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IN THE MATTER OF THE YUKON ENERGY CORPORATION 2023-2024 GENERAL RATE APPLICATION

Heard before the

YUKON UTILITIES BOARD

March 4 - 7, 2024

REPLY ARGUMENT OF JOHN MAISSAN

Reply Argument

In the preparation of this Reply Argument the transcript was referenced in footnotes by volume, date, page, and line numbers. Exhibits, including the YEC GRA Application, interrogatory responses, and other documents are also referenced in footnotes. The Yukon Utilities Board is referred to as "the Board" or the YUB. Yukon Energy Corporation's (YEC) General Rate Application (GRA) is referred to as the Application.

General comments on Final Arguments

I believe that the issues that I raised in my Final Argument have been thoroughly presented and supported with evidence from the record and I stand by them.

Other intervenors have made Final Arguments on particular subjects that are of interest of or concern to them. While I am not necessarily in full agreement with everything they say, I can understand and respect their perspectives, and I find no necessity to comment on their positions in this Reply Argument.

In this Reply Argument I address a few matters in YEC's Final Argument, that I think merit some additional comments. I will address these issues in the order in which they appear in their Final Argument.

FTE Complement Increase, PDF page 17

The third bullet under the opening paragraph of this section "Strategic importance of improving First Nation and public engagement, relationships and communications" is cited as one of the factors driving the justification for additional FTEs. I believe that YEC should be required to document the new initiatives targeting First Nations and the public that have been undertaken in the test years in their next GRA.

Recommendation: That the Board requires YEC to document the new initiatives targeting (1) First Nations and (2) the public during 2023 and 2024, and subsequent non-test years, in the next GRA.

Rent vs. buy diesels for capacity

In Final Argument YEC defends their decision to rent diesel generators for the 2023-2024 and 2024-2025 winters as being the only feasible short-term option available. This may well be true. However, given that two key firm capacity supply projects that YEC had been counting on following the 2017-2018 GRA, notably the Moon Lake pumped hydro storage project and the Atlin Hydro expansion project, are now not progressing for the foreseeable future, it is time for YEC to get on with other firm capacity options.

In YEC's Argument it is acknowledged that they are using the only known rental option available to them and that this equipment is below their purchase standard[1]. As outlined in my final Argument[2] there are other factors that must be considered seriously including increased reliability (presumably obviating the need for the rental of "spare units"), environmental cleanliness (reduced emissions), and lower maintenance costs with lower RPM units. The 15-year analyses carried out by YEC for the 5 MW of new capacity in Faro showed an advantage in the levelized cost of capacity (LCOC) for rental units of only 4.7%.

Given the uncertainty of supply of the rental units I believe that the time has come for YEC to forge ahead with a permanent new diesel-thermal generating supply plant of about 20 MW. YEC cautions that it takes time to prudently plan such a new project[3]. However, YEC has spent a considerable amount of time studying and planning the thermal replacements in Whitehorse, Faro, and Dawson City as revealed in responses to JM-YEC-1-4[4] and YUB-YEC-1-65(a)[5]. Planning a new diesel-thermal plant should simply build on the work done and costs expended on the aforementioned plants to shorten the timeline and reduce costs. Similar or identical modularized units of 2.5 MW or 3.25 MW used in these locations should be the basis of a new plant. Alternatively, if available, a longer block engine (e.g., 16 cylinder instead of 12 cylinder) but otherwise similar to these should be sourced without repeating any lengthy and costly study processes. We do not need to repeat the study process that went into the third LNG/gas generator process that took a year and cost in the order of $50,000 only to conclude that a third unit the same as the first two would make most sense.

Outsourcing a complete installation through doing "doing business in a better way" process based on YEC's diesel replacement standards should be the only other option seriously considered.

Recommendation: That the Board strongly encourage YEC to develop a new YEC owned or procured diesel generation installation of about 20 MW capacity. The generators should be identical to or compatible with YEC's recently procured generators.

<u>IPP deferral account</u>

YEC's Final Argument with respect to the IPP Deferral Account[6] articulates the very issues with which I expressed concerns in my Final Argument[7]. In particular on PDF page 65 in 3.c. YEC states "*Although the IPP generation in the test years are predominantly in the summer months when no thermal displacement benefits are expected…*". This broad generalization about the timing of IPP SOP solar generation in an undefined "summer

[1] Yukon Energy Final Argument PDF page 24.
[2] Final Argument of John Maissan PDF pages 10-11.
[3] Yukon Energy Final Argument PDF page 21.
[4] Exhibit 2 page 11.
[5] Exhibit 2 page 521.
[6] Yukon Energy Final Argument PDF pages 64-66.
[7] Final Argument of John Maissan Section 4 PDF pages 3-4.

months" period displays a limited acknowledgement of what solar power does and is capable of. And this statement is simply wrong with respect to the wind IPP as wind energy is predominantly available in the winter months.

In my Final Argument I raised three matters which are very relevant to this issue. First is the fact that the blended thermal cost calculations using a 90% LNG and 10% diesel mix underestimate the cost savings from IPP and Micro-Generation[8]. The actual mix is substantially higher in diesel percentage and any displacement even if charged to capital or RFID represents savings to consumers.

The second is the need for modelling that is appropriate to energy that has a diurnal (daily) cycle[9]. The YECSIM model with its weekly timestep cannot accurately model solar energy benefits to the grid because it is only available during daylight hours when electrical loads are higher and contributes nothing during the night when electrical loads are at their lowest. It is time for either YECSIM to be updated to accommodate the characteristics of solar energy that are very different from hydro, or for another model to be run in conjunction with YECSIM.

And third is the issue that there are a number of costs that YEC incurs with respect to their thermal generation that ratepayers pay for, and which are obviously not included in the (unrealistic 90:10) blended fuel cost[10] that is paid to IPPs as per OIC 2019/25. These costs include insurance, RFID charges, capitalized costs, production costs, and others that represent savings to ratepayers because ratepayers pay for these on YEC's thermal generation, but ratepayers do not pay these costs on IPP generation as they are not in IPP contract prices. And ratepayers do not get credited for such cost savings when transfers are made to the LWRF as per OIC 2021-/16. YEC

I acknowledge that the IPP SOP program (and perhaps the Micro-Generation Program) should be modified to better suit our energy supply needs. My Final Argument addresses that topic. However, I remain very concerned that some of the potential charges to the IPP Deferral account may be overstated or unjustified. Thus, I repeat the recommendation from my Final Argument.

Recommendation: That the Board approve the proposed IPP Purchase Cost Deferral Account to capture the differences between forecast and actual commercial in-service dates and actual vs. forecast energy production volumes only.

Recommendation: That the Board recommend to the Yukon government that it updates the IPP SOP program and the Micro-Generation program to reflect the needs of the power grid and to update all applicable OICs to reflect such changes including the replacing the blended fuel mix with actual full marginal costs of thermal generation.

[8] Final Argument of John Maissan Section 5 PDF page 4.
[9] Final Argument of John Maissan Section 6 PDF pages 4-5.
[10] Final Argument of John Maissan Section 7 PDF pages 5-8.

Recommendation: That at the next GRA YEC provide the Board with information on the full marginal cost of thermal generation, and that the actual marginal cost of all thermal generation experienced on the grid, with the exception or regular run-ups, be approved by the Board instead of the unrealistic 90% LNG – 10% diesel blend.

Respectfully submitted,

John Maissan
April 2, 2024