Appendix A to Board Order 2019-04
Reasons for Decision

1. Introduction

The Yukon Utilities Board (Board) received an application dated February 25, 2019, from Yukon Energy Corporation (YEC) to demonstrate its compliance with Board directions from Board Order 2018-10, issued December 27, 2018. The application explained YEC's submissions regarding its compliance with the directions from YEC's 2017-18 General Rate Application (GRA).

As part of YEC's compliance filing, it sought the following approvals:

1. An ongoing Rider J[1] at 22.32 percent for retail customers and 18.67 percent for industrial customers, effective May 1, 2019, applicable to all YEC and AEY[2] firm retail and industrial rates, including fixed Rider F and fixed monthly payments for major industrial rates.
2. A time-limited Rider R[3] of 5.94 percent, from May 1, 2019, to April 30, 2021, which would be applicable to all YEC and AEY firm retail and industrial rates and would collect the remaining 2017, 2018 and 2019 net revenue shortfall and Rider F adjustments for 2017 and 2018. Effective May 1, 2021, Rider R would be set to zero.
3. Effective January 1, 2017, the Low Water Reserve Fund (LWRF) would replace the Diesel Contingency Fund (DCF).
4. Approval of the 2017 and 2018 LWRF annual reports and the 2017 and 2018 Energy Reconciliation Adjustment (ERA) filing as provided in Appendix 2.2 of YEC's compliance filing, and after the Board's approval, YEC will make any adjustment required when 2018 preliminary financial numbers are made final.
5. Approval of the updated Rider E[4] rate schedule as provided in Attachment 2 of Appendix 2.2, at 0.00 cents/kWh, for implementation effective April 1, 2019.
6. Approval of the ongoing Deferred Fuel Price Variance Account (DFPVA)[5] mechanism for Rider F with deferred liquefied natural gas (LNG) fuel price variances, calculated using actual fuel mix.

[1] Rider J - the Yukon Energy Revenue Shortfall Rider.
[2] AEY – ATCO Electric Yukon, also known as Yukon Electrical Company Limited.
[3] Rider R – the Yukon Electrical Rate Adjustment.
[4] Rider E – Diesel Contingency Fund/Low Water Reserve Fund rider.
[5] Deferred Fuel Price Variance Account.

In reaching the determinations set out in this decision, the Board has considered all relevant materials on the record of this proceeding. 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.

2. Discussion

2.1 Compliance with Board Order 2018-10

In its compliance filing, YEC responded to the 69 directions issued by the Board in Board Order 2018-10 Appendix A to Board Order 2010: Reasons for Decision.

The Board has reviewed the compliance filing and other documents on the record and other than the exceptions as noted below, the Board considers that YEC has complied with the directions found in Board Order 2018-10.

2.2 Outstanding directions

2.2.1 Cost of debt

YEC applied for additional long-term debt (LTD) forecasts of $23.828 million for 2017 and $7.004 million for 2018, using the forecast interest rate for both years of 2.15 percent. In Decision 2018-10, the Board accepted the forecast market rate for YC's cost of debt of 2.15 percent for each of the 2017 and 2018 test years.[6]

In its compliance filing, YEC stated that it used the forecast market rate for YEC's cost of debt of 2.15 percent for each of the test years. However, in Table 1.1-2 of the application, Adjustments to Rate Base, the Return on Rate Base and Amortization Expense shows a cost of debt of 2.40 percent for 2017 and 2.23 percent for 2018.

Views of the Board

The Board finds that YEC has not explained why its cost of debt in the compliance filing is different from the approved levels in Board Order 2018-10. It is incumbent upon YEC to comply with the directions of the Board, or if it is not possible to comply with those directions, then to provide a full explanation as to why it is unable to comply with the specific direction of the Board. Because the Board is not able to reconcile the reasons for the forecast interest rate of 2.40 percent for 2017 and 2.23 percent for 2018, YEC is directed to comply with the Board's direction and use the forecast interest rate for each of 2017 and 2018 of 2.15 percent in its cost -of-debt calculations, to be reflected in YEC's second compliance filing.

[6] Appendix A to Board Order 2018-10, paragraph 237.

2.2.2 Thermal fuel mixture forecast

The fuel mix forecast is one component in the DFPVA established by Section 8 of Order-in-Council 1995/90. Rider F captures all variations in fuel price per litre for each litre consumed compared to those prices approved in the most recent GRA. The Rider F account is also credited with all variations (positive or negative) in the ongoing adjustment to the process of secondary sales compared to the most recent GRA-approved price.

YEC proposed in the GRA proceeding leading to Board Order 2018-10 that the actual adjustments reference LNG delivered cost pricing in the existing Rider F mechanisms.

In Board Order 2018-10, the Board stated the following regarding the fuel mix forecast, which was Direction 26 of the decision:

> Lastly, YEC has stated it will assume all risk with respect to the thermal fuel mixture (LNG versus diesel). Therefore, the Board directs YEC to ensure that any variances due to changes in the thermal fuel mixture (forecast versus actual) are not included in the DFPVA. YEC is to indicate, in its compliance filing to this application, the steps it will take to prevent changes in the thermal fuel mixture from appearing in the DFPVA.[7]

In its compliance filing, YEC provided the following response to this direction:

> In response to Directive #26, YEC has reviewed the DFPVA monthly adjustment mechanism to assess what options may exist to reflect forecast versus actual thermal fuel mixture for LNG and diesel fuel. This matter was not addressed during the proceeding, and was not part of YEC's commitment (subject to what is feasible with the DCF/LWRF year end adjustment mechanism) to assume risks related to actual fuel mix at forecast fuel prices in the determination of final annual DCF (now LWRF) transfers.
> …
>
> This outcome differs from the decrease in customer costs with use of the 90/10 forecast fuel mix and forecast fuel prices with the LWRF 2018 year-end assessment in Appendix 2.2. As described above, the ratepayer is protected from variances in fuel mix primarily through the rules approved for the LWRF.

Views of the Board

The Board accepts the explanation of the thermal fuel mixture forecast. Although this matter was not originally tested in the GRA, the 90/10 forecast mix and forecast fuel prices within the LWRF have been reviewed by the Board and are reasonable for the purposes of the GRA. Therefore, YEC is relieved of the obligation to comply with Direction 26 for the purposes of setting rates for the 2017-18 GRA.

[7] Appendix A to Board Order 2018-10, paragraph 293, Direction 26.

Despite the Board's findings, YEC is directed to provide evidence to support its fuel-mix ratios in future GRAs to ensure that its thermal fuel mixture forecast and adjustments to the DFPVA are reasonable.

2.2.3 Low Water Reserve Fund

The LWRF is a deferral account that adjusts for thermal generation required due to water availability. YEC adjusts the balance in the LWRF on an annual basis for the difference in forecast thermal generation from actual thermal generation based on forecast load and only adjusting for the changes in hydro generation that are a result of changes in water availability. YEC's current cap for the reserve fund is +/- $8 million.

In Appendix A to Board Order 2018-10, the Board stated the following regarding the LWRF:

> Also, a utility should neither make a profit nor suffer a loss from variances in forecasting due to water levels. The Board considers that the risk of low water conditions, with respect to added costs for thermal generation, should be borne by the customers of the utility.[8]
>
> The Board finds that a simpler mechanism for adjusting for variances between the approved forecast for hydro generation and thermal generation and actual hydro generation and thermal generation in a test year is needed. A deferral account is a rate adjustment mechanism aimed at reconciling forecasts with actuals for matters that are not in the control of the utility.[9]
>
> For these reasons, the Board directs YEC to create a deferral account that records the variance between actual thermal generation fuel costs (based on volume only) and the GRA forecast thermal generation fuel costs (based on volume only) that are due to changes in water conditions.[10]
>
> The difference between the directed deferral account above and YEC's proposed DCF is that the deferral account will be adjusted for those variances between approved forecast and actual, not modelled, results. … YEC will adjust the balance in the LWRF on an annual basis for the difference in forecast thermal generation from actual thermal generation based on forecast load and only adjusting for the changes in hydro generation that are a result of changes in water availability.[11]

[8] Appendix A to Board Order 2018-10, paragraph 318.
[9] Appendix A to Board Order 2018-10, paragraph 320.
[10] Appendix A to Board Order 2018-10, paragraph 321.
[11] Appendix A to Board Order 2018-10, paragraph 322.

> YEC will take the forecast risk for incremental generation costs for incremental loads outside of the forecast period with the exception of incremental load covered by the ERA.[12] (underlining added)

YEC's response to these Board directions are in Appendix 2.1 and are detailed in Attachment 2.1-1: LWRF Term Sheet: YEC Grid & AEY Fish Lake, of its compliance filing.

On page 2.1-2, YEC stated in its compliance filing:

> YEC thermal generation savings (excess) are calculated on an annual basis for the LWRF based on the variance between actual thermal generation and LTA thermal generation at the actual YIS [Yukon Interconnected System] load. (footnote omitted)

YEC then stated on page 2.1-3:

> In any year when the balance in the LWRF falls outside of the approved LWRF cap range at fiscal year end, YEC shall apply to the Board for approval of a rate rider to dispense with the balance that is outside of that range within 60 days of the fiscal year end.

During this proceeding, the Board asked YEC whether it is YEC or ratepayers that bear the risk of revenue requirement items during non-test years.[13] YEC responded, in part:

> Unless otherwise specified in an approved deferred cost mechanism and/or a specific rate mechanism (e.g., ERA) that shifts cost variance to ratepayers or the wholesale utility (subject typically to a future YUB review), YEC bears the risk of revenue requirement items varying from approved GRA forecasts. This applies during non-test years as well as test years (as approved rates do not vary in non-test years from those last approved for a test year).[14]

YEC added:

> Approved deferred cost mechanisms that shift cost variance from approved GRA forecasts to ratepayers (typically subject to a future YUB review) currently exist for thermal fuel prices, impacts on thermal fuel generation costs due to water-related changes in hydro generation, RFID [Reserve for Injuries and Damages] related costs for unexpected events or losses, and potentially other specific cost items as approved by the YUB from time to time. In accordance with normal principles established in Canada for utilities, these deferred cost mechanisms apply during non-test years as well as test years. Specific to thermal generation

[12] Appendix A to Board Order 2018-10, paragraph 323.
[13] YUB-YEC-1-1, PDF page 39.
[14] YUB-YEC-1-1, PDF page 39.

variances, the response to Round 2 interrogatory YUB-YEC-2-1(d) provides a detailed risk-based justification for assigning thermal generation variances to ratepayers.[15]

YEC then referred to Table A2.1-1 from its Two Part ERA Application of April 6, 2018:

> Ratepayers typically bear risks related to items that are determined to be beyond the utility's ability to reasonably forecast and where there may be considerable variation from forecast (e.g., water variability; variability in thermal price; unexpected event or loss). In principle, ratepayers would bear the risk where actuals vary from approved forecasts for a test year and the risk that non-test year results will vary from approved forecasts for the last test year. However, in each of the specified cases there is a contingency mechanism in place to help smooth and mitigate over time rate impacts or rate instability for ratepayers due to variances from approved forecasts (e.g., the Diesel Fuel Price Variance Account; the Diesel Contingency Fund and the Reserve for Injuries and Damages).
>
> Absent contingency mechanisms – in cases where thermal fuel price or water conditions varied significantly from forecast, the utility would need to seek adjustments in rates to address material changes in costs or revenues beyond its control. This would likely result in increased regulatory burden and increased rate instability as the utility would need to seek more frequent rate adjustments with potentially more extreme changes in rates.
>
> Utilities typically bear risks related to items that are considered reasonable for the utility to forecast (e.g., sales volume, location of load/line losses; and operation of the system). While not addressed in Table A2.1-1, the utility would also bear risks related to items included in its O&M and capital forecasts that are considered within its ability to reasonably forecast (e.g., labour, and non-labour items such as transmission, distribution, general O&M, administrative costs). In each case, where the item is within the utility's ability to reasonably forecast, the utility bears the risk where actuals vary from approved forecasts for a test year and the risk that non-test year results will vary from approved forecasts for the last test year. (footnotes omitted) (underlining added)

Views of the Board

In Decision 2018-10, the Board stated:

> To draw from the LWRF due to low water levels, YEC will have to submit an application to the Board requesting a drawdown of the fund indicating that the application is due to changes in hydro generation because of changes in water levels from those contained in the last Board-approved forecast. YEC will take the forecast risk for incremental generation costs for incremental loads outside of

[15] YUB-YEC-1-1, PDF pages 39-40.

> the forecast period with the exception of incremental load covered by the ERA. YEC is directed to amend its DCF term sheet to comply with these directions. Conversely, when the fund requires replenishment, YEC can apply to the Board for rate rider to replenish the LRWF. YEC, in its compliance filing, may submit any potential ceiling for the LWRF rate rider.[16] (underlining added)

In terms of the LWRF, the Board has accepted that this deferral account was necessary because it was determined that changes in hydro generation due strictly to changes in water levels from forecast is a ratepayer risk. The Board accepted this treatment for YEC's 2017-18 GRA for the forecast firm load (as opposed to the inclusion of secondary sales) that was approved in Decision 2018-10.

However, the Board notes that YEC affirmed on the record that it bears incremental risks for items that are considered reasonable for the utility to forecast beyond a test period, such as sales volume. The Board considers that if YEC accepts sales volume risk then it accepts the risks of costs related to sales volumes such as generation costs to satisfy those incremental sales volumes that are beyond the test period or that are beyond actuals above forecast within the test period.

This is consistent with YEC's statement that:

> Costs due to variances from forecast thermal generation fuel volumes should be assigned to the utility when due to total generation load forecast variance or thermal generation unit maintenance requirements, and to ratepayers when due to water or wind forecast variance or other specific factors for which the utility is unable to control and/or the regulator has established deferral or contingency fund cost accounts, e.g., DCF or RFID related thermal generation fuel costs.[17] (footnotes removed, underlining added)

The Board also accepts the submissions of YEC noted above that "In each case, where the item is within the utility's ability to reasonably forecast, the utility bears the risk where actuals vary from approved forecasts for a test year and the risk that non-test year results will vary from approved forecasts for the last test year." YEC is also at risk for variances in firm load.

Further, YEC stated that normal principles for Canadian utilities allow for deferred cost mechanisms that apply within test years and beyond test years. The Board acknowledges this statement is informative in providing further context on the risk that the customers bear and that the utility bears with respect to the LWRF in the Board's consideration of whether YEC has complied with Direction 29 of Board Order 2018-10, which stated:

[16] Appendix A to Board Order 2018-10, paragraph 323.
[17] YUB-YEC-2-1(d), from YEC's 2017-18 GRA proceeding, and referenced by YEC in YUB-YEC-1-1 in this proceeding.

> To draw from the LWRF due to low water levels, YEC will have to submit an application to the Board requesting a drawdown of the fund indicating that the application is due to changes in hydro generation because of changes in water levels from those contained in the last Board-approved forecast. YEC will take the forecast risk for incremental generation costs for incremental loads outside of the forecast period with the exception of incremental load covered by the ERA. YEC is directed to amend its DCF term sheet to comply with these directions. Conversely, when the fund requires replenishment, YEC can apply to the Board for rate rider to replenish the LRWF. YEC, in its compliance filing, may submit any potential ceiling for the LWRF rate rider.

However, further clarification of Direction 29 is required to adequately reflect the risks covered by the LWRF as well as the risk that YEC bears in providing utility service given YEC's response to the Board with respect to this direction. The second sentence of Direction 29 is revised to reflect the risk to YEC and should read: "YEC will take the forecast risk for incremental generation costs for incremental loads in excess of the approved forecast, recognizing this risk to YEC is partially mitigated through the ERA provision in the approved rate schedules."

The Board directed YEC "…in its compliance filing to this decision, to provide further details on how this LWRF will operate."[18] The details provided by YEC in its compliance filing provided clarity to the Board on the risk regarding incremental generation costs as follows: "YEC will take the forecast risk for incremental generation costs for incremental loads outside of the forecast period with the exception of incremental load covered by the ERA."

The Board considers that it is important to understand how YEC proposed to determine the LWRF. YEC submitted the following "… four fundamentals underpinning the LWRF deferral account and its operation at each year end:

1. Ratepayers to bear water availability risks.
2. Long-term average (LTA) water conditions used for GRA Thermal Generation Forecast.
3. LWRF determines Year end variance from GRA LTA Thermal Generation Forecast.
4. Year end water-related risk = Actual Thermal Generation less LTA Thermal Generation at Actual Load."[19]

Importantly, YEC stated a key requirement in this regard is to separate thermal generation changes due to overall YIS load changes from thermal generation changes due to water conditions.[20]

[18] Appendix A to Board Order 2018-10, paragraph 325.
[19] YEC Reply Argument, pages 2 to 3.
[20] YEC Compliance filing, Appendix 2.1, page 2.1-2, PDF page 60.

As reflected by current practice, the YEC process includes four steps to separate thermal generation changes due to overall YIS load changes from thermal generation changes due to water conditions:

> Step 1: Determine the change in thermal generation volumes (actual thermal generation [net of capital, maintenance, and RFID requirements] less GRA forecast thermal generation).
>
> Step 2: Determine LTA [long-term average] Thermal Generation (i.e., thermal generation assuming LTA water conditions as assumed for the GRA forecast) at the actual system firm generation. This is accomplished using tables and procedures approved by the Board in the GRA.
>
> Step 3: Determine change in thermal generation due to water condition changes, i.e., the Step 1 actual thermal less the LTA Thermal Generation for actual load from Step 2.
>
> Step 4: Determine change in thermal generation due to load changes, i.e., the Step 1 actual thermal generation changes less the Step 3 change due to water conditions.[21]

The Board considers that there are two regulatory principles to be met. First, YEC bears the risk of revenue requirement items varying from approved GRA forecasts. Second, costs due to variances from forecast thermal generation fuel volumes should be assigned to the utility when those costs are due to variances from forecast load or maintenance requirements. The above process steps do not adequately reflect these two principles. For the reasons that follow, the Board disagrees with YEC's proposal to calculate amounts eligible for the LWRF because YEC's four-step process does not adequately conform to Board Direction 29.

The LWRF is applicable only for loads up to the latest approved forecast level and not for amounts that vary from forecast levels – i.e. for the test years and beyond the test years. The utility is at risk for loads that vary from forecast, as described in the previous sentence.

The Board considers it necessary to preserve the principle that costs should be assigned to the utility when total load varies from forecast. YEC's proposal in the compliance filing is creating an asymmetrical risk profile whereby YEC is imposing certain risks – e.g. incremental generation costs to customers – and yet there is no offsetting of potential benefits that YEC would gain, and those benefits would not be shared with customers – e.g. incremental sales and amortization of costs over greater sales volumes. Therefore, the Board considers that the incremental generation due to incremental load must be removed

[21] YUB-YEC-1-13, PDF page 78.

from the LWRF calculations because this is a risk borne by the utility. This adjustment is required in order for the LWRF to reflect Board Direction 29 in Board Order 2018-10.

Therefore, further direction of the Board is warranted regarding the calculation of the LWRF. The Board directs the following four steps be used as a guideline for the calculation of the LWRF:

> Step A: Determine if actual load varies from approved forecast load.
>
> Step B: If actual load varies from approved forecast load:
> (i) Determine the actual generation up to the approved forecast load level then determine the actual generation the incremental load above the approved forecast load. The sum of the two should equal total actual generation; and
> (ii) If actual load is less than forecast load, determine the actual generation then determine the difference between the actual generation versus the forecast generation
>
> Step C: Determine the change in thermal generation due to water condition changes that are different from those in the approved forecast, for the load up to the approved forecast level in Step B(i) or determine the changes in thermal generation due to water condition changes in Step B(ii).
>
> Step D: The difference (+/-) between Step B and Step C is assigned to the LWRF.

This method is expected to remove the incremental load for which the utility bears the risk in the determination to be calculated through the LWRF. The Board recognizes, in response to an information request, that YEC stated:

> To be clear, absent new model analysis, there is no basis to estimate what the actual thermal generation would have been with only the forecast load.
>
> Further, additional analysis to have LWRF determinations based only on the forecast load was not considered or discussed during the proceeding. In any event, it would appear that such an approach would result in YEC (and AEY in the case of ERA impacts) bearing water related thermal generation cost changes that are associated with changes in loads from the approved forecast which would not comply with the above directions in paragraphs 321 and 322 or be in accordance with normal principles established in Canada for utilities.[22]

The Board has concerns with this IR response from YEC given the Board's direction for YEC is to explain the method it will use to determine the variance in hydro generation due to water availability. In Directions 27 to 29, in paragraphs 321-323, YEC was

[22] YUB-YEC-1-14(b), PDF page 85.

directed to create a deferral account that records the variance between actual thermal generation fuel costs (based on volume only) and the GRA forecast thermal generation fuel costs (based on volume only) that are due to changes in water conditions. Paragraph 322 identified a primary difference between the deferral account identified in paragraph 321 and the DCF proposed by YEC in its GRA. The Board-directed deferral account is based on the difference between forecast and actual rather than modelled amounts. Paragraph 323 provided further directions regarding the deferral account and the DCF term sheet.

It should be noted that YEC's assertion that LWRF determinations based only on the forecast load was not considered or discussed during the proceeding is in error. The LWRF and its calculations based on forecast load was a live issue in YEC's GRA proceeding.[23]As demonstrated by YEC's statements in this section of the decision, it was YEC's submission that the utility bore the risks with costs associated with incremental loads. YEC put forth that it was at risk with respect to costs associated with incremental load and affirmed that:

> YEC believes that the proposed DCF provides a consistent and reasonable basis to separate thermal cost variance due to water and wind availability (to be borne by ratepayers) from thermal cost variance due to changes in total grid generation load (to be borne by the utilities).[24]

The onus is on YEC to correctly and practically determine what actual thermal generation would have been with only the forecast load given the Board's direction for YEC to adjust for variances between the approved forecast for hydro generation and thermal generation fuel costs due to changes in water conditions.

In its compliance filing, YEC did not separate the impacts of incremental loads on hydro generation and thermal generation forecast levels and for the above reasons, the Board has determined that YEC's LWRF, its calculations and its associated term sheet are not compliant with the directions of Board Order 2018-10 and are not approved. Accordingly, YEC is directed to revise its LWRF in accordance with the Board's findings in this decision, in a second compliance filing with the Board.

2.2.4 Other matters

In Direction 7, the Board stated:

> Given the above-noted advantages and disadvantages of LTA and ST hydro generation forecasts, the Board finds that, for purposes of this proceeding, it will not use the ST forecast for forecasting levels of hydro electric generation and thermal generation nor direct its use for future GRAs. In determining the revenue requirements for these and future test years, the Board is focusing on the

[23] See YUB-YEC-2-1, PDF pages 254-255
[24] AEY-YEC-2-1, PDF pages 6-7.

> reasonableness of the forecasts and forecasting accuracy. Further, the onus is on YEC to adequately explain any variance between actual results and its forecast amounts. For these reasons, the Board directs YEC in future GRA filings to show actual hydro and thermal generation results when comparing previous and forecast test years.

In YUB-YEC-1-2, YEC responded to this direction:

> This forecast is aligned with the following key findings of the Board regarding 2018 test year forecasts, as outlined in Appendix A to Order 2018-10.
>
> - **The short term (ST) forecast should <u>not</u> be used for forecasting levels of hydroelectric generation and thermal generation for the 2017/18 GRA proceeding or for future GRAs (para 77).** Therefore, a long-term average approach to forecasting for the 2018 hydro and thermal generation needs to be used.

On plain reading, YEC has not adequately complied with the Board direction and has not responded to the direction. Direction 7 does not state or imply that short-term forecasts should not be used for forecasting levels of hydro generation nor did the Board direct that the short-term forecast should not be used in future GRAs. If YEC were to propose the use of short-term forecasts for hydro generation and thermal generation that would be considered by the Board in a future application.

Rather, the Board said that a LTA approach to forecast for the 2018 hydro and thermal generation needs to be used for the purposes of the GRA. The Board also stated: "In determining the revenue requirements for these and future test years, the Board is focusing on the reasonableness of the forecasts and forecasting accuracy. Further, the onus is on YEC to adequately explain any variance between actual results and its forecast amounts."

The Board does not require a further response to this direction in the second compliance filing to the 2017-18 GRA. However, YEC should take into consideration the comments of the Board with respect to the accuracy of YEC forecasts in future GRAs.