

UTILITIES CONSUMERS' GROUP
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November 28, 2017

Yukon Utilities Board
Box 31728
Whitehorse, Yukon Y1A 6L3

Attention: Mr. Robert Laking, Chair

**Re: Yukon Energy Corporation – Power Purchase Agreement with VGC Group
UCG Information Requests to YEC**

Dear Mr. Laking:

Pursuant to Board Order 2017-10 and as a party wishing to participate in this proceeding, the Utilities Consumers' Group (UCG) hereby accepts the YUB's granting of intervenor status. While the review timelines are tight, UCG has retained the services of Pat McMahon as a consultant for this proceeding given his past experience in YUB proceedings including reviews of previous power purchase agreements and the impacts that they can have on utility revenue requirements and cost recoveries through rates. UCG will be submitting a cost claim at the end of these proceedings in accordance with the YUB's Rules of Practice and Scale of Costs Policy.

Further to Board Order 2017-10, UCG hereby submits its information requests to Yukon Energy Corporation (YEC).

UCG asks that YEC provide responses and attachments in word-searchable PDF and/or Word format. Where responses take the form of tables, UCG asks that YEC provide the related Excel file (including underlying calculations) as well.

If the YUB or YEC requires any clarification with respect to UCG's IRs, please direct all inquiries to me by email at rondeau@northwestel.net or by phone at 633-5210.

Yours truly,

Roger Rondeau
Utilities Consumers' Group

**YUKON ENERGY CORPORATION
POWER PURCHASE AGREEMENT WITH VICTORIA GOLD AND STRATAGOLD**

**Utilities Consumers' Group
Information Request No. 1**

- 1) *Reference:* November 10, 2017 Application, page 1
YEC states that it is seeking an Order from the Yukon Utilities Board for required approvals related to the implementation of the proposed Power Purchase Agreement that YEC has recently concluded with the VGC Group.

Request:

- (a) Please confirm that YEC is asking the YUB to approve the proposed Power Purchase Agreement as well as customer contribution payments by VGC Group to YEC, an the initial Transmission Facilities Fixed Cost of \$118,621 per year, and the amendment process for the Transmission Facilities Fixed Cost after the Transmission Facilities Development Operation Date.
- (b) Please provide details of any other approvals being requested by YEC from the YUB or any other party.
- (c) Please confirm that YEC will be applying to the YUB for approval of any Transmission Facilities Fixed Cost charge before charging the VGC Group.

- 2) *Reference:* November 10, 2017 Application, page 1
YEC states that the VGC Group has successfully completed environmental and Yukon Water Board reviews and permitting for the Eagle Gold Project and that permitting for the mine assumed electricity supply from the YEC grid, with diesel generation of less than 5 MW on site for emergency and other use as required.

Request:

- (a) Please provide a copy of those parts of VGC Group's permit applications and related materials related to the assumed electricity supply from the YEC grid.
- (b) Please provide decisions and orders related to the VGC Group environmental, Yukon Water Board and other permitting reviews. Please highlight those areas of the decisions and orders that refer to issues related to the supply of electricity.

- 3) *Reference:* November 10, 2017 Application, page 1
YEC states "*VGC Group completed \$40 million of site civil works in 2017, and site construction is currently targeted to resume by Q2 2018 with earliest potential operation of the Mine in Q2 2019. Mine operation based on existing reserves is forecast for ten 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*".

Request:

- (a) Please confirm whether any of the civil work completed in 2017 was related to connections to the electricity grid and/or on-site back-up generation. If there was some related work, please provide details of these expenditures by VGC and any costs incurred to date by YEC.

- (b) Please confirm whether facilities being installed to supply the VGC Group operations will allow VGC to provide surplus electricity from their on-site generation back into the electricity grid.
 - (c) Please provide an explanation of the risks to other firm ratepayers of the VGC Group operations being connected to the grid.
 - (d) Please provide specific details of when the VGC Group operations will qualify them to be considered an industrial customer (i.e., when after the initiation of the March 2019 commissioning activities will VGC Group's operations be ramped up to industrial customer levels and when is it expected to decline to below industrial customer levels). Please provide details of the timeline and expected load of the VGC Group.
 - (e) Please explain what rates will be charged to the VGC Group operations before it qualifies for the industrial rate.
 - (f) Please confirm that the annual slowdown in Eagle Gold Mine's operations in December, January and February will see its demand for electricity drop to about half of its summer needs (from 10 MW to 5 MW) and that the mine's operations will still meet the load threshold of a major industrial customer during these months.
 - (g) Please provide details of all customer and stakeholder consultations conducted by Yukon Energy Corporation during development of the proposed Power Purchase Agreement and this application prior to submitting it to the YUB.
 - (h) Please confirm how and when the leadership / owners of YEC approved the proposed Power Purchase Agreement and Application as provided to the YUB. Please identify the dates on which these approvals were provided.
- 4) *Reference:* November 10, 2017 Application, page 1
YEC states in the footnote that OIC 1995/90 defines a major industrial customer as “a customer engaged in manufacturing, processing or mining, whose demand for electricity exceeds 1 MW, but it does not include an isolated industrial customer”.

Request:

Please provide an explanation of what is meant by “isolated industrial customer” and why the VGC Group mine would not be classified as isolated. Please provide documentation which supports YEC's interpretation of the regulation.

- 5) *Reference:* November 14, 2017 YEC Announcement
<http://yukonenergy.ca/about-us/news-events/yukon-energy-and-victoria-gold-sign-power-purchase-agreement>

YEC's web site announcement indicates that if the YUB approves the proposed Power Purchase Agreement, sales to the VGC Group operations would contribute \$100 million or more in additional revenues to YEC over the expected 10 year mine life, that this new revenue will benefit all Yukon electricity consumers and will result in a 1-2 percent reduction in rates for other electricity customers.

Request:

- (a) Please provide details of the anticipated additional annual revenues from the VGC Group from initiation of service and over the expected 10 year life of the mine, the associated costs of providing the required electricity, the net revenue benefit, and how and in what year rates will be lowered for all other Yukon ratepayers.
- (b) Please provide details of the costs to be paid by the VGC Group related to system improvements that will benefit all on-grid Yukon communities.

(c) Please provide details of and documentation related to the First Nation of Na-Cho Nyak Dun's support for both the Eagle Gold Mine and an upgrade to the Stewart to Keno City transmission line. Please provide an update on the project agreement with the First Nation of Na-Cho Nyak Dun for the proposed transmission line.

- 6) *Reference:* August 15, 2017, Whitehorse Star, Power for Mines is Plentiful
YEC's president Andrew Hall is quoted in this article saying that providing grid power to both the Eagle Gold Project and Alexco Resource Corp.'s silver operation in Keno City won't be an issue.

Reference: November 14, 2017 YEC Announcement

<http://yukonenergy.ca/about-us/news-events/yukon-energy-and-victoria-gold-sign-power-purchase-agreement>

In its announcement, YEC states that the Victoria Gold mine will connect initially to the existing Stewart to Keno City transmission line which YEC states can meet the majority of Victoria Gold's power needs for the first one to two years of its operation. However, YEC goes on to say that the existing line is at end of life and must be replaced as soon as possible and that YEC is continuing to work with the Yukon Development Corporation and the Yukon government to secure funding for a new transmission line.

Request:

- (a) Please explain how YEC's president can be confident that supplying electricity from the grid to these mining operations will not be an issue.
(b) Is the ability to supply these mines with electricity based on the assumption that a new transmission line will be built and the mines will have on-site generation as well?

- 7) *Reference:* YEC 2017-2018 GRA, Response to UCG-YEC-1-23(g)
LNG will be used in future when feasible to displace higher fuel cost diesel generation that would otherwise be required to meet grid loads (including industrial/ mine loads). A material share of any new loads at this time will be supplied by existing LTA hydro generation resources (see Table 3.4-1 in the GRA Application, which indicates the share of new load [in 5 GWh increments] to be supplied by LTA thermal generation with existing hydro resources as loads increase from current GRA forecasts [about 420 GWh/year] up to 485 GWh/year). The 2016 Resource Plan identifies various resource projects that are being examined to enhance hydro and other renewable generation availability within the next decade.

Request:

- (a) Please explain where the load of the proposed VGC Group operations will place YEC's generation mix as detailed on Table 3.4-1 in YEC's 2017-2018 GRA.
(b) Please provide details of how much of the required thermal generation will be LNG-based.
(c) Please provide details of the LNG-related plant and operations costs that are being driven by the proposed VGC Group operations.

- 8) *Reference:* November 10, 2017 Application, page 2
 YEC states that it has “completed environmental review and permitting for the McQuesten Substation, as an element of the successfully completed Stewart Keno City Transmission Line Project (“SKTP”) environmental review and permitting”.

Request:

- (a) Please provide a copy of those parts of YEC’s environmental review and permitting applications and related material related to the McQuesten Substation.
 - (b) Please explain any differences in the assumed design / operation of the McQuesten Substation from the time YEC included it in the Stewart Keno City Transmission project until the current proposed use for the VGC Group project.
 - (c) Please provide decisions and orders related to the YEC environmental review and permitting reviews. Please highlight those areas of the decisions and orders that refer to issues related to the McQuesten Substation.
- 9) *Reference:* November 10, 2017 Application, pages 2 and 18 and PPA Schedule 2
 YEC states that the VGC Group is responsible for all capital costs related to the McQuesten Substation development including actual final “YEC Owners Costs” which are estimated at \$483,240 (Table B-1). YEC states in a footnote that the PPA provides for VGC Group to recover from YEC the incremental fees, costs and expenses associated with the McQuesten Substation, as initially developed, being able to operate at 138 kV voltage which appear to be currently estimated at \$930,563 (Table B-2).

Request:

- (a) Please identify any of the estimated “YEC Owners Costs” in Table B-1 which are currently recovered in rates as part of YEC’s revenue requirement.
 - (b) Please provide amounts and explanations of costs associated with the McQuesten Substation that the VGC Group would be entitled to recover from YEC.
 - (c) Please identify any of the estimated “YEC McQuesten Station Costs” in Table B-2 which are currently recovered in rates as part of YEC’s revenue requirement.
 - (d) Please provide a single table showing details of all capital-related costs (including costs already incurred for permitting, etc.) associated with providing electricity to the VGC Group mine. Please identify costs that will be recovered from the VGC Group, costs to be recovered from other Yukon ratepayers, and costs to be recovered from other sources such as YDC.
 - (e) Please explain why the VGC Group is only responsible for a portion of the required upgrade costs.
 - (f) Please explain when and how YEC will recover the \$930,563 of McQuesten Station costs.
 - (g) Please explain how YEC will recover the costs of any new transmission facilities needed as a result of the addition of the VGC Group’s operations.
- 10) *Reference:* November 10, 2017 Application, page 2
 YEC states that the proposed Power Purchase Agreement provides two options for securing the required Transmission Facilities Development: (1) Subject to federal and Yukon government funding being confirmed by September 30, 2018, YEC plans to proceed with the SKTP that would include Transmission Facilities Development to provide 138 kV Transmission Facilities by March 31, 2021 connecting the McQuesten Substation

with a substation at Stewart Crossing; or (2) If such external funding cannot be committed by September 30, 2018, YEC will seek approval for plans to provide the required Transmission Facilities Development by June 30, 2020 with new 138 kV Transmission Facilities connecting Mayo and the McQuesten Substation, to be operated at 69 kV until such time as 138 kV operation becomes feasible, i.e., a 138 kV line is developed to connect Mayo with Stewart Crossing.

Request:

- (a) Please provide details of the total costs of the required Transmission Facilities Development (\$90.96 million) and how much of this project needs to be funded by government in order to make the development economically feasible.
- (b) Please provide details of the requests for funding that YEC has submitted to various levels of government.
- (c) If no or limited government funding is available, please provide details on the costs that YEC would incur to provide the required Transmission Facilities Development by June 30, 2020 and how these costs would be recovered. If some or all of these costs are recovered from Yukon ratepayers, please provide details of the bill impacts to residential and commercial customers.
- (d) Please provide details of the approvals that YEC will seek for plans to provide the required Transmission Facilities Development.

- 11) *Reference:* November 10, 2017 Application, page 4
YEC states that by 2019 its LNG generation capacity will be increased to approximately 13 MW with completion of the LNG Third Engine project.

Request:

- (a) Please confirm that no approvals have been issued by the YUB to allow YEC to recover any costs of the proposed \$6.2 million LNG Third Engine project from Yukon ratepayers.
- (b) Please explain how the economic feasibility of the provision of electricity to the VGC Group mine is impacted by the LNG Third Engine project.

- 12) *Reference:* November 10, 2017 Application, page 5
YEC states that Minto mine load (purchases) for 2017 and 2018 were forecast at 38.2 GWh/year and that it was noted in YEC's 2017-2018 GRA that the Minto mine is currently expected to operate through to at least 2020. YEC concludes that, based on past information, the mine might continue operation until approximately 2022.

Request:

- (a) Please provide an update on how much load the Minto mine has had / will have in 2017 and 2018.
- (b) Please provide documentation that confirms the claim in YEC's 2017-2018 GRA that the Minto mine was expected to operate through to at least 2020.
- (c) Please provide documentation that confirms that the Minto mine might continue operation until approximately 2022.

- 13) *Reference:* November 10, 2017 Application, page 6
 YEC states that the last cost of service analysis for Yukon, which was developed jointly by YEC and YECL for the 2009 GRA test year, indicated that major industrial customers were paying rates considerably in excess of allocated costs of service determined in accordance with OIC 1995/090 (including treating the whole Yukon as a single rate zone) and in accordance with normal regulatory principles applicable to similar regulated electricity utilities in Canada. YEC goes on to state in a footnote that the Compliance Filing by YEC and YECL in February 2011 included an updated cost of service estimate for 2009 indicating a revenue/cost ratio for the Industrial customer class of 111.4% per the Application and 113.7% per Order 2010-13. Board Order 2011-05 stated that the Board did not accept the cost of service as filed by YEC and YECL and “that the revenue-to-cost ratios derived from the application are without merit”.

Request:

- (a) Please confirm that, at this point, there is no cost of service-based evidence that has been accepted by the YUB that proves that the industrial customers served by YEC are currently paying more than the current costs to serve them.
 - (b) Please confirm that the only way to determine the revenue-to-cost ratio for the industrial class of customer served by YEC is to conduct a fully allocated cost of service analysis.
 - (c) Please provide evidence that YEC is prohibited in any way from conducting a fully allocated cost of service analysis.
- 14) *Reference:* November 10, 2017 Application, page 8
 YEC states that it is pursuing the SKTP at this time to improve the electrical transmission infrastructure in central Yukon between Stewart Crossing and Keno City; reinforce and strengthen the grid between Stewart Crossing and Mayo; and replace and remove deteriorated and ‘end of life’ transmission infrastructure between Mayo and Keno City. The project is being planned to ensure continued safe and reliable service and to facilitate future economic development within the territory.

Request:

- (a) Please confirm that the urgency of pursuing the Stewart Keno City Transmission project at this time is based on the proposed VGC Group mine’s operations.
 - (b) Please provide details of when the SKTP project would be brought to the YUB for approval without the proposed mine development.
- 15) *Reference:* November 10, 2017 Application, page 15
 YEC states that allocating 85% of annual costs of the Mayo-Keno Transmission Facilities to the industrial customer is considered reasonable based on similar treatment of Faro Mine which was based on a NEB 1985 NCPC Report finding.

Request:

- (a) Please provide a copy of the 1985 analysis that determined that 85% is a fair allocation and explain if there were any differences in circumstances between those that existed in 1985 and those that exist now with respect to industrial customers.

- (b) Please provide any analysis completed by YEC since the 1985 NCPC report that confirms that the current and proposed mining operations in the Yukon should be considered responsible for the same 85% level of costs.
- (c) Please explain how a customer group using 99% of the capacity of a facility only be responsible for paying 85% of the cost.
- (d) Has YEC allocated the costs of any transmission facilities in a manner different than has been proposed for the VGC Group proposal?

- 16) *Reference:* November 10, 2017 Application, page 17
YEC has provided the VGC Group's power demand, consumption and related YEC generation for the initial 6 years of operation. A note to the table indicates that system losses are estimated at 8.8%.

Request:

- (a) Please provide the calculation to support system losses of 8.8%.
- (b) Please explain and provide calculations why system losses would not improve with the new transmission and substation facilities.

- 17) *Reference:* November 10, 2017 Application, page 23
In Table 3 (YEC LTA Thermal Generation Costs and Net Revenue Impact –VCG Group Mine), YEC indicates that the thermal share of the increased generation required for the VGC Group mine load is approximately 72% in 2020, 75% in 2021 and 65% in 2025.

Request:

- (a) Please explain why YEC would not require the VCG Group to pay an equitable share of the new thermal costs as indicated in Table 3.
- (b) Please explain why YEC would not require Alexco or any other industrial customer wanting to connect / reconnect to the grid to pay their fair share of increased thermal generation costs.

- 18) *Reference:* November 10, 2017 Application, Appendix
The proposed Power Purchase Agreement submitted to the YUB was executed on November 9, 2017 by YEC and November 10, 2017 by Victoria Gold and StrataGold.

Request:

- (a) Please provide an electronic copy of the proposed Power Purchase Agreement (Appendix to the Application) which is fully searchable and accessible.
- (b) Please confirm whether all or parts of the proposed Power Purchase Agreement will be effective prior to it being approved by the YUB.
- (c) If YEC assumes that the proposed Power Purchase Agreement will be effective prior to YUB approval, please explain how and under what legislative authority the YUB's approvals related to the proposed Power Purchase Agreement can be retroactive.
- (d) Since other mines have discontinued their industrial power load within a few years of hooking up to the Yukon electricity grid, after considerable expense to the utility and thus other ratepayers, please explain how YEC will protect ratepayers from future risk from the VGC mine not staying connected for the anticipated 10 years or not requiring the anticipated electricity as forecast.

- (e) Please explain whether YEC has considered implementing a take-or-pay charge, a penalty clause or any other upfront contingency payment from the VGC Group to be held in reserve on a declining basis in case there is an early reduction in or closure of mine operations. If not, please explain why not.
- (f) Please explain the similarities and differences between the proposed Power Purchase Agreement with the VGC Group and the power purchase agreements that have been approved by the YUB for the Alexco and Minto mines.

- 19) *Reference: November 10, 2017 Application, page 3*
The PPA provides for VGC Group to pay the Firm Mine Rate as approved by the Board from time to time, including a Fixed Charge that is adjusted on an ongoing basis to equal 85% of the Transmission Facilities Fixed Cost as approved by the Board from time to time to reflect changes in YEC rate base costs for the Transmission Facilities.

Reference: November 10, 2017 Application, Appendix
“Transmission Facilities” means the Mayo to McQuesten Substation segment of YEC’s 69 kV Mayo to Keno City transmission facilities located north of Mayo, Yukon Territory, or any Transmission Facilities Development.

“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.

Prior to the Transmission Facilities Development Operation Date, the Transmission Facilities Fixed Cost used to determine the Fixed Charge is \$118,621, or any amended amount approved by the YUB from time to time.

Request:

- (a) Please provide a detailed breakdown of the costs to be recovered by the Fixed Charge and the calculation of the initial fixed charge.
- (b) Please provide details of the calculation and justification of the 85% adjustment factor to be used to determine the Fixed Charge related to the specific facilities to be used to supply electricity to the VGC Group mine after the initial charge is determined.
- (c) Please explain the “commercially reasonable efforts” to be used by YEC to secure required YUB approvals related to Fixed Charge amounts, including amounts related to the VGC Group Share or the Transmission Facilities Fixed Cost.

- 20) *Reference: November 10, 2017 Application, Appendix, Section 5.2*

Request:

Please explain why the VGC Group needs to supply YEC with its annual demand and energy requirements 8 months prior to calendar year end.

- 21) *Reference: November 10, 2017 Application, Appendix, Section 6.1(a)*

Request:

- (a) Please provide details of all costs incurred to negotiate and conclude the proposed Power Purchase Agreement.

- (b) Please provide details of the invoices related to these costs that YEC has submitted to the VGC Group to date and how much has been paid to date.
- (c) Please confirm what costs still need to be finalized before the VGC Group can be billed for all costs related to the proposed Power Purchase Agreement.

22) *Reference:* November 10, 2017 Application, Appendix, Section 6.1(b)

Request:

- (a) Please provide details of all costs incurred to date and going forward related to system improvements.
- (b) Please provide details of the invoices related to these costs that YEC has submitted to the VGC Group to date and how much has been paid to date.

23) *Reference:* November 10, 2017 Application, Appendix, Section 6.1(c) and (d)

Request:

- (a) Please provide details of all costs incurred to date and going forward related to the McQuesten Substation.
- (b) Please provide details of the invoices related to these costs that YEC has submitted to the VGC Group to date and how much has been paid to date.

24) *Reference:* November 10, 2017 Application, Appendix, Section 8.1

Request:

- (a) Please explain why YEC is installing more than one revenue meter at the Point of Delivery.
- (b) Please explain how revenue meters having one hour integrating intervals will allow YEC to bill the VGC Group for electricity demand averaged over a rolling 15 minute period (per definition 1.1(k)).

25) *Reference:* November 10, 2017 Application, Appendix
Table C-2 describes YEC's estimated capital costs for initial system improvements.

Request:

Please identify which of the identified capital projects have been reviewed and approved by the YUB. Provide details of these reviews and approvals.