

**Yukon Energy Corporation
2012-13 General Rate Application**

**Yukon Utilities Board (YUB) Information Request Round 1 to
Yukon Energy Corporation (YEC)**

YUB-YEC-1

Reference: General Rate Application (Application), page 2

Issue/Sub-Issue: 2011 Resource planning

Quote: Specifically, the 2006 Resource Plan used a long-term growth forecast of 1.85%/year, while 2011 resource planning forecasts use a 2.26%/year growth forecast.

Preamble: The Yukon Utilities Board (Board) requires further clarity regarding the 2011 resource planning forecasts.

Request:

- (a) Please confirm whether the 2011 resource planning forecasts are included in YEC's 2012-13 GRA.
- (b) If the answer to part (a) is not confirmed, then please provide the 2011 resource planning forecast.

YUB-YEC-2

Reference: Application, page 3

Issue/Sub-Issue: Industrial growth

Quote: Industrial connected growth continues to be material – but industrial load growth to date also continues to bring higher revenues that tend to more than offset any related incremental costs.

Request:

- (a) Please provide a schedule that demonstrates that revenues for incremental industrial load exceed incremental costs.
- (b) Please provide similar schedules showing incremental revenues and incremental costs for all remaining rate classes.

YUB-YEC-3

Reference: Application, page 3

Issue/Sub-Issue: Hydro generation variability

Quote: To mitigate the impact of incorporating full long-term average diesel costs into rates, the Application provides for diesel generation costs in the test years based on annual hydro generation forecasts slightly higher than forecast annual long-term average (with the result that forecast diesel generation is still less than long-term average).

Request:

- (a) By mitigating the rate impacts, what is the effect of the impact on the economic and pricing signals to customers in the test years rather than the incorporation of forecast annual long-term averages? Please explain.

YUB-YEC-4

Reference: Application, page 3

Issue/Sub-Issue: Mayo Hydro Enhancement Project (“Mayo B”)

Request:

(a) Please provide a table with the following information:

- Rated capacity of Mayo hydro (Mayo A) before the Mayo Hydro Enhancement Project (Mayo B).
- Average operating output of Mayo A (average or normal water flow years) before Mayo B.
- Rated capacity of Mayo B, not including Mayo A.
- Expected average operating output of Mayo B (average or normal water flow years), not including Mayo A.
- Rated capacity of the entire Mayo hydro plant, both Mayo A and Mayo B.
- Expected average operating output of the entire Mayo hydro plant (average or normal water flow years), both Mayo A and Mayo B.

YUB-YEC-5

Reference: Application, page 4

Issue/Sub-Issue: Aishihik third turbine

Quote: Completed and in service December 2011 at a net cost to ratepayers of \$8.8 million after \$5 million of third-party contributions.

Request:

- (a) Please provide the original cost estimates for this project.
- (b) Please list any scope and cost changes to this project since the original cost estimates were provided.

YUB-YEC-6

Reference: Application, page 6

Issue/Sub-Issue: Faro dewatering account funds

Quote: Approval to apply \$0.398 million of the remaining Faro Dewatering Account deferred regulatory liability amounts (related to earlier “de-watering sales” to the Faro mine site) against the current outstanding balance in the Yukon Energy Reserve for Injuries and Damages.

Request:

- (a) Please explain the rationale for the application of these funds against the current outstanding balance in the Yukon Energy Reserve for Injuries and Damages.
- (b) Please identify what alternatives were considered and why the proposed application of these funds against the current outstanding balance in the Yukon Energy Reserve for Injuries and Damages was chosen over other alternatives.

YUB-YEC-7

Reference: Application, pages 2-2 to 2-17

Issue/Sub-Issue: Electric heat, system sales, and generation

Quote: Since the 2008-09 GRA, ongoing events have demonstrated the depletion of surplus hydro generation and increasing relevance of diesel generation. As compared to the 0.95 GW.h diesel generation forecast for 2009 in the approved 2009 Compliance Filing, actual diesel generation exceeded 2.6 GW.h in 2009, 4.28 GW.h in 2010 and 10.55 GW.h in 2011 (excluding diesel requirements related to capital projects and hydro generation plant construction activities). Secondary sales have been interrupted on a sustained basis since September 2010 (except for temporary resumption in September 2011 due to high water in Aishihik Lake), and as a result of this sustained interruption a number of secondary sales customers have converted to primary supply for their electric heating loads. With new major legacy assets in service by the end of 2011, the majority of grid generation requirements in the test years (over 97%) will continue to be met with hydraulic generation based on annual long-term average hydro generation capability. However, as reviewed in Tab 1 (Section 1.3) forecast diesel generation included in this GRA is considerably higher than the levels approved in the 2009 GRA and the Application marks a major transition in forecast annual long-term average baseload diesel generation needed to meet grid load growth. Anticipated continuing load growth beyond the test years is expected to result in continued material increases in diesel generation requirements, driving the need to secure new lower cost sources of supply by 2015 to displace continued increases in baseload diesel requirements.

Preamble: The Board would like additional information regarding electric heat.

Request:

- (a) Are there alternative demand-side management (DSM) initiatives that the secondary sales customers who converted to primary supply for their electric heating loads could take advantage of?
- (b) Would these alternative means be viable as “new lower costs sources of supply”? Please explain.
- (c) Assuming that heating loads would peak in winter at a time when hydro capability is at a minimum, is the subject of electric heat appropriately addressed under the purview of DSM? Please explain.
- (d) Can YEC provide an estimate as to what percentage of the integrated grid load is electric heating load?
- (e) Regarding Table 2.1 on page 2-17, please explain the increase in lighting load for 2009 compared to other years in the table.
- (f) Has any customer given advance notice that it is electing to take service under Rate Schedule 39?
- (g) With respect to YEC’s proposed audit pilot program, please provide the rationale and reasons for instituting such a program, including the related costs and the benefits to Yukon electric

utility ratepayers. Are the costs to be paid by ratepayers in general or to be paid for by customers who agree to be audited?

- (h) Over a year, on average, how many GW.h of wind power is available to the integrated system?
- (i) What is the rationale underlying footnote 26 on page 2-12 where YEC notes the use of 66% (for 2012) and 59% (for 2013) of long-term average diesel generation requirements instead of 100% of annual long-term average hydro generation levels were included in rates? In your response, please indicate why another amount, e.g. 40% or 80%, would not be supported.
- (j) Please provide the basis for increasing forecast fuel prices by approximately 9 to 14 cents/litre as detailed on page 2-13.
- (k) Please explain how peak demand is determined and measured on the integrated system.
- (l) Please explain the statement on page 2-16: “the 25 km line L172 between Takhini and Whitehorse being appropriately reinforced.” Please indicate whether this line is owned and operated by YEC. If it is owned by YEC, please explain the rationale, timing, and particulars of the line being reinforced. If it is not owned and operated by YEC, please explain the details of the line reinforcement and who owns and operates this line.
- (m) In the Application on page 2-14, YEC submitted that the results of a review by Doctors Billinton and Karki are being internally reviewed and assessed. Has YEC completed its internal review? If so, what are the results of YEC’s review? If not, when does YEC expect to complete its internal review and assessment?

YUB-YEC-8

Reference: Tab 3 Revenue Requirement
Issue/Sub-Issue: Consultants

Request:

- (a) Please provide a table showing the amount YEC has spent and forecasts to spend on consultants for the years 2009 to 2012 inclusive. Within the table, provide a breakdown for each year based on the categories of Capital, Operation and Maintenance, Administration and General, and Regulatory, listing the individual and the organization that provided the service. Provide reference to any specific schedules containing these costs included in the Application.
- (b) For those individuals and organizations listed in part (a), for those instances where the costs exceed \$50,000 in a given year, please provide the terms of reference of the consulting engagement, the related project, and the achieved results.

YUB-YEC-9

Reference: Application, page 3-2
Issue/Sub-Issue: Forecast fuel and purchase power costs
Quote: These increases reflect higher loads, adjusted fuel prices (small increase), and provisions for diesel being required based on a percentage of long-term average hydro generation.

Request:

- (a) Please provide a cost breakdown of the increase based on higher load, adjusted fuel prices, and provisions for diesel being required based on a percentage of long-term average hydro generation.
- (b) Please provide what forecast fuel prices would be if the assumptions and calculations used were those that existed before the proposed changes to the Diesel Contingency Fund (DCF) and the changed definition of “diesel on the margin”.

YUB-YEC-10

Reference:

Application, Section 3.2

Issue/Sub-Issue:

Fuel and purchased power

Quote:

Fuel and Purchased Power costs as set out in Table 3.2 for 2012 and 2013 test years increase to \$2.203 million and \$3.113 million respectively (from \$0.497 million in 2009 approved), reflecting higher loads, adjusted fuel prices and provisions for diesel being required based on annual long-term average hydro generation. Due to low water conditions and non-activation of the DCF, fuel costs in 2011 were material, at levels higher than the 2012 forecast and comparable to the 2013 forecast.

...

Diesel generation in late 2010 and early 2011 reflected below average water conditions and non-activation of the DCF.

...

Due to reduced surplus hydro generation caused by material increases in load, diesel is forecast in the test years to be on the margin at annual long-term average hydro generation levels.

...

However, these test year forecasts are adopted to address the transition to annual long-term average levels and potential future use of LNG at a materially lower cost than diesel and are consequently lower in each year than the levels that would be required assuming annual long-term average hydro generation.

Request:

- (a) Please explain how non-activation of the DCF contributed to diesel generation in late 2010 and early 2011.
- (b) Please explain what is meant by “diesel is forecast in the test years to be on the margin” — i.e. is diesel on the margin a majority of the time?
- (c) In terms of length of time and as it relates to the DCF, please explain what is meant by “long-term average hydro generation levels”.
- (d) Have changes respecting the length of time used to calculate long-term average generation levels remained the same over the period when the DCF was, and was not, in use up to the current test years?

YUB-YEC-11

Reference: Application, page 3-5

Issue/Sub-Issue: Forecast fuel costs

Quote: However, these test year forecasts are adopted to address the transition to annual long-term average levels and potential future use of LNG at a materially lower cost than diesel, and are consequently lower in each year than the levels that would be required assuming annual long-term average hydro generation.

Request:

- (a) Please provide a net present value (NPV) analysis that supports YEC's proposed "future use of LNG at a materially lower cost than diesel." Is it YEC's intention to use LNG generation to complement diesel generation during the test years?
- (b) In respect of the integrated system, please provide a list of all generating units and their respective efficiencies.

YUB-YEC-12

Reference: Application, page 3-5

Issue/Sub-Issue: Forecast fuel costs

Quote: However, these test year forecasts are adopted to address the transition to annual long-term average levels and potential future use of LNG at a materially lower cost than diesel, and are consequently lower in each year than the levels that would be required assuming annual long-term average hydro generation.

Request:

- (a) Please explain why a transition to annual long-term average levels is required.
- (b) Please comment on the likelihood of using LNG instead of diesel during the test period.
- (c) If the use of LNG is likely, then please explain how fuel costs will be adjusted to reflect that use.

YUB-YEC-13

Reference: Application, page 3-6

Issue/Sub-Issue: Employee complement history

Quote: Full Time Equivalent (FTE) positions are forecast to increase by 12.26 FTEs in 2013 compared to 2009 approved with most of the increase in 2010 (7.38 FTEs). The average annual increase in salaries per FTE is 4.3% from 2009 approved to 2013 forecast.

Request:

- (a) What duties performed by employees in the additional FTE complement were previously performed by consultants or contractors?
- (b) What are the incremental costs of bringing on the additional FTEs to complete these duties compared to utilizing contractors or consultants?

- (c) Of the new employees represented by the additional FTE complement, how many are currently performing new roles or duties not previously performed by contractors or consultants?
- (d) What are these new duties/roles? Please explain why these new duties and roles are required.
- (e) How does the average annual increase in salaries per FTE compare to CPI increases for the Yukon?
- (f) How many FTE complements were allocated to the Yukon Development Corporation (YDC)?
- (g) Please provide an organizational chart of all positions in YEC and indicate whether any of the positions are shared with other organizations such as YDC.

YUB-YEC-14

Reference: Application, page 3-6

Issue/Sub-Issue: Labour costs

Quote: Table 3.3 Non-Fuel Operating and Maintenance Expenses

Request:

- (a) Are the costs for contractors and consultants included in the labour expense category?
- (b) Please explain the increase in labour costs for the 2009 actual from the labour costs provided in the 2009 GRA compliance.
- (c) Please provide a breakdown of the increases in labour costs as shown in Table 3.3 between step increases, negotiated settlements, and new positions.
- (d) Does YEC employ a variable pay program (VPP) (bonus)?
- (e) If the answer to part (d) is affirmative, please provide a breakdown of total labour costs between base salary and VPP.
- (f) If YEC does employ a VPP, please provide the criteria that must be met in order for employees to qualify for the VPP.

YUB-YEC-15

Reference: Application, page 3-7

Issue/Sub-Issue: Production costs

Quote: Table 3.5 Production Costs

Request:

- (a) Please explain the increase in wind costs from 2011 to 2012.
- (b) Please explain the volatility in Operation Supervision costs for the years included in Table 3.5.
- (c) Please explain the increase in Diesel costs in 2011.
- (d) Please explain the increases in Hydro costs for the years included in Table 3.5.

YUB-YEC-16

Reference: Application, page 3-7
Issue/Sub-Issue: Production labour costs
Quote: Table 3.5 Production Costs

Request:

- (a) Please provide the reason(s) for actual labour production costs being 28% higher than approved labour production costs in 2009.
- (b) Please explain the reasons for the approximately 56% increase in forecast labour costs in 2012 over 2009.

YUB-YEC-17

Reference: Application, page 3-8
Issue/Sub-Issue: Transmission costs
Quote: Table 3.6 Transmission Costs

Request:

- (a) Please explain how the completion of the Carmacks-Stewart Transmission Project (CSTP) Stage 2 and the connection of the Mayo-Dawson and Whitehorse-Aishihik-Faro grids causes higher transmission costs.
- (b) Please explain the increased costs for brushing activities. Please explain how costs are related to the annual brushing plan. Are first-time brushing costs capitalized?
- (c) Please provide the costs for the brushing study.

YUB-YEC-18

Reference: Application, page 3-9
Issue/Sub-Issue: Transmission costs/Brushing Study costs
Quote: In 2012 Yukon Energy is field testing the recommendations (e.g., herbicide treatments) prior to developing the formal policy. Costs for these activities are included in 2012 forecast amounts. The noted studies are provided in Tab 12, Appendix 12.1 and Appendix 12.2.

-and-

Additionally, the study also recommended investigating Integrated Vegetation Management (IVM) methods to reduce the long-term cost of brushing YEC's transmission network.

Request:

- (c) What are the third-party costs involved with the brushing studies and field testing?
- (d) How are these costs allocated among the three expense categories in Table 3.6?
- (e) Are any portions of the costs related to the brushing studies and field-testing also allocated to the Distribution Costs in Table 3.7?

- (f) Please explain how, and by what amount, the use of IVM methods will reduce transmission brushing costs.

YUB-YEC-19

Reference: Application, page 3-10
Issue/Sub-Issue: General operation and maintenance
Quote: Table 3.8

Request:

- (a) Please explain the labour increase in FYF for 2011 to the proposed numbers in 2012.
- (b) Please explain the 51% increase (2012 over 2009) in Maintenance of Company Owned Property and the rationale for this increase.
- (c) Please explain why costs for Maintenance of Company Owned Property were \$650,000 in 2011 compared to previous years. Given that the forecast test years are also lower than this amount, is the reason for higher costs for Maintenance of Company Owned Property in 2011 likely to recur, or was it a one-time occurrence?

YUB-YEC-20

Reference: Application, pages 3-11 and 3-12; and Table 3.9 Administration
Issue/Sub-Issue: Administration/Communications costs
Quote: Increased costs relate to implementation of an on-going public information campaign which accounts for approximately \$0.2 million of the total budget and \$0.05 million for upgrading YEC's website.

Request:

- (a) The Public information campaign is referred to as "on-going". Please confirm if the public information campaign is a recurring or one-time expense. Is the \$0.2 million allocated for the information campaign a permanent communications budget item going forward? Please explain the justification for why the public information campaign is necessary for YEC to provide utility service to the public.
- (b) Do any of the costs under the communication expense category overlap with the "information programs and advertising" costs that are accounted for under the new DSM administration expense category? If there is an overlap, please explain the overlap and supporting rationale for the overlap.
- (c) Please explain the increases in 2011 costs for the following categories and the effect of these increases on the forecast costs for the test years:
- i. Resource Planning;
 - ii. General;
 - iii. Board of Directors; and
 - iv. Regulatory Affairs.
- (d) On page 3-12 the increases for the General expense are provided. What is the basis for these increases?

- (e) Please explain the legislative authority(ies) for the inclusion of YEC's DSM policy in this Application.
- (f) Please explain how YEC's DSM policy provides service to the public.
- (g) As YEC has indicated that some of these expenses may not be directly attributed to a DSM program, if the Board were to deny DSM, would the administrative expenses related to DSM still be required to be included in YEC's 2012 and 2013 forecasts? Why or why not?
- (h) The proposed increases in administrative labour include several new positions. Will the hiring of a Manager, Resource Planning and a Resource Planning Engineer reduce consultant costs for YEC? Please provide the rationale and any supporting information.
- (i) Please provide the expected return to YEC due to the hiring of the Manager, Energy Conservation and Energy Conservation Administrator, in terms of MW.h of energy and MW of capacity to be saved by YEC through its energy conservation programs. Please provide the timeline of the expected savings.

YUB-YEC-21

Reference: Application, page 3-13

Issue/Sub-Issue: Manager of IT

Quote: Consequently, the Network Administrator was moved to a new position as Manager of IT.

Request:

- (a) Please describe in greater detail the difference between roles and responsibilities of the Manager of IT and the Network Administrator, and any overlap between these two positions.

YUB-YEC-22

Reference: Application, page 3-13

Issue/Sub-Issue: SQL/SharePoint Administrator

Quote: Yukon Energy was dependent on one database technician to run all critical systems (e.g., SharePoint, ERP, SCADA). This is not considered sufficient from a risk perspective – especially considering current and expected future operational requirements.

Request:

- (a) Please confirm that the rationale for adding an SQL/SharePoint Administrator is for risk purposes. Please describe the risks that Yukon Energy considers that are not acceptable under current and future operational requirements.
- (b) Is there a more cost-effective method of managing this risk? Please explain your response.
- (c) Please confirm that the roles and duties currently being completed by the SQL/SharePoint Administrator were previously completed by the “one database technician.”
- (d) How has adding an SQL/SharePoint Administrator affected the database technician's role and duties? How has the addition of the SQL/SharePoint Administrator affected

the database technician's workload? If the database technician's workload has decreased, by what percentage has the workload decreased?

YUB-YEC-23

Reference: Application, page 3-15
Issue/Sub-Issue: Administration/Backfill Controller

Quote: The former Controller moved to a new position focused on the implementation of the new financial system. A Backfill Controller is required as a backup to cover the Controller for the Enterprise System Conversion during the period when the new financial system is being implemented.

Request:

- (a) Did YEC examine whether it would have been more cost effective to hire a consultant or new employee to manage the implementation of the new financial system instead of moving the former Controller to this new position and hiring a Backfill Controller?
- (b) Please describe any change in the former Controller's compensation, or overlapping compensation between the former Controller and the Backfill Controller, due to the move to the new position.
- (c) Once the Enterprise System Conversion process is over, will both the former Controller and the Backfill Controller be retained? If so, in what capacity will each individual serve?
- (d) With the CSTP Stage 2, Mayo B and Aishihik third turbine projects substantially completed, and no other major projects identified in the test period, why is the Financial Administrator position required?

YUB-YEC-24

Reference: Application, page 3-22 – Footnote 16
Issue/Sub-Issue: Planning Activities

Quote: Further, the Board notes that YEC's obligation to serve does require it to plan the system to meet these expected loads and any other requirements that may arise.

Request:

- (a) Given the Board's findings in section 5.3.2.1 of Board Order 2009-8, what factors does YEC expect the Board to apply in reaching a determination on the deferred planning costs incurred by YEC for the current and future applications?

YUB-YEC-25

Reference: **Board Order 2009-8, Appendix A – Reasons for Decision (paragraphs 245 to 248)**

Issue/Sub-Issue: **Planning costs and Planning Cost Accounting Policy**

Quote: However, the Board finds intervenor comments regarding the lack of business cases for each of the individual projects and hence the absence of significant and material information to be justifiable.

...

Therefore, the Board directs YEC to keep written documentation of any and all deferred cost project review meetings that occur (e.g. agendas, materials presented for discussion, minutes, etc.) and have available for review for those items YEC wishes to include in its revenue requirement.

-and-

Further, with respect to each deferred project, YEC is to prepare a business case that highlights the project status and the underlying reasons for its status. Additionally, the progress of the various stages of the project development should highlight and explain significant variances respecting project costs that may occur and what steps might be employed, if any, to mitigate these variances. The business case with the progress updates is to be supplied at the time YEC requests to include any of the costs in its revenue requirement. Amounts in deferred costs are not to be included in rates without Board approval and will be subject to a prudency review.

Request:

- (a) For each deferred-cost item that YEC wishes to include in rate base in this Application, please provide the business cases for those items and explain how those business cases meet the directions given by the Board in Board Order 2009-8.
- (b) Please explain how the new Planning Cost Accounting Study incorporates all the directions given by the Board in Board Order 2009-8.

YUB-YEC-26

Reference: **Application, page 3-25**

Issue/Sub-Issue: **Cost of debt – Canada Flex Term Note/YDC Flexible Promissory Note**

Request:

- (a) Based on current forecasts, when would the Canada Flex Term Note be expected to expire?
- (b) Based on current forecasts, when would the YDC Flexible Promissory note be expected to expire?

YUB-YEC-27

Reference: Application, page 3-28

Issue/Sub-Issue: Rider F/ DCF

Quote: Based on proposed changes to the DCF whereby any secondary sales revenues after January 1, 2012 would be credited directly to the DCF (and thereby not affect Yukon Energy revenues or income), it is proposed that Rider F no long (sic) be affected by variations in the ongoing quarterly adjustments to the prices of secondary sales, i.e., any secondary sales revenues after January 1, 2012 would be credited to the DCF without any Rider F related adjustment or impact for price changes.

Request:

- (a) Please provide a numeric example of the before- and after-effect of the proposed change.
- (b) Would this change also require an amendment to YEC's existing Rider F? If yes, is YEC concurrently seeking approval to amend its Rider F policy?

YUB-YEC-28

Reference: Application, Appendix 3.1 Yukon Energy RFID Policy

Issue/Sub-Issue: Study on the Reserve for Injuries and Damages

Request:

- (a) Please provide the amount YEC paid for the Study on the reserve for injuries and damages.
- (b) Section 4.1 of Appendix 3.1 lists the criteria for Finance Policy FA-014. Please confirm whether all of these criteria would have to be met, or whether YEC considers that only one or more of the criteria would have to be met.
- (c) Please provide YEC's definition of "The incident was of significance to the operation of the unit."
- (d) Please provide a definition and examples of what YEC would consider to be "low probability, not normally expect to occur in a typical operating year".

YUB-YEC-29

Reference: Application, Appendix 3.2 Update to Diesel Contingency Fund (DCF)

Request:

- (a) Please explain why the proposed update to the DCF is required as part of the current Application.
- (b) Does the DCF have the potential to mask market signals to consumers? Is there a potential effect that consumers of electrical energy would not adjust consumption patterns based on price signals if the updates to the DCF were approved? Please explain your response.
- (c) What effect will the proposed update to DCF have on any potential DSM?

YUB-YEC-30

Reference:

Application, page 4-12

Issue/Sub-Issue:

Energy Reconciliation Adjustment (ERA)

Quote:

On this basis, charges to Yukon Electrical will be adjusted when changes in actual Yukon Electrical wholesale purchases (relative to Yukon Energy's most recent test year forecast for such purchases) result in changes to Yukon Energy costs incurred for diesel generation, whether such costs are incurred through adjustments in actual diesel generation or through adjustments in DCF payments or recoveries.

Request:

- (a) Has YEC consulted with and received buy-in from Yukon Electrical Company Ltd. (YECL) with respect to the DCF, the definition of diesel on the margin, and the ERA? Please provide details of any consultations with YECL.
- (b) Please provide a sample calculation with formulae intact showing how the ERA in Rate Schedule 42 works, including the calculations before the proposed change and after the proposed change.

YUB-YEC-31

Reference:

Application, page 5-1

Issue/Sub-Issue:

Capital spending

Quote:

Coordinated with these initiatives, Yukon Energy has also completed projects to enhance safety and reliability at the existing Mayo, Aishihik and Whitehorse hydro facilities.

Request:

- (a) For each of the projects referred to in the above quote, please provide the details of completed project safety and reliability measures compared to any current or proposed safety and reliability measures. If the proposed safety and reliability measures are not yet available, please provide YEC's best estimates of those measures.

YUB-YEC-32

Reference:

Application, section 5.2.1; An application by Yukon Energy Corporation for a review of its 20-year resource plan 2009-2025 - Board Recommendation, page 29; Board Order 2009-8, paragraph 193

Issue/Sub-Issue:

Aishihik third turbine

Preamble:

Estimated costs of the Aishihik third turbine \$7.0 million, 20-Year resource plan; \$8.5 million, Board Order 2009-8; \$13.8 million

Quote:

The Board also notes that until this Application, final costs and the final scope of the project were not known. The Board has concerns that the final costs of the project were materially greater than the high estimate that the Board had the last opportunity to review (during the Part 3 review process) and that this cost overrun (when compared to the estimates provided to the Board) in conjunction with the cost overruns of the Mayo-Dawson transmission project display a trend of underestimation by YEC. (Board Order 2009-8 Appendix A, Paragraph 193)

-and-

To alleviate existing concerns regarding YEC's ability to estimate, the Board directs YEC, in future, to file any Part 3 applications before this Board only when preliminary engineering estimates are available and included as part of the application. Further, in future GRA applications, the Board directs YEC to include business cases for major capital items, including electronic models. Business cases will include:

- descriptions of the project
- economic analysis including preliminary engineering estimates
- discussion of alternatives and how the chosen option was determined
- discussion of the risks of proceeding with the chosen alternative
- discussion of risks of not proceeding with the chosen alternative; and
- discussion of assumptions included in the business case including escalation factors, loading, financial measures, term of project and associated ancillary costs. (Board Order 2009-8 Appendix A, Paragraph 196)

Request:

- (a) Aishihik third turbine costs appear to be 97% above the originally estimated costs and 62% above the estimates provided in YEC's 2008-09 GRA. Please explain and reconcile the cost estimates provided in YEC's 2008-09 GRA with the costs provided in the current Application.
- (b) Given the directions in Board Order 2009-8, please explain what steps YEC has taken to address large variances in estimates for capital projects and cost overruns from application to application.
- (c) How does YEC propose that such variances in estimates or cost overruns be addressed in order to address the potential impacts to the utility and to customers — e.g. recovery of costs, rate shock? Please provide the business cases, including the information as directed in Board Order 2009-8, for all capital projects listed in the Application.
- (d) Please provide a copy of all written documentation of all project review meetings that have occurred (e.g. agendas, materials presented for discussion, minutes, etc.) for all of the capital projects included in the Application.

YUB-YEC-33

Reference: Application, page 5-3
Issue/Sub-Issue: Major projects required to ensure system safety and reliability
Quote: Mayo Hydro – Substation Enhancements, Mayo Head Gate Repairs

Request:

- (a) Please confirm if either of the two projects listed above were part of the original scope of the Mayo B project.
- (b) Please provide the original scoping document for the Mayo B project.

YUB-YEC-34

Reference: Application, page 5-8
Issue/Sub-Issue: Aishihik third turbine
Quote: In discussion with AECOM — after an in depth review of the bids — AECOM acknowledged they had significantly underestimated the costs of the Project, and the bids more accurately reflected the magnitude of the Aishihik Project costs.

Request:

- (a) Has YEC undertaken a review of how to prevent a recurrence of the difference of the bids and the project costs? If so, what was the result of YEC's review? What steps has YEC taken to avoid this situation occurring in the future? What recourse, if any, has YEC taken against AECOM for the underestimation of project costs?
- (b) Please provide the amount YEC compensated AECOM for estimating the costs of the Aishihik third turbine project.

YUB-YEC-35

Reference: Application, page 5-10
Issue/Sub-Issue: Mayo Hydro – Substation enhancements
Quote: The Mayo Substation at 50 years old was in need of major refurbishment and upgrades to continue operating in a safe and reliable manner.

-and-

Added to the requirement to refurbish the substation, many ongoing external changes on the Yukon grid required material re-investment be done to the Mayo substation to ensure that it is equipped and fully capable of addressing the fundamental changes to the grid system at this time including:

...

- Additional new industrial loads in 2010 (i.e. Alexco mine) and anticipated potential future loads.

Request:

- (a) Please explain whether the described Mayo B substation enhancements should have been undertaken in conjunction with either the Mayo B project or the CSTP Stage 2.
- (b) If this project is partially driven by new industrial loads, should there be customer contributions to partially offset the costs? Please explain.

YUB-YEC-36

Reference: **Application, pages 5-19 to 5-21**
Issue/Sub-Issue: **Enterprise System**

Request:

- (a) Footnote 32 on Page 5-19 notes that issues with the software configuration have prevented optimum functionality and system capabilities are minimally used. Please explain if the system has the capability but is not being used to in relation to that capability, or if there is another reason for the system not operating optimally. Since YEC has stated that the system is at its end of life, is this a result of the configuration of the software or is it related to staffing or training issues? Would all the ad hoc files and spreadsheets be eliminated by the new system?
- (b) Please provide the business cases provided in the 2008-09 GRA and the business case prepared for the current proceeding. Explain why the costs changed for the estimate of approximately \$1 million in the 2008-09 GRA to \$3,240,000 in 2010 with more work to be completed. In addition, provide a cost-benefit analysis showing the economic benefit of the enterprise system as proposed by YEC versus a continuation or update of the previous system.
- (c) Please provide a breakdown of costs for Roll-out #1 — software license, implementation (internal and external), training, customization and enhancements, and support (one-time and ongoing).
- (d) What is the scope and costs for the work remaining after Roll-out #1? What is the expected total cost of the enterprise system, including all costs after Roll-out #1?
- (e) Please provide the summary of the RFP responses with evaluation criteria and related scoring.
- (f) Since the RFP was issued to 11 vendors, please explain why there were only four software product proposals received?
- (g) Please provide the criteria, evaluation process and scores from the product demonstrations.
- (h) What is the relationship between Microsoft Dynamics and Wennsoft?
- (i) Please provide a breakdown of the costs for the selection process totalling \$300,000.

YUB-YEC-37

Reference:

Application, page 5-23

Issue/Sub-Issue:

Aishihik business improvements

Quote:

Include provision for icing studies and mitigation work to address the effects of Aishihik operation on infrastructure downstream.

Request:

- (a) What information does YEC hope to obtain by undertaking icing studies? How would the provision of icing studies be implemented?
- (b) Why is this study required for this capital project?
- (c) Is this item better suited as a deferred cost?

YUB-YEC-38

Reference:

Application, page 5-26 and Appendix 5.2

Issue/Sub-Issue:

Demand-side management (DSM) accounting policy

Quote:

The Application includes, as Appendices to this section for approval by the YUB, Yukon Energy's ... DSM Accounting Policy (Appendix 5.2) to address amortization of these costs for regulated revenue requirement purposes.

-and-

The purpose of this policy is to outline the accounting policy for costs incurred in relation to Demand Side Management (DSM) activities. DSM is defined as "options available to electric utilities to alter the volume and pattern of electricity end-use, so as to improve or increase the efficiency of electricity production and system performance". **This includes any improvements in Corporation "end use" such as insulation in its buildings**, but does not include Supply Side Enhancements that the Corporation does to improve efficiency of generation and transmission activities.

The intent of DSM programming is to implement programs or rate structures designed to influence electricity consumption patterns by reducing and/or shifting loads. The primary benefits of DSM for the Yukon were seen to be lower costs of providing electrical service and enhanced customer relations. [Emphasis added]

Request:

- (a) Please provide the impetus respecting YEC's proposed DSM finance policy, including corporate and regulatory considerations.
- (b) Please explain how "improvements in Corporation end use such as insulation in its buildings" will influence Yukon electric utility ratepayers to reduce and/or shift loads. Please explain how such improvements are to the benefit of Yukon electric utility consumers.

- (c) If YEC's proposed DSM accounting policy is approved, please explain how Interveners and the Board are to judge/examine future DSM program-related expenses, such as those alluded to in Section 2.2 of the proposed policy, as being prudent and/or include benefits to Yukon electric utility ratepayers.
- (d) As an expenditure item, how would an improvement, such as the addition of insulation in YEC's buildings, be treated under YEC's capitalization policy? Please explain and provide a copy of YEC's capitalization policy.
- (e) Please explain the underlying rationale of how an amortization period of 10 years was determined to be appropriate in respect of the DSM accounting policy.

YUB-YEC-39

Reference: Application, page 5-26 to 5-27 and Appendix 5.1

Issue/Sub-Issue: YEC Planning cost accounting policy (PCAP)

Quote: The Application includes, as Appendices to this section for approval by the YUB, Yukon Energy's Planning Cost Accounting Policy (Appendix 5.1) ... to address amortization of these costs for regulated revenue requirement purposes.

-and-

Due to the unprecedented levels of planning costs incurred since 2009, a new planning cost accounting policy (provided in Appendix 5.1 to Tab 5) is included in this Application to ensure that these costs are addressed and included in rates in a manner that moderates near-term rate impacts for ratepayers.

-and-

The purpose of this policy is to outline the accounting policy for costs incurred in relation to Planning activities.

...

Planning costs deferred without amortization must meet a "Reasonable Assurance Test":

- a. Future expenditures will not be recognized as work-in-progress assets until such time as there is reasonable assurance that a Corporation commitment to construction will be made. [original footnotes omitted]
- b. In the event a project is abandoned after this step, accrued costs will be amortized over 10 years.

Request:

- (a) Please provide the rationale and supporting reasons for proposing a planning cost accounting policy.
- (b) Please explain what is meant by the statement that YEC's proposed PCAP will ensure that "these costs ... are included in a manner that moderates near-term rate impact for ratepayers."
- (c) Please explain what is meant by the phrase "reasonable assurance test".

- (d) Please explain the reasons and rationale underlying the amortization period of 10 years for projects that have met the reasonable assurance test but are later abandoned. Please provide examples of past projects with descriptions and the reasons that the project was later abandoned.
- (e) Please explain the reasons and rationale underlying the amortization period of five years for major projects that do not meet YEC's reasonable assurance test. Please provide examples of such projects with descriptions and the reasons that the project did not meet the reasonable assurance test.
- (f) Please explain the reasons and rationale underlying the short carry-over period of approximately 12 months.
- (g) Please explain how the Board and Interveners are to examine future deferred costs that are included in YEC's proposed PCAP to ensure that the costs that were incurred, were prudent and to the benefit of customers.
- (h) How should it be determined whether an expenditure is prudent and to the benefit of ratepayers?
- (i) Please explain what is meant by "a major project" versus "a project".
- (j) Please provide capital expenditure continuity tables for YEC generation and feasibility study projects for the period 2007 to 2013. The tables are to include 2007 projects in addition to those listed in tables 5.2 to 5.7. Please use the attached Excel workbook that includes tabs for generation and feasibility study projects as a guideline.

YUB-YEC-40

Reference:

Application, Section 5.3, pages 5-26 and 5-27

Issue/Sub-Issue:

Major projects over \$1 million

Quote:

Yukon Energy must continue to plan to meet potential future loads (both expected near-term developments as well as over the longer term) in a cost effective manner that ensures continued reliable and low cost supply that is also environmentally responsible.

...

Progression through the planning process on each major deferred cost project has been carefully monitored and controlled by staged approvals for expenditures that apply to each project phase. In effect, each phase requires an approval to define the scope of work and the deliverable to be completed before progressing to the next stage.

...

Due to the unprecedented levels of planning costs incurred since 2009 a new planning cost accounting policy (provided in Appendix 5.1 to Tab 5) is included in this Application to ensure that these costs are addressed and included in rates in a manner that moderates near-term rate impacts for ratepayers.

Request:

- (a) Please explain what is meant by "environmentally responsible" and provide examples of such projects in the past and going forward.

(b) In Order 2009-8, the Board set out the following:

The evidence suggests that YEC has a review process in place wherein concerns are identified, tested and reviewed by YEC's Board of Directors. The Board considers that the review process itself should document more clearly what materials are actually reviewed and how decisions that affect the status of studies and projects are made. Therefore, the Board directs YEC to keep written documentation of any and all deferred cost project review meetings that occur (e.g. agendas, materials presented for discussion, minutes, etc.) and have available for review for those items YEC wishes to include in its revenue requirement.

In respect of each of the nine major deferred cost projects (excluding the 2012-13 GRA deferred costs), please provide documentation that indicates that each project has been carefully monitored and controlled by staged approvals for each project that apply to each project phase. Moreover, in general terms, please describe the project phases related to these major projects.

(c) Please explain what significant event(s) in the Yukon environment has given rise to the unprecedented levels of planning costs that YEC has incurred since 2009.

YUB-YEC-41

Reference: Application, Attachment 5.3 page 5.3-1

Issue/Sub-Issue: Mayo B Flexible Note / Interest costs

Quote: If the Maximum Interest Payable under this Note is a negative number, then YDC will pay to Yukon Energy the positive dollar amount of that number on or before March 31 of the next calendar year.

Request:

(a) Please confirm that YDC will pay YEC interest since forecasted grid loads for 2012 and 2013 are below the Minimum Grid Loads (GW.h) set out in Schedule 1 of Attachment 5.3.

YUB-YEC-42

Reference: Application, Section 5.3.1, pages 5-28, 5-31 and 5-33

Issue/Sub-Issue: Major projects, Marsh Lake storage

Quote: For the current test years approximately \$13.55 million in deferred cost is forecast to go into rate base by the end of 2013 for the following hydro enhancement projects:

- ... Planning and feasibility costs to the end of 2011 are \$3.231 million with forecast spending over the test years of \$1.6 million.

...

By the end of 2012 it is anticipated that a decision will be made on proceeding with the project ... The forecast cost to complete the project is currently estimated at \$10.5 million ...

Request:

(a) Please provide a description of, and explain, any mitigation work that is yet to be completed.

(b) Please explain what is meant by "completion of baseline work."

(c) Please explain what is meant by "effects assessment."

- (d) YEC notes that “the actual costs for mitigation cannot be known with any certainty” at this time. Please explain the basis for the uncertainty and provide a range of forecast cost estimates for mitigation.
- (e) Please provide the cost estimates for this project that were presented in the business case reviewed as part of the 2006 20-Year Resource Plan.
- (f) Please provide the 8.5 cents per kW.h full utilization LCOE analysis (lines 9-12, page 5.33 of the Application) in Excel format with all formulae intact and including all underlying assumptions.
- (g) Please provide an explanation and analysis on how management will consider whether this project is no longer viable.
- (h) Please provide a cost-benefit analysis for the Marsh Lake project that includes alternative generation comparisons.
- (i) With respect to this project, please provide total costs incurred to date, broken down by category (consultant, consultation, water application, etc.) with accompanying descriptions and related costs.

YUB-YEC-43

Reference:

Application, Section 5.3.1, page 5-28 and page 5-34

Issue/Sub-Issue:

Major projects, Gladstone (\$4.4 million)

Quote:

For the current test years approximately \$13.55 million in deferred cost is forecast to go into rate base by the end of 2013 for the following hydro enhancement projects:

...Planning and feasibility costs to the end of 2011 are \$3.694 million with forecast spending over the test years of \$0.700 million. Third party environmental assessment, engineering and project management costs comprise approximately 90% of the project costs to date.

...

Based on feasibility studies to date, project cost was estimated at \$40 million ...

Request:

- (a) Please provide the 6.3 cents per kW.h full utilization LCOE analysis (lines 17-20, page 5.34 of the Application) in Excel format with all formulae intact and including all underlying assumptions.
- (b) Have negotiations been initiated with the local First Nation groups? Please explain your response on why negotiations have or have not been initiated.
- (c) In respect of this project, please provide future milestones at which point in time discussions will take place and decisions will be made as to whether or not to proceed with the project.
- (d) Please provide total costs incurred to date, broken down by category (consultant, consultation, water application, etc.) with accompanying descriptions and related costs.

YUB-YEC-44

Reference: Application, Section 5.3.1.3, page 5-28 and pages 5-35 and 5-36

Issue/Sub-Issue: Major projects, Atlin Lake storage (\$2.2 million)

Quote: For the current test years approximately \$13.55 million in deferred cost is forecast to go into rate base by the end of 2013 for the following hydro enhancement projects:

...

The control structure would need to be located entirely within British Columbia and consequently would be assessed and permitted under BC and Federal Regimes.

...

...In 2011, when the BC Government designated Atlin River as a Class A park (with expectation that the designated park would include the river), a decision was made by Yukon Energy to discontinue work on the Atlin Storage project.

Request:

- (a) With respect to this project, please provide total costs incurred to date, broken down by category (consultant, consultation, water application, etc.) with accompanying descriptions and related costs.

YUB-YEC-45

Reference: Application, Section 5.3.1.4, page 5-28 and page 5-37

Issue/Sub-Issue: Major projects, Mayo Lake enhancement storage

Quote: For the current test years approximately \$13.55 million in deferred cost is forecast to go into rate base by the end of 2013 for the following hydro enhancement projects:

...

The Mayo Lake Enhanced Storage project was originally included as a component of the Mayo Hydro Enhancement Project proposal. During the 2009 adequacy review process, YESAB informed Yukon Energy that the proposal was adequate with the exception of the Mayo Lake storage component. As a result, YEC made the decision to withdraw the Mayo Lake storage component from the original project proposal and file the Mayo Lake Enhanced Storage Project as a separate project at a later date.

...

A Project Proposal is currently being prepared and is expected to be filed with the relevant YESAB Designated Office in 2012. In order to address the information requirements identified by YESAB during the 2009 Mayo B adequacy review process, additional environmental and socio-economic fieldwork was conducted 2008 through 2011...

Request:

- (a) Please provide the 6.3 cents per kW.h full utilization LCOE analysis (lines 17-19, page 5.38 of the Application) in Excel format with all formulae intact and all underlying assumptions.
- (b) Please provide total costs incurred to date, broken down by category (consultant, consultation, water application, etc.) with accompanying descriptions and related costs.

YUB-YEC-46

Reference:

Application, Section 5.3.1.5, pages 5-39 to 5-41

Issue/Sub-Issue:

Major projects, DSM

Quote:

A significant amount of DSM related planning and consultation work has been undertaken by Yukon Energy individually and by Yukon Energy in coordination with Yukon Government, Yukon Development Corporation and Yukon Electrical in order to implement a robust and aggressive DSM/SSE program, and to meet the Yukon Utilities Board directive.

...

Planning and feasibility costs to the end of 2011 are \$1.037 million – however, with offsetting contributions, net costs in 2011 are \$0.303 million... Forecast spending over the test years is \$2.709 million.

...

A material portion of DSM costs incurred to date, and expected to be incurred in the test years, relate to internal DSM within YEC. This includes feasibility, study, planning and implementation of conservation improvements at Yukon Energy's existing buildings and facilities... The benefit of this form of DSM is that since Yukon Energy is carrying out the changes there is assurance that the activities will be undertaken and targeted savings achieved.

Request:

- (a) Please explain YEC's submission that a full utilization LCOE of less than 10 cents per kW.h is a relatively low cost. What is it relatively compared to?
- (b) Please provide background and details regarding YEC's submission that it considers DSM a key supply option to help address near-term and longer-term energy requirements. Moreover, does YEC undertake, or propose to undertake, a cost-benefit analysis respecting its proposed key supply options? As with other projects, are business cases provided to YEC's management for consideration to ensure options are closely monitored? Please explain your response.
- (c) Please provide details regarding the internal DSM activities to be undertaken in the test years. Please provide a description of the activity, the associated savings and any known assurances that the targeted savings will be achieved.
- (d) Please provide a detailed description of costs incurred to date and those to be incurred over the test years, broken down by category (consultant, project, etc.) with accompanying descriptions and related details. Moreover, please provide a description of the benefits that should accrue to customer both in the short term and the long term.
- (e) Does YEC's capitalization for this project clearly indicate that the proposed internal DSM activities are to be capitalized and not included as operations and maintenance activities? Please explain your response.

YUB-YEC-47

Reference:

Application, Section 5.3.1.6, pages 5-41 to 5-44

Issue/Sub-Issue:

Major projects, Waste-to-energy/biomass/biogas

Quote:

In assessing potential future supply options Yukon Energy has looked beyond diesel and hydro resources that have formed a significant portion of its supply portfolio to date and has also considered generation options that could be locally developed (based on local sources of supply) and that would provide firm, reliable power. These thermal biomass resources can be developed with conventional technology but require development of relatively more capital intensive high pressure steam generation plants that would typically be intended for year round operation in order to secure cost efficient use of the facilities. Accordingly, such options are potentially relevant under increased grid loads that provide sufficient opportunity for the biomass generation to displace default diesel generation. Such options have been considered at a pre-feasibility stage (where there is no decision to proceed with the project).

...

Total forecast feasibility costs to the end of 2012 are \$1.383 million with a \$0.225 million offsetting contribution from CANNOR.

Request:

- (a) Considering that options have been considered at a pre-feasibility stage, have preliminary cost-benefit analyses been undertaken? If a cost-benefit analysis has been undertaken, please provide the net present value analysis and underlying assumptions. If a cost-benefit analysis has not been undertaken, please explain why not.
- (b) What is CANNOR?
- (c) Please provide the benefits that would accrue to electrical customers of the Yukon as a result of this project.
- (d) Please explain the meaning of “environmental baseline work and data collection required for a feasibility level of assessment.”
- (e) Is YEC requesting Board approval to proceed with “environmental baseline work and data collection required for a feasibility level of assessment?”
- (f) Considering the costs of the project and the LCOEs submitted (lines 2 – 7, page 5-43), please provide a timeframe for when this project is viable and when the “environmental baseline work and data collection required for a feasibility level of assessment” will proceed?

YUB-YEC-48

Reference: Application, Section 5.3.1.7, pages 5-44 to 5-45

Issue/Sub-Issue: Major Projects, District heating

Quote: Yukon Energy is currently exploring various thermal supply options that produce waste heat, including liquefied natural gas, biomass and waste to energy. For these projects, a developed district heating market in Whitehorse may provide added value through generation of additional revenues that may lower costs for thermal supply options and consequently reduce impacts on ratepayers. Very preliminary findings to date indicate promising market potential of 3 to 4 MW of district heat applications within the core areas of Whitehorse.

Request:

- (a) Please provide the recommendations and findings of the study “prepared in partnership with the Energy Solutions Centre, Property Management, Yukon Government and City of Whitehorse” that resulted in YEC’s decision to “proceed with a full feasibility study.”
- (b) Please explain why such a project is not better suited for a non-utility/private venture.
- (c) Please provide the benefits that would accrue to Yukon electrical customers if it was included as a regulated utility project.
- (d) Is YEC requesting Board approval for the costs of the feasibility study or is YEC seeking approval for the project in order for it to proceed? Please explain your response.
- (e) At which price point does the project become viable and at what time in the future does YEC speculate that the project would become viable?

YUB-YEC-49

Reference: Application, Section 5.3.1.8, pages 5-45 to 5-46

Issue/Sub-Issue: Major projects, Liquefied natural gas (LNG)

Quote: The feasibility of thermal generation using LNG is being considered by Yukon Energy for near-term development (i.e., before 2015) as it is expected to provide a reliable, abundant, low cost, and flexible source of supply with reduced greenhouse gas emissions and costs compared to using existing diesel generation.

...

Forecast feasibility costs are approximately \$1.7 million to the end of 2012. The Table 5.2 forecast in 2013 shows a further \$1.0 million expenditure in fixed assets in 2013, plus transfer of \$1.669 million from feasibility study costs.

Request:

- (a) Please provide the LNG feasibility study conducted by Braemar Wavespec.
- (b) Provide a summary, highlighting the underlying assumptions of the LNG feasibility study and the rationale that underpins YEC’s assertion that LNG “is expected to provide a reliable abundant, low cost, and flexible source of supply with reduced greenhouse gas emissions and costs compared to using existing diesel generation.”

- (c) Is YEC suggesting that diesel generation in the Yukon be replaced with LNG? Please explain your response.
- (d) Please explain why additional costs should be incurred related to further feasibility work referenced to in lines 18 – 19, page 5-45 of the Application. How would this further feasibility work be conducted and what would be the parameters of the feasibility work?
- (e) Please provide details regarding the proposed \$1 million fixed-asset expenditure in 2012 and the proposed \$1.669-million transfer from feasibility costs for which YEC is requesting approval.
- (f) Please explain what is meant by YEC’s submission “that this project will meet reasonable assurance before the end of 2012, and that the costs to date (and ongoing costs) will be included in construction WIP as the project is developed.”

YUB-YEC-50

Reference:

Application, Section 5.3.1.9, pages 5-46 to 5-47

Issue/Sub-Issue:

Major projects, Geothermal

Quote:

Geothermal opportunities offer future potential to provide significant low cost, clean, and reliable long-term electricity supply in Yukon if successful exploration can define appropriate opportunities close to the grid.

Due to the potential significant benefits of this resource, geothermal opportunities in Yukon have been subject high level review since the 2008/2009 GRA in order to ascertain geologic and economic potential for development for heat and electricity production at the following locations: Haines Junction, Volcano Mountain, Whitehorse, McArthur, Nash Creek and Larson Creek

A preliminary resource assessment and prioritization of sites was subsequently undertaken for Yukon Energy by Borealis Geopower. This assessment indicates that, while unconfirmed, there is clearly a material and significant potential at the sites identified.

Future consideration of geothermal sites is dependent on successful exploration that defines appropriate opportunities close to the grid.

...

Forecast feasibility study costs of \$1.95 million to the end of 2011 are closed and amortized over 10 years starting in 2012. A further \$0.38 million of feasibility study costs are forecast in 2012 and \$0.30 million in 2013, to be amortized over 5 years.

Request:

- (a) Please provide details of YEC’s high-level review of geothermal opportunities and YEC’s decision to move ahead with the preliminary resource assessment undertaken by Borealis Geopower.
- (b) Please provide the Borealis Geopower assessment.
- (c) Was the resource assessment undertaken by Borealis Geopower tendered? Please provide details.

- (d) Please describe the unconfirmed potential significant benefits of this project that would accrue to Yukon ratepayers if implemented.
- (e) Please provide a detailed description of the total project costs by category with related totals that have been or will be incurred in the test years.
- (f) YEC submitted that deferred costs total approximately \$2.633 million: \$1.95 million to the end of 2011 and forecast spending of \$0.686 million for the test years. With respect to test year expenditures, if “results of 2012 studies are favorable” will YEC be requesting further approval for an additional \$7 million in expenditures related to additional baseline studies and permitting work expected to total approximately \$1.5 million while costs for exploration and drilling would increase to \$5 million (lines 15-16, page 5-47)? Please explain your response including an explanation of the expected timing of approvals related to this project.
- (g) Will Borealis Geopower be assessing the results of the 2012 studies? Are there other third-party consultants who will assist in the assessment of results? Please explain your response.
- (h) Knowing that “exploration activities typically comprise approximately 10% of the total capital cost of a geothermal project”, at what point in time would this project not be prudent or in the best interests of YEC or Yukon electric utility ratepayers?

YUB-YEC-51

Reference: Application, Section 5.3.2, pages 5-47 to 5-49

Issue/Sub-Issue: Projects between \$100,000 and \$1 Million

Quote: The projected total 2012 and 2013 spending on deferred cost activities outside of major projects over \$1 million (as described in Section 5.3.1) totals \$2.89 [million] in 2012, as set out in detail in Table 5.6, and a total of \$2.7 million for 2013 as set out in detail in Table 5.7.

Request:

- (a) In terms of the Aishihik hydro turbine re-running feasibility, is YEC or a third party performing the tests referred to on page 5.5-2? Please provide the details of performance of these tests in your response.
- (b) In terms of wind feasibility, please explain what YEC is stating when it submits that wind-related projects can be developed with minimal regulatory risk? Please provide a cost-benefit analysis (NPV) respecting the Ferry Hill site alluded to on page 5.5-2, wherein YEC submits that the scope of work to date includes sizing, location, effects of rime icing and connection to the grid.
- (c) In terms of large hydro feasibility, please provide a detailed description and breakdown of the 2012 costs, totalling \$671,757.
- (d) In terms of the Atlin grid connection feasibility study, what capacity is available from the Pine Creek hydro facility? Is this a BC Hydro facility? Please provide any relevant details regarding the proposed assessment.
- (e) In terms of the AH1 and AH2 10-year unit overhauls, to which units do the acronyms AH1 and AH2 refer?

YUB-YEC-52

Reference:

Application, page 6-7

Issue/Sub-Issue:

Board Directive No. 3/Energy Conservation Office

Quote:

Yukon Energy has opened an Energy Conservation office and dedicated two full time employees to the management of research, pilot programs and policy/plan development. Through the Energy Conservation office Yukon Energy acts as Chair of the DSM working group and manages all contractors working on behalf of the partners.

Request:

- (a) Please confirm that YEC has opened a new office, separate from YEC's current office, for energy conservation matters. If YEC has opened a separate office, why is it necessary to have a separate office?
- (b) Has YEC consulted its customers on whether there is a need or desire for the Energy Conservation office and whether customers are willing to pay for this service? If YEC, please provide details of the consultations.
- (c) Please describe any objectives or deliverables expected from the Energy Conservation office. What metrics are in place to ensure that the Energy Conservation office meets its intended purpose(s)?
- (d) If the Energy Conservation office completes work on behalf of all the partners, should YECL and YDC bear a portion of the costs required to open and run the Energy Conservation office? How does YEC propose to recuperate costs from other partners and how will the recuperation of costs be reflected in rate base?

YUB-YEC-53

Reference:

Application, Appendix 6.1 page 6.1-7

Issue/Sub-Issue:

Wind Generation Capacity/Capacity Factor

Quote:

The only performance indicator determined for the wind turbines is Capacity Factor. The two wind turbines combined to produce a net Capacity Factor of 3.36% in 2009; 1.19% in 2010 and 5.6% in 2011.

Request:

- (a) What are the nameplate capacities of the two wind turbines?
- (b) What capacity factors are experienced by wind turbines in other jurisdictions? Are the capacity factors of the two wind turbines comparable to those in other jurisdictions?
- (c) Does YEC expect the capacity factors for these wind turbines to change, and if so, how?

YUB-YEC-54

Reference:

Application, Appendix 6.1, page 6.1-10

Issue/Sub-Issue:

Transmission Infrastructure/Interruptions

Quote:

Typically YEC customers experience fewer customer hour interruptions than the CEA average. Much of this is attributable to having diesel back-up in communities which is readily available when an outage occurs that impacts the transmission infrastructure.

Request:

- (a) What are the causes of the more frequent, but shorter, outages in the system?
- (b) Does Yukon Energy have a plan to reduce the frequency of its outages? Please explain your response.

YUB-YEC-55

Reference:

Application, Appendix 6.2, page 6.2-4

Issue/Sub-Issue:

Cost of Conversion to IFRS

Quote:

Additional costs are, and will continue to be incurred with respect to the conversion to IFRS due to increased internal and external consulting time, IT system costs and additional audit and other compliance costs. Costs for this extensive conversion process are expected to total \$667,076 by the end of 2012 and are addressed in greater detail in Tab 5 and Appendix 5.5 (Deferred Projects Between \$100,000 and \$1 million).

Request:

- (a) What are the incremental costs associated with the deferral of the adoption of IFRS? In your response, please provide a breakdown of the incremental costs by category.

YUB-YEC-56

Reference:

Application, Appendix 6.2, page 6.2-4

Issue/Sub-Issue:

IFRS/Advisor

Quote:

Yukon Energy hired an advisor experienced with IFRS to assist in developing and executing its conversion to IFRS...

Request:

- (a) Is the IFRS advisor a FTE or a contractor?
- (b) When did the advisor begin collaborating with YEC in order to execute IFRS?
- (c) Initially, when was the advisor's mandate expected to end?
- (d) How has delaying IFRS affected the advisor's expected end date?
- (e) To date, how much of the advisor's initial mandate has been completed?

YUB-YEC-57

Reference:

Application, Tab 9, 2010 Audited Financial Statements

Issue/Sub-Issue:

Financial statements

Request:

- (a) The 2010 financial statements were released May 10, 2011. Please provide the 2011 financial statements.

YUB-YEC-58

Reference: Application, Tab 10, Depreciation Study
Issue/Sub-Issue: Depreciation study

Request:

- (a) Please provide a copy of the terms of reference and any correspondence, e.g. meeting minutes, etc., between YEC and KPMG regarding the depreciation study.
- (b) Page 10-7 lists several methods of life estimation. Please provide which life estimation methods were used for each of the asset classes (for generation, transmission and distribution).
- (c) Please explain why other northern utilities (NWT, Nunavut) or other utilities from B.C. or Alberta with similar climate and terrain were not used as comparators.
- (d) Please explain why specific details of the depreciation study were not provided, e.g. specific Iowa curves used, etc.
- (e) Please provide the amount YEC paid KPMG for the depreciation study.

YUB-YEC-59

Reference: Application, pages 5-1 and 5-2
Issue/Sub-Issue: Energy reliability

Quote: Coordinated with these initiatives, Yukon Energy has also completed projects to enhance safety and reliability at the existing Mayo, Aishihik and Whitehorse hydro facilities.

-and-

Yukon Energy's level of "normal" or ongoing spending on capital works, outside of such major projects, over the period 2009 (actual) to 2013 (forecast) varies from a low of approximately \$5.4 million (2012) to a high of \$10.5 million (2010) averaging \$7.26 million per year.

Preamble: The Board wishes to understand how forecast capital and maintenance expenses relate to reliability.

Request:

- (a) From January 2009 to July 2011, there were 185 unplanned outages. Of those, 53 were due to human error, animal interactions with equipment and loss of generation. What steps is the company taking to reduce unplanned outages?
- (b) Please provide a copy in electronic format of the most recent system diagram (switch book/system map).

YUB-YEC-60

Reference:

Application, page 1

Issue/Sub-Issue:

Order-in-Council (OIC) 2012/68

Quote:

Pursuant to the OIC 2012/68 direction, the Board must ensure until the end of 2013 that rate adjustments for retail customers and major industrial customers apply equally, when measured as percentages, to all classes of retail customers and, subject in 2012 to the 3.4% already approved effective January 1, 2012, to the class of major industrial customers. Consequently, for both 2012 and 2013, all proposed rate adjustments for retail customers and industrial customers apply equally, as percentages.

Preamble:

The Board wishes to understand YEC's interpretation of OIC 2012/68.

Request:

With reference to the above quote, please explain your interpretation of the direction in OIC 2012/68.