the project.

1206. The Commission reviewed the projects included in response to the Commission’s IR, and finds that not all projects that AltaLink incurred expenditures on, and applied AFUDC to, were included in the listing. Cancelled projects, for example, were not included in the set of projects

\(^{1116}\) Exhibit 22542-X1522, AML-AUC-2017DEC20-069 Attachment.
included in the response. Consequently, the Commission is unable to confirm the AFUDC applied on the cancelled projects.

1207. In addition, for the reasons set out elsewhere in the decision, the Commission has found that some project costs have been imprudently incurred and consequently not recoverable by AltaLink. As a result, the amount of AFUDC that was accrued on those disallowed amounts is also imprudent and not recoverable.

1208. For the above reasons, the Commission cannot provide final approval of the AFUDC for which AltaLink has sought recovery. AltaLink is directed to file a detailed schedule, in a similar format to Undertaking 005 and IR response Exhibit 22542-X1522, which includes all projects in the application in its compliance filing to this decision.

13.2 Compliance filing

1209. As the Commission did not approve the full amount of the rate base addition amounts requested by AltaLink for all projects in the application, AltaLink is directed to file a compliance application to reflect the capital addition amounts approved by the Commission.

1210. AltaLink is directed to refile its 2014 and 2015 deferral accounts reconciliation application to reflect the findings conclusions and directions arising from this decision on or before February 15, 2019.
Order

1211. It is hereby ordered that:

1. AltaLink Management Ltd. shall, on or before February 15, 2019, refile its 2014 and 2015 deferral accounts reconciliation application to reflect the findings, conclusions and directions of this decision.

2. ENMAX Power Corporation shall, on or before February 15, 2019, file a compliance filing to reflect the findings, conclusions and directions of this decision.


Alberta Utilities Commission

(original signed by)

Mark Kolesar
Chair

(original signed by)

Neil Jamieson
Commission Member

(original signed by)

Tracee Collins
Commission Member
## Appendix 1 – Proceeding participants

<table>
<thead>
<tr>
<th>Name of organization (abbreviation)</th>
<th>Company name of counsel or representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>AltaLink Management Ltd. (AltaLink or AML)</td>
<td>Borden, Ladner Gervais LLP</td>
</tr>
<tr>
<td>ATCO Electric Ltd.</td>
<td>Bennett Jones LLP</td>
</tr>
<tr>
<td>EPCOR Distribution &amp; Transmission Inc. (EPCOR or EDTI)</td>
<td></td>
</tr>
<tr>
<td>ENMAX Power Corporation (ENMAX or EPC)</td>
<td></td>
</tr>
<tr>
<td>Consumers’ Coalition of Alberta (CCA)</td>
<td></td>
</tr>
<tr>
<td>Alberta Electric System Operator (AESO)</td>
<td></td>
</tr>
<tr>
<td>D. Madsen</td>
<td>McLennan Ross Barristers &amp; Solicitors</td>
</tr>
</tbody>
</table>

### Alberta Utilities Commission

#### Commission panel
- M. Kolesar, Chair
- N. Jamieson, Commission Member
- T. Collins, Commission Member

#### Commission staff
- C. Wall (Commission counsel)
- L. Desaulniers (Commission counsel)
- J. Halls
- M. Kopp-van Egteren
- C. Strasser
- J. Cameron
- V. Godziuk

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Appendix 2 – Oral hearing – registered appearances

<table>
<thead>
<tr>
<th>Name of organization (abbreviation)</th>
<th>Name of counsel or representative</th>
<th>Witnesses</th>
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<tbody>
<tr>
<td>AltaLink Management Ltd. (AltaLink or AML)</td>
<td>R. Block, QC K. Salmon</td>
<td></td>
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<tr>
<td>ATCO Electric Transmission (AET)</td>
<td>K. Illsey</td>
<td></td>
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<tr>
<td>Consumers’ Coalition of Alberta (CCA)</td>
<td>J. Wachowich, QC</td>
<td>K. de Palezieux D. Levson D. Provins T. Mohr T. Cline</td>
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<tr>
<td>Alberta Electric System Operator (AESO)</td>
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Appendix 3 – Summary of Commission directions

This section is provided for the convenience of readers. In the event of any difference between the directions in this section and those in the main body of the decision, the wording in the main body of the decision shall prevail.

1. Given the above, the Commission considers that AltaLink’s decision making at key project stages should, going forward, be structured to ensure that any ISD targets it accepts for its major transmission projects can reliably be met at or near the cost it estimates and represents to the AESO at key decision points, such as the construction readiness stage gate. And, that the ISD can consistently be met within the tolerance limits for cost estimates that are normally expected at each stage of project execution. The Commission directs AltaLink to provide a complete explanation of any changes to its stage gate decision making process that it intends to make to respond to this concern as part of its next DACDA application. ................................................................. Paragraph 118

2. Nonetheless, given all the above deficiencies identified with the settlement, the Commission considers it reasonable and in the public interest to recalculate the credit received by AltaLink, as a result of the , on the basis of a . This recalculation results in a disallowance of $7,837,938 of the payment to SNC ATP. AltaLink is directed to make the necessary adjustments in its compliance filing to this decision. ........................................ Paragraph 302

3. The Commission found the project summary reports prepared for the current application to be extremely useful. In addition to providing essential descriptions and a high level explanation of primary cost variances, the project summary reports provided linkages to AltaLink change notice and SCA evidence. AltaLink is directed to continue to provide project summary reports in its next DACDA application. ..........................Paragraph 444

4. Conversely, to the extent that AltaLink has prepared decision or risk registers to support the execution of a project, that information would be of assistance in identifying the reasonableness of decisions at the time they were made. Accordingly, AltaLink is directed to provide any decision or risk registers as part of its stage gate decision documentation in its next DACDA application, where such information exists. ......................................................... Paragraph 449

5. Accordingly, at the time of its next DACDA application, AltaLink is directed to discuss the potential for the alternatives discussed at paragraph 252 of Decision 3585-D03-2016, quoted above, to be of assistance for the processing of future AltaLink DACDA applications. ................................................................. Paragraph 464

6. Therefore, to aid in identifying variances in major cost project components, AltaLink should actively flag instances where a reallocation has occurred. Accordingly, AltaLink is directed to ensure that any budget reallocations are specifically identified and described in the project summary reports that AltaLink provides in future DACDA applications. ................................................................. Paragraph 475

7. However, AltaLink is directed to provide in all future DACDA applications a report similar to that provided by the Ratepayer Group at page 61 of its evidence from Proceeding 3585 for all projects where AltaLink’s requested addition to rate base is at least $25 million................................................................. Paragraph 490
8. Given the foregoing, the Commission will approve AltaLink’s PMPC costs to December 31, 2015, on a placeholder basis only. Further, the Commission directs AltaLink to provide a full justification of all PMPC costs incurred in respect of the WATL project in the next AltaLink application where the Commission considers the trailing costs for the WATL project. Paragraph 580

9. Based on the above, the Commission considers that AltaLink knew or ought to have known that it could have entered into agreements with other mat suppliers for lower rental rates. Accordingly, the Commission finds that a portion of AltaLink’s costs for mats were not reasonable and a cost disallowance is warranted. The total matting costs AltaLink incurred for the northern lot of WATL and the three other projects (SFTP, NFTP and Pike) totalled in excess of $[redacted]. The Commission finds that a disallowance of $10.65 million is warranted. This is approximately $[redacted] of the matting costs incurred on these projects. AltaLink is directed to reduce its claimed capital expenditures by this amount in its compliance filing to this decision. Paragraph 638

10. For these reasons, the Commission directs that AltaLink’s costs for increased tower inspections should be reduced to $[redacted] of the amount approved by AltaLink in change order CO-W-LN-0054. This results in a disallowance of $1,873,768. Paragraph 659

11. The Commission finds that 100 per cent of the increase in costs charged to the WATL project by virtue of the reclassification of a portion of the Siemens contract costs as labour, from an initial classification as materials, should not be included in the approved amount of the WATL project capital additions to be added to rate base. AltaLink indicated that approximately $151.8 million of the HVDC project costs were reallocated from materials costs to labour costs. In consideration of this amount, AltaLink is directed to reduce its WATL project cost by $1.518 million in its compliance refiling to this decision. Paragraph 711

12. However, the Commission is not prepared to approve the costs as final in this decision because the quantum of costs that relate to the substation relocation is unclear. The amount provided in response to AML-CCA-2017DEC20-005(d)i-CONF does not appear to total one specific change order, nor do the change orders identified in the paragraphs above total to the amount in the IR response. The Commission requires additional information in order to make its determinations. Accordingly, AltaLink is directed, in the compliance filing, to provide the following information:

(i) references to the change notices that relate directly or indirectly to the Ipiatik substation relocation;

(ii) an explanation of why the Ipiatik substation elevation change and subgrade gravel thickness was required, or a reference to where this information is provided; and

(iii) an explanation of how the amounts in AML-CCA-2017DEC20-005(d)i-CONF correspond to the amounts in the referenced change notices. Paragraph 797

13. With respect to SCA 25, for the replacement of the bolt supplier or recovered under the SNC-ATP warranty. Accordingly, AltaLink is directed to remove this charge in the amount of $[redacted] in its compliance filing to this decision. Paragraph 838
14. Accordingly, the Commission directs ENMAX to confirm, in its compliance filing to this decision, that the final capital addition applied for amount of $66.48 million does not include any expenditures on the ECTP/Shepard project dated after December 31, 2015. In addition, ENMAX is directed to provide in its compliance filing application a full cost reconciliation showing how it arrived at the final capital addition amount of $66.48 million. Specifically, ENMAX’s cost reconciliation, showing all amounts to the dollar, should identify:

- The total amount of ENMAX’s gross capital additions to December 31, 2015, on its elements of the ECTP/Shepard project.
- The classification of this total as between customer-related and system-related elements in accordance with applicable provisions of the AESO’s approved 2011 tariff.
- The amount of the customer contribution the ENMAX considers should be applied against ENMAX’s total gross capital additions to December 31, 2015 in accordance with applicable provisions of the AESO’s approved 2011 tariff.

15. In consideration of the foregoing, and considering the possibility that the contribution amounts provided by Fortis in respect of the projects listed in Table 21 above may have changed since they were initially adopted by AltaLink for its application or application update, the Commission directs AltaLink to provide an update to the contribution amounts for each of the projects shown in Table 21 at the time of its refiling application. For the purposes of this direction, AltaLink shall reflect any changes in applicable investment allowances under the AESO’s tariff applicable to each project that may have occurred since the contribution amounts described in Table 21 above were calculated. In addition, the Commission directs AltaLink to use the amount of AltaLink’s cumulative gross capital additions to December 31, 2015, when it performs its recalculation of the contribution for each project.

16. The Commission directs AltaLink to address this issue as part of the reconciliation of the Fortis customer connection projects to be completed in AltaLink’s refiling application. Accordingly, AltaLink is directed to confirm that for any Fortis projects included in Table 21 or Table 29, no portion of the final project costs includes costs transferred from a cancelled project. Further, if this cannot be confirmed, AltaLink is directed to identify any projects that include transferred costs and to indicate the amount of the costs so transferred.

17. Nonetheless, and for the reasons set out above, the Commission finds that AltaLink did not act prudently in carrying out its resale of the Heartland properties and disallows 50 per cent of the $7.7 million, or $3.85 million related to the sale of the Heartland properties. Accordingly, the Commission approves $12,322,311 as the total net capital additions related to the Heartland project. AltaLink is directed to update its capital additions for the Heartland project in its compliance filing to this decision.

18. Accordingly, the Commission directs AltaLink to provide an update to the contribution amounts for each of the projects shown in Table 29 at the time of its refiling application. For the purposes of this direction, AltaLink shall reflect any changes in applicable investment allowances under the AESO’s tariff applicable to each project that may have occurred since the contribution amounts described in Table 29 above were calculated. In
addition, the Commission directs AltaLink to use the amount of AltaLink’s cumulative gross capital addition to December 31, 2015, when it performs its re-calculation of the contribution for each project shown in Table 29. ........................................... Paragraph 1166

19. AltaLink is directed in a compliance filing to calculate the true-up of its long-term debt deferral, using the same true-up mechanism, on only the portions of debt that have been used to fund assets added to rate base................................................................. Paragraph 1180

20. For the above reasons, the Commission cannot provide final approval of the AFUDC for which AltaLink has sought recovery. AltaLink is directed to file a detailed schedule, in a similar format to Undertaking 005 and IR response Exhibit 22542-X1522, which includes all projects in the application in its compliance filing to this decision....... Paragraph 1208

21. As the Commission did not approve the full amount of the rate base addition amounts requested by AltaLink for all projects in the application, AltaLink is directed to file a compliance application to reflect the capital addition amounts approved by the Commission. ................................................................. Paragraph 1209

22. AltaLink is directed to refile its 2014 and 2015 deferral accounts reconciliation application to reflect the findings conclusions and directions arising from this decision on or before February 15, 2019................................................................. Paragraph 1210
### Appendix 4 – Abbreviations

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<thead>
<tr>
<th>Abbreviation</th>
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<td>AFUDC</td>
<td>allowance for funds used during construction</td>
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<td>AIES</td>
<td>Alberta Interconnected Electric System</td>
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<td>APEGAGA</td>
<td>Association of Professional Engineers and Geophysicists of Alberta</td>
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<td>B&amp;M</td>
<td>Burns &amp; McDonnell</td>
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<td>BHE</td>
<td>Berkshire Hathaway Energy</td>
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<td>BW</td>
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<td>Canadian Standards Association</td>
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<td>ECTP</td>
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<td>ECTP/Shepard</td>
<td>East Calgary Transmission Project/Shepard Energy Centre Interconnection project</td>
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<td>EPCm</td>
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<td>E&amp;S</td>
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<td>FATD</td>
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<td>HVDC</td>
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<td>Abbreviation</td>
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<td>Standard Practice</td>
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