Yukon Utilities Board

Board Order 2018-04

Appendix A: Reasons for Decision

March 6, 2018

Contents

1 Introduction

1. On November 10, 2017, Yukon Energy Corporation (YEC) filed an application (Application) with the Yukon Utilities Board (Board) seeking an Order for required approvals related to the implementation of the Purchase Power Agreement (PPA) concluded between YEC and Victoria Gold Corp. (VGC) and StrataGold Corp. (StrataGold) (Collectively referred to as VGC Group).

2. YEC is a seeking approval for the VGC Group PPA by February 28, 2018 of the following provisions:

- Actual YEC capital costs for negotiation and conclusion of the PPA Agreement, estimated at $200,000;
- Actual YEC capital costs for the initial system improvements, currently estimated at $1,667,883;
- Actual YEC owner's costs for the McQuesten Substation, currently estimated at $483,240;
- Actual YEC costs reasonably required to design, engineering, procurement, construction and commissioning of the step-down transformer at the McQuesten Substation, if required;
- Fixed charge provisions as set out in Section 7.7 of the PPA, including the initial Transmission Facilities Fixed Cost of $118,621 per year, as documented in Attachment B to this Application, for use in determining the Fixed Charge under Section 7.7, and provisions to amend the Transmission Facilities Fixed Cost after the Transmission Facilities Development Operation Date based on YEC's adjusted annual costs as approved by the Board for depreciation and return on rate base related to the Transmission Facilities (which includes the Transmission Facilities Development) plus the SVC/Statcom and YEC's McQuesten Substation Costs ($930,563 as per section 6.1(d) and Schedule B of the PPA); and
- Any related amendments to the Rate Schedule 39 Firm Mine Rate as required to conform with Attachment A to this application and to accommodate the PPA.

2 Background

3. VGC Group has successfully completed environmental and Yukon Water Board reviews and permitting for the Eagle Gold Project (the mine) to be located on the Dublin Gulch property approximately 40 km north from Mayo. Permitting for the mine assumed electricity supply from the YEC grid, with diesel generation of less than five megawatts (MW) on site for emergency and other use, as required.

4. VGC Group is securing financing to proceed with the development of the mine within a two-year timeframe. VGC Group completed $40-million worth of site civil works in 2017 and site construction is currently targeted to resume by Q2 2018 with earliest operation of the mine in Q2 2019.

5. The PPA includes provisions whereby the VGC Group will develop and own a 69-kV transmission line from the McQuesten Substation to the mine (mine facilities spur). The McQuesten Substation is to be jointly developed by VGC Group and YEC but it will be owned and operated by YEC. VGC Group, except as specified in the PPA, is responsible for all capital costs related to the McQuesten Substation development.

6. Prior to the delivery of grid electricity, the PPA requires:

a. The completion of the McQuesten Substation and confirmation that the mine facilities and mine facilities spur are available to receive grid electricity;
b. YEC to complete initial YEC system improvements on YEC's existing power system to accommodate the sale of grid electricity to the mine in accordance with Schedule C of the PPA;
c. VGC Group to install VGC Group power facilities at the mine facilities and to operate those facilities as specified in Schedule D of the PPA; and
d. YEC and VGC Group to finalize an operating agreement, a draft of which was provided in Schedule E of the PPA.

7. Commencement of delivery of grid electricity to VGC Group is presently scheduled for March 2019, during commissioning activities for the mine. VGC Group is expected to start service as a major industrial customer shortly after commencement of the delivery of electricity and prior to full operation of the mine. Mine operation based on existing reserves is forecast at 10 years. When mine operations end, rinsing the "Heap Leach Pad" will occur for one to two years, followed by active closure activities for approximately three years.

8. The PPA sets out the rights and obligations of VGC Group and YEC with respect to the sale and purchase of grid electricity for the mine, subject to the fulfillment of the conditions in Section 3.1 of the PPA, including Board approval by February 28, 2018 of the following PPA provisions:

a. The customer contribution payments by VGC Group to YEC under Section 6.1 of the PPA for YEC capital costs, including payments for:
    - actual YEC capital costs for negotiation and conclusion of the PPA, estimated at $200,000;
    - actual YEC capital costs for the initial YEC system improvements as set out in Schedule C of the PPA and currently estimated at $1,677,883;
    - actual YEC owner's costs for McQuesten Substation development, as set out in Table B-1 of the PPA and currently estimated at $483,240; and
    - actual YEC costs reasonably required for design, engineering, procurement, construction and commissioning of the step-down transformer at the McQuesten Substation, should one be determined to be required.

b. The fixed charge provisions as set out in Section 7.7 of the PPA, including:
    - the initial transmission facilities fixed costs of $118,621 per year, as documented in Attachment B to the application, for use in determining the fixed charge under Section 7.7 of the PPA; and

- provisions to amend the transmission facilities fixed cost, after the Transmission Facilities Development Operation Date, based on YEC's adjusted annual costs as approved by the Board for depreciation and return on rate base related to the Transmission Facilities (which includes the Transmission Facilities Development) plus the SVC/Statcom and YEC's McQuesten Substation costs ($930,563 under Section 6.1(d) and Schedule B of the PPA).

c. Any related amendments to the Rate Schedule 39 Firm Mine Rate as required to conform with Attachment A to the PPA and to accommodate the PPA.

9. The Board, through Board Order 2017-10, set out the following written process for this application, as summarized in the following table:

Process step	**Deadline**
Information requests to YEC	November 28, 2017
Information responses from YEC	December 11, 2017
Argument	December 22, 2017
Reply Argument	January 5, 2018

10. Ministerial approval for this proceeding was received by letter dated December 7, 2017.

11. The Board notes that following receipt of reply argument, YEC filed a letter, wherein YEC submitted, "for completeness and to ensure that the Board has YEC's position on all arguments raised by interveners it is necessary for YEC to reply to item 5 in John Maissan's reply argument."[1] Mr. Maissan replied[2] that the Board has the evidence it requires to consider the matter in its deliberations and YEC's submission serves no purpose other than to correct my error on the life of the proposed SVC/Statcom. UCG asserted that the schedule did not allow for "YEC … to supplement the YUB ordered process with additional information" after submission of reply arguments by parties to this proceeding.[3] The Board considers the record closed as of January 5, 2018 and in making its decision has not taken into account submissions received after that date. If further submissions were required, parties could have submitted a motion to alter the proceeding schedule and awaited a ruling before providing further submissions.

12. In reaching the determinations contained within this Decision, the Board 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 Board's reasoning related to a particular matter and should not be taken as an indication that the Board did not consider all relevant portions of the record with respect to that matter.

1 YEC letter dated January 10, 2018.
2 Maissan letter dated January 11, 2018.
3 UCG letter dated January 10, 2018.

3 Issues

13. Based on the Board's review of the Application, responses to information requests, argument and reply argument, the issues in his proceeding pertain to:

- customer capital contributions; and
- the proposed Rate Schedule 39 fixed charge.

3.1 Customer capital contribution issues

14. As noted above, YEC requested approval for:

- Actual YEC capital costs for negotiation and conclusion of the PPA agreement (current estimate is $200,000);
- Actual YEC capital costs for the initial YEC system improvements (current estimate is $1,677,883) which are a portion of the Stewart-Keno Transmission Project (SKTP);
- Actual YEC owner's costs for the McQuesten Substation (current estimate is $483,240); and
- Actual YEC costs reasonably required for design, engineering, procurement, construction and commissioning of the step-down transformer at the McQuesten Substation, should one be required.

15. Table C-2 in the PPA shows the estimated YEC capital costs for the initial system improvements as follows:

Initial YEC System Improvements	**Estimated Capital Cost ($ Total)**
Update YEC UFLS Scheme	176,512
Mayo Breaking Resistors	32,760
Minto/Faro LV Reactor Intersection/Trip	129,332
Aishihik/Mayo Over-frequency Trips	17,920
Over-frequency trips on WG 1,2,3	46,480
SPS/RAS1 – Shed EG load for loss of Mayo	107,667
SPS/RAS2 - L172 Takhini: Generation Rejection WH	236,040
SPS/RAS3/4/5 - L172/L170 Takhini and McIntyre: Generation Rejection WH	474,320
SPS/RAS6 - Loss of EG Load - Trip Mayo	245,000
Verify EG SPS Design, Settings, Commissioning	21,980
Out of Step - Protection Review L171	99,932
SPS/RAS7 L172 Riverside Trip: On High Load - Cross Trip Takhini Terminal L172	46,200
Dispatch YEC Thermal Generators to Limit MD Impart from south <11 MW	10,000
Total	1,677,883[4]

[4] UCG-YEC-1-18(a) Attachment 1, Table C-2, page 48 of YEC consolidated IR responses

16. Table B-2 from the PPA depicts the owner's costs for the McQuesten Substation as follows:

Project Manager	$68,640
Owner's Engineer	$93,600
Site Supervision	$186,000
SCC SCADA	$16,000
Overhead (management, reporting)	$15,000
Commissioning (Internal)	$44,000
Commissioning (External)	$60,000
Total	**$483,240**[5]

17. Mr. Maissan stated that the "capital contributions being required of VGC appear to be reasonable based on the YIS [Yukon integrated system] system improvements and adjustments required to provide a stable power quality and reliability on the YIS while serving VGC."[6]

18. Mr. Maissan added that the proposed SKTP transmission lines proposed are not the lowest cost for Yukon ratepayers, although they would be nice to have if someone else pays for them. He added that it would not be justifiable at ratepayer expense, relative to a 69 kV line on a single pole structure[7].

19. UCG stated "the VGC Group should be responsible for some additional infrastructure costs (as Minto was in the past) such as those related to the Carmacks-Stewart Transmission line and Aishihik 3. As well, into the future, as the VGC Group has stated they will require more energy and as such they should be responsible for some of the capital costs for Mayo B, the LNG facilities and any new transmission infrastructure."[8]

20. UCG also submitted "that evidence clearly demonstrates that the VGC Group will be a major driver of thermal generation into the future therefore not only should a major portion of future thermal fuel demand be assigned directly to the VCG Group, but a portion of the newly (about to be placed on the firm rate base) LNG facilities costs, as well."[9]

21. In response to Mr. Maissan, YEC stated that the Application before the Board is limited in scope to the PPA. The PPA addresses obligations and rights of the parties under a range of potential transmission facility development options. A review and approval of those development options are not a part of the scope of this proceeding. YEC added that the Board will have full opportunity to review and approve in the future any costs from the development of transmission facilities before such costs are included in any rates.[10]

[5] UCG-YEC-1-18(a) Attachment 1, Table B-1, page 35 of YEC consolidated IR responses
[6] Maissan Final Argument, page 1.
[7] Maissan Final Argument, page 2.
[8] UCG Final Argument, paragraph 39.
[9] UCG Final Argument, paragraph 45 (footnote omitted).
[10] YEC Reply Argument, page 2.

22. YEC responded to UCG by stating that "all "investments" related specifically to serving VGC Group (versus meeting broader YIS requirements that exist with or without VGC Group Mine operation) are being paid for up front by VGC Group as provided for in the PPA."[11]

23. In reply argument, YEC contended that most of the positions espoused by UCG had previously been ruled upon in the Alexco PPA proceeding and the Board had not accepted those positions. YEC added that the submissions by UCG were contrary to past decisions of the Board, counter to normal regulatory principles established in Canada, and should be rejected by the Board.[12]

24. In Reply Argument, Mr. Maissan posited that "… Yukon Energy's final argument says that the SVC/Statcom at the Stewart Crossing South Substation is required to increase the import capability of the Mayo-Dawson transmission system. The clear implication is that it is required to increase the import capacity between Stewart Crossing and Mayo, a line that was designed to carry 10 MW. If this is so, it is only necessary because of the VGC load because it was not necessary without it. That being the case, the SVC/Statcom will not be required after VGC closes (even if Alexco is still operating at that time). Therefore, the entire cost of the SVC/Statcom at Stewart Crossing South should be paid for by VGC by way of a customer contribution. The ratepayers would be paying for most of the cost of this unit over its 65-year life (55 out of 65 years) and that is simply not fair to the ratepayers." Therefore, Mr. Maissan's position was that this asset should be considered as a customer contribution and paid for by VGC.[13]

25. In reply argument, UCG stated that it opposed the positon of YEC that purchase power agreements, generally consistent with similar agreements, should be approved by the Board based on precedents. UCG submitted that purchase power agreements should be reviewed based on circumstances that exist at the time of the proposal to connect an industrial customer and not based on agreements that were established in past economic and integrated grid circumstances.[14]

Views of the Board

26. Generally, in terms of customer contributions for capital costs, the Board has previously stated the following:

> The incremental costs (spur costs) for connections to existing or new transmission facilities should be completely borne by the industrial customer.
>
> Further, the Board agrees with the principle that industrial customers should make a contribution towards an appropriate share of new or to existing bulk transmission.[15]

27. The Board maintains this view. Any new transmission assets required on account of a new incremental industrial load should receive a customer contribution from that new industrial customer, the quantum of which should be decided on a case-by-case basis depending on the

[11] YEC Reply Argument, page 11.
[12] YEC Reply Argument, pages 12-17.
[13] Maissan Reply Argument, page 4.
[14] UCG Reply Argument, paragraph 7.
[15] Appendix A to Board Order 2010-14, page 8 of 11.

merits of those particular circumstances. New industrial customers also contribute to existing bulk transmission costs through the application of the rates associated with that rate class. The Board does not accept the UCG position that a new customer should make a contribution for existing generation assets because UCG has not shown that incremental generation assets are required due to this PPA. In this case, other than the contributions as described in the PPA, the Board finds that additional financial contributions are not required.

28. In making its decision on the customer contribution of the VCG Group, the Board took note of the cost estimates included in Tables C-2 and B-2. The Board further considered that there was no disagreement from parties as to the reasonableness of the cost estimates. Further, parties did not disagree with the $200,000 estimated costs for the negotiation and conclusion of the PPA or who will be responsible for related costs, should a step-down transformer be required at the McQuesten Substation. The Board considers important that the final billing will be based on actual amounts, not the estimates provided in the Application. For these reasons, the Board finds that the customer contribution of the VGC Group is reasonable. Therefore, the Board approves the customer contribution amounts in the PPA for:

- The negotiation and conclusion of the PPA;
- YEC capital costs for the initial system improvements;
- YEC owner's costs for the McQuesten Substation; and
- YEC costs reasonably required for design, engineering, procurement, construction and commissioning of the step-down transformer at the McQuesten Substation, should one be required.

29. Concerning all issues and submissions regarding the types of assets to be developed and constructed for the SKTP, the Board considers these issues are outside the scope of this proceeding. These issues may be addressed in either a Part 3 application for transmission facilities or in a General Rate Application (GRA), including the 2017-18 GRA currently before the Board.

3.2 Fixed charge issues

30. Issues related to fixed charges are divided as follows:

- Fixed charges based on an 85% threshold;
- Inclusion of the SVC/Statcom in the transmission facility fixed charge; and
- Inclusion of YEC's McQuesten Substation costs in the transmission facility fixed cost.

3.2.1 Fixed charges based on an 85% threshold

31. In Section 5.5 of the Application, YEC stated that the YEC-YECL 2009 Phase II application summarized the principles applied in Yukon that relate to investment in facilities required to provide service to industrial customers[16].

[16] Application, page 14 including footnote 19.

32. YEC referred to industrial grid connections where industrial customers are required to make contributions toward existing and new transmission infrastructure built specifically to provide them with industrial service.

33. YEC continued by stating that in the case of the Mayo-Keno transmission line, the line was initially built to provide service to the United Keno Hill Mine (UKHM) site. After the mine closed, YEC continued to incur capital costs for that line on the assumption that such costs would be directly assigned to any new mine to receive service in the future from that transmission line.

34. Subsequent to the UKHM, prior to Alexco receiving grid service as an industrial customer, a fixed charge was established as part of the Alexco PPA. YEC stated that the fixed charge insured that Alexco paid its share of costs for transmission facilities maintained in service to serve future industrial customers after the closure of the UKHM site. YEC then contended that this established the precedent that industrial customers connecting to the existing Mayo-Keno transmission facilities would be collectively assigned through a fixed charge included in Rate Schedule 39, an 85% share of YEC's annual depreciation and return costs of those transmission facilities.[17]

35. YEC based its support for the 85% threshold on the following[18]:

- The 85% share was approved in the 2010 Alexco PPA;
- The share of the industrial load on the Mayo-Keno transmission facilities is over 98% of the total[19]; and
- The 85% allocation of the annual costs of the line to the industrial customer is consistent with the past treatment of the Faro mine.

36. Attachment B to the Application shows the calculation of the fixed costs for the Mayo-Keno line, for 2019[20] to be $118,621. Assuming no other mine load, the VGC fixed charge would remain at this level. Further, YEC stated that the calculated fixed charge would remain in place unless any of the following occurs:

- Another industrial customer receives grid electricity on those transmission facilities, in which case the 85% share would be allocated between the industrial customers based on actual MW.h load during the calendar year that there was more than one industrial customer receiving grid electricity on those transmission facilities; and
- Board approval of an amended transmission facility fixed cost.

37. In argument, YEC reiterated its position for assigning 85% of the annual fixed costs of a transmission facility to an industrial customer. To support this position, YEC referred to its response to YUB-YEC-1-7(a-b) Attachment 1. This attachment referred to chapter 7 of an August 1983 National Energy Board (NEB) report which indicates that the NEB recommended the 85% threshold on annual capital costs (depreciation and return) to be assigned to a mine.

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[17] Application, page 14.
[18] Application, page 15.
[19] YEC-Alexco PPA Application, page 4.
[20] Based on a 2017 forecast, Application, Appendix B.

YEC added that the 85% premise was accepted for the Alexco PPA, but noted that Minto PPA provisions would not apply to the Alexco PPA.[21]

38. Mr. Maissan contended that too much time has elapsed since YEC and Atco Electric Yukon (AEY) have provided a joint cost-of-service study (COSS) approved by the Board and this calls into question the fairness of Rate Schedule 39 and the VGC Group PPA.[22]

39. UCG argued as follows:

- With respect to the proposed monthly fixed charge to the VGC Group, YEC has not provided the required comprehensive COSS[23];
- There has been no evidence submitted on the integrated costs of YEC and AEY to allow for a determination that the proposed firm mine rate and monthly fixed charges truly recover the fully loaded cost of the service provided[24];
- That, without an updated fully allocated COSS, it can't be determined whether the costs being recovered in charges in the proposed power purchase agreement are fair and reasonable[25];
- That there is a significant difference between the Application and the situation when the Northern Canada Power Commission (NCPC) was instructed to build the transmission line to Cyprus Anvil Mining Corporation and directed to recover only 85% of the cost of the transmission line from CAMC[26]; and
- While the Board accepted the 85% direct transmission cost allocation in Board Order 2010-14 related to the PPA between YEC and Alexco, it only did so because no other alternatives had been presented (in terms of allocation of transmission costs through fixed charges) in that proceeding.[27]

40. YEC replied that Mr. Maissan did not raise any specific issues with the analysis provided in the Application that would suggest the proposed fixed charge is not fair and reasonable. YEC added that Mr. Maissan's comments ignore the cost-of-service evidence which clearly confirms that industrial customers continue to pay more than their cost of service.[28]

41. In response to UCG submissions, YEC contended that the Alexco PPA was approved notwithstanding the absence of a recent approved COSS.[29]YEC added that there is no evidence in the current proceeding that supports a direct assignment of more to any mine (including VGC Group's mine) than 85% of the direct annual costs for the YIS transmission facilities that are provided and sustained for use with or without the mine's load.[30] It also cited the Faro PPA and Alexco PPA for those respective mines in support of the 85% assignment of direct costs.

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[21] YEC Final Argument, page 3, and pages 11-12.
[22] Maissan Final Argument, page 4.
[23] UCG Final Argument, paragraph 15.
[24] UCG Final Argument, paragraph 16.
[25] UCG Final Argument, paragraph 19.
[26] UCG Final Argument, paragraph 27.
[27] UCG Final Argument, paragraph 28
[28] YEC Reply Argument, page 8.
[29] YEC Reply Argument, page 9.
[30] YEC Reply Argument, page 13.

42. In reply argument, UCG submitted that purchase power agreements should be reviewed based on the circumstances that exist at the time of the proposal to connect the industrial customer and not based on agreements that were established in past economic and integrated grid circumstances.[31]

43. UCG further submitted:

- That it disagrees with YEC submissions that the evidence and Board determinations in the 2009 GRA Phase II proceeding provide a solid basis for determining that industrial customers are paying more than the current costs to serve them[32]; and
- No evidence has been provided for a determination that the proposed firm mine rate and monthly fixed charges truly recover the fully loaded cost of the service provided.[33]

Views of the Board

44. A review of Attachment 1 to YUB-YEC-1-7(a-b) shows that chapter 7 (Fully Distributed Cost of Service Study) refers to a COSS prepared by NCPC for the NEB. In the COSS, NCPC recommended in the Specific Charges and Credits section, that the criterion to use in assigning assets to specific customers for the purpose of levying special charges was that assets that could reasonably be determined to be for the sole use of a particular customer or particular customer class were charged directly to that customer or class.[34] The NEB later accepted that in light of the circumstances surrounding the construction of the Whitehorse to Faro transmission line and the 5.2 MW diesel engine at Faro, a significant portion of these assets should be specifically assigned to the Faro mine, as was done in the past.[35]

45. The NEB further stated that it was doubtful that the NCPC would have constructed a 288-km transmission line without instructions from the federal government and without requiring some form of guarantee to ensure that existing customers would not be burdened with the cost of the transmission line if the mine were to shut down. It was noted by the NEB that the Faro mine was assigned about 96.8%[36] of the annual costs[37] of the transmission line with the remaining costs picked up by other customers. The NEB then reiterated that due to the unusual circumstances surrounding the construction of the transmission line, the NEB recommended that the line be treated as a specific asset. The NEB then recommended that 85%[38] of the annual costs

[31] UCG Reply Argument, paragraph 7.
[32] UCG Reply Argument, paragraph 10.
[33] UCG Reply Argument, paragraph 11.
[34] YUB-YEC-1-7 (a-b), Attachment 1, page 4 of 12.
[35] YUB-YEC-1-7 (a-b), Attachment 1, page 5 of 12.
[36] YEC-Alexco PPA Application, page 4.
[37] The NEB noted that for 1983-84 the Faro mine was responsible for 96.8% of the costs.
[38] YEC-Alexco PPA Application, page 4, footnote 8 stated: The 1985 NEB Report on NCPC notes the Cyprus Anvil Mine at Faro was charged a fixed annual amount, levied on monthly basis, for the same capital cost item (depreciation and return) for 85% of these costs related to the WAF transmission line from Whitehorse to Faro. This charge was based on the circumstances surrounding the construction of the lines where it was built as instructed as a consequence of an agreement between the mine and Canada to build a mining facility at Faro. The 85% allocation as approved reflected the mines' share of the load on this line (about 96.8%) and that the

for the transmission line be assigned specifically to the Faro mine and the remaining 15% of the annual costs be allocated to all customer classes, in the hydro rate zone based on their respective demands. The NEB noted that under its recommended arrangement, the mine would also be assigned its share of the pooled costs.

46. In Board Order 2007-05[39], the Board stated the following:

> The Board considers there are two choices available to serve Rate 39 (Industrial Primary): one option is to use the existing rate (the rate approved in the last filed COS study), another is to utilize a new rate, which YEC has applied for in this Application. The existing rate, which is based on Faro mine assumptions and submitted 10 years ago, is not a practical option.[40]
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> …
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> The Yukon regulatory environment is one that prefers a direction of standardized utility practice in regard to rates. Such standardized utility practice includes providing a full COS calculation when designing new rates.[41]
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> …
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> However, while YEC recognizes the jurisdiction of the YUB, the timing YEC has requested presented challenges for the Board and Intervenors in establishing and participating in the proceeding. Recognizing the time constraints faced by YEC, the Board has endeavored to meet these timelines; however, as a result, YEC's evidence in some areas is not as complete as the Board would normally expect, in particular, with respect to COS.[42]
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> …
>
> The Board agrees with Intervenor concerns regarding the lack of a complete COS study. The Board is of the view that due to the articulating nature of a COS study, rates cannot be developed in isolation.[43]
>
> The practice in Yukon is to follow cost causation for COS purposes as a fundamental building block to proper rate design.[44]

47. In Appendix A to Board Order 2010-14[45], the Board stated:

> The Board concludes that the precedents cited by YEC provide some support for the direct transmission allocation (85%) as applied for. Most of the cases cited

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remaining 15% would be rolled in with the pooled costs in Yukon hydro rate zone to be allocated to all customer classes (including industrial) based on their respective demands.

39 Board Order 2007-05 — Decision denying YEC-Minto PPA, April 30, 2007.
40 Appendix A to Board Order 2007-05, page 4 of 27.
41 Appendix A to Board Order 2007-05, page 5 of 27.
42 Appendix A to Board Order 2007-05, page 5 of 27.
43 Appendix A to Board Order 2007-05, page 5 of 27.
44 Appendix A to Board Order 2007-05, page 5 of 27.
45 YEC-Alexco PPA, December 31, 2010.

> refer to cost of service and not the fundamental basis or appropriateness for the establishment of fixed charges to industrial customers. The Board notes that no other alternatives have been presented (in terms of allocation of transmission costs through fixed charges) in this proceeding.[46]

48. In that same appendix, the Board also stated regarding the Minto PPA that it accepted Rate Schedule 39 on an interim basis and that it had concerns about the sufficiency of the current COSS presented by YEC.[47]

49. YEC referred to information responses YUB-YEC-1-7 and YUB-YEC-1-8 as evidence that industrial customers continue to pay more than their cost of service. In response to the latter IR, YEC acknowledged that the Board rejected the COSS as filed by YEC and YECL in their 2009 Phase II application. YEC then stated that the concerns expressed by the Board for its rejection of the COSS related to the General Service rate class and therefore took the position that industrial customers were paying rates more than sufficient to cover costs of service.

50. Without a recent Board-approved cost of service, it is difficult for the Board to accept representations regarding revenue-to-cost ratios. For this reason, in Board Order 2010-14, the Board accepted the direct transmission allocation of 85% as applied for, because no other alternatives to the 85% allocation were provided.

51. In Board Order 2011-05, the Board approved the rate schedules but did not approve the COSS. The last Board-approved COSS dates back to 1996, where the Board approved the COSS as part of the 1996-97 GRA.[48] This COSS was part of a negotiated settlement. Due to the length of time that has expired since the last Board-approved COSS, the Board considers that there may not be a causal link between approved rate schedules in Yukon and the costs to serve any particular rate class. Further, the Board questions the YEC claim in its compliance filing to Board Order 2010-13[49] that the revised revenue-to-cost ratio for industrial customers was 113.7%[50] because it is not based on a recent COSS.

52. Furthermore, the Yukon hydro zone at the time of the Faro mine consisted of the Whitehorse-Aishihik-Faro (WAF) transmission line. The hydro zone that existed at the time of the Alexco PPA consisted of the Mayo-Dawson transmission line. For the VGC Group PPA, through both phases of the Carmacks-Stewart Transmission Project, the hydro zone now includes all loads on the WAF, Mayo-Dawson and the CSTP systems. Given the expanded hydro zone and expanded customer base, the Board questions whether or not VGC Group's total costs (direct assigned fixed costs and share of pooled costs) are in proportion to VGC Group's share of load.

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[46] Appendix A to Board Order 2010-14, page 5 of 11.
[47] Appendix A to Board Order 2010-14, page 5 of 11.
[48] Board Order 1996-8 approved the rates tolls and charges for YEC and YECL as final. The rates from this process were determined through a partial negotiated settlement. In Board Order 1996-7 it was noted that the settlement agreement accepted the rate design philosophy and the cost of service studies in the application. Thus the COSS was not determined through a full oral hearing process.
[49] Board Order 2010-13, YEC-YECL Joint Phase II Decision, December 30, 2010.
[50] YEC Argument, Page 20.

53. In addition, the Faro share of costs, which was used to approximate load, was given as 96.8%, the Alexco share of forecast load approximated 98%[51], and for the VGC Group PPA, the forecast share of load for industrial customers is in excess of 99%[52]. Given the steady increase in load share for industrial customers, the Board is concerned as to whether YEC's method will cover all of VGC Group's costs.

54. The Board is of the view that a cost-based approach is the best approach to determine fixed-cost charges for Rate Schedule 39. However, at this time, costs and revenues are not linked in Rate Schedule 39. For the VGC Group PPA, the only evidence on the record of this proceeding is the 1985 NEB report used to support an allocation of 85% of the fixed costs, the Alexco PPA, and YEC's assertion that the revenue-to-cost ratio for the Industrial Rate class exceeds unity. Further, the Board considers that no evidence was presented that would lead the Board to treat the VCG Group PPA differently than the Alexco PPA, as neither are based on a COSS. For these reasons, the Board accepts an allocation of 85% of the fixed costs in the VGC Group PPA.

55. However, in future PPA applications, YEC is directed to provide cost-based studies that demonstrate that the industrial customer costs are being fully covered by the proposed rates, including the fixed charges. In addition, YEC is directed to provide detailed rationale on how the fixed cost level is established and why it applies.

56. YEC noted that that firm mine rates, including the fixed charge, as shown in Schedule A of the PPA, do not require any changes to amounts to be charged to customers prior to December 31, 2018, which is after the expiry date for OIC 1995/090, as amended. YEC also submitted that a revision is required for the fixed charge to be applied to the Alexco mine. Therefore, the Board directs YEC, to file with the Board, for acknowledgement purposes, a clean revised Rate Schedule 39 that reflects the directions of this decision for both the VGC Group and Alexco PPAs. YEC is to provide this filing within 30 days of the issuance of this Board Order.

57. The PPA provides for transmission development costs to be updated after the Transmission Facilities Development Operation Date[53]. YEC stated that those costs are subject to Board review and approval; however, if needed to address this change on a more timely basis after the work is capitalized, a limited-scope proceeding would also be considered as a viable alternative.[54]The Board accepts this alternative and directs YEC to submit a limited-scope application to amend the firm mine rate within 60 days of the Transmission Facilities Development Operation Date.

3.2.2 Inclusion of the SVC/Statcom in the transmission facility fixed charge

58. YEC submitted, after commencement of delivery to the mine and during 2020 or early 2021 under the expected schedules in the PPA, the PPA provides that the Transmission Facilities

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[51] YEC-Alexco PPA application, page 4.
[52] VGC Group PPA Application, page 15.
[53] The PPA defines this term as "means the date provided by YEC to VGC Group to confirm that the Transmission Facilities Development has been completed and is in service to deliver Grid Electricity to the Mine Facilities through the Mine Facilities Spur;".
[54] YUB-YEC-1-23(b).

Development[55] will at a minimum replace the existing end-of-life transmission between Mayo and McQuesten Substation (L180) with new 138 kV facilities and install an SVC/Statcom at Stewart Crossing Substation.[56]

59. YEC clarified that the SVC/Statcom, is to be installed before the Transmission Facilities Development Operation Date.[57] The SVC/Statcom will provide voltage support equipment, which may include either a Static-Var-Compensator (SVC) or a static-var compensator (statcom) that enhances the Mayo-Dawson Transmission grid import ability from grid following contingencies.[58]

60. YEC submitted that the SVC/Statcom would be added for system stability. It would be located within the Stewart Crossing South Substation, and will not affect the environmental review and permitting for the SKTP.[59] YEC added that this enhancement, along with the upgrade of conductors on at least the Mayo to McQuesten line, will enable the Maximum Electric Demand Limits in the PPA to be increased to supply all of the VGC Group mine's forecast requirements and will enhance significantly Yukon grid long-term capability to supply customers on the northern grid.[60]

61. YEC added that SVC/Statcom costs that are not externally funded are included in the Transmission Facilities Fixed Cost[61] used to determine the Fixed Charge[62] under the VGC Group PPA. Furthermore, the costs reflect the requirement for related transmission facilities' improvement in order to provide reliable service to industrial customers throughout the northern portion of YEC's grid. Pursuant to the VGC Group PPA, 85% of YEC's fixed annual costs for this facility will be included in the Fixed Charge shared among industrial customers served by the Transmission Facilities[63].[64]

62. Noting YEC's submission that the SVC/Statcom at the Stewart Crossing South Substation is required to increase the import capability of the Mayo-Dawson transmission system, Mr. Maissan contended that the SVC/Statcom is required because of the VGC Group mine load, since it would not be necessary without it. Mr. Maissan argued that the SVC/Statcom will not be required after the VGC Group mine closes even if Alexco is still operating at that

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55 "Transmission Facilities Development" means any future transmission facilities developed by YEC to replace existing Transmission Facilities and to connect the McQuesten Substation with a substation at either Mayo or Stewart Crossing.

56 VGC Group PPA Application, page 18.

57 "Transmission Facilities Development Operation Date" means the date provided by YEC to VGC Group to confirm that the Transmission Facilities Development has been completed and is in service to deliver Grid Electricity to the Mine Facilities through the Mine Facilities Spur.

58 YEC Final Argument, Section 3.1.2, page 12.

59 VGC Group PPA Application, page 8, footnote 13.

60 YEC Final Argument, page 13.

61 "Transmission Facilities Fixed Cost" means YEC's annual cost, as approved by the YUB from time to time, for depreciation and return on rate base related to the Transmission Facilities plus the SVC/Statcom if and when it is installed.

62 "Fixed Charge" means the fixed charge rate each month applicable to the VGC Group mine site under the Firm Mine Rate, equal to 1/12 of the annual amount determined under Section 7.7.

63 "Transmission Facilities" means the Mayo to McQuesten Substation segment of YEC's 69-kV Mayo-Keno transmission facilities located north of Mayo, Yukon, or any Transmission Facilities Development.

64 YEC Final Argument, page 13.

time. Accordingly, Mr. Maissan submitted that the entire cost of the SVC/Statcom should be paid for by the VGC Group by way of customer contribution. Otherwise, ratepayers would be paying for most of the cost over the lifetime of this unit, and that is simply not fair to the ratepayers.[65]

Views of the Board

63. The Board notes YEC's submission that the VGC Group capital contributions are applicable at 100% of capital costs only for assets that will be used solely by this mine. The Board acknowledges that this is consistent with approved Alexco and Minto PPAs. The Board, in Appendix A to Board Order 2007-5, approved the Minto PPA, which in effect assigned to Minto 100% of the estimated costs of facilities solely needed to serve the mine.[66] The Board further clarified that projects planned to serve system requirements and other customers would not require any customer contributions from Minto.[67] In Board Order 2010-14, the Board agreed that "incremental costs (spur costs) for connections to existing or new transmission facilities should be completely borne by the industrial customer."[68]

64. Further, the Board accepts YEC's submission that the SVC/Statcom will benefit all loads on the northern grid, while providing enhanced voltage support for northern grid loads from Dawson to Keno to access surplus hydro generation or other generation as may be required from WAF following contingencies.

65. The Board observes that non-industrial customers will pay 100% of YEC's SVC/Statcom annual fixed costs only when there are no industrial loads on the northern grid. As such, when the VGC Group mine is operational, any amounts that other ratepayers would need to pay toward this infrastructure will be significantly reduced. Further, the Board notes that under the VGC Group PPA, YEC will apply to the Board after the Transmission Facilities Development Operation Date to amend the Transmission Facilities Fixed Cost based on YEC's annual costs for depreciation and return on rate base related to the Transmission Facilities plus the SVC/Statcom.

66. The Board accepts that the SVC/Statcom will provide voltage support in the north in addition to increasing the import capability for the entire northern grid from WAF. However, it is not clear whether this asset would be needed without the VGC Group load.

67. The Board considers that the SVC/Statcom is only incidental to the PPA currently before the Board. Concerns about SVC/Statcom are best dealt with within the confines of a GRA or a limited-scope proceeding, as discussed in paragraph 57 of this appendix. At that time, the costs of the SVC/Statcom can be reviewed, the direct-cost allocation analyzed, and the amortization period of the asset considered.

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65 Maissan Reply Argument, page 3.
66 Appendix A to Board Order 2007-5, page 14.
67 Appendix A to Board Order 2007-5, page 12.
68 Appendix A to Board Order 2010-14, page 8.

3.2.3 Inclusion of YEC's McQuesten Substation costs in the transmission facility fixed cost

68. Section 5.4 of the Application requests that the $953,563 of McQuesten Substation costs, required if the McQuesten Substation is to operate at 138 kV as opposed to an initial required operation of 69kV, be included in the fixed costs to VGC Group. These costs would be part of a transmission facilities development option. If that option is implemented, the costs would be held in work-in-progress by YEC until the Transmission Facilities Development Operation Date. At that time, the costs would be moved into rate base and included in the transmission facility fixed costs.

69. No interveners provided any specific submissions on this issue.

Views of the Board

70. The Board agrees with the assessment of YEC that these potential costs should form part of the facility fixed costs as the industrial customers will be the chief beneficiary of this development. However, other rate classes will also benefit if this option goes ahead, and therefore, some costs should apply to other rate classes. The Board accepts this part of the PPA as proposed by YEC and notes that inclusion into the facility fixed cost will be based on actual costs and not forecast costs.

4 Summary of Board 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. Refer to the Reasons for Decision document for a complete list of directions.

1. In future PPA applications, YEC is directed to provide cost based studies that demonstrate that the industrial customer costs are being fully covered by the proposed rates, including the fixed charges. (Paragraph 55)
2. YEC is directed to provide detailed rationale on how the fixed cost level is established and why it applies. (Paragraph 55)
3. Within 30 days of the issuance of this Board Order, YEC is directed to file with the Board, for acknowledgement purposes, a clean revised Rate Schedule 39 that reflects the directions of this decision for both the VGC Group and Alexco PPAs. (Paragraph 56)
4. YEC is directed to submit a limited-scope application to amend the firm mine rate within 60 days of the Transmission Facilities Development Operation Date. (Paragraph 57)