

## **YUKON ENERGY REBUTTAL EVIDENCE**

### **1.0 INTRODUCTION**

On September 10, 2021 the City of Whitehorse (CW) filed Intervenor Evidence by Mr. Russ Bell (the "CW Evidence") with the Yukon Utilities Board (YUB or the Board). The CW Evidence addressed three issues:

- Diesel Generation Rentals
- Normalization of Sales
- Brushing Costs

On September 9, 2021 Nathaniel Yee (NY) filed Intervenor Evidence (the "NY Evidence") regarding diesel rentals and related issues at the Faro facility.

Yukon Energy Corporation (YEC or Yukon Energy) is submitting this rebuttal evidence in response to the CW Evidence and the NY Evidence.

### **2.0 CW EVIDENCE RE: DIESEL GENERATION RENTALS**

#### **2.1 CW EVIDENCE**

On the matter of diesel generation rentals in the 2021 GRA, Mr. Bell concludes as follows in the CW Evidence (A11 at page 7):

"YEC has not provided adequate evidence that rental is the most cost-effective option to provide safe and reliable service over the life of the assets. It has relied on superficial and possibly dated evidence.

"Absent a proper business case, I recommend that the costs of diesel rental not be allowed in revenue requirement.

"I am recommending that the YUB not include the rental costs in rates, as YEC has not provided adequate evidence that it has selected the least cost alternative. Should the YUB agree with me, that would not relieve YEC from its obligation to provide safe and reliable service. Whether or not certain costs are in rates does not relieve the utility from maintaining service quality."

Aside from reference and review of YEC's responses to CW-YEC-1-17 and CW-YEC-2-6, Mr. Bell's evidence in support of his conclusion and recommendation in summary includes the following:

- Assertion that "There was adequate time since 2017 to prepare a detailed business case and implement a more cost-effective solution....one must ask why, after rental was commenced, YEC did not actually conduct a more detailed assessment of other options that may be more permanent." (A7 at page 5)
- Conclusion that a business case in this case should provide at least two scenarios and possibly three (base case with rentals, scenario of purchasing the rented assets, and possibly the option of constructing and owning a larger generating station), with cost estimates of each scenario for the life of the assets in the longest scenario and a robust discussion of risks and feasibility of each option. (A8 at page 6)

- An estimate that the annual revenue requirement for rentals at \$3.834 million would support a capital expenditure of approximately \$50 million. (A9 at page 7)

## **2.2 YEC REBUTTAL**

Mr. Bell's evidence on diesel rentals provides no reasonable basis for the Board to consider a recommendation to disallow any of the costs of diesel rentals for the 2021 revenue requirement.

In summary, this conclusion is based on the following:

- The need for this dependable capacity is accepted by Mr. Bell;
- No option is indicated by Mr. Bell to be available to meet this need in 2021 other than rented diesels; and
- No evidence is provided by Mr. Bell to suggest that the forecast costs for the required diesel rentals are imprudent or unreasonable.

Each of the above points is elaborated on below.

### **Need for the 2021 Dependable Capacity**

The CW Evidence does not challenge YEC's need to provide the required thermal generating capacity of 30.6 MW of diesel rentals (17 units, including two spares, at 1.8 MW per unit) as set out in the 2021 GRA – in fact, the CW Evidence describes YEC's obligation to provide safe and reliable service by ensuring that this capacity is connected and available as required, even if the YUB disallowed its costs be included in rates.

This need to address a dependable capacity shortfall gap was recently confirmed by the Board in its Report on the BESS Project where the Board found "...that a large capacity shortfall will exist until YEC connects additional supply options" and that "Currently and into the future, unless a permanent thermal option is pursued, YEC will need to continue relying on rented diesel units to address the capacity shortfall."<sup>1</sup>

### **No option other than Rented Diesels to Provide this 2021 Dependable Capacity**

Mr. Bell offers no evidence that any realistic option other than rented diesels exists to supply this required capacity for the 2021 test year. He mentions a possible option to construct and own a larger generating station – which would imply a station larger than the 20 MW diesel plant option that YEC had identified in its 2016 Resource Plan and rejected by October 2019 after further detailed review, public engagement and assessment of other permanent generation options.<sup>2</sup> His evidence does not assert (or provide any basis for suggesting) that such a plant could realistically have been in service to meet 2021 test year requirements.

Contrary to Mr. Bell's assertions, the evidence confirms that YEC has conducted several detailed assessments of more permanent options since diesel rentals were first installed for the 2017/18 winter – including YEC's recent 10 Year Renewable Electricity Plan completed in 2020 and its earlier more detailed assessment of the 20 MW new diesel plant option. The 10 Year Renewable Electricity Plan includes diesel displacement options at existing diesel plants, renewable capacity alternatives such as BESS, and

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<sup>1</sup> YUB Report to Yukon Minister of Justice on YEC Application for Energy Project Certificate and Energy Operation Certificate Regarding the Proposed Battery Energy Storage System (BESS) Project, June 30, 2021.

<sup>2</sup> See response to CW-YEC-2-6 (a) and (b).

dependable hydro capacity provided by the Atlin Hydro Expansion project and the Tutshi-Moon Lake Pumped Storage project.<sup>3</sup>

The evidence from these investigations confirms that rented diesels are the only feasible option to address the dependable capacity gap for the 2021 test year, i.e., even the 20 MW diesel plant option (which YEC has rejected at this time based on its assessments, and which would have been inadequate for the current capacity requirement) could not have been completed and commissioned in time to meet 2021 test year requirements.

YEC has also provided business case cost comparisons for new permanent dependable capacity project options (including permanent YEC owned diesels) versus rented diesels. These costs confirm that diesel rental costs are reasonable in comparison with permanent diesel costs when these can be installed.<sup>4</sup> As evidenced by the 10-Year Renewable Electricity Plan, YEC is actively pursuing a range of permanent dependable capacity options to remove the need for reliance on rented diesels as soon as this can reasonably be achieved within an effective long-term resource development plan.

Mr. Bell also suggests, without any analysis, a need to examine the option of YEC purchasing the assets it is renting. YEC has indicated that it has no plans to purchase these units and is not aware of the vendor offering these units for sale. During the recent YUB hearing on the BESS Project YEC confirmed to the Board that it would not consider rented diesels as an option for permanent YEC owned diesels.<sup>5</sup> Overall, rented diesels are being adopted as an effective option to facilitate transition to preferred permanent YEC owned long-term options – and YEC is not aware, within this context, of any reasonable basis for considering its purchase of these units.

### **No evidence that Diesel Rental Costs Imprudent**

Mr. Bell does not provide any evidence that the forecast 2021 test year diesel rental costs are imprudent or unreasonable.

The only option that Mr. Bell asserts should be examined to confirm cost competitiveness is YEC ownership of the rented units. No evidence is provided that this option merits serious consideration – or that it would offer any potential cost savings. More importantly, stating that this option should be considered provides absolutely no basis for Mr. Bell's recommendation that the costs of diesel rental in their entirety not be allowed.

In summary, the CW Evidence on diesel rentals provides no assistance to the Board and Mr. Bell's recommendation on this matter should be rejected by the Board.

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<sup>3</sup> Ibid. These investigations were detailed in the response, with reference to CW-YEC-1-36(a) Attachment 1 copy of the YEC 10-Year Renewable Electricity Plan completed during 2020.

<sup>4</sup> Ibid. Diesel rental costs are indicated at \$162.4/kW for winter 2021/22 for 27 MW (15 units for N-1 requirements), versus an LCOC (2022\$) of \$211/kW for 20 year life and \$243/kW for a 40 year life. A 12.5MW YEC owned diesel plant option LCOC (2022\$) with a 40 year life is estimated at \$186/kW without property tax (Takhini site) and \$212/kW with property tax (Whitehorse site).

<sup>5</sup> Mr. Hall and Mr. Mollard outlined why rented diesels would not be suitable for long-term purchase and ownership relative to purchase of new units specifically selected for YEC utility operation (see BESS hearing transcript, (pages 232.13 to 233.10).

## **3.0 CW EVIDENCE RE: NORMALIZATION OF SALES**

### **3.1 CW EVIDENCE**

Mr. Bell recommends for the next GRA that YEC be directed to investigate the use of a simple linear regression to normalize retail sales and use per customer, and to forecast use per customer. (A15 at page 9) Mr. Bell says the benefit of a normal use per customer is that YEC would readily identify trends and reduce the regulatory burden of a rate application.

### **3.2 YEC REBUTTAL**

YEC explained in CW-YEC-2-1(a) that the “retail sales” (i.e., residential, commercial, and other non-industrial and non-wholesale sales) referenced by Mr. Bell are in seven separate communities that in total account for only 10% of 2021 forecast firm YEC energy sales. These retail sales are separate from YEC’s wholesale sales to AEY to service its residential, commercial, and other retail sales in Whitehorse and other YIS communities.

Mr. Bell’s recommendation assumes that linear regression to normalize retail sales and use per customer is worthwhile regardless of community size and importance within YEC’s overall energy sales forecast on the YIS. YEC is aware of the extra work required to implement the recommendation, and has not seen evidence that it would reduce regulatory burden of a rate application.

YEC currently uses multiple regression analyses to normalize sales for its wholesales forecast, based on the size and importance of these sales within the YIS (~70% of 2021 sales forecast). The industrial sales class representing about 20% of 2021 sales forecast is primarily process loads that are driven by volumes of materials handled (i.e. ore) as opposed to weather. YEC’s remaining non-industrial retail sales (residential, commercial and streetlights) is about 10% of the total load forecast and is divided into 7 different load centres or communities. Historically, these sales categories are fairly stable, with year over year variances in the area of 3-5%. Based on this relative stability and the small percentage of total sales represented, separate weather normalization analysis for each of these separate community’s retail sales by customer class has not been considered to be a worthwhile exercise nor is there any significant reductions in net regulatory burden to the process.

## **4.0 CW EVIDENCE RE: BRUSHING COSTS**

### **4.1 CW EVIDENCE**

Mr. Bell recommends “...that the YUB provide clear direction to YEC that it is to adhere to its brushing strategy and not allocate funds away from one function unless there is explicit evidence that such an allocation would not increase the risk of tree strikes.”

Mr. Bell stated concern is that YEC’s 2019 Distribution Brushing costs were much lower than the 2018 forecast, the 2018 actual and the 2020 forecast due to prioritizing the transmission (vs distribution) brushing for the TRL project. He states that there is no reference to any analysis of the distribution system that would indicate that a reduction in distribution brushing would be warranted – and “that it is more important to avoid tree strikes, resulting in outages or fires, than to save a few dollars.”

## **4.2 YEC REBUTTAL**

There is no merit or assistance to the Board in Mr. Bell's focus on the one year distribution brushing cost reduction in 2019. YEC is not managing its returns with this item; the decision to allocate resources between distribution and transmission projects is based on the priority in that year and the availability of external brushing contractors. Overall brushing costs in 2019 were slightly higher than in 2018. Further, YEC has the ability to dispatch internal resources in the communities to address specific distribution brushing issues (i.e., danger trees) on an as-needed basis.

The response to CW-YEC-2-7 shows material changes in distribution brushing costs allocated to each community during each year from 2016 through 2019, i.e., distribution brushing work is not carried out on a sustained annual basis in each community.

YEC is committed to its brushing strategy, subject to ongoing updates as required, in order to address and manage the risks related to tree strikes.

## **5.0 NY EVIDENCE RE: FARO DIESEL RENTALS**

### **5.1 NY EVIDENCE**

NY makes the following three statements in his evidence:

- "1) Counting only legally permitted generation facilities, YEC has failed meet N-1 requirements and has a shortfall of 2.95MW..."
- 2) YEC has violated YESAA in the 2020 installation of seven rental generators in the Faro facility...
- 3) The Faro rental diesel project accounted for \$4.025 million of the \$10.971 million revenue shortfall cited in the GRA. This is 37% of the revenue shortfall."

The second point appears to be a carryover of the IR process including Mr. Yee's September 7, 2021 Round 2 Motion for Further Disclosure where he stated in part:

"If YEC's failure to answer the motion and the specific questions presented in the IR process is to be interpreted as Yukon Energy's admission that they knowingly disregarded the regulator and YESAA and lacked legal authority to install the rental generators in Faro, then the letter from their legal representative is sufficient."

### **5.2 YEC REBUTTAL**

In response YEC notes that Mr. Yee is incorrect on all three points:

- As documented in the evidence YEC had sufficient dependable capacity installed on the system to meet its N-1 requirements in the winter of 2020/21.
- Further, YEC did not violate YESAA nor did it disregard the regulator by installing rental diesels in its Faro facility. It specifically engaged with Yukon Environment to determine what if anything was required to increase Faro's production capacity to 15.5 MW, and based on that information it filed a YESAA project proposal.

- Finally, the Faro rental diesel project does not account for \$4.025 million of the \$10.971 million revenue shortfall in the GRA – its actual impact approximates \$2 million.<sup>6</sup>

A summary of the timeline regarding Faro diesel rentals is provided below.

The Faro diesel rental initiative originated in response to a new system peak that was reached in January 2020 requiring YEC to acquire more dependable generation to meet the N-1 requirements.<sup>7</sup> Once this was determined – in February 2020 YEC planned for additional generation (rental diesels) to be installed at Faro. YEC began consultations with stakeholders early in 2020 and initiated discussions with its rental vendor to obtain an additional seven diesel rentals for Faro so that they would be available in time for winter 2020/21.<sup>8</sup> YEC also engaged in discussions with its regulator Yukon Environment to determine what if any amendment was required to its Air Emission Permit. Ultimately Yukon Environment confirmed that the Faro facility's permitted production capacity was 10.6 MW.<sup>9</sup> This meant that an Air Emission Permit Amendment application was required to increase Faro's production capacity from 10.6 MW to 15.5 MW.<sup>10</sup>

The infrastructure changes needed to the Faro facility were completed and seven diesel rental units were connected in the fall of 2020. For a number of reasons, including the fact that consultations were not yet completed, the YESAA project proposal to increase Faro's permitted production capacity from 10.6 MW to 15.5 MW was not filed until the summer of 2021.

Throughout the time frame before that project proposal was submitted and before the amendment is granted (including during the 2020/21 winter) four points need emphasizing:

1. For the additional N-1 dependable capacity requirements arising from the January 2020 peak – YEC needed to have connected (i.e., ready to operate) by winter 2020/21 the rental diesels located at Faro.
2. The permitted production capacity for Faro for normal operations was 10.6 MW.
3. Until the amendment is granted YEC had and continues to have the capability to operate diesels in Faro beyond 10.6 MW (in the unlikely event that YEC required more capacity from Faro beyond 10.6 MW to meet an N-1 peak load in the coldest part of winter because of an unexpected loss of

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<sup>6</sup> Tab 1 of YEC's Application confirms that 2021 costs of \$3.834 million for rental of the 17 diesel units at Whitehorse (10 units) and Faro (7 units) together account for 28% of the forecast 2021 revenue requirement shortfall; YUB-YEC-2-1(c) indicates that Faro rental costs are higher per unit than Whitehorse diesel rental costs (about \$1.9 million for all seven units). Diesel infrastructure costs were incurred at both Whitehorse and Faro and (contrary to NY Evidence) are a capital cost to be amortized over the expected life, with comparatively minimal impacts on the overall 2021 revenue requirement, e.g., the \$2.446 million updated capital cost for Faro impact on the 2021 revenue requirement will approximate \$0.18 million.

<sup>7</sup> A new non-industrial peak demand of 97.6 MW was set on January 14, 2020. The previous non-industrial peak record was 90.5 MW. As a result of this record peak YEC was required to update its non-industrial peak forecasting demand model to account for updated information on the actual peak demand of the Yukon system during prolonged cold weather events. See YEC 10 Year Renewable Electricity Plan Technical Report, CW-YEC-1-36 Attachment 1, page 29-30.

<sup>8</sup> The GRA specifies that 15 diesel rental units (27 MW) are required to meet N-1 requirements in the test year: 9 of these units are at the Whitehorse facility (16.2 MW) and 6 of these units (10.8 MW) are at the Faro facility. One additional spare diesel rental unit (1.8 MW per unit) is at each facility to provide added reliability.

<sup>9</sup> Decision Bodies and their regulatory authorities periodically use information that was provided in previous YESAA assessments and decision documents when determining what proponent activities are permitted under an existing permit or authorization, and to assist in evaluating whether a material change is proposed in operations from what was previously favourably assessed, such that a fresh YESAA assessment and decision document may be needed. In this instance, YG Environment determined in 2020 that reinstallation of previously assessed and permitted site capacity to 10.6 MW was authorized under Yukon Energy's existing Air Emission Permit without the need for a further YESAA assessment and a new decision document.

<sup>10</sup> The GRA assumed 5.8 MW at Faro for FD1 and FD7 permanent diesel units; the amended permit will permit production capacity up to 15.5 MW, e.g., full use of the six rental units plus up to 4.7 MW of the permanent installed capacity or seven rental units and FD7.

the Aishihik facility) using the emergency exception set out in section 49 of YESAA. That section states that no assessment is required in “*response to an emergency when it is in the interest of public welfare, health or safety or of protecting property or the environment that the activity be undertaken immediately*”).<sup>11</sup>

4. If required to deal with an N-1 emergency event in winter 2021/22, the 17 rented diesels installed at Whitehorse and Faro will ensure that YEC has full capability to respond to the emergency as required.<sup>12</sup>

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<sup>11</sup> Although diesels were installed and available to meet such a potential emergency in winter 2020/21, no such event occurred, and the Faro facility operated within its currently permitted production capacity limit of 10.6 MW.

<sup>12</sup> YEC has permits today that authorize normal diesel unit operation of 14.0 MW at Whitehorse and 10.6 MW at Faro; YEC also has an explicit permit authorization for an added 12 MW diesel capacity operation at Whitehorse under emergency conditions. NY-YEC-1-6 REVISED provides the stacking order for the existing YEC thermal unit operation in conformance with existing permit requirements and emergency condition operation.