Yukon Energy Corporation ("YEC")
Part 2 of YEC's Energy Reconciliation Adjustment ("ERA") Application
2017 and Forward and YECSIM Model

Round 2 Information Requests from the City of Whitehorse ("CW") to
Yukon Energy Corporation ("YEC")
March 14, 2018

CW-YEC-01

Issue: 2017 Actual Results

Reference: ERA Two Part Filing, page 2-3

Preamble: On page 2-3, YEC states:

> **Revenue requirements:** Fuel and purchase power costs forecast of $2.381 million and $2.407 million in 2017 and 2018 respectively, including approval to assume that LTA thermal generation requirements (separate from thermal generation maintenance activity requirements) are supplied with a combination of 90% LNG and 10% diesel generation.

CW requires information to understand the requested costs.

Request:

(a) Please provide a detailed analysis in Excel format that compares forecast 2017 costs to actual 2017 costs. In the response, please explain all variances.

(b) Please provide a detailed analysis in Excel format of the 2017 actual thermal generation, compared to the LTA with an explanation of all variances.

(c) Please fully explain how the 2017 actual results would impact the 2018 forecast.

CW-YEC-02

Issue: Update to the DCF and LTA

Reference: ERA Two Part Filing, page 2-4

Preamble: On page 2-4, YEC states:

> **Update to the DCF and LTA:** Approval of Yukon Energy's Revised DCF Term Sheet provided in Attachment 3.4-1 of Appendix 3.4 of the GRA necessary for determination of annual expected LTA hydro and thermal generation requirements and fuel costs, including proposed updates to the DCF for the following:
>
> - Updated table for "Expected YEC Thermal; Generation with LTA YEC Hydro Generation" to reflect updated information on LTA wind and hydro generation (YEC and AEY); and
> - Updates for incorporating LNG fuel and generation facilities into DCF cost determinations.
>
> Appendix 3.4 of the GRA also provided updates on the following:
>
> - Potential Thermal Generation Variability (GW.h/yr) Depending on Water Conditions (35 years) – Range of Grid Loads from 380 to 450 GW.h/yr (Attachment 3.4.2);
> - Information on YECSIM Model (Attachment 3.4.3); and
> - DCF Cap Option Assessment (Attachment 3.4.4).
>
> No proposal regarding the Rate Schedule 42 ERA was provided in the 2017-18 GRA application as the ERA was at that time the subject of an appeal to the Court from Board Order 2015-06. Yukon Energy noted that at such time as the Court's decision is provided, it would review the ERA and provide the Board with a filing on this matter. Subsequent to the Court of Appeal judgment in September 2017, and after receiving comments from parties in the GRA proceeding, the Board issued Order 2017-08 on October 18, 2017:
>
> - Part 1 of this ERA Application addresses the outstanding matters with regard to the ERA prior to 2017, including a proposed amended Rate Schedule 42 wholesale rate effective January 1, 2012; and
> - Appendix 2.2 of this ERA Application provides the short-term ("ST") hydro-electric alternative GRA forecast (the "ST Alternative GRA Forecast") for the test period as directed in Board Order 2017-08 so that this alternative can be included in the Part 2 assessments as directed by this same Board Order.

Request:

(a) Please confirm that the only changes to the GRA are discussed in the last to bullets of the referenced quote. If not confirmed, please fully explain all changes proposed for the GRA.

CW-YEC-03

Issue: Outcomes and Concerns

Reference: ERA Two Part Filing, page 2-5

Preamble: On page 2-5, YEC states:

> In summary, the Board in Order 2015-01 and Order 2015-06 confirmed the need for a mechanism that effectively protects ratepayers from thermal generation cost impacts caused by fluctuation of hydro generation due to water conditions or changes in wind conditions, the use of LTA hydro forecasts for the 2012-13 GRA, the need for and justification of the DCF as currently modified, and the use of the YECSIM model to determine the 2012-13 GRA LTA hydro forecasts and DCF Term Sheet table determinations. YEC's 2017-18 GRA reflected these prior Board decisions with the proposed LTA hydro forecasts and updated DCF mechanisms based on the updated YECSIM model.

Request:

(a) Please provide references to the specific place/s in Board Orders 2015-01 and 2015-06 or the Appendices thereto where the Board required the specific solution recommended by YEC.

(b) Please confirm that the proposed DCF term sheet, using the LTA only recovers actual out of pocket costs of YEC, and does not in any way contribute to additional earnings of YEC. If not confirmed, please provide a detailed analysis of all incremental earnings.

CW-YEC-04

Issue: Risks

Reference: ERA Two Part Filing, page 2-13

Preamble: On page 2-13, YEC states:

> Considerable separate risk is related to water conditions, i.e., there is the potential material risk that water conditions will deteriorate, and very little possibility that water conditions could be better than assumed in the ST forecast for the 2017-18 GRA.

Request:

(a) Please provide all analysis or research in support of the statement: "Considerable separate risk is related to water conditions."

CW-YEC-05

Issue: ST Forecasts

Reference: ERA Two Part Filing, page A2.2-2

Preamble: On page A2.2-2, YEC states that the ST forecast was not prepared for the purpose of setting GRA revenue requirement.

Request:

(a) Please fully explain the purpose of the ST forecast, and what it is used for.

CW-YEC-06

Issue: YECSIM MODEL

Reference: ERA Two Part Filing, page 2.4-1

Preamble: On page 2.4-1, YEC states:

> 1) **Constraints -** In the case of YECSIM, constraints are related to the physical state of the system, such as maximum and minimum lake elevations, storage elevation curves of the lakes, and physical characteristics of power generation plants. Constraints are also related to environmental requirements such as, for example, minimum fish flows and meeting the electricity load.

Request:

(a) Please provide list of all constraints considered in the development of the model. In the response, please fully discuss each constraint, including the limiting factors for each constraint, the maximum or minimum value for each constraint, and any operating policy limits that may be different than the physical limit. As an example, discuss whether YEC has an operating policy for minimum reservoir levels that may be different than the physical limit, which may be different than the engineering design limit.

(b) Please fully discuss how the YECSIM model accounts for any systematic biases in data and models arising from using an LTA that may occur as a result of things such as climate change. As an example, if climate change is impacting weather, and water levels, how has the YECSIM model been designed to account for such biases?

CW-YEC-07

Issue: Risks

Reference: Table A2.1-1

Preamble: In Table A2.1-1, YEC discusses the allocation of traditional sharing of regulatory risk for diesel generation.

Request:

(a) Please fully discuss each risk, and how the allocation of risk may have changed as a result of Part 2 of this application.

(b) Please fully discuss each risk, and how the total level of risk may have changed as a result of Part 2 of this application.

CW-YEC-08

Issue: Portable Diesel Generators

Reference:

Preamble: The City of Whitehorse is aware of four trailers that appear to house diesel turbines. The City of Whitehorse also is aware of external fuel tanks. Late last fall, the City of Whitehorse received notification from YEC that due to water levels at Mayo dam, that Secondary Power sales were immediately ended, including the system at the City's multiplex which has secondary power system controlled by YEC's SCADA system. The City of Whitehorse requires information to assess the facilities.

Request:

(a) Please provide a full explanation of the facilities referred to in the preamble. In the response, please provide references to the initial approvals for the facilities and any updates to the facilities. In the response please indicate if the facilities are permanent or temporary, and discuss the long term strategy for the facilities.

(b) Please provide a full analysis of the use of the generation from the facilities for 2014, 2015, 2016, 2017 and forecast for 2018. In the response, please indicate the portion of the supply from these facilities used to supply communities and customers north of Whitehorse, such as Stewart, Pelly and Dawson as well as the City of Whitehorse, in arriving at total generation.