REFERENCE: Section 2.0 Overview of the PPA and Requested Approvals

Section 3.1 (a) of the PPA provides that prior to proceeding with and completing the Transmission Project under that Agreement, on or before April 30, 2007 the YUB will have approved the PPA, including, without limitation, the following provisions set out under 3.1 (a) (i) to (vii):

QUESTION:

1. YEC does not expect to provide grid service to Minto before the start of Q3, 2008. Why is approval of the rates as described in the remainder of 2.0 and as further described in Section 4.1 of the Application, Attachment A (Cost of Service) of the Application, and Schedule C of the PPA required so far in advance of the service?

ANSWER:

The PPA was negotiated in order to take advantage of an opportunity to sell surplus power at firm rates during the limited life of the Minto Mine (with the added benefit of significantly reducing greenhouse emissions that would have existed but for the Project), and in order to ensure that YEC received a significant financial commitment from Minto towards Stage One of the Carmacks-Stewart Transmission Project.

The PPA sets out the respective rights and obligations of YEC and Minto. A fundamental requirement in order for the Parties to proceed with the PPA, was to have some certainty with regard to the nature of, and basic levels for, the firm rates that would apply to Minto at the Mine in at least 2008, on the understanding that the Parties would then also have a reasonable basis to assess the firm rates likely to apply thereafter to the Mine.

The PPA, as negotiated, obligates each Party to future commitments. For example, YEC is obligated to proceed with the Transmission Project based on Minto providing the YEC Security as continuing security for the Capital Contribution plus accrued interest, the minimum take-or-pay obligations and various other obligations. To conclude the PPA with these respective obligations, clarity was required today as to the Firm Mine Rate to be charged to the Mine based on Yukon costs and regulatory principles and methods adopted in Yukon. Section 3.5 of the PPA acknowledges that, following approval of the PPA, the Firm Mine rate may be amended by the YUB from time to time after 2008.

In this regard, Minto specifically required of YEC that the parties negotiate an industrial rate for 2008 (the year when interconnection is expected) which would be acceptable to Minto (and consistent with cost of service principles in the Yukon) and that could be presented for approval to the YUB. Without agreeing to such an approach (and without having the approval of the YUB to the rate negotiated), Minto was not willing to make such a commitment or agree to interconnect the Mine to the grid.

Without the PPA, YEC is also not prepared to proceed with construction of the Transmission Project.

REFERENCE: Section 1.0 Introduction

When it has been completed, the Transmission Project will enable Yukon Energy to deliver surplus hydroelectricity from the Whitehorse-Aishihik-Faro (WAF) grid to the mine, thereby displacing on-site diesel generation which Minto will be relying upon when the Mine begin commercial operations in 2007.

QUESTION:

1. Provide a 20-year forecast showing surplus hydro generation being utilized. State all assumptions.
2. If the assumptions include the construction of a third turbine at Aishihik, does YEC believe the hydro is surplus if new hydro facilities have to be created?

ANSWER:

(1) and **(2)**

Attachment B to the Application provides 20-year forecasts showing surplus hydro generation being utilized (see line 17 in Tables B-2 and B-3 and line 16 in Tables B-4 through B-8), and states all relevant assumptions. The forecasts include scenarios with and without the Stage One CS/MS Project, as well as with and without Aishihik 3rd Turbine, and address the following two potential load forecast levels for the Minto Mine:

- Surplus hydro without the Minto Mine (Base Case) extends until 2020.
- Surplus hydro from existing WAF facilities is fully utilized with the Minto Mine by 2013 or 2015 (depending on Mine loads assumed), but re-emerges after closure of the Minto Mine under these forecasts (closure assumed in Attachment B in 2015 or 2016, depending on assumed mill processing rates).

As reviewed in the 20-Year Resource Plan, the construction of a third turbine at Aishihik is driven by economic reasons, namely to offset future diesel generation that is expected to increase under the Base Case load forecast (without any new mines). The Minto Mine load accelerates the timing of these benefits (see Attachment B).

REFERENCE: Application, page 2

…with the first stage to include the 138 kV CS development from Carmacks to Pelly Crossing (Stage "1") and the second stage to proceed thereafter with the balance of the CS transmission when conditions will permit its development without adverse impact on ratepayers;

QUESTION:

1. Describe what YEC means by adverse impact? Can YEC anticipate a scenario where rates to ratepayers will decrease from current levels?

ANSWER:

"Adverse impact" means an increase in net costs to YEC or ratepayers beyond what would otherwise be required without the project (see response in Resource Plan hearing to YUB-YEC-2-21(a)).

The Application demonstrates how the PPA works to prevent such "adverse impacts" from the Stage One CS development, and in fact to provide overall ratepayer benefits (see response to YUB-YEC-1-4). The comment above is saying that YEC's intent is to proceed with Stage Two of the CS development "when conditions will permit its development without adverse impact on ratepayers." Obviously, YEC will also look as well for opportunities to capture additional ratepayer benefits from Stage Two development.

YEC does not anticipate scenarios with the PPA where rates to ratepayers will decrease in the near term from "current levels". This expectation reflects the approach adopted in the PPA to manage ratepayer risks as well as the long time period since the last full GRA for both utilities and the last full review of all rates in 1996/97, and other related considerations,

However, as noted YEC does anticipate ratepayer benefits from the PPA and Stage One CS/MA Project development. For example, through operation of the Mine Net Revenue Account the benefits which will arise from the PPA could be used to offset system costs which would otherwise have to be included in rates charged to ratepayers had

interconnection of the Minto Mine not occurred.[1] For more on the Mine Net Revenue Account see YEC-YUB-1-15.

[1] Table C-1 in Attachment C to the Application provides an example where the Mine Net Revenue account grows to $10.68 million by the end of the assumed Mine life, i.e., an amount more than sufficient to offset the then outstanding balance of the CS Stage One capital costs ($8.34 million), thereby leaving over $2.3 million of funds that could be used to offset system costs which would otherwise have to be included in rates charged to ratepayers had interconnection of the Minto Mine not occurred,

REFERENCE: Application, page 2

Timely completion of the Transmission Project prior to the end of 2008 will enable YEC to supply electricity to Minto, displacing use of the Mine Diesel and securing economic benefits for both Minto and Yukon electricity ratepayers.

QUESTION:

1. Describe the economic benefits to Yukon ratepayers. Describe the economic benefits to Minto.

ANSWER:

Economic benefits to Yukon ratepayers due to the timely completion of the Transmission Project prior to the end of 2008 relate primarily to improved use, as soon as is feasible, of existing WAF surplus hydro generation for sales to the Minto Mine as well as for displacing use of utility diesel generation at Pelly Crossing. Attachment C to the Application indicates that incremental Mine Net Revenue benefits for ratepayers are expected to approximate $2 million or more in the first full year of YEC service (after providing for Incremental YEC Costs). The Mine Net Revenue Account sets aside such net benefits to offset potential future cost risks and (as provided for in the PPA) at a future time to offset the regulated YEC rate base or such other capital-related purposes as approved by the Board.

Timely completion of the Project will yield material ratepayer benefits equal to at least $250,000 per month of avoided delay (reflecting expected minimum Minto payments), ignoring additional impacts that arise under the PPA if delay extends beyond September 30, 2009.(See UCG-YEC-2-1 and YUB-YEC-1-30). Completion of the Stage One CS Project will also bring Pelly Crossing ratepayers into the hydro rate zone, thereby reducing second block energy rates (see Application, section 5.1 at page 12), and complete the development of long-term infrastructure assets that enhance grid power access into this region and facilitate future completion of the full CS Project to connect the WAF and MD grids (with the related overall Yukon power system efficiency, flexibility and reliability benefits related to such interconnection).

The YEC Project Proposal Submission to YESAB sets out other socio-economic benefits associated with the project (see Exhibits B-13 and B-16 filed in the Resource Plan Hearing).

The economic benefits to Minto from timely completion of the Transmission Project prior to the end of 2008 relate to material reductions in diesel generation costs as soon as is feasible. For example, based on Attachment D to the Application, Minto cash savings are estimated at $3.33 million per year for the first 4 years of YEC service, and $1.17 million per year for the next 3 years (after which time all Capital Cost Contribution payments are expected to have been made, and cost savings would then rise to $4.5 million per year).

REFERENCE: Application, page 3 Low Grade Ore Processing Secondary Energy Rate

QUESTION:

1. Describe how the use of secondary energy to process low grade ore will be measured.
2. Will the use of this secondary energy displace other secondary energy users on the WAF grid?
3. Will a similar rate be offered to other potential industrial customers? Commercial customers?

ANSWER:

(1)

Please see response to YUB-YEC-1-11(2).

(2)

Current secondary energy users on the WAF grid are protected by the PPA as regards the Low Grad Ore Processing Secondary Energy Rate. Use of the Low Grade Ore Processing Secondary Energy will not displace other secondary energy users of the WAF grid, i.e., see condition (3) at page 2 of Schedule D to PPA.

(3)

This rate has been specifically designed for the Minto Mine, and potentially for mine sites engaged primarily in copper production for processing ore with less than 1% copper content. No similar rate is being contemplated at this time for any other customers. Any such rate would only be relevant so long as surplus hydro energy is available after supplying other secondary energy users.

REFERENCE: Application, page 3 Mine Net Revenue Account

QUESTION:

1. Would Yukon ratepayers receive direct benefits if the account was not set up and the funds were used to lower rates for all rate classes?
2. Could the funds become part of the revenue requirement calculations and if, in future, YEC required funds for future projects, YEC could present a business case and seek regulatory approval?

ANSWER:

(1)

With or without the Mine Net Revenue Account the PPA and the Stage One CS/MS Project are expected to provide positive benefits to ratepayers. The purpose of the Mine Net Revenue Account is to protect ratepayers from rate instability and to deliver to ratepayers the long-term infrastructure benefits that can be realized from this development. Section 3.6 specifies that ratepayer benefits with this account can occur as soon as accrued amounts are sufficient to offset CS Project Stage One Undepreciated Capital Costs; further options to pass benefits to ratepayers occur in any event when the YEC Security is discharged, as well as when the Mine ceases commercial operations (when the account will be terminated and all benefits will flow to ratepayers).

Without the Mine Net Revenue Account, positive incremental net revenues from the Mine and the Stage One CS/MS Project could be used to lower rates initially for all rate classes. Yukon ratepayers would thereby receive immediate direct benefits so long as such positive incremental net revenues continued.

Although the Mine Net Revenue Account does prevent immediate rate decreases it also protects against future rate increases thereafter due to the Project or the Mine. If the Mine Net Revenue Account was not established, the initial rate decreases would need to be followed by ongoing rate increases for all rate classes simply to match steadily shrinking annual net benefits related to the declining hydro surplus. The result might

well be seen as ongoing adverse impacts on Yukon ratepayers, both from new rate instability and from rate increases as, and when, they occurred.[1]

Attachment C to the Application can be used to demonstrate these observations.

Attachment C provides forecasts of annual Mine Net Revenue incremental annual amounts (column 13) starting at $1.95 to $2.7 million positive in year 1 of full YEC service and falling to zero or negative $0.3 million in the final year of Mine operation, i.e., the amount of positive benefits without the Mine Net Revenue Account would fall each year, and would become negative near, or after, the end of the Mine life. At the end of the Mine life, without the Mine Net Revenue Account, all ongoing annual costs still remaining for the CS Project facilities (e.g., such annual charges related to about $8.5 million in undepreciated capital costs) would also need to be charged to the remaining ratepayers through increased rates.

Further (and not shown in Attachment C), without the Mine Net Revenue Account any realized risks related to temporary or premature Mine shutdowns or closures, CS capital cost escalations beyond those already assumed, or premature reductions in surplus hydro generation due to other new mine loads or other higher-than-expected WAF load increases would all have a direct impact on reducing the initial direct benefits suggested by Attachment C or on increasing the ongoing rate increases required from other Yukon ratepayers as such direct benefits are reduced.

In summary, the Mine Net Revenue Account is a deferral account that provides rate stability for Yukon ratepayers during the Mine life while ensuring that in the future Yukon ratepayers are eligible to receive any positive net benefits that do in fact remain as a result of the PPA and the Stage One CS/MS Project, i.e., with or without the Mine Net Revenue Account, Yukon ratepayers will ultimately receive all of the direct net benefits that arise from these activities.

For more on the Mine Net Revenue Account see YUB-YEC-1-15.

(2)

YEC is not clear what exactly is being assumed in this question.

[1] Normally such direct benefits or adverse effects would be assumed to occur for all Yukon ratepayers under such assumptions; however, under the RSF in place in recent years, most residential and general service ratepayers would see no change to bills as a result of any such rate reductions or increases.

If the question assumes a scenario without the Mine Net Revenue Account, the above comments indicate that under this approach Mine and Project impacts would flow directly each year to YEC's revenue requirements. Positive or negative net incremental impacts each year (as the case may be) from the Mine and the CS/MS Project would then directly impact rates positively of adversely from year to year (subject to the timing of rate reviews). Rate instability and risk were noted above under this approach. Further, this approach would not allow any positive "net incremental revenue" funds to be set aside for future projects, i.e., each new project's costs and benefits would then also flow directly through to revenue requirements and be subject to ongoing YUB review as to related ongoing rate changes.

Under the PPA as concluded, and for which Board approval is being sought for the Mine Net Revenue Account as set out in Section 3.6 of the PPA, Mine Net Revenue funds cannot become part of the ongoing revenue requirement calculations as would be applicable for setting rates for other ratepayers (except as otherwise provided for in Section 3.6 after the Commercial Operation Cessation Date). The account does provide, however, for its use to fund annual Incremental YEC Costs that the Board approves to include in revenue requirements of YEC for the CS Project and potentially other future generation projects.

See also the response to YUB-YEC-1-15.

REFERENCE: Application, page 3 Capital Cost Contribution

QUESTION:

1. How was the total capital cost contribution determined? How does this determination relate to YEC's Ts and Cs? Would a similar process be available to other industrial customers? Commercial customers? What principles were applied in determining the capital cost contribution?

ANSWER:

The Capital Cost Contribution is defined in the PPA as the sum of:

- **Mine Spur:** all actual YEC Capital Costs for the Mine Spur (ultimately to be determined based on actual costs incurred, including interest during construction at a fixed Cost of Capital of 7.5% per annum); and
- **CS Project:** a fixed $7.2 million contribution towards YEC's Capital Costs for the CS Project.

The **Mine Spur contribution** reflects the assumption that, in essence, these specific transmission facilities are being planned and built only to serve one customer (i.e., the Minto Mine), and are generally expected to be decommissioned and removed after the Mine is shut down. Based on this assumption, the principle being applied is that, when only one customer is planned to be served by specific transmission facilities, that one customer generally should pay the full actual cost of the facilities so required.[1]

The **CS Project contribution** reflects two realities:

- **Long-term use planned for CS facilities:** the CS Project facilities as planned are being built as long-term ongoing infrastructure for the benefit of all Yukon ratepayers, as the first stage of the project to connect the WAF and MD grids, and not solely to serve only one customer (the Minto Mine); to this end, these facilities as planned will not be decommissioned or shut down when the Mine is shut down; and

[1] YEC notes that in reality the Mine Spur substation and line facilities on the east side of the Yukon River are likely to provide service to the local Minto Landing community and others in this area, and as such are likely to be retained rather than decommissioned after closure of the Mine. Nonetheless, Minto has agreed in the PPA to pay the full capital cost for the Mine Spur.

- **Due to its diesel generation cost savings related to the PPA, Minto can afford to pay for the capital costs otherwise needed for it to connect the Mine to the grid**: material cost saving benefits are still available to the Minto Mine from Grid Electricity service even if the Carmacks to Minto Landing 138 kV portion of Stage One was not built and the Mine was required to pay 100% of the cost estimated for the basic additional facilities (i.e., for additional 35 kV line facilities between Carmacks and Minto Landing) to connect the Mine with the WAF grid.

Based on these realities, the principle being applied by YEC is to secure from the Mine the maximum reasonable customer capital cost contribution toward the CS Project facilities' capital costs, based on the notional portion of the Stage One CS Project facilities otherwise required by the Mine to secure grid service (i.e., reasonable costs estimated for the line segment and voltage level that the Mine would otherwise require to receive Grid Electricity without the CS Project as currently planned at 138 kV).

With regard to the determination of the specific $7.2 million amount for the CS Project contribution, as explained in section 5.1.1 of the Application (footnote 17), the $7.2 million represents the mid-point in-service capital cost estimate for a 35 kV line over the Carmacks-Minto Landing segment of the CS Project, i.e., the cost of the additional transmission line segment (beyond the Mine Spur facilities) and voltage level that the Mine would otherwise require to receive Grid Electricity (from the WAF grid) without the CS Project. As a condition for agreeing on this amount, the $7.2 million is a fixed amount under the PPA and not subject to any adjustment based on YEC's final actual capital costs for the CS Project facilities.

As regards "YEC's Ts and Cs", YEC assumes that the question is addressing terms and conditions under the Electric Service Regulations (ESRs) applicable to YEC as regards a maximum utility capital investment in new customer connections. Such terms and conditions, as set out in Part III of Schedule B of the ESRs for a General Service customer with an estimated life less than 25 years, specify as follows:

> "If the Annual Cost[2] of serving a customer is higher than the revenue expected to be received from such service, then the Maximum Company Investment [by

[2] "Annual Cost" is defined in the ESRs as "the estimated cost of generating and transmitting electric energy to the Customer, operating and maintaining the facilities constructed to serve the Customer and the fixed charges, including return, income tax and depreciation, on the cost of facilities constructed to serve the Customers."

YEC] shall be the Cost[3] of the extension less the present value of the annual amounts over the expected life of the service by which the Annual Cost is expected to exceed the revenue."

In the context of the above ESR terms and conditions, the PPA in effect assigns to Minto 100% of the estimated costs of the facilities needed to be constructed to serve the Mine in the event that all such facilities were to be built solely to serve the Mine at 35 kV from Carmacks to the Mine, i.e., YEC is not proposing any utility investment be planned toward the expected costs for such an extension.

In response to the question, even though the PPA is not proposing to proceed on this basis, the following can be noted with regard to the implications of YEC proceeding in this instance based only on the applicable ESR terms and conditions:

- Based on annual Mine Net Revenue amounts as estimated in Table C-1 (Attachment C of the Application), the Annual Cost of serving the Minto Mine is not currently expected in most years to exceed the annual revenues from the Mine.
- Accordingly, the ESR terms and conditions would support a maximum YEC investment in these same facilities (i.e., those service extension facilities needed solely to serve the Mine), based on the present value of Mine Net Revenue amounts in Table C-1, approximating at least $7 million[4].
- The net result of such an investment approach by YEC would be to develop facilities only to serve the Mine, on the understanding that all of these facilities (including the 35 kV line from Carmacks to Minto Landing) would be removed when the Mine shut down. (To the extent that facilities were to be built to serve ongoing utility interests, beyond an extension to this one customer, the ESR terms noted here would not apply).
- The net benefits from use of the surplus WAF hydro generation would be invested solely in service extension to the Mine during its defined life, i.e., YEC

[3] "Cost" is defined in the ESRs as "the estimated cost of materials, labour, equipment, expenses, and any other direct costs incurred by the Company [YEC] in extending Service to a Point of Delivery."

[4] Estimated in late 2008 dollars (in-service costs) and assumes a discount rate at 7.5% to reflect estimates for YEC weighted average cost of capital. Annual Cost as defined in the ESR would be less than Incremental YEC Costs as assumed in Table C-1, and thus the ESRs would likely support a somewhat higher maximum utility investment than the amount estimated here. In the hearing on YEC 2005 Required Revenues and Related Matters the normal allowed maximum utility investment under the ESRs with regard to a normal General Service customer was increased by the Board to $400 per kW (see response in that hearing to YUB-YEC-1-18 for example calculations provided to support that change, based on surplus hydro conditions).

would in effect at a minimum (e.g., assuming CS Project facilities built to serve more than the Mine loads) pay all costs for the Mine Spur.

The PPA reflects an approach with regard to the Capital Cost Contribution that will facilitate the use of near-term surplus hydro generation net revenues from the Mine for investment and development of long-term infrastructure (i.e., the 138 kV CS Project facilities) that will benefit all Yukon ratepayers, rather than in connection facilities needed only to serve the Mine. Accordingly, the Capital Cost Contribution by Minto materially exceeds the minimums allowed by the ESRs, and the provisions of the Mine Net Revenue Account are also applied to provide further support and protection for the long-term utility investment in the Stage One CS Project facilities.

As reviewed in section 5.3 of the Application, Section 5.7 of the PPA provides that New Industrial Customers, as defined in the PPA (such customers must receive Grid Electricity from the Transmission Project or the CS Project), will be required by YEC to pay a Capital Cost Contribution for their appropriate share of Capital Costs of the CS Project and any spur lines. Beyond this specific situation, YEC has not considered how these principles and the PPA approach might be applied to other major industrial customers (i.e., loads of at least 1 MW) or commercial customers.

REFERENCE: Application, page 3 YEC Purchase of Diesel Units

QUESTION:

1. The Board would like YEC to reference which part(s) of YEC's 20-Year Resource Plan contained the acquisition of these additional diesel units. Were these units referenced as opportunity projects? Were the units referenced as capacity related projects?
2. Provide 20-Year forecast for each of these units for each year showing expected operating hours and MW.hs of energy produced. Where specifically does YEC plan to deploy these diesel units?

ANSWER:

(1)

At the time that the initial 20-Year Resource Plan was prepared the potential acquisition of the Diesel Units was not considered; however, prior to the Resource Plan Hearing, YEC filed interrogatory responses (YUB-YEC-2-10(f)) which identified the potential option of purchasing four high speed diesel units (6.4 MW) from Minto at the Mine site as part of the PPA negotiations. During the hearing Yukon Energy clarified the basis under which it may, as part of the PPA, acquire control of these diesel units that will be surplus to the Mine's needs after YEC starts delivery of grid power.[1]

Overall, these units were referenced in the Resource Plan hearing primarily as a near term contingency option to facilitate meeting WAF capacity planning needs in a cost effective and timely manner. The price for these units under the PPA (i.e. not exceeding $350 per kW) is very competitive with costs estimated in the Resource Plan Hearing for the Mirrlees Life Extension Project.[2]

In the event that the PPA is approved and the CS/MS Project proceeds, YEC will reassess the timing of the Mirrlees Life Extension plans in the context of having the Mine

[1] YEC clarified that any such arrangement would involve YEC control and ownership of the units, and not an IPP type of arrangement. See discussion with Mr. Pinard (transcript p. 96, line 1 to p. 97, line 22) and with Mr. Buonaguro (transcript p. 265, line 24 to p. 269, line 7). Evidence presented during the hearing reviewed potential benefits of mine site diesel generation at times when mine loads require use of diesel generation (e.g., reduced line losses, cost savings due to reduced diesel generation requirements, less pollution and less greenhouse gas emissions).

[2] The Update in that hearing (Exhibit B-16) noted the cost for rehabilitation of the Faro Mirrlees unit as being expected to be in the range of the Whitehorse Mirrlees Life Extension capacity noted in the Supplemental Materials Tab 1 at about $457 per kW.

Site diesel capacity available in the near term on the WAF system. Subject to the terms of the PPA, these Diesel Units are portable and capable of being redeployed anywhere on either the WAF or Mayo Dawson grids, or being sold as used surplus diesels in the same manner as Minto has planned to do if YEC does not acquire them.

As noted in section 4.2.2 of the Application, these Diesel Units provide benefits to the WAF system in addition to those noted above, including:

- The purchase payment arrangements for this asset enhance YEC's security with regard to the Minto obligations to pay the Mine Spur Capital Cost Contribution.
- The units provide added security to YEC and Minto as regards reliable supply at the Mine.
- When WAF diesel operation is required, YEC operation of at least two of the Diesel Units at the Mine Site (especially for baseload operation) is expected to be cost effective (due to the minimization of line losses and related additional diesel generation requirements).[3]
- In the near term these units provide cost effective contingency protection until such time as other potential major mine loads (Carmacks Copper) as well as capacity supply options are better clarified.

(2)

YEC has provided forecasts of WAF peaking and baseload diesel generation requirements by year during the expected Mine life (see Attachment B to the Application). However, YEC has not developed a 20-Year forecast for each unit for each year showing expected operating hours and MWh of energy produced.

Based on the currently available information YEC provides the following comments in response to this question:

- **Retain Units at the Mine Site**: If YEC acquires the Diesel Units under the PPA, these units are expected to be deployed at the Minto Mine site so long as the Mine is operating and the units are owned by YEC.
  - Under the PPA, all four units must remain at the Mine Site during the first two years of YEC service, and thereafter at least two units are to remain at the

[3] Between two and three of the Diesel Units at the Mine Site would rank next to the top of the WAF diesel generation stacking order, reflecting their capability to supply expected Mine load levels at efficient fuel operation levels.

Mine Site until the earlier of the eighth Annual Payment date and the discharge of the YEC Security (which requires that Minto has fully met its related obligations).

- In addition to providing cost-effective WAF capacity benefits during the Mine's life[4], as noted in the Application between two and three of the units at the Mine Site would rank next to the top of the WAF diesel generation stacking order, reflecting their capability to supply Mine load levels (when diesel generation is required on WAF) at efficient fuel operation levels (taking into account the diesels expected 3.7 kW.h/litre fuel efficiency plus the line loss credit when serving Mine loads).
- As shown in Attachment B, towards the end of the Mine life the potential value and use increases for at least two of the units to assist meeting WAF diesel generation requirements in a cost effective manner when the Mine is operating.
- In the event that the Mine closes and/or YEC determines prior to that time that one or more of the Diesel Units can be removed from the Mine Site (i.e., the PPA conditions so allow and the specific units serve no useful role in meeting needs or providing for contingencies), YEC would currently expect to sell such surplus units to others.

- **Stacking Order Dispatch for WAF Diesel Use:** The dispatch of the four WAF diesel units likely to be first in the stacking order[5] will bring nearly 10 MW of generation onto the system. Given that this generation is only used once all secondary sales are interrupted and hydro generation has been maximized (typically 56 MW in winter under normal water flows), the total WAF supply under these conditions would be nearly 66 MW. YEC's WAF firm load is not expected to reach these levels (absent other new mine loads) until the final years of the Minto Mine's life, and then only under certain assumptions as to load and non-development of the Aishihik 3rd Turbine[6]. In other words, outside of emergency conditions (such as hydro outages), there is basically no expectation of having to

[4] Under YEC's capacity planning criteria the Mine's load is considered in LOLE assessment but not in the N-1 assessment, and accordingly (absent other new Mine loads) it is not expected that the Minto Mine will increase effective WAF capacity planning requirements. Nonetheless, as noted, these Diesel Units offer a cost-competitive option to meet WAF peak winter generation capacity requirements at a time when YEC is actively examining options to enhance this WAF capacity.

[5] In addition to at least two of the Mine Diesel Units (3.2 MW) expected to be stacked next to the top of the order, the 3.3 MW Caterpillar unit located at Whitehorse is expected to be the first such unit in the stacking order and the 3.0 MW Caterpillar unit in Faro is expected to be the fourth such unit in the stacking order.

[6] See Attachment B to the Application for GW.h forecasts of WAF diesel generation. After the Mine stops operation, surplus hydro generation conditions are forecast to resume for a few years, but WAF baseload diesel generation is expected to recur starting in 2021 under Base Case without any mine loads.

dispatch beyond these four units under any normal conditions with the Minto Mine load and no other new mines on the WAF grid.

- **Non-Stacking Order Operation when WAF Diesel use is not material:** Under conditions with the Stage One Carmacks-Stewart line in service, where diesel is not required for baseload generation, the detailed stacking order has somewhat less relevance than under loads such as when the Faro mine was operating and major diesel baseload generation was required (up to 100 GW.h per year). Under the conditions forecast with the Minto Mine, where WAF diesel is only used for peaking at relatively infrequent times during the year during most years when diesel generation is forecast to be needed, other factors outside of pure economic stacking order become relevant to determining which unit is dispatched. For example, pursuant to the manufacturer's recommendations and good utility practice, YEC attempts to ensure each diesel unit is run for some amount of time ("exercised") on a routine basis. During winter peak conditions, the first unit to be dispatched will therefore in many cases be the unit that is next required to be exercised, regardless of the stacking order. In these cases, the impact of the CS/MS Project on diesel use is basically zero (the diesel generation would have been run in any event for other unit maintenance requirements). Other considerations will also be brought into the dispatch decision; for example, there is a benefit to helping "turn over" YEC's fuel inventories to ensure stored fuel is not stale, which will at times emphasize using generation at Faro ahead of Whitehorse. Consequently, under forecast conditions for many years, even though the Whitehorse Caterpillar unit is the first in the "stacking order", there are many conditions when other units (including units outside of Whitehorse) will be dispatched ahead of this unit.

- **Contingency Conditions when WAF diesel use may increase significantly**: Aside from emergency conditions, WAF diesel use could increase materially with the Minto Mine under conditions of low water flows (e.g., forecasts in Attachment B assume normal water flows) and/or if WAF loads are materially increased (e.g., the addition of another mine load). Under such conditions the operation of the Diesel Units at the Mine Site would be important for fuel cost savings on WAF.

- **WAF planning considerations**: In the event that the PPA is approved and the CS/MS Project proceeds, YEC will be able to utilize the opportunities provided by the new mine load and the Diesel Units to re-assess WAF generation and

transmission options, including timing for the Aishihik 3rd Turbine, and potentially also re-consideration of the Aishihik Twinning option[7].

[7] Aside from the lumpiness and cost of the Aishihik Twinning option, it also was noted to be penalized by the near term need for added WAF winter peak generation capacity, the lack of near term WAF load, and timing for proceeding with the Aishihik 3rd Turbine. Higher near term WAF loads associated with adding new mine loads and development of the Aishihik 3rd turbine may enhance prospects for the Aishihik Twinning project and the ability to relocate or sell the portable Minto Mine diesels would also serve to allow the resulting Aishihik project capacity to be more effectively used in the near term.

REFERENCE: Application, page 4 Schedule 1

QUESTION:

1. Will the Capital Cost Contribution be increased if the costs for Stage 1 of the CS project fall between the mid point costs and the high costs? If the costs for stage 1 of the project exceed the high costs will the contribution by Minto be recalculated? What will the effect be on rates?

ANSWER:

No, the Capital Cost Contribution will not be increased if the costs for Stage One of the CS Project fall between the mid point costs and the high costs. Similarly, the contribution by Minto will not be recalculated if the costs for Stage One of the CS Project exceed the high costs. The rationale and principles for the Capital Cost Contribution related to the CS Project are reviewed in response to YUB-YEC-1-7, and the PPA as ultimately negotiated on this matter does not involve Minto sharing in any risk related to the CS Project capital costs (other than to the extent such cost adjustments lead to adjustments in the Firm Mine Rate approved by the YUB after 2008)[1].

Under the PPA, during the Minto Mine life the capital costs of the CS Project will be included in the determination of annual Mine Net Revenue in each fiscal year and thus will not flow directly into the determination of rates to other Yukon ratepayers during this period.[2] The impact on rates of such costs thereafter will depend on the size of the Mine Net Revenue Account at that time and the extent to which other New YEC Industrial Customers have provided additional capital cost contributions to the Stage One CS Project, among other factors.

[1] Consistent with item A(4) classification principles (point 4) and item B(3)(iii) of Schedule E to the PPA, the COSS as estimated for determining cost-of-service and rates for the Major Industrial Customer class in Attachment A to the Application specifically includes classification to energy of 100% of the annual costs for the CS Stage One Project net of capital cost contributions from Minto, YDC and YTG.

[2] Attachment C provides examples of annual Mine Net Revenue calculations. Incremental YEC Costs as defined in the PPA for this purpose specifically include any depreciation, operating and maintenance expenses and return on rate base in each fiscal year related to the transmission Project (as defined) and the CS Project.

REFERENCE: Application Section 4.0 PPA Rates and Impact on WAF System

QUESTION:

1. Provide examples of other jurisdictions where transmission costs are allocated based on an energy-only criterion. Provide COS schedules and revised rate schedules using classification factors for transmission assets based on 60% demand and 40%. Would YEC consider undertaking and providing classification factor studies to determine appropriate classifications of transmission assets?
2. Did the 20-Year Resource Plan indicate that Stage 1 of the CS project would not proceed unless there was additional mine load? If yes, then is the driver of the project new load rather than diesel displacement?
3. Would YEC be adverse to assigning costs used only by industrial customers to industrial customers and then allocating the remaining costs that are shared by all customers to all customers?
4. When was the last complete COS study provided for Yukon ratepayers including updates on classifications factors, line loss studies, reviews of cost assignments to marketing, accounting, administrative and overhead? Given that approval is being asked for new rates, what is the position of YEC in providing more detailed studies to support the cost of service and rate design?

ANSWER:

(1)

YEC is not currently aware of other jurisdictions where transmission costs are allocated based on an energy-only criterion; typically, in situations where transmission assets are dedicated to delivery of hydro generation, the transmission assets are classified on the same basis as the related hydro generation assets. In the case of Yukon, however, this approach has not been adopted to date for cost of service classification of any transmission assets (i.e., other than Whitehorse-Faro transmission assets specifically assigned to the Faro mine (80% of such costs), transmission assets were classified 100% to demand in past YEC/YECL GRAs and Board decisions).

Schedule YUB-1-10(1)A attached provides the requested adjusted COS schedule from Attachment A (revised Schedule A-1) using classification factors for transmission assets as requested based on 60% demand and 40% (presumed) energy. The overall result is

a slightly reduced COS for the Major Industrial class (reduced from 10.00 cents per kWh to 9.86 cents per kWh). Based on this adjusted COS, the Firm Mine Rate yielding 100.2 % revenue/cost ratio could be adjusted slightly (Demand Charge at $16 per month per kVA and Energy Charge at 7.25 cents per kW.h).

Based on hydro system experience in other jurisdictions, the current surplus hydro generation on WAF and MD systems, the capacity planning criteria adopted by YEC (which currently renders no capacity or demand benefit for the Aishihik-Whitehorse transmission line), and the extent to which Yukon transmission assets are planned and used to displace diesel energy generation, it is not apparent on what basis transmission assets might reasonably be classified 60% to demand as per Schedule YUB-1-10(1)A. Aside from the approach adopted in the Application and Schedule E to the PPA, potential options reflecting Yukon conditions and principles adopted in other hydro jurisdictions might assign all transmission asset costs based on the hydro generation asset classification (86.8% to energy), or the total generation asset classification (67% to energy), or the “Other Hydro” generation classification excluding Whitehorse #4 (60% to energy).

By way of example of such an alternative classification, Schedule YUB-1-10(1)B attached provides the adjusted COS based on a transmission classification reflecting Yukon “Other Hydro” generation asset classification (60% to energy and 40% to demand). The overall result yields the same COS for the Major Industrial class as provided in Attachment A of the Application at 10.00 cents per kWh. Selection of the other options noted above, involving a higher share of Transmission Costs being classified to energy based on either overall generation asset classification (67% to energy) or all hydro asset classification (86.8% to energy) would yield a higher COS for the Major Industrial class than the 10.00 cents per kW/h estimated in the Application.

YEC is not planning at this time to undertake classification factor studies to determine appropriate classifications of transmission assets. Such studies have not been carried out in the past in any detail in Yukon, and YEC would need to assess jointly with YECL the scope, costs and potential benefits for any such future studies involving both YEC and YECL transmission assets (as these are assigned to the transmission function in Yukon for COS purposes).

YEC notes that the transmission classification adopted in the Application reflects principles and methods agreed to by YEC and Minto in Schedule E of the PPA for the

purpose of assessing COS assigned to the Major Industrial Customer class. YEC sees no reasonable basis for concern that other ratepayer interests are materially prejudiced by this classification approach. Further, as demonstrated above, the principles and methods adopted in the PPA yield similar outcomes as regards transmission costs assigned to the Major Industrial Customer class as would occur if the transmission assets overall were classified based on Other Hydro generation asset classification.

(2)

The 20-Year Resource Plan indicated that Stage One of the CS Project would proceed only in the event that new mine load and/or YTG contributions were sufficient to ensure no net cost impacts on Yukon ratepayers. When referencing "no adverse impact on ratepayers" YEC has meant to ensure that the costs of the CS transmission facilities do not increase net costs to YEC or ratepayers beyond what would otherwise be required without this project (see response in Resource Plan hearing to YUB-YEC-2-21(a)).

The justification for supplying the Minto Mine load is based on displacing Mine Site diesel generation; a similar justification relates to serving the Pelly Crossing load.

(3)

YEC is not clear what is intended by the question, or the basis in principle for the concepts proposed. It is not clear, for example, specifically what would be considered to be "costs used only by industrial customers" – and without clarity on this point, the question cannot be assessed.

If a strict view is adopted on this matter, for example, then in the current situation the only such costs eligible to be assigned only to industrial customers likely would be the Mine Spur costs, i.e., all other asset costs appear to be shared with one or more other customer classes. In practical terms, the PPA and the Application assign all Mine Spur capital costs in effect to the industrial class (the Minto Mine); however, in addition the PPA and the Application also in effect assign a further $7.2 million of CS Project capital costs to the industrial class (the Minto mine). The PPA and the Application in effect classify and allocate the remaining costs that are shared by all customers to all customers (i.e., the industrial class is allocated a share of such costs based on the COS principles and methods in the PPA and the Application).

(4)

The last complete COS study was provided for Yukon ratepayers in the 1996/97 GRA filing by YEC and YECL, consolidating revenues and costs for the two utilities on a Yukon wide basis.[1] The last such COS study reviewed many of the key factors including updates on line loss studies; however, many of the key COS factors also were not adjusted from earlier COS filings in 1992 and 1993.

In the Yukon context, past experience suggests a range of factors to be considered when assessing the cost effectiveness of carrying out more complex COS studies at this time, including a need to consider the scale of the systems, the rate design directives of OIC 1995/90 (as regards rate equalization as well as COS requirements in setting Major Industrial Customer class rates) and the current clear understandings as to residential rates being well below COS at a time when the RSF in addition is providing material added subsidies for most residential customers as well as for commercial customers.

Given that approval is being asked for specific new firm industrial rates, YEC considers that it has provided a reasonable COS analysis as required for this purpose in the absence of current GRA filings by YEC and YECL on the relevant revenue requirements plus joint YEC/YECL COS studies prepared on a Yukon wide basis using such GRA filings. Further, YEC notes that the COS as provided in Attachment A to the Application focuses solely on information required to determine the Firm Mine Rate for 2008 as provided in Schedule C to the PPA, and that the COS filing is fully adequate to allow the Board to determine that the proposed rate complies with OIC 1995/90 (in that the proposed rate is sufficient to recover reasonably estimated 2008 costs of service for the Major Industrial Customer class as so required by this OIC).

YEC considers that it would be appropriate to consider the need and justification of providing more detailed studies to support the cost of service and rate design at such time as YEC and YECL both proceed to file GRAs and carry out a new joint COS study for the Board. As noted in the joint YEC/YECL filings on this matter in 2005 (see footnote below), however, the value of such studies in setting rates for most customer classes at this time may be limited given overall requirements that can be determined in any event without resort to such studies. Focusing on the one customer class where COS is fundamental to establishing minimum firm rate requirements, YEC would also

[1] YEC and YECL jointly filed with the Board on August 24, 2005, in response to Board Order 2005-1, the Report on the Most Recent Cost of Service Study. The two utilities on October 27, 2005 also jointly filed a letter addressing comments from intervenors on the Report on the Most Recent Cost of Service Study.

want to consider the potential relevance and need for more detailed studies at that time given the agreed COS principles and methods set out in the PPA.

Schedule YUB 1-10(1)A

Yukon Industrial Costs of Service- - 2008 estimate ($000)-Adjusted per YUB-YEC-1-10(1)

	Customers	Energy			Coincident Peak			Minto Non-c Peak
LOADS		Sales MWh	Losses %	Generation MWh	Sales kW	Losses %	Generation kW	kW
Industrial								
Minto Mine	1	32,500	12.70%	36,627.5	4,004.0	14.70%	4,592.6	4,400.0
other	0	-	0.00%	-	-	0.00%	-	
sub total	1	32,500	12.700%	36,627.5	4,004.0	14.70%	4,592.6	
Other	15,750	292,000	11.81%	326,485	61,947	13.00%	70,000	
Total	15,751	324,500	11.90%	363,113	65,951	13.10%	74,593	% of contract
							winter peak shaving	91.0%
Industrial Share	0.006%			10.087%			6.157%	

cost escalation since 97 26.37%

	Total Yukon	Demand Costs			Energy Costs			Total Industrial	cents/
		Classify %	Yukon Costs	Industrial Costs	Classify %	Yukon Costs	Industrial Costs	Class Costs	kW.h
PRODUCTION COSTS									
Fixed Costs:									
Diesel Plant	4,302.8	100%	4,302.8	264.9	0%	-	-	264.9	0.0082
Whitehorse #4	7,824.3	0%	-	-	100%	7,824.3	789.2	789.2	0.0243
Other Hydro	3,845.0	40%	1,538.0	94.7	60%	2,307.0	232.7	327.4	0.0101
Wind	199.4	0%	-	-	100%	199.4	20.1	20.1	0.0006
Sub Total	16,171.5	36%	5,840.8	359.6	64%	10,330.7	1,042.1	1,401.7	0.0431
FTN added cost	544.0				100%	544.0	54.9	54.9	0.0017
Sec Sales Credit	(1,101.0)	0%	-	-	100%	(1,101.0)	(111.1)	(111.1)	(0.0034)
Fuel Expenses	4,786.0	0%	-	-	100%	4,786.0	482.8	482.8	0.0149
Wind O&M	91.2	0%	-	-	100%	91.2	9.2	9.2	0.0003
Other Production O&M	5,045.8	50%	2,522.9	155.3	50%	2,522.9	254.5	409.8	0.0126
Risk Insurance	546.7	32%	177.3	10.9	68%	369.3	37.3	48.2	0.0015
Revenue Offsets	(210.8)	33.4%	(70.5)	(4.3)	66.6%	(140.3)	(14.2)	(18.5)	(0.0006)
Admin & General	3,824.1	33.4%	1,278.8	78.7	67%	2,545.2	256.7	335.5	0.0103
Total Production Costs	29,697.5	33%	9,749.4	600.3	67%	19,948.1	2,012.2	2,612.4	0.0804
								8.8%	
Minto Mine				600.3			2,012.2	2,612.4	0.0804
		WAF Line Costs							
		Faro mine assigned		0.00%					
TRANSMISSION COSTS		load share for balance		100.00%					
Specific Line (WAF)	690.9	60%	414.5	25.5	40%	276.4	27.9	53.4	0.0016
Mayo Dawson line	2,630.6	60%	1,578.4	97.2	40%	1,052.2	106.1	203.3	0.0063
Carmacks-Stewart (Stage 1)	924.6	60%	554.7	34.2	40%	369.8	37.3	71.5	0.0022
Other Lines	2,786.8	60%	1,672.1	102.9	40%	1,114.7	112.4	215.4	0.0066
Total Transmission Costs	7,032.9		4,219.7	259.8		2,813.1	283.8	543.6	0.0167
								7.7%	
Minto Mine				259.8			283.8	543.6	0.0167
DISTRIBUTION COSTS									
Accounting & Marketing	2,279.8				37.6			37.6	0.0012
Other	9,956.0				-			-	-
Total Distribution Costs	12,235.8				37.6			37.6	0.0012
								0.3%	
Minto Mine					37.6			37.6	0.0012
other					0			0	-
TOTAL COSTS	**48,966.2**			**860.1**	**37.6**		**2,296.0**	**3,193.6**	
net of new items	46,693							6.5%	
Minto Mine				860.1	37.6	-	2,296.0	3,193.6	0.0983

Schedule YUB 1-10(1)B

Yukon Industrial Costs of Service- - 2008 estimate ($000)-Adjusted per YUB-YEC-1-10(1)

Transmission Asset Classification Modified to reflect Other Hydro Generation Asset Classification

	Customers	Energy			Coincident Peak			Minto Non-c Peak
LOADS		Sales MWh	Losses %	Generation MWh	Sales kW	Losses %	Generation kW	kW
Industrial								
Minto Mine	1	32,500	12.70%	36,627.5	4,004.0	14.70%	4,592.6	4,400.0
other	0	-	0.00%	-	-	0.00%	-	
sub total	1	32,500	12.700%	36,627.5	4,004.0	14.70%	4,592.6	
Other	15,750	292,000	11.81%	326,485	61,947	13.00%	70,000	
Total	15,751	324,500	11.90%	363,113	65,951	13.10%	74,593	% of contract
							winter peak shaving	91.0%
Industrial Share	0.006%			10.087%			6.157%	

cost escalation since 97 26.37%

	Total Yukon	Demand Costs			Energy Costs			Total Industrial Class Costs	cents/ kW.h
		Classify %	Yukon Costs	Industrial Costs	Classify %	Yukon Costs	Industrial Costs		
PRODUCTION COSTS									
Fixed Costs:									
Diesel Plant	4,302.8	100%	4,302.8	264.9	0%	-	-	264.9	0.0082
Whitehorse #4	7,824.3	0%	-	-	100%	7,824.3	789.2	789.2	0.0243
Other Hydro	3,845.0	40%	1,538.0	94.7	60%	2,307.0	232.7	327.4	0.0101
Wind	199.4	0%	-	-	100%	199.4	20.1	20.1	0.0006
Sub Total	16,171.5	36%	5,840.8	359.6	64%	10,330.7	1,042.1	1,401.7	0.0431
FTN added cost	544.0				100%	544.0	54.9	54.9	0.0017
Sec Sales Credit	(1,101.0)	0%	-	-	100%	(1,101.0)	(111.1)	(111.1)	(0.0034)
Fuel Expenses	4,786.0	0%	-	-	100%	4,786.0	482.8	482.8	0.0149
Wind O&M	91.2	0%	-	-	100%	91.2	9.2	9.2	0.0003
Other Production O&M	5,045.8	50%	2,522.9	155.3	50%	2,522.9	254.5	409.8	0.0126
Risk Insurance	546.7	32%	177.3	10.9	68%	369.3	37.3	48.2	0.0015
Revenue Offsets	(210.8)	33.4%	(70.5)	(4.3)	66.6%	(140.3)	(14.2)	(18.5)	(0.0006)
Admin & General	3,824.1	33.4%	1,278.8	78.7	67%	2,545.2	256.7	335.5	0.0103
Total Production Costs	29,697.5	33%	9,749.4	600.3	67%	19,948.1	2,012.2	2,612.4	0.0804
								8.8%	
Minto Mine				600.3			2,012.2	2,612.4	0.0804
		WAF Line Costs							
		Faro mine assigned		0.00%					
TRANSMISSION COSTS		load share for balance		100.00%					
Specific Line (WAF)	690.9	40%	276.4	17.0	60%	414.5	41.8	58.8	0.0018
Mayo Dawson line	2,630.6	40%	1,052.2	64.8	60%	1,578.4	159.2	224.0	0.0069
Carmacks-Stewart (Stage 1)	924.6	40%	369.8	22.8	60%	554.7	56.0	78.7	0.0024
Other Lines	2,786.8	40%	1,114.7	68.6	60%	1,672.1	168.7	237.3	0.0073
Total Transmission Costs	7,032.9		2,813.1	173.2		4,219.7	425.6	598.8	0.0184
								8.5%	
Minto Mine				173.2			425.6	598.8	0.0184
DISTRIBUTION COSTS									
Accounting & Marketing	2,279.8				37.6			37.6	0.0012
Other	9,956.0				-			-	-
Total Distribution Costs	12,235.8				37.6			37.6	0.0012
								0.3%	
Minto Mine					37.6			37.6	0.0012
other					0			0	-
TOTAL COSTS	**48,966.2**			**773.5**	**37.6**		**2,437.8**	**3,248.9**	
net of new items	46,693							6.6%	
Minto Mine				773.5	37.6	-	2,437.8	3,248.9	0.1000

REFERENCE: Application, page 8

Secondary Energy under this rate is to be used only at a mine site engaged primarily in copper production for processing ore with less than 1% copper content ("Low Grade Ore"), and the customer will provide YEC with auditable reporting and controls as reasonably required by YEC to confirm that this secondary energy has been used only to process Low Grade Ore (any such energy use that is not so confirmed will be charged at the Industrial Primary Rate).

QUESTION:

1. What does YEC mean by "primarily"? What exclusions would apply?
2. Describe the auditable reporting and controls as stated in the above passage. Describe the reporting required by YEC as referenced in the next bullet on page 8. Describe how proper use of secondary energy will be measured versus improper use of secondary energy?
3. Why will Rate Schedule 35 remain fixed when the rates for other Secondary Sales customers are adjusted on a quarterly basis?

ANSWER:

(1)

"Primarily" means a mine where copper is by far the prime source of mineral product value produced.[1]

YEC has designed this rate in response to PPA negotiations with the Minto Mine, and in the absence of any other current potential mine customer discussions. The intent is clearly set out that the rate is to be used only at a mine site engaged primarily ("primarily" as other metals also occur to some degree in the ore) in copper production for processing ore with less than 1% copper content ("Low Grade Ore"). The Low Grade Ore criteria would have no meaning or relevance in the case of a mine site not engaged primarily in copper production, and YEC intends to review this terminology in the event that any other mine emerges that might potentially meet such a criterion in

[1] This is clearly the case for the Minto mine. Based on Sherwood's public releases (August 28, 2006), the current Minto mine plan is expected over the mine life to produce 269 million lbs of copper, 133 thousand oz of gold, and 1.6 million oz of silver. Based on assumed metal prices in this release, copper is expected to account for over 85% of the mine's mineral product value.

circumstances where the rate might also be available due to surplus hydro still being available.

As a practical matter, YEC notes that it is unlikely that surplus hydro would continue to be available for any WAF customers in the event that another major industrial mine were to be serviced concurrently with the Minto Mine. In addition, YEC notes that surplus hydro supplies are expected to gradually disappear in any event on WAF between now and about 2020. Accordingly, YEC has not considered it necessary at this time to focus attention on further refinement of what other mines may be included or excluded under this rate.

(2)

The referenced paragraph repeats the requirements, as set out in the rate schedule, that the customer will provide YEC with auditable reporting and controls as reasonably required by YEC to confirm that this secondary energy has been used only to process Low Grade Ore, and the provision that any such energy use that is not so confirmed will be charged at the Industrial Primary Rate (i.e., the Firm Mine Rate). At this time Minto has not provided YEC with any specific proposed auditable reporting and control mechanisms beyond its overall plans to stockpile (and monitor) Low Grade Ores as mined at the Mine Site for processing after the high grade ores have been processed. At such time as Minto decides that it wants to pursue use of this rate, the Parties will work together to establish auditable reporting and controls as reasonably required by YEC to confirm that this secondary energy has been used only to process Low Grade Ore. Such controls are likely to involve, among other considerations, auditable reporting by Minto of actual disposition of Low Grade Ore in stockpiles or as processed concentrate at the Mine Site from time to time, records of specific exclusive use of mill processing equipment at certain times to process such Low Grade Ore, and records of actual energy use by such processing equipment at such times.

The next bullet at page 8 of the Application states that the customer is also to provide reporting, as is reasonably required by YEC, to determine which portion of its recorded Demand and Energy in any billing month relates to such secondary energy use (any such Demand or Energy use that is not so confirmed will be charged at the Industrial

Primary Rate)[2]. The rate schedule (Schedule D to the PPA) addressed this reporting requirement under item (2) at pages 1 and 2, and provides for certain options:

- Aside from separate metering for secondary energy from firm energy (which will not occur in this instance), an option is provided for determining the secondary energy used to be all energy associated with the kV.A demand taken by the customer in excess of the customer's contract maximum kV.A demand and energy under the Firm Mine Rate. This approach, which reflects the approach adopted in Manitoba Hydro's Industrial Surplus Energy Program rate approved in the 1990s for customers using one meter for both firm and secondary energy service, would allow for secondary loads only at such times when the customer is already using the Firm Mine Rate to supply agreed upon maximum demand and energy. Based on discussions with Minto, it is not considered likely that Minto will elect to adopt this reporting approach.

- Other than as provided above, the customer must provide such additional reporting as is reasonably required by YEC to determine which portion of its recorded Demand and Energy in any billing month relates to such secondary energy use under this rate schedule rather than firm energy at the Firm Mine Rate. Any such Demand or Energy use that is not so confirmed will be charged at the Industrial Primary Rate (the Firm Mine Rate). At such time as Minto decides that it wants to pursue use of this rate, the Parties will work together to establish reporting as reasonably required by YEC for this purpose. Such reporting is expected to include provision for separate metering of electricity used in mill processing, along with procedures to use such metered facilities at certain times solely to process Low Grade Ore (such that metered use can be tied to specific processing of only Low Grade Ore).

In summary, the rate will only apply when reporting as reasonably required by YEC can be established to confirm or determine what is secondary energy as distinct from firm energy under the Firm Mine rate, and further to confirm that all such secondary energy has been used only to process Low Grade Ore. Failing such reporting, as reasonably required by YEC, all energy use will be charged at the Firm Mine Rate.

[2] Secondary Energy in this instance will be used to process Low Grade Ore in the same processing equipment used to process high grade ore with Mine Firm Electricity; thus, unlike rate Schedule 32 Secondary Energy, this Rate Schedule 35 energy will not be separately metered from firm energy supplied by YEC. However, metering of the relevant processing equipment would at least allow for separating this processing use of electricity from other uses at the Mine Site.

(3)

Rate Schedule 35 remains fixed because this rate (unlike Rate Schedule 32) is not in this instance tied to costs for displacing other energy sources; additionally, Minto can only access this rate for hydro surplus energy remaining after meeting rate Schedule 32 customer loads (even when this rate is higher than Rate Schedule 32), and no other mechanism was agreed upon for future adjustment of this rate.

REFERENCE: Application, page 10

Attachment B indicates that bringing Aishihik 3rd Turbine on line mitigates this situation by reducing diesel generation costs and extending secondary sales opportunities, e.g., baseload diesel generation required in 2016 is reduced to 1.8 GW.h with the 32.5 GW.h/year Minto Mine load and 6.6 GW.h/year (2015) with the 43 GW.h Minto Mine load.

QUESTION:

1. Is YEC of the view that all costs with respect to Aishihik 3rd Turbine should become part of its future revenue requirement and form the basis of a cost of service study? Is YEC also of the view that the results of such a study could indicate revisions to all rate schedules including schedules 39 and 35?

ANSWER:

At such time as Aishihik 3rd Turbine is developed and comes into service, YEC assumes that all costs with respect to this project would become part of YEC's revenue requirement and be considered in ongoing cost of service studies.

Aishihik 3rd Turbine costs could indicate a basis to revise Rate Schedule 39. To the extent that this project is accelerated as a result of the PPA and the CS/MS Project, the incremental increase in expenses and return on rate base related to such accelerated development would be included as Incremental YEC Costs in the determination of Mine Net Revenue and, as such, would not affect rate schedules for other rate classes.

Generally, beyond affecting Rate Schedule 39, it is not apparent that cost of service studies will have a material effect on other rate schedules over the next several years, i.e., until such time as fundamental rate rebalancing requirements identified by the Board over a decade ago have been meaningfully addressed. Further, as regards secondary rate schedules such as Rate Schedules 32 and 35 it is not apparent what revisions would be indicated by cost of service studies as the rates are not cost based.

REFERENCE: Application, page 11

The units provide added security to YEC and Minto as regards reliable supply at the mine; in YEC's case, the purchase agreements for this asset enhance YEC's security with regard to the Minto obligations to pay the Mine Spur Capital Cost Contribution.

QUESTION:

1. If the need of these assets was not identified in the 20-Year Resource Plan, then could they not be considered redundant? If the assets are redundant, what is the benefit to Yukon ratepayers? Would it be more beneficial to Yukon ratepayers to receive a monetary capital cost contribution that reduces net rate base versus receiving an asset which increases net rate base?

ANSWER:

The potential purchase of these assets was considered during the 20-Year Resource Plan hearing. If acquired, the assets would not be considered redundant – YEC would at that time also reassess timing of the Mirrlees Life Extension plans. These and other related considerations as regards the benefits related to these units are reviewed further in response to YUB-YEC-1-8(1) and (2).

The quote noted in this question from page 11 of the Application relates to only one of the benefits referenced at page 11 with regard to purchase of the Diesel Units. The PPA provides separately for a material Capital Cost Contribution to reduce rate base to the maximum amount feasible with regard to the Minto Mine PPA. The point references security benefits that occur in addition to the other relevant benefits related to acquiring these units.

REFERENCE: Section 5.1 No Adverse Impact on Ratepayers

…it is the parties intention that costs of the transmission project required to provide Grid Electricity to the Mine will not adversely impact other ratepayers in the Yukon.

QUESTION:

1. Is there a scenario where an adverse impact can happen? If so, describe such a scenario. Is there a possibility that the project could positively affect rate payers (reduce rates)? What is the likelihood of such a possibility?

ANSWER:

While there is always risk of adverse impacts related to any development, YEC has taken key measures to mitigate that risk for the Minto Mine and the Stage One CS/MS Project including undertaking extensive due diligence, securing Capital Cost Contributions beyond the Mine Spur, securing $24 million of minimum take-or-pay power purchase commitments within eight years and provision for the Mine Net Revenue Account as well as the YEC Security to back Minto's commitments.

Nevertheless, a risk remains that adverse rate impacts can occur in an extreme "worst case" type of scenario where the Mine permanently closes prematurely in its initial years of operation and Minto defaults on the YEC Security. Such a scenario can crate adverse impacts if the Capital Cost Contribution in particular (with accrued interest) is not fully paid to YEC, i.e., YEC would then be unable to recover from the Mine the amounts of the unpaid Capital Cost Contribution and, in addition, likely concurrent defaults on the take-or-pay and Decommissioning Cost payments would add to the adverse impacts on YEC and reduce the ability of the Mine Net Revenue Account to offset such risks.

Risks related to such an extreme scenario, as reviewed at section 5.2 of the Application, indicate that such a default and permanent closure of the Mine would need to occur relatively early in the expected Mine Life in order to have a material effect.[1] Risks in this regard would be increased to the extent that YEC experiences material delays in project

[1] The analysis at page 19 of the Application, for example, addresses a scenario where Additional Reserves are not confirmed and the full Capital Cost Contribution with interest becomes payable at the end of the fourth year of YEC service, or two years prior to the end of this shorter potential Mine life, at which time (a) the minimum take or pay payments to date will equal $12 million, (b) the net CS Project Stage One remaining net high estimate capital cost would be $13.4 million, (c) YEC would have paid in full for the Diesel Units ($2.24 million), and (d) the Mine Net Revenue Account is expected to have accrued an amount of about $7.0 million (Table C-1, Attachment C).

in-service and/or experiences major cost escalations beyond the high capital cost estimate in the Application. See also response to YECL-YEC-1-8 as regards such a hypothetical extreme scenario.

One way of mitigating the above types of risk under non-extreme scenarios is the Mine Net Revenue Account. The Mine Net Revenue Account operation per the PPA retains the initial net benefits from Mine operation and prevents "spending" these benefits at the outset through rate reductions during the initial years of Mine operation. The deferral account retains these benefits until the accrued balance in the Mine Net Revenue Account equals or exceeds the CS Project Stage One Undepreciated Capital Costs (at which time YEC will use any positive accrued balance in the Mine Net Revenue Account to offset the YEC regulated rate base). The likelihood of this possibility will depend on the risks noted earlier, as well as the extent to which other WAF load growth (including other new mines) reduce or remove the current forecast hydro generation surplus.

REFERENCE: Application, page 12, Mine Net Revenue Account

QUESTION:

1. What is the purpose of the account? Why does YEC want incremental annual Mine Net Revenues to not affect YEC earnings or the determination of the revenue requirements affecting other ratepayers in Yukon? How does the Mine Net Revenue Account ensure there are no adverse rate impacts on other ratepayers? Does the creation of this account also ensure that there are no positive rate impacts on other ratepayers? Does YEC believe this provision to be in accord with regulatory, COS and rate design principles?
2. Why is this provision in place as protection against any potential future negative earnings related to mine activities when the PPA provides security provisions for YEC? Does YEC believe the security provisions are adequate?

ANSWER:

(1)

As stated at page 12 of the Application, the purpose of this deferral account is to ensure that incremental annual Mine Net Revenue (or net costs) does not affect YEC earnings or the determination of the revenue requirements affecting other ratepayers in Yukon. This deferral account is one of the key PPA terms and conditions to help ensure, to the extent feasible, that the provision of Grid Electricity to the Mine through the Transmission Project will have no adverse impact on Yukon ratepayers in either the near or the longer term.

The response to YUB-YEC-1-6(1) reviews potential impacts ratepayers, over the life of the Mine, with and without the Mine Net Revenue Deferral Account. Overall, this deferral account provides rate stability while ensuring that all other Yukon ratepayers are eligible to receive in the future any positive net benefits that do in fact remain as a result of the PPA and the Stage One CS/MS Project, i.e., with or without the Mine Net Revenue Account, Yukon ratepayers will ultimately receive all of the direct net benefits that arise from these activities.

As reviewed at pages 14 and 15 of the Application, the Mine Net Revenue in each fiscal year will be assigned to the Mine Net Revenue Account and will not form part of YEC's

earnings in that year. In essence, during any fiscal year prior to the cessation of commercial operations at the Mine Site, any net impacts on YEC's earnings due to the Mine or due to the CS Project will be assigned to this deferral account and consequently not be considered when assessing the rate requirements applicable to other ratepayers. These provisions under Section 3.6 of the Agreement set aside positive net incremental earnings due to power sales to the Mine, retaining these net earnings as reserves to offset rate base costs and as protection against any potential future negative earnings related to the Mine activities. Once the Mine ceases commercial operations, YEC, subject to YUB approval, will close the Mine Net Revenue Account and use any remaining funds in such manner as is approved by the YUB, after review of submissions from YEC, Minto and other interested parties.

Accordingly, the provision of grid power to the Minto mine will have no material impact (positive or adverse) on the rates paid by other Yukon ratepayers, at least during the period prior to discharge of the YEC Security and/or the termination of 6.5% per annum interest earnings on the accrued Mine Net Revenue Account. This occurs when the accrued balance in the Mine Net Revenue Account equals or exceeds the CS Project Stage One Undepreciated Capital Costs. At this time YEC will use any positive accrued balance in the Mine Net Revenue Account to offset the YEC regulated rate base.

YEC believes that this deferral account provision is a sound and principled method to address basic concerns about Stage One CS/MS Project and related PPA risks, as well as potential rate instabilities that may otherwise be associated with such a project. Accordingly YEC does believe it is in accord with regulatory, COS and rate design principles especially in light of the Yukon context within which this project is being proposed including:

- **Faro mine era of rate instability**: The last era of Faro mine activity in the 1990s was associated with material rate instability for most Yukon ratepayers, i.e., rates jumped up and down depending on the state of mine activity in any year such that ratepayers came to view the mine (which had provided the base for development of the cost effective hydro generation and transmission infrastructure) as having a bad effect on Yukon rates. Neither Minto nor YEC want to see the PPA lead to another similar era of rate instability tied to mining activity; in this regard, rate instability related to near term rate reductions due to positive and material Mine Net Revenues will not be allowed before investment risk outcomes have been sufficiently resolved.

- **Faro experience with mine-related ratepayer risks**: Material concerns emerged in Yukon during the 1990s about the impact of mine-related ratepayer risks relating to bad debts, operating performance, temporary shutdowns and permanent shutdowns. The PPA is founded upon Minto providing a major Capital Cost Contribution that goes well beyond paying for the facilities being built for its sole use or what the ESRs would necessarily require (see response to YUB-YEC-1-7); in addition, Minto is providing a material $24 million minimum take-or-pay power purchase commitment and other commitments secured by the YEC Security. Minto is providing these key commitments on the condition that a Mine Net Revenue Account is established in order to prevent rate instabilities and to further minimize Mine-related risks to other ratepayers.

- **YEC investment in CS Project development of long term infrastructure**: YEC is utilizing the PPA and sales to the Minto Mine to support investment in Stage One of the CS Project long-term infrastructure development. In order to ensure that future ratepayers are not adversely affected when this Mine closes, the deferral account as provided for in the PPA ensures that near term ratepayer benefits are retained to offset the balance of undepreciated CS Project capital costs.

(2)

As noted above, this deferral account addresses many concerns associated with rate instabilities and risk and is not being provided solely as protection against potential future negative earnings related to mine activities. YEC believes that the security provisions in the PPA reflect a strong element of protection for YEC and ratepayer interests well beyond what has been provided in the past by other mines. Nevertheless, YEC is also aware of the risks that remain and the role of the deferral account in helping ratepayers to address many of these risks.

REFERENCE: Minimum Take-or-Pay Contract

QUESTION:

1. Explain footnote 26 on page 15 of the Application. If the Board does not agree with the COS as provided by YEC, what is the impact on this section? What is the impact on other ratepayers? Should the Board focus on the cost savings to Minto under the PPA or look at the impact on all ratepayers?

ANSWER:

Footnote 26 explains an element of Section 3.5 of the PPA.

Section 3.5 provides for reduction of the Minimum Take-or-Pay Amount to offset the loss of cost savings to Minto due to "certain stipulated YUB decisions" that materially adversely affect the cost savings to Minto under the PPA arising due to the conversion from reliance on electricity from diesel generation at the Mine Site to Grid Electricity[1]. Footnote 26 at page 15 of the Application describes the "stipulated YUB decisions" which can be summarized as follows:

- A YUB decision whereby the Firm Mine Rate is increased (after Board approval of the PPA and the Firm Mine Rate as set out in the PPA), and such YUB decision is "made on the basis of cost of service principles and methods which are inconsistent with the cost of service principles and methods in Schedule E" [of the PPA]; or
- The YUB, "in exercising its statutory jurisdiction, alters the terms and conditions of this Agreement" [the PPA].

This section presumes that the YUB approves the PPA (including the Firm Mine Rate) as set out in the Application by April 30, 2007, i.e., otherwise, as provided for in Section 3.1(a)(i) and the balance of Section 3.1, the PPA will terminate. The Board is not directly asked to approve the COS principles and methods set out in Schedule E. Section 3.5 of the PPA simply states that the Firm Mine Rate as provided for in the PPA was established based on the cost of service principles and methods in Schedule E, and acknowledges "that the Firm Mine Rate may be amended by the YUB from time to time

[1] Section 3.5 of the PPA also provides under these circumstances for the YEC Security to no longer be provided as continuing security for the Minimum Take or Pay Amount.

after 2008" without setting out any limitation on the YUB in making such amendments. Footnote 26 pertains to decisions of the Board made after approval of the PPA. There is no impact flowing from Section 3.5 from such future amendments to the Firm Mine Rate unless such YUB decisions:

- result in an increase to the Firm Mine Rate; and
- such increase decision is "made on the basis of cost of service principles and methods which are inconsistent with the cost of service principles and methods in Schedule E" [of the PPA]; and
- such increase "materially adversely affects the cost savings to Minto under this Agreement arising due to the conversion from reliance on electricity from diesel generation at the Mine Site to Grid Electricity."

Section 3.5 pertains to the COS principles and methods set out in Schedule E to the PPA, and not to the COS estimates set out in Attachment A to the Application. If the Board makes a Firm Mine Rate decision that increases this rate and that is not consistent with the Schedule E cost of service principles and methods:

- there is no impact unless such increase also materially adversely affects the Minto cost savings as noted above;
- in the event that such increase also materially adversely affects the Minto cost savings as provided for above, then Section 3.5 (as noted above) provides:
  - for reduction of the Minimum Take-or-Pay Amount to offset the loss of cost savings to Minto; and
  - for the YEC Security to no longer be provided as continuing security for the Minimum Take or Pay Amount.

The impact on other ratepayers in such event is a loss of security and Minto obligations related solely to the Minimum Take-or-Pay Amount. Minto is still obligated by all other terms and conditions of the PPA, and the YEC Security remains in place as continuing security for such other obligations regarding bill payments, Capital Cost Contribution payments, and the Decommissioning Cost Payment. Overall, the ultimate impact on other ratepayers will depend on the value of such take-or-pay commitments that are reduced and the security no longer provided with regard to all take-or-pay commitments.

By way of example, the Board might conclude in the circumstances that the risk to other ratepayers is minimal if the Mine is expected nevertheless to keep purchasing power

from YEC at the levels which would otherwise have occurred. Conversely, the Board might conclude in the circumstances that the risk to other ratepayers is material if the Mine is expected (as a result of these changes to Minto's obligations) to no longer purchase the same levels of power from YEC or to default on its obligations in a situation where the loss of the YEC Security provisions in this regard have a material impact on protecting future YEC and other ratepayer interests. In either situation, it is assumed that the Board would focus on its mandate, normal regulatory principles and the interests of all affected parties as provided for in the Board's mandate.

REFERENCE: Application, Section 5.3

Section 5.7 states that "the contribution to the Capital Costs incurred by YEC assigned to a New YEC Industrial Customer for the CS Project would be based on the segment and voltage level of a transmission line that each New Industrial Customer would require to receive Electricity in the absence of the Transmission Project or the CS Project."

QUESTION:

1. How does the above caption relate to YEC's Terms and Conditions? Is there a formula used by YEC in determining the amount of customer contributions? If so, provide the formula.

ANSWER:

Please see the response to YUB-YEC-1-7 where YEC's Terms and Conditions under the ESRs are reviewed in the context of the principles established for determining the Capital Cost Contribution by Minto. No specific formula is used in this regard, however, the referenced response notes IR responses on this matter in the 2005 hearing.

REFERENCE: Attachment A – Introduction and Overview, Page A-1

Section 3.5 if the PPA in effect also provides for ongoing adjustment of the Firm Mine Rate after 2008 by the YUB based on the cost of service principles and methods in Schedule E. It sets out impacts with regard to the Minimum Take-or-Pay Amount and the YEC Security in the event that the Firm Mine Rate is increased in future by a decision of the YUB made on the basis of COS principles and methods which are inconsistent with COS principles and methods in Schedule E when such a Firm Mine Rate increase materially adversely affects the cost savings to Minto under the PPA.

QUESTION:

1. Does YEC believe that the COS principles as enunciated in Section 3.5 of the PPA are the only COS principles applicable to Yukon ratepayers? Does YEC believe that the YUB has discretion to direct YEC to apply the COS principles it determines appropriate for the benefit of all Yukon ratepayers?
2. How was the final level of cost savings for Minto determined? What criteria were used to determine that level to be the appropriate amount of savings? Would Minto still be financially better off if the net cost savings were only $1,000,000?

ANSWER:

(1)

As reviewed in response to YUB-YEC-1-16, Section 3.5 of the PPA retains full YUB discretion to approve or change the Firm Mine Rate after 2008 based on COS principles and methods that the Board determines appropriate based on its mandate and responsibilities, and the evidence then available to the Board.

YUB has the discretion within the applicable legal requirements under Yukon legislation (for example, OIC 1995/90) to ensure YEC applies COS principles determined by the Board to be relevant in setting rates. YEC believes that the COS principles set out in Schedule E to the PPA include all relevant COS principles necessary for the Board to give the approvals requested and reflect principles and methods relevant to determination of COS for the Major Industrial Customer class, and may not address additional COS principles needed to determine COS for other customer classes involving additional considerations. The COS principles set out in Schedule E to the

PPA are based on the considerations set out in Section 4 of Attachment A of the Application, including:

- OIC 1995/90.
- Past COS filings of YEC/YECL.
- Previous Board COS rulings on such COS filings and related Major Industrial class rates.
- Additional general COS principles and methods adopted to reflect changes since the last YEC/YECL GRA filings, e.g., changes related to:
  - Faro mine closure, and
  - New major generation or transmission projects in service today or assumed to be in service by 2008 under the PPA.
- Specific COS principles and methods used to determine the 2008 Firm Mine Rate, many of which relate to sources of information and methods used to assess specific cost elements.

(2)

The PPA does not set out to establish a “final level of cost savings for Minto”, or “the appropriate amount” of such savings, and therefore no attempts were made to arrive at such determinations or criteria that might apply to any such determinations.

Attachment D provides estimates of Minto cost savings based on the assumptions set out therein. These savings reflect assumed Minto power requirements, assumed Minto costs for on-site diesel generation, assumed start dates for YEC service to Minto and other assumptions as noted. Key factors in this regard include estimated costs for the Mine Spur (Minto will pay actual costs), and the assumed Firm Mine Rate (any future YUB adjustments up or down in this rate will affect Minto savings). The estimates assume that the Firm Mine Rate is determined based on the COS principles and methods as outlined in Schedule E to the PPA and Attachment A to the Application (i.e., if the Board reduces or increases this rate after 2008 based on different principles and methods the Minto savings will accordingly be increased or reduced).

REFERENCE: **Attachment A, Forecast Consolidated Revenue Requirement, page A-2**

QUESTION:

1. Describe the coordination undertaken with YECL to determine the Rate Revenue Requirements.

ANSWER:

No coordination was undertaken with YECL to determine the Rate Revenue Requirement in Attachment A.

REFERENCE: Attachment A, page A-4

These COS filings determined cost of service estimates for each customer class based on consolidated forecasts using a three-step methodology to functionalize costs, classify costs, and then allocate costs to each customer class.

QUESTION:

1. Does YEC believe that there is a benefit to directly assigning the costs of assets to specific rate classes when those assets are only used by a particular rate class or can be applied to only a few rate classes?
2. With the development of the M-D transmission line and the proposed Stage 1 of the C-S line, does YEC see a benefit in reviewing and updating the classification factors for transmission assets?
3. Provide the studies and assumptions that the classification factors are currently based on. When were such studies last undertaken? If YEC is unable to provide such studies, does YEC believe it is fair for the YUB to approve a rate schedule that does not have such supporting studies?

ANSWER:

(1)

In situations where an asset is used only by one customer or one rate class, specific assignment of such asset costs for COS purposes may be appropriate. In the Yukon context, it is also important to keep in mind OIC 1995/90, past YEC/YECL filings and earlier Board decisions regarding COS, i.e., all systems for both utilities are treated together in one Yukon consolidated COS study, and it is relevant to review the extent to which such direct assignment of asset costs has been adopted in Yukon.[1]

As reviewed in response to YUB-YEC-1-10(3), in the current situation relevant to the COS in Attachment A of the Application for the Major Industrial Customer class, the only such costs clearly eligible to be assigned only to industrial customers would appear to be the Mine Spur costs (which Minto is fully responsible to pay for in any event), i.e., all other asset costs appear to be shared with one or more other customer classes.

(2)

Attachment A recognizes that the development of the M-D transmission line and the proposed Stage One of the C-S line each reflect new developments since the last full COS review by the Board for the 1996/97 GRA, and YEC's filing in this regard proceeded to review and update the classification factors adopted for these transmission assets. Attachment A also adjusts the 1996/97 GRA COS classification for the Whitehorse to Faro segment of the WAF transmission line to reflect closure of the Faro mine since that time. Although Attachment A did not modify the classification used for other transmission assets reviewed in the 1996/97 GRA COS filings, YEC can see a benefit when the next full COS study is done for Yukon in reviewing and updating the classification factors for these other transmission assets.

[1] As reviewed in Attachment A to the Application, past COS filings and Board decisions assigned to the Faro mine (the Industrial class) 85% of the WAF transmission costs for the Whitehorse to Faro line. The Board noted in Order 1996-7 that this assignment was "based on usage and is not related to the status of old versus new customer…the vintage of the customer is not currently appropriate to the development of the cost of service studies for the Yukon." The initial NEB June 1985 decision on this matter stated the following general principle: "…in the absence of contractual arrangements, established Commission policy, or regulatory decisions requiring a particular customer or group of customers to bear the cost of a new facility, be it a generating facility, transmission line or part of a distribution facility, the annual costs of such facilities should be included in the pooled costs to be allocated to all customers in the rate zone." The NEB then nevertheless went on to recommend that 85% of the annual costs of this transmission line segment be specifically assigned to this customer, reflecting "the circumstances surrounding the construction of the Whitehorse to Faro transmission line" in 1969 (an agreement between the mien and Canada, with NCPC then designated to build the 288 km line etc.), the fact that this customer when operating was assigned in excess of 95% of the annual costs of this line (remaining costs assigned partly to the towns of Faro, Carmacks and Ross River), and the NEB recommendation that this mine customer also be assigned its share of the pooled costs (including the 15% of this line's costs to be rolled into pooled costs).

(3)

Yes, YEC believes it is fair for the YUB to approve a rate schedule as COS in Yukon does not materially hinge on detailed system studies regarding classification or allocation ratios. The classification of the functionalized costs in Schedule A-1 of Attachment A to the Application focuses on costs relevant only to COS for the Major Industrial Customer class, and is based on the COS principles and methods in Schedule E of the Application (see item A (4) re: "classify costs", as well as item B(5)). The assumptions and information reviewed for each of these classifications are (see also response to YUB-YEC-1-10(1) and (4)):

- **Generation [Production] costs**: classification based on the 1996/97 GRA COS filing as approved by the Board, except as noted:
  - **"Fixed costs"** classification in Schedule A-1 is identical to 1996/87 GRA COS filing as approved for each function component, and also as specified in Schedule E to the PPA.
  - **"FTN added cost"** classification 100% to energy reflects an element treated differently than in 1996/97 GRA (see item 7 at page A-13 for explanation - the net effect of this change, and including the assumed 100% classification to energy of such costs, increases costs allocated to the industrial class); this classification is not specified in Schedule E to the PPA.
  - **"Secondary sales credit"** classification 100% to energy also reflects an element where there is a change from the 1996/97 GRA, i.e., no secondary sales were feasible when the Faro mine was assumed to be operating (see item 8 at page A-13 for explanation - the net effect of this change, and including the assumed 100% classification to energy of such costs, increases costs allocated to the industrial class); this classification is not specified in Schedule E to the PPA.
  - **Other Production costs –** classification of each functional cost component based entirely on 1996/97 GRA COS filing as approved by the Board; this classification is not specified in Schedule E to the PPA.

- **Transmission costs**: classification based on the 1996/97 GRA COS filing as approved by the Board, except as noted:
  - **Specific Line (WAF), Mayo Dawson line and Carmacks-Stewart (Stage 1) line**: classification 100% to energy reflects change to 1996/97 GRA to reflect changes since (closure of Faro mine and development of new lines);

classification 100% to energy on basis that these facilities basically being used to displace diesel generation with hydro generation rather than to meet peak winter demands for the communities and industries being served (see items 9, 10 and 100 at pages A-13 and 14 for explanation - the net effect of the 100% classification to energy increases costs allocated to the industrial class); this classification is specified in Schedule E to the PPA.

- **Other lines**: classification 100% to demand based entirely on 1996/97 GRA COS filing as approved by the Board; this classification is specified in Schedule E to the PPA.

- **Distribution costs**: classification focused only on one function (Distribution & Marketing) relevant to Major Industrial Customer class, and based on the 1996/97 GRA COS filing as approved by the Board[2]; this classification is not specified in Schedule E to the PPA (see page A-14 for review).

[2] As per the 1996/97 GRA COS filing, Customer Accounting (assumed at 82.6% of these costs) is allocated 98% based on number of customers, and 2% based on energy sales; Marketing is allocated 15% based on number of customers and 85% based on energy sales. Schedule A-1 in the Application shows the end result only of these calculations, i.e., the number shown ($37.6 thousand) is not in reality only an energy classified result.

REFERENCE: Attachment A (page A-5) – Faro mine COS rulings

QUESTION:

1. Please provide Exhibit 83 from the 1998 YUB hearing that set out the relevant final assessments and describe the modifications for the Industrial class required to reflect changes to WAF system costs. Where Schedule E classifies 100% of WAF transmission costs to Energy, comment on how this classification of costs conforms with the recommendations of the Electric Utility Cost Allocation Manual published by the National Association of Regulatory Commissioners (NARUC)?

ANSWER:

Exhibit 83 from the 1998 YUB hearing is a lengthy update filed July 6, 1998 revising YEC's 1998 Application then being reviewed by the Board. Almost all of that filing has no relevance to the matters under review in the current Application. The following referenced Schedules from Exhibit 83 are attached in Appendix A to this response:

- Schedule 3
- Schedule 6D[1]

The following elaborations are provided as to the source of number references to this Exhibit 83 in Table A-1 to the Application:

- **Column 1 re: Decision 96-7**: These numbers are provided in Schedule 3 to Exhibit 83 as attached under column "1997 Approved" (total Consolidated Rate Revenue Requirement of $47.746 million, per Decision 1996-7).[2]
- **Columns 2 and 3 re: Faro Mine Adjusted 1999 and Revenue Required 1999**: These numbers are provided in Schedule 3 to Exhibit 83 as attached, except for exclusion of all YECL-related changes shown in Schedule 3 (theses changes were not approved by the Board). These numbers reflect the assessment of 1999

[1] Board Order 1998-5 approved the recovery of the revenue shortfalls set out in Schedule 6D to Exhibit 83, excluding the Anvil bad debt and savings attributable to YECL in Schedule 6D. This Board Order also approved the 1997 and 1998 Anvil cost of service shortfalls as included in Schedule 6D (excluding Rider G balance, the approved 1997 cost of service shortfall was $1,326,700.

[2] These numbers for 1997 are consistent with the 1997 COS results (see total Consolidated Rate Revenue of $47.746 million) provided in Schedule C in Exhibit 206 in the 1996/97 GRA hearing, reflecting the COS filed in that GRA at Binder 2 Tabs 4 and 5, as updated for the negotiated settlement and final approvals given by the Board in that GRA. The relevant Schedule and portions of that exhibit were attached as Attachment A to the joint YEC/YECL "Report on the Most Recent Cost of Service Study", filed with the Board on August 24, 2005 in response to Board Order 2005-1.

Consolidated Rate Requirement based on the approved 1997 GRA as adjusted in the 1998 hearing for closure of the Faro mine.

- **Columns 4 and 5**: **ROE, debt amortization adjustment and Schedule 6D adjustment:** These numbers are a break out of numbers provided in Schedule 6D to Exhibit 83 as attached for 1999 (the attached Schedule 6D shows "reduced return on equity & debt cost adjustment (YEC)" of $909.3 thousand and "YEC adjustments (amortization & return)" of $752.8 thousand, resulting in a total adjustment for these factors (as approved by the Board) of $1,662.1 thousand – this is the same total adjustment provided in Table A-1 of the Application). Overall, the 1999 Revenue Required in Table A-1 of the Application reflects the adjustments to the 1997 GRA costs/required revenue as shown in Schedule 6D for YEC only (no adjustments were approved for YECL), ignoring special cost amortizations related to Anvil that either were not approved by the Board or are no longer applicable.

Schedule 6D to Exhibit 83 attached references Anvil cost of service shortfalls for 1997 and 1998 that were approved in Board Order 1998-5. The cost of service revised assessments for the Faro mine as part of the Industrial class were developed as part of the 1998 YEC application but no cost of service detailed information or assessments were provided in Exhibit 83 beyond the overall adjusted Anvil cost of service shortfall estimates.

Table A-3 in the Application sets out consolidated rate revenue COS details for 1997 by function as follows:

- **With Faro**: these numbers provide the details supporting Exhibit 206 (COS as approved by Board for 1997 based on 1996/97 GRA); assumes Faro operation in 1997 as then forecast for the 1996/97 GRA.
- **No Faro**: these numbers provide the details supporting Exhibit 83 (Anvil cost of service shortfalls for 1997 and 1998 as approved in Board Order 1998-5) except that this shows the case for 1997 with no Faro operation at all. This specific level of detail (as well as this specific "No Faro" case) was not provided in Exhibit 83.

The attached information from Exhibit 83 demonstrates the base for developing cost of service estimates by function for 2008 in a manner consistent with the 1996/97 GRA and Board Order 1998-5 approved adjustments to such industrial class cost of service to reflect the Faro mine closure. Further modifications to these function costs are set out in

Table A-3 as needed to develop the 2008 estimates. Other modifications for the Industrial class assessments required to reflect changes to WAF system costs, including classification adjustments (an the related rationale for such classification changes), are described in Attachment A to the Application and in response to YUB-YEC-1-20.

With respect to classification of 100% of transmission costs to energy, this approach is not specifically addressed in the NARUC manual cited. This is because this form of classification is not common on cost-of-service studies in North America. However, the situation in Yukon is quite unique compared to most of North America in that transmission is being used primarily to offset diesel fuel costs. In this regard, YEC notes the following:

- The NARUC manual specifically notes "In general, customers are allocated a portion of the fully distributed (embedded) cost of the transmission system on a basis similar to the way production costs are allocated". In Yukon, production (i.e., generation) costs that are primarily linked to avoiding diesel fuel use are classified 100% to energy. In particular this classification applies to the fourth wheel at Whitehorse.
- One approach that NARUC cites (but notes is uncommon) is a mixture of "an energy-deliver system component, allocable on an energy basis" and "a reliability component, allocable on the basis of some demand or capacity measurement". As the lines in question are not redundant and are specifically noted in the capacity planning criteria (particularly the N-1) as being not related to firm capacity reliability, such as approach would lead to a 100% energy classification.

In any event, YEC has proposed a 100% energy classification as a reasonable approach to both the Mayo-Dawson and Carmacks-Stewart lines reflecting their key role in displacing diesel fuel and to ensure that high load factor customers (such as Minto) are not under-contributing to the overall system costs. In the event the previous 100% demand classification is retained, or some mixture of demand and energy classification is adopted, the cost of service allocation to Minto will be slightly reduced compared to the cost-of-service calculations in the PPA.

Appendix A - Schedules 3 and 6D from Exhibit 83 in 1998 Hearing:

SCHEDULE 3: CONSOLIDATED REVENUE REQUIREMENT FOR 1998 & 1999 WITH ANVIL CLOSURE ($000)
(Changes to forecast due only to revised Anvil loads - assume 1997 forecast applied to 1998 & 1999)

Revenue Component	1997 Approved (Decision 1996-7)	1998 Adjusted (Faro mine impacts)	1998 Change	1999 Adjusted	1999 Change (Faro mine impacts)
YEC					
Fuel expense	7,828	1,967	(5,861)	1,155	(6,673)
Intercompany transfer	11	11		11	
Other operating & maintenance	9,538	8,355	(1,183)	8,191	(1,347)
Depreciation expenses, net	5,352	5,352		5,352	
Return on rate base	10,417	9,824	(593)	9,358	(1,059)
Revenue Requirement	33,146	25,508	(7,638)	24,067	(9,079)
YECL					
Fuel expense	2,189	1,965	(224)	1,840	(349)
Intercompany transfer	14,735	14,879	144	14,959	224
Other operating & maintenance	5,326	5,292	(34)	5,274	(52)
income tax expense	1,957	1,957		1,957	
Depreciation expenses, net	2,287	2,287		2,287	
Return on rate base	3,178	3,178	-	3,178	-
Revenue Requirement	29,672	29,558	(114)	29,494	(178)
Consolidated total Yukon					
Fuel expense	10,017	3,932	(6,085)	2,995	(7,022)
Other operating & maintenance	14,864	13,647	(1,217)	13,464	(1,400)
income tax expense	1,957	1,957	-	1,957	-
Depreciation expenses, net	7,639	7,639	-	7,639	-
Return on rate base	13,595	13,002	(593)	12,536	(1,059)
Consolidated Revenue Requirement	48,072	40,176	(7,896)	38,591	(9,481)
less:					
Other Revenues	326	326		326	
Consolidated Rate Revenue Requirement	47,746	39,850		38,265	
less:					
adjustments for billing(e.g.unbilled growth)	103	103		103	
Consolidated Forecast Required Rate Revenue	47,643	39,748		38,163	
less:					
Faro mine revenue forecast	14,820	1,091	(13,729)	-	(14,820)
Surcharge rider revenue	-	-	-	-	-
Forecast revenue non-Faro mine	32,824	32,824	-	32,824	-
	47,643	33,915	(13,729)	32,824	(14,820)
Revenue Shortfall		**(5,833)**	**(5,833)**	**(5,339)**	**(5,339)**

Note: source for 1997 approved costs and revenue forecasts is Exhibit 206 from 1996/97 GRA.
see Tables 2A and 2B attached for calculation of the various adjustments.
YECL added wholesale cost to offset reduced diesel costed at $.0684/kw.h (corrected 1997 wholesale rate)

SCHEDULE 6D: CONSOLIDATED REVENUE SHORTFALLS (1997 - 1999) DUE TO FARO MINE CLOSURE AFTER VARIOUS ADJUSTMENTS ($000)
Faro mine rider requirements based on 1996/97 Settlement, adjusted for Faro mine closure
Assign & amortize Anvil potential bad debt & cost of service shortfall for 1997 and 1998
Potential fair return adjustments for YEC in 1997 and for YEC/YECL in 1998 and subsequent years & adjustments to 1997 amortization costs for 1998 & 1999

		1997 Impacts	1998 Impacts	1999 Impacts	Total
Revenue Shortfall (97GRA) excluding bad debt (Schedules 1 & 3):					
shortfall in revenue from Faro mine		7,474.9	13,728.6	14,819.7	36,023.2
fuel cost savings (YEC)		(2,929.9)	(5,861.1)	(6,672.7)	(15,463.7)
fuel cost savings (YECL)		-	(224.2)	(349.4)	(573.6)
diesel O&M savings (YEC)		(591.3)	(1,183.4)	(1,347.3)	(3,121.9)
diesel O&M savings (YECL)		-	(33.6)	(52.3)	(85.9)
7% Note savings (impact on YEC Return)		(66.7)	(593.3)	(1,058.9)	(1,718.9)
Net Impact (assumes 97GRA allowed return)		3,887.0	5,833.1	5,339.1	15,059.2
Recover to date (20% rider in 97)		(1,430.0)	-	-	(1,430.0)
Net shortfall yet to be recovered		2,457.0	5,833.1	5,339.1	13,629.2
Potential Fair Return Adjustments for 1998 and Subsequent Years (Table 3):					
(updated for long term bond yields & other major adjustments in financing costs)					
reduced return on equity & debt cost adjustment (YEC)		(318.3)	(558.8)	(909.3)	(1,786.4)
reduced return on equity/tax expense (YECL)		-	(341.5)	(341.5)	(683.1)
total adjustment		(318.3)	(900.4)	(1,250.8)	(2,469.5)
Amortize Anvil Potential Bad Debt & 98 Shortfall over 5 Years (Table 6):					
(includes return on unamortized YEC rate base)	**Amount amortized (with adjusted fair return)**				
outstanding Anvil invoices	3,177.2		736.7	797.1	1,533.8
97 Anvil cost of service shortfall & Rider G Balance	1,617.1		390.6	422.6	813.2
98 Anvil cost of service shortfall	3,298.3		764.8	827.5	1,592.3
total 5 year amortization	8,092.6		1,892.1	2,047.1	3,939.2
Adjustment to 1997 Amortzation Costs for 1998 and 1999 (Table 7):					
(includes savings on return included in 1997 rates)	**Amount amortized (with adjusted fair return)**				
YEC adjustments (amortization & return)	3,664.5		(754.7)	(752.8)	(1,507.5)
YECL adjustments (amortization & return)	652.8		(139.3)	(139.3)	(278.6)
total cost reduction in rates after 97	4,317.3		(894.0)	(892.1)	(1,786.1)
Reduction for assigning Faro mine 97 & 98 cost of service shortfall		(1,326.7)	(3,298.3)		(4,625.0)
Total YEC Revenue Shortfall	**(A)**	**812.0**	**2,632.5**	**5,243.3**	**8,687.9**
assumed 89.3% assigned to YECL wholesale customer		725.1	2,350.8	4,682.3	7,758.3
Faro mine rider requirements for all non-Faro customers during the balance of 1998 & 1999					
			5 month 97 & 98	**12 month 1999**	**17 months**
Calculation with adjusted fair return & adjusted 1997 amortization costs	**=A/B=**		24.60%	15.97%	**18.55%**
	YECL wholesale rider		***49.86%***	***31.78%***	***37.11%***
Projected non-Faro mine sales (97 GRA forecast)					
17 months (June 1, 1998 to December 31, 1999)	**(B)**		14,003	32,824	46,826.5
		YECL wholesale 97	6,168.7	14,735.2	20,903.9

1

REFERENCE: Flexible Term Note

QUESTION:

1. Describe the Flexible Term Note (FTN), the outstanding balance, amortization schedule, applicable interest rate, relevant terms, payment schedule and how payment amounts are determined.

ANSWER:

As described in Exhibit B-16 in the Resource Plan Hearing (footnote 4), on March 30, 2005 Yukon Development Corporation (YDC) purchased the FTN from the Government of Canada for $11.3 million; the purchase price reflected the Note's reduced value (face value of $28.278 million at the time of the acquisition) due to there being no industrial customers on WAF.

The terms of the FTN with YEC, which remain unchanged, provide for the following:

- Bears interest at 7% per annum, and requires principal payments of up to $1 million, payable in annual installments;
- Payments of interest and principal to be deferred and abated, respectively, if YEC's power sales on the WAF distribution system are less than specified amounts.
  - No interest or principal are payable in a fiscal year if such WAF sales are 200 GW.h or less;
  - Full interest and principal are payable in a fiscal year if such WAF sales are 310 GW.h or more; and
  - Interest and principal are in effect pro-rated down from full levels in a fiscal year to the extent that such WAF sales remain above 200 GW.h and below 310 GW.h, e.g., if such WAF sales are 255 GWG, interest is at 3.5% per year and principal payable is $500,000.

After adjusting for abated interest, the effective interest rate on the FTN for 2005 was 2.90% (compared to 2.86% in 2004). The FTN balance outstanding as at December 31, 2005 was approximately $27.9 million after payment of the 2005 principal amount.

For the purpose of Attachment C to the Application, the relevant WAF sales for 2005 (245.6 GW.h) were increased at 1.85% per year for non-mine sales.

REFERENCE: Attachment A, page A-6, footnote 6

QUESTION:

1. Has the use of Whitehorse #4 unit changes from strictly diesel displacement to contributed to meeting winter peak demands?

ANSWER:

It is likely that an updated COS would need to consider the portion of Whitehorse #4 unit that contributes now to meeting winter peak demands (about 4 MW out of 20 MW, based on the Resource Plan). The net effect of such a change would be to reduce costs allocated to the Major Industrial Customer class.[1]

Conversely, an updated COS would also likely consider the revised capacity planning criteria adopted by YEC and the effect of the N-1 criteria in particular as regards classification of Aishihik generation costs, i.e., under the N-1 criteria Aishihik no longer contributes any capability to meeting winter peak demands and thus, in effect, is used only to displace diesel energy generation. The net effect of such a change would be to increase costs allocated to the Major Industrial Customer class.

Overall, the Application ignores both of the above potential updates to the COS. YEC currently does not expect such changes overall to result in a material change to the Industrial class COS for 2008 as presented in the Application.

[1] The Firm Mine Rate as filed would still nevertheless conform with the requirements of OIC 1995/90, i.e., this rate directive requires that such rates must be sufficient to recover costs of service to this class of customers, and rates comply with the directive if they equal or exceed such costs.

REFERENCE: Attachment A, Secondary Sales, page A-7

Secondary sales revenues as forecast are treated as an offset against generation costs (YECL secondary sales revenues) and distribution costs (YECL secondary sales revenues); the forecast secondary sales rate variance (as forecast for 2007 in the latest Rider F filing with YUB) are included as offset to generation costs.

QUESTION:

1. Should this assumption be reviewed to include a portion to offset some transmission costs?

ANSWER:

No, there does not appear to be any reasonable need to consider such an added complexity. The secondary sales credit related to distribution has been separated from the balance, which clearly relates to the hydro energy generation fixed asset function as to cause, i.e., secondary sales do not affect winter peak capacity requirements or costs.

REFERENCE: Attachment A, page A-8

QUESTION:

1. Describe the purpose of a transmission system. Could it be argued that the M-D transmission system class is within that purpose and therefore should use appropriate transmission classification factors and allocators? Will Stage 1 of the C-S line not only meet new load requirements but also contribute to meet peak winter loads?

ANSWER:

As noted, the classification adopted for the MD and CS lines in Schedule E of the PPA of 100% of these costs to energy notes that each line will basically be used to displace diesel generation (rather than to meet peak system winter demands) for the communities and industrial customers being served. This is consistent with basic cost of service matching principles that costs should follow benefits. The benefits of the MD line relate almost entirely to energy related costs (i.e. diesel fuel). See also response to YUB-YEC-1-20 and YUB-YEC-1-10. In the event that future comprehensive COS reviews for Yukon amend this classification such that some portion of these costs is allocated to demand, the net effect will be to reduce costs allocated to the industrial class relative to a classification of 100% to energy.

REFERENCE: Attachment A, Explanation of Estimated 2008 Yukon Industrial COS

QUESTION:

1. When were the latest studies completed on Marketing, Accounting, Administration and Overhead allocations? When were the latest load studies completed to determine appropriate energy, demand, and customer allocators? How were the forecast customer class loads estimated? What is the basis for the line loss assumptions for the Minto and CS loads?

ANSWER:

The last time that a full COS was prepared was for the 1996/97 GRA. It is not clear when, if ever, before that time specific studies were conducted for all of the elements noted in the question - WAF system generation and sales load studies were carried out by YECL for the 1996/97 GRA, and reflected, as appropriate, in COS assessments (keeping in mind that the COS must address consolidated total Yukon loads for all systems). See also response to YUB-YEC-1-10(4). In any event, the components noted above, make up a relatively small part of the rate to Minto (depending on the definitions, these may comprise between 1.2% and 11.5% of the line item cost identified in the COS study).

The only customer class load forecast in the Application relates to the Minto mine, and reflects stated requirements as set out in the PPA (Section 4.1). Total overall sales for the Yukon systems and related generation were forecast as described in Attachment A. Line loss assumptions for the Minto and CS loads were set at 5 percentage points above assumed average WAF wholesale losses adopted for non-Industrial sales in the Resource Plan (7.7%) in order to provide for such higher loss levels prior to completion of the needed engineering studies.[1]

[1] In the 1996/97 GRA, line loss assumptions for the Faro mine load were 9.1% for energy and 13.2% for coincident peak demand. The energy loss assumption reflected use of Faro diesel generation for portions of the mine load.

REFERENCE: Attachment A, FTN Added Costs, page A-13

"…noting that added generation due to new WAF loads resulting from the CS project is in effect causing these added costs…"

QUESTION:

1. What new generation is this line referring to?

ANSWER:

The wording is intended to refer only to added use of existing generation facilities to supply added WAF sales from the mine, thereby resulting in added FTN costs (see response to YUB-YEC-1-22). No specific new source of generation is being suggested.

REFERENCE: Attachment B, Framework for Assessment

The assessment generally adopts the framework used in the Yukon Energy 20-Year Resource Plan (2006-2025) to assess Base Case WAF forecast loads, generation, and costs under various resource options.

QUESTION:

1. Describe the areas that deviate from the framework.

ANSWER:

The two key assumption changes affecting the framework are noted at the bottom of page B-2 and the top of page B-3 re: secondary sales cap (at approximately 20 GW.h/year versus 30 GW.h/year earlier) and peaking dispatch (at 56 MW versus 54 MW earlier).

REFERENCE: Timing Requirements and Conditions, page 5

YEC is to have completed its due diligence review of Minto and the mine by February 28, 2007.

QUESTION:

1. Confirm that the review was completed by that date and advise of the results.
2. Will the financial and legal due diligence reviews being conducted by Behr Dolber and Davis and Company LLP be made available to the intervenors and the YUB?
3. Is the Mine still on schedule to commence commercial operations by June 30, 2007? If not, what is the revised date?

ANSWER:

(1)

The due diligence review of the Minto Mine has not been finally completed. There remains one issue outstanding between Minto and YEC relating to Minto's possible future plans of applying for an amendment to its Quartz Mining Licence and its potential impact on mine life. Although negotiations on this issue are not yet complete, both Minto and YEC are confident that an appropriate arrangement will be made between the parties shortly which will not materially impact the PPA. As a result of this issue the timing for the satisfaction of the due diligence condition in section 3.1 of the PPA was extended to March 16, 2007. With the exception of this minor issue, the legal and financial due diligence review undertaken by Davis & Company and Behre Dolbear has been completed and their findings and conclusions which have been discussed with YEC are sufficient to conclude that the due diligence condition outlined in section 3.1 (subject to the one issue described above) has been satisfied. Final confidential reports by Davis & Company and Behre Dolbear documenting their findings and conclusions are expected to be completed over the next couple of weeks.

(2)

In order to undertake a comprehensive due diligence review as has been done for YEC, it was essential that YEC's advisors be given access to Minto's confidential commercial information. Minto not only understood this need, they agreed to provide access to YEC's advisors. However, in order to obtain access to that confidential information, confidentiality agreements were required. Under those agreements YEC's advisors had

to agree not to disclose any confidential information. This is a normal term of any due diligence review. Therefore, the final reports which YEC will receive from Davis & Company and Behre Dolbear cannot be made available to the public because they will contain and analyze confidential commercial information provided to Davis & Company and Behre Dolbear by Minto Explorations Ltd. and its financial institutions. However given the importance of the due diligence review to YEC in going forward with the PPA and in order to provide the YUB with a summary of the due diligence reports provided to YEC, outlined below is a summary of the approach taken by YEC's advisors and the advice YEC has received from those advisors.

A. Legal Due Diligence Review

YEC retained Davis to conduct certain legal due diligence of Minto and the Mine as well as Minto's parent corporation, Sherwood Copper Corporation ("**Sherwood**").

Davis Due Diligence

For the purpose of Davis' due diligence Davis:

1. conducted searches of public registries both in British Columbia and the Yukon Territory against Minto and Sherwood;

2. reviewed technical reports and letters summarizing due diligence reviews undertaken by technical consultants and advisors to each of Minto and Macquarie Bank Limited ("**Macquarie**");

3. reviewed material contracts to which Minto and/or Sherwood are a party, including the loan and security documentation with Macquarie, the MRI Agreement, and the documentation relating to Minto's most recent financing;

4. reviewed licences and permits to which Minto is a party; and

5. reviewed extensive securities disclosure of Sherwood regarding Sherwood, Minto, and the Mine which is filed electronically with SEDAR at www.sedar.com.

Set out below is a complete list of the documents reviewed by Davis:

1

	Description of Document	Date of Document
1.	Yukon Type A Water Use License issued to Minto and Amendments dated August 6, 2002, September 20, 2005 and April 7, 2006	April 27, 1998
2.	Mining Land Use Approval for a Class III Operating Plan issued to Minto and Amendment dated April 20, 2004	April 26, 1999
3.	Notice of Royalty and Restriction of Transfer filed with the Yukon Mining Recorders Office by the Selkirk First Nation	April 28, 1999
4.	Yukon Type B Water Use License issued to Minto and Amendments dated June 18, 1998 and February 24, 2005	August 14, 1996
5.	Yukon Quartz Mining License QLM-9902 issued to Minto and Amendments dated December 22, 2005 (New License No. QML-0001) and October 5, 2006	October 4, 1999
6.	Technical Report on the Minto Project prepared by OreQuest	July 15, 2005
7.	SRK Consulting Memo to M. Fonseca (Macquarie Metals and Energy Capital (Canada) Ltd.) from M. Nowak regarding the Validation of Minto April 2006 Resource Estimates (Appendix A to the SRK Report dated July 2006)	April 28, 2006
8.	Minto Project Due Diligence Report July 2006 Update prepared by SRK Consulting Engineers and Scientists for Macquarie Bank	July 2006
9.	Due Diligence Report prepared by Mine and Quarry Engineering Services, Inc.	August 2006
10.	Technical Report (NI 43-101) for the Minto Project prepared by Hatch Ltd.	August 24, 2006
11.	Environmental and Legal Due Diligence of the Minto Project prepared by Lorax Environmental Services Ltd. for Macquarie Metals and Energy Capital (Canada) Ltd.	September 2006

	Description of Document	**Date of Document**
12.	Contract of Purchase between MRI Trading AG and Minto	September 27, 2006
13.	CAT Financial Lease Agreements between Minto, Sherwood and Caterpillar Financial Services Limited (Three Agreements)	October 6, 2006
14.	Review of Project Costs of the Minto Copper/Gold Project prepared by Mine and Quarry Engineering Services, Inc. for Macquarie	October 24, 2006
15.	Syndicated Project Facility Agreement between Minto, Sherwood and Macquarie	October 24, 2006
16.	Syndicated Subordinated Loan Facility Agreement between Macquarie and Minto	October 24, 2006
17.	JDS January 2007 Monthly Report on the Minto Copper Mine	January 2007
18.	User Agreement for Ore Storage and Loading Facilities between the Alaska Industrial Development and Export Authority ("**AIDEA**"), Minto and Sherwood	January 19, 2007
19.	Direct Agreement between Minto, YEC and Macquarie	February 8, 2007
20.	Underwriting Agreement made among Sherwood, BMO Nesbitt Burns Inc., National Bank Financial Inc., Blackmont Capital Inc., Dundee Securities Corporation, Haywood Securities Inc. and Westwind Partners Inc.	February 22, 2007

Part of Davis's retainer was to engage a mining consultant to conduct financial due diligence review of the Mine. As noted below, as a result of an interview process, Davis retained as a consultant to Davis, Behre Dolbear & Company, Inc. ("**BDC**") of Denver, Colorado.

Due Diligence Standard

In Davis' opinion the due diligence investigations of Minto, the Mine, and Sherwood carried out by Davis and BDC were extensive and of a standard one would expect to see in circumstances comparable to those of YEC entering into the PPA with Minto. In particular, the due diligence focussed on any legal, technical, or financial issues which would raise concerns to YEC about Minto's ability to fulfill its obligations to YEC under the PPA, in particular Minto's ability to make the:

1. Mine Spur Capital Cost Contribution;

2. Carmacks-Minto Landing Capital Cost Contribution;

3. minimum take or pay obligation under Section 6.2 of the PPA; and

4. Decommissioning Cost Payment;

given Minto's financial obligations to Macquarie under the PLF Agreement and the SLF Agreement, to MRI under the MRI Agreement, the holders of convertible unsecured subordinated debentures in the amount of $40 million (CDN) in respect of an offering announced on February 22, 2007, and Minto's other obligations in respect of the Mine generally, (the "**Minto Obligations**").

Davis Due Diligence Findings

Searches of Public Registries

Davis conducted extensive searches of public registries both in the Yukon Territory and British Columbia of each of Sherwood and Minto. Both Sherwood and Minto are incorporated entities. Sherwood is listed on the TSX Venture Exchange and is a reporting issuer of its securities in each of British Columbia, Alberta, Manitoba, Ontario, and Nova Scotia. Minto is a wholly-owned subsidiary of Sherwood. Minto owns 100% of the mineral claims which constitute the Mine, subject to a 0.5% net smelter return royalty in favour of the Selkirk First Nation ("**SFN**").

Each of Minto and Sherwood have a number of Personal Property Security Registrations against them in each of the Yukon Territory and British Columbia. These registrations relate to the leasing of equipment and vehicles for the Mine as well as the financings which Minto has done with each of Macquarie and MRI. None of these registrations are unusual.

A search in the Yukon Territory and British Columbia indicate no litigation against either Minto or Sherwood as at the latest date of Davis' searches being January 22, 2007.

Project Financing

Minto has financed the construction of the Mine through loan facilities with Macquarie in the amount of approximately $58 million (USD) and $20 million (CDN)[1]. In addition Minto has arranged an inventory financing facility with MRI of approximately $20 million (USD)[2] and a new financing of $40 million (CDN) of convertible subordinated debentures through an underwriting lead by BMO Capital Markets. The recent financing with BMO Capital Markets will be used, in part, to replace the $20 million (CDN) financing which was originally arranged with Macquarie.

Davis has reviewed all the documentation relating to each of these project financing facilities.

The project financing facilities are well documented and appear to be on commercially reasonable terms. When the security granted to YEC under the PPA is registered it will rank behind only the Macquarie bank facility with respect to all of Minto's property and assets, including the Mine, with the exception of the copper concentration. MRI will have the first charge over the copper concentrate with Macquarie and YEC ranking second and third. All other creditors, including the holders of the convertible subordinated debentures will rank behind YEC.

Each of YEC, Macquarie, and Minto entered into a direct agreement dated February 8, 2007 (the "**Direct Agreement**"). The Direct Agreement provides for the respected priorities between YEC and Macquarie and sets out a procedure to be followed if Minto goes into default under either the Macquarie loan facilities or the PPA.

The main points of the Direct Agreement are as follows:

(a) Macquarie acknowledges YEC's priority with respect to its Miner's Lien rights consisting of the cost of electricity provided, the Capital Cost Contribution accruing due and interest accrued thereon.

(b) any other security held by YEC is subordinate to Macquarie's security.

(c) YEC agrees not to enforce its security until Macquarie is paid out, but YEC maintains its Miner's Lien rights.

(d) Macquarie acknowledges the terms of the PPA which provide that Minto will not make certain changes to the terms of its loans with Macquarie without YEC's prior consent.

[1] The $20 million (Cdn) facility with Macquarie has not to date been utilized.
[2] There is presently nothing owing under this facility.

(e) YEC agrees to give a copy of each invoice to Macquarie together with a statement of liabilities (showing unpaid amounts and any other outstanding obligations) and agrees that Macquarie may pay the invoice directly.

(f) YEC agrees to give Macquarie 15 Business Days notice of its intention to terminate or suspend the delivery of electricity to Minto.

(g) Macquarie can use the 15 Business Days to decide whether to step in and take over Minto's operations.

(h) if Macquarie does not step in then YEC is free to enforce it Miner's Lien rights.

(i) if Macquarie does step in, then it must pay the arrears within 5 Business Days and thereafter it must pay the monthly invoices (for power, accrued Capital Cost Contribution and interest and accrued Decommissioning Costs) within 10 Business Days of receipt.

(j) if Macquarie gives YEC its direct covenant to pay the electricity then YEC will give Macquarie 30 calendar days (rather than 10 Business Days) from the receipt of the invoice to pay.

(k) if Macquarie steps out or doesn't pay when due, then YEC can terminate and exercise its Miner's Lien rights.

Permits and Approvals

In the course of Davis' due diligence Davis reviewed Minto's various permits and approvals under applicable legislation which would be necessary for Minto to own and operate the Mine. Davis is of the view that Minto has all requisite permits and approvals required to own and operate the Mine and that each of these permits and approvals are in good standing.

Environmental

Davis reviewed various third party environmental reports relating to the Mine. Although Davis did not undertake any independent environmental searches, site visits, investigation, or interviews, Davis is of the view that Minto has all necessary environmental permits and approvals required to operate the Mine.

Closure and Reclamation

Minto has obligations under both its water licence and under the *Quartz Mining Act* to furnish and maintain security. Davis' review indicated that Minto has posted all the security currently required to be posted under both its water licence and the *Quartz Mining Act*.

First Nations

On July 21, 1997 SFN signed a comprehensive land claim agreement ("**LCA**") with the Yukon Territorial Government and the Government of Canada. Under the LCA, the SFN were afforded rights to exercise certain powers over land use and environmental protection. The Mine lays within SFN category A settlement lands where both surface and mineral rights are reserved for the SFN. On September 16, 1997 Minto and the SFN entered into a Co-operation Agreement setting out the manner in which Minto and the SFN will work together on a variety of project related issues including environmental, social, and financial issues. Under the Co-operation Agreement Minto has granted to the SFN a 0.5% net smelter royalty interest in the Mine.

Minto has also entered into five surface leases and access agreements with SFN with respect to all the surface rights Minto requires for the purpose of owing and operating a mine.

Material Contracts

Minto has entered into a number of material contracts with various parties to assist in the construction and operation of the Mine.

On January 19, 2007 Minto and Sherwood entered into a User Agreement with the Alaska Industrial Development and Export Authority for the refurbishment of the Skagway ore terminal and its subsequent use by Minto for storage and handling.

Under the User Agreement Minto is responsible for certain costs. In addition, Minto is obligated to pay a user fee.

In addition, Minto has entered into a number of leases for capital equipment, in particular, leases with Caterpillar Financial Services Limited for the Diesel Units which will provide power to the Mine until the Mine is connected to the YEC grid.

Conclusion

Davis identified no issues which, based upon the information currently available to Davis and reviewed by Davis during its due diligence, would impact upon Minto's ability to fulfill the Minto Obligations.

B. Financial Due Diligence Review

Part of Davis & Company LLP's retainer was to engage a mining consultant to undertake a financial due diligence review of the Minto Project. Davis & Company along with representatives of Yukon Energy Corporation identified and interviewed several reputable mining consulting companies who had substantial experience in undertaking due diligence reviews. As a result of the interview process, Davis & Company retained Behre Dolbear & Company, Ltd., a wholly owned subsidiary of Behre Dolbear & Company Inc. (see YUB-YEC-1-29 Attachment 1 for copies of Behre Dolbear's corporate qualifications and the CVs of the individuals who were involved in the review).

Behre Dolbear was retained to conduct a due diligence review of the Minto Project to provide Davis & Company, on behalf of Yukon Energy, an opinion on the economic viability of the Project and Minto's potential ability to fulfill its financial obligations to Yukon Energy.

In order to undertake a due diligence review it was necessary for Behre Dolbear to review confidential information of Minto Explorations Ltd. and Macquarie Bank (the financial institution which provided financing to Minto) including due diligence reports prepared for Macquarie Bank which also reviewed the economic viability of the Minto Project. Therefore Behre Dolbear representatives were required to enter into a Confidentiality Agreement. As a result Behre Dolbear cannot publicly disclose the confidential information provided to it during its due diligence review.

Behre Dolbear has completed its due diligence review and is in the process of preparing a detailed confidential report for Yukon Energy, which will be finalized over the next two weeks.

The following information summarizes the approach taken by Behre Dolbear along with their opinions.

Behre Dolbear reviewed the economic viability of the project under seven headings: geology; capital spending; mining; environmental and regulatory; transportation, smelting and marketing; financial analysis and risk assessment. Their findings and opinions in relation to each matter are summarized below.

Geology

Behre Dolbear found that Minto's geological resources were well documented with recognized methodologies used to develop a Mineable Reserve.

Minto recently announced other nearby deposits that contain potentially mineable copper grades. The life of the Minto Mine could be extended if these deposits are proven economic.

After review by the Behre Dolbear team, geologic interpretations, as made by Hatch Ltd. and SRK Consulting Engineers and Scientists[3] in their reports, were considered to be correct and verified by observations of diamond drill core intersections, a review of drill programs and a check of data integrity.

Capital Spending

Behre Dolbear determined that the capital spending for the project to develop the open pit mine and construct processing facilities is well underway and progressing. Although in their view the project is on a very tight schedule and as a result there is a risk of cost overruns and delay in the mine start up date, they do not believe that the length of any delay or the amount of any cost overruns, should by occur, (given the amount of financing available to Minto) will materially affect the viability of the mine from YEC's perspective.

Mining

Behre Dolbear determined that mine development is now well advanced with an initial ore zone being recently exposed. Stockpiling of ore will occur in the coming months, well ahead of mill start up. They found that the mine plan has been significantly improved relative to the confidential Detailed Feasibility Study issued by Hatch and Associates in July, 2006.

Behre Dolbear's review did not discover any issue in relation to mining costs that would impact materially on the economic viability of the mine from Yukon Energy's perspective.

Ore Processing

Copper-bearing ore is primarily comprised of chalcopyrite and bornite, both sulphide minerals. The absence of pyrite and other deleterious elements simplifies the processing flowsheet, and so raises the confidence that in all likelihood a clean, high-

[3] Hatch Ltd. and SRK Consulting Engineers and Scientists were retained by Macquarie Bank to undertake a due diligence review of the economic viability of Minto and the Minto Project prior to agreeing to finance the Minto Project.

grade concentrate can be realised. Estimates of costs to construct and operate the mill are comparable with mills of similar size in semi-remote locations.

Contemporary testing on a global composite sample averaged 2.5% Cu, which is fairly representative of the ore grade for the early years of production. The test yielded favourable copper, gold and silver recoveries of 96 per cent, 77 per cent and 83 per cent, respectively. The presence of bornite contributes to producing a high-grade copper concentrate which can be expected to exceed 35 per cent copper and contain 11.9 g/t gold and 131 g/t silver.

Operating costs appear adequately detailed in the Hatch study, but may require up-dating in view of the new operating realities at the project. However, in Behre Dolbear's opinion these issues will not materially impact the viability of the project from Yukon Energy's perspective.

Environmental and Regulatory

Behre Dolbear is satisfied that environmental and regulatory requirements appear to be met.

Transportation, Smelting and Marketing

A concentrate haulage contract is not yet finalized but is not expected to present a problem, according to company officials. Concentrate will be transported at a nominal 8% moisture content in highway trucks to Skagway, Alaska, USA, a distance of approximately 400km. In Skagway a storage and ship loading arrangement has been negotiated with AIDEA. Necessary port upgrade costs will be initially borne by AIDEA, then transferred to Minto via a concentrate handling surcharge.

A concentrate off-take contract has been signed with MRI Trading AG of Zug, Switzerland. Ownership of concentrate transfers to the buyer at the mine gate. Concentrate shipment costs, including inland freight, port handling and ocean freight to a smelter of MRI's choice, will be borne by MRI and deducted from payments made to Minto.

Behre Dolbear does not believe there to be any material issue raised in relation to transportation, smelting and marketing.

Financial Analysis

The following information was provided by Behre Dolbear in relation to their financial analysis of the Project.

Minto has financed mine development and construction with a combination of equity and debt financing. Mine construction is directly financed through a loan from Macquarie Bank Limited. Macquarie has protected their exposure by directing Minto to enter into a forward sales contract for copper, gold and silver metal. Minto has agreed to repay the loan from operating revenues by 2009.

In addition to agreeing to finance a portion of the Yukon Energy electrical transmission line over a 7-year period, Minto has also raised funds through equity financing and a debenture that matures in 2012 and carries interest charges in the interim.

Under present conditions and according to information reviewed by Behre Dolbear, the Minto mining venture should generate a positive cash flow that is adequate to service all debt obligations including Minto's obligations to Yukon Energy under the PPA and also generate returns for shareholders.

Risk Assessment

Behre Dolbear identified that the Minto Project is not without risks, however, such risks are normal for such a project. Aside from operational risks of starting a new mine in central Yukon Territory, a shortage of skilled and experienced labour, equipment risks and climate challenges, the operation is moderately exposed to commodity price variations.

Behre Dolbear Conclusions

In Behre Dolbear's opinion, after factoring in any issues relating to possible delays and cost overruns, and other issues identified in review of the confidential information, the Minto Project continues to show positive after tax cash flow over the life of the mine and, therefore based on Behre Dolbear's review, the projected cash flow is adequate to service all debt obligations including Minto's debt obligations to Yukon Energy under the PPA, and also generate returns for shareholders.

Behre Dolbear does point out that after April 2011 when the forward sales contract expire (assuming no further similarly advantageous forward sales contracts are negotiated), the sale of all concentrate is subject to commodity risk. However, in Behre Dolbear's opinion, a conservative forecast of the long-term annual price of copper is expected to be in the order of US$1.20-$1.30/lb. Based on these prices and assuming the debt to Macquarie is paid as required under their present financing, the projected cash flows post 2010 are adequate to serve Minto operating expenses and debt obligations including Minto debt obligation under the PPA.

(3)

Minto has not announced any change to their target to start commercial operation in Q2 2007.

REFERENCE: Timing Requirements and Conditions, page 6

QUESTION:

1. The PPA sets out consequences to YEC if YEC is unable to provide Commencement of Delivery by September 30, 2008 to the mine. In the event YEC is unable to meet this date, what assurances can YEC provide that there will be no negative impact to ratepayers?

ANSWER:

The PPA sets out the consequences of delay in the Commencement of Delivery. As reviewed in response to YUB-YEC-1-14, the PPA in this regard (as well as other potential scenarios noted) retains potential scenarios where there could be a reduction in the short-term or long-term benefits to ratepayers through loss of revenues due to delays (see YUB-YEC-1-4), potential penalties or added costs resulting from delays after September 30, 2009, and other factors. In many such instances, the Mine Net Revenue Account will mitigate such adverse effects so as to prevent near-term adverse rate impacts and act only to reduce long-term ratepayer benefits. (see response to YUB-YEC-1-15 as well as UCG-YEC-2-1).

REFERENCE: Timing Requirements and Conditions, page 7

QUESTION:

1. The PPA indicates that the Firm Mine Rate may be amended by the YUB from time to time after 2008. If the YUB amended the mine rate prior to this time, is there any consequence on the PPA?

ANSWER:

Any such amendment is not contemplated by the PPA, i.e., YEC would understand that YUB approval of the PPA would involve approval not to change the Firm Mine rate until after 2008.

REFERENCE: PPA, Section 5.1, page 11

YEC states in the PPA that there is "no net costs to Yukon ratepayers", and further, that no individual ratepayer will see an increase to their rates due to the Transmission Project.

QUESTION:

1. Would this statement still hold if Sherwood Copper were to default on its financial obligations to YEC?

ANSWER:

The PPA includes many measures to prevent or mitigate net cost impacts to Yukon ratepayers, and to secure long-term ratepayer benefits, from the Mine and the Stage One CS/MS Project, including the Mine Net Revenue Account and the YEC Security as continuing security for key obligations and commitments undertaken by Minto.

As a result of the PPA's protection measures, a default by Minto need not automatically lead to net costs being imposed on ratepayers.

In general, under conditions where operation of the Mine remains viable using electricity delivered by YEC under the terms of the PPA, YEC would still expect there to be no overall adverse impact on other ratepayers from the costs of the Transmission Project if Minto Explorations Ltd. (the party to the PPA) were to default on its financial obligations to YEC.

As noted at page 11 of the Application (Section 5.1), the PPA states that "It is the Parties' intention that other ratepayers in the Yukon Territory will not be adversely impacted by the costs of the Transmission Project required to provide Grid Electricity to the Mine." In this context, it is intended and expected that there will be "no net cost to Yukon ratepayers", and that no individual ratepayer will see an increase to their rates due to the Transmission Project. The PPA includes many provisions designed to prevent any net cost to Yukon ratepayers, including the Capital Cost Contribution, the take-or-pay provisions, the YEC Security, and the Mine Net Revenue Account. Nevertheless, as reviewed in response to YUB-YEC-1-14, risks remain that adverse rate impacts can occur under certain extreme scenarios.

Focusing on the matter of a default by Minto, a default does not automatically mean that there will be a net cost to YEC or other Yukon ratepayers.

YEC was able to negotiate an arrangement with both Minto and its lender Macquarie Bank Limited (the "Direct Agreement" dated February 15, 2007) that if payment is not made by Minto within 30 Business Days of an invoice being rendered for a power bill[1] (with a copy to Macquarie) YEC can terminate power supply to the Mine (assuming Macquarie within a certain time period does not agree to step in and honour the relevant outstanding obligations), and the amount due and owing will be lienable against the Mine property and the Mine assets (under the *Miner's Lien Act*). This ensures that YEC will have a charge over Minto's assets in priority to Minto's lenders for the amount outstanding. In this way YEC and therefore ratepayers' risks are limited in amount and in terms of the capability of ensuring appropriate monthly payments are made (both for electricity and for loan payments).

Ultimately, notwithstanding a default by Minto, the PPA provisions are expected to provide YEC and Yukon ratepayers with protection so long as operation of the Mine remains viable using electricity delivered by YEC under the terms of the PPA with regard to rates and the Capital Cost Contribution payments. So long as the Current Bank Financing as defined in the PPA remains in place with Macquarie, the Direct Agreement provisions will provide YEC with the protections noted above as regards ongoing payment of monthly invoices. Thereafter, the YEC Security will provide YEC with a first charge over the Mine assets substantially as set out in Schedule F to the PPA.

As reviewed in the Application and the response to YUB-YEC-1-14, the risk that adverse rate impacts could occur if a default relatively early in the expected Mine life is associated with a permanent closure of the Mine.

[1] As defined, a Minto Power Bill each month includes charges for electricity delivered by YEC plus charges currently payable for the Capital Cost Contribution.

REFERENCE:

QUESTION:

1. Provide an example [Table format over a typical year] using Minto Mine energy requirements on how the Peak Shaving Option and Winter Load Contract would work.

ANSWER:

The Peak Shaving Credit is an option available under the Firm Mine Rate (Schedule C to the PPA). This option affects only the Demand Charge under the Firm Mine Rate, i.e., no change occurs to the Energy Charge of the Fixed Charge.

To pursue this option, the customer (Minto) must nominate the Winter Contract Load at no less than two-thirds of the customer's contract maximum load.

- For Minto, under the PPA, the **Maximum Electric Demand** under the PPA is currently 4.4 MV.A (Section 4.1 and 4.5 of PPA).
  - Assume Maximum Electric Demand is 4.4 MV.A, occurs in winter and equals the highest **Billing Demand** (under the Firm Mine Rate) in any 12 month period (i.e., under the Firm Mine Rate 4.4 MV.A then becomes the Billing Demand applicable throughout the year).
- Accordingly, the customer can currently nominate a **Winter Contract Load** of no less than 2.935 MV.A.[1]
  - Assume Winter Contract Load is 2.935 MV.A.
- **Peak Shaved Load** is then 4.4 MV.A less 2.935 MV.A (1.465 MV.A each month).

The Demand Charge and Peak Shaving Credit would then be as follows each month under this example:

- **Normal Demand Charge**: 4,400 kV.A times $15.00/kV.A: equals $66,000 per month.
- **Peak Shaving Credit**: Peak Shaved Load time 50% of the Demand Charge
  - 1,465 MV.A times $7.50/kV.A: equals $10,987.50 per month.

[1] See same analysis at Attachment A of Application, page A-16. Attachment A in effect assumes a power factor of 1.00 for billing demand at the Mine.

- Final Demand Charge less Peak Shaving Credit equals $55,012.50/month.

REFERENCE:

On February 1, 2007, the President of Sherwood Copper was quoted on the CBC as saying that the only way the transmission line [Stage 1 C-S line] will be built is if YEC carries the financing [~$11million] because Sherwood has no more debt capacity.

The BMO and flow through financing was done after this statement was made. The majority of the YEC loan repayments do not take place until after year 4 of production.

It would seem that mining companies and their investors are in the risk business but the YEC and its ratepayers are not. It would appear to be difficult to forecast what metal prices would be in four years when YEC would be receiving the bulk of its repayments. Minto is expected to save about $26.5 million over the period 2008-2016 using power from Stage 1 of the C-S line rather than generating electrical energy on site by diesel.

QUESTION:

1. Why is YEC assuming the risk and carrying the cost of the contribution when a significant financial benefit is accruing to Minto? Does YEC normally finance the contributions of its customers?

ANSWER:

YEC does not (and has not to date) finance(d) the contributions of its customers for extensions of service. YEC is carrying the risk in this instance in response to the special circumstances in this case, and based on the terms and conditions established in the PPA to protect YEC.

A key starting point, as the quote states, is that Minto has consistently said that it did not have the capability to obtain conventional debt financing to pay YEC at the outset (or to provide a letter of credit for same) for the capital requirements to interconnect to the grid.[1] YEC was informed that without financing by YEC the Mine would not interconnect

[1] The $40 million BMO financing that has recently been concluded as at February 28, 2007 is not conventional secured debt financing, i.e., it is a convertible debenture. This financing enhances the YEC Security in that it removes a material portion ($20 million, with the later repayment date) of the Macquarie Current Bank Financing that ranks ahead of the YEC Security; in addition, the BMO financing greatly enhances the overall financing for the Minto Mine to process with its current plans plus expected Additional Reserves development and provides further demonstration to YEC of confidence in this project by major financial institutions following their own respective due diligence reviews. The 5% interest payable under the BMO financing is materially below the 7.5% cost of capital charged by YEC to Minto under the Capital Cost Contribution financing.

with the grid. This matter was pursued with Minto for some time, and YEC in the end concluded that no reasonable option was available if the project was to proceed at this time other than, in effect, to provide financing for Minto's Capital Cost Contribution.

Upon review of the financing option, YEC learned of at least one recent regulatory example where a regulated power utility financed a new transmission line connection to serve only one mine customer.[2] In 2005, Newfoundland and Labrador Hydro (Hydro) received regulatory approval from the Board of Commissioners of Public Utilities (the Regulator) in Newfoundland and Labrador (Order No. P.U.12 (2005)) for the capital spending and the customer contribution agreement whereby Hydro would construct a 69 kV transmission interconnection of approximately 45 km to provide a load of 15 MW of power to a mine site (the Duck Pond Site) owned by Aur Resources Inc. at a cost of approximately $5.7 million that Aur will pay in equal monthly amounts over a five-year period together with financing costs at the weighted average cost of capital for Hydro as approved by the Regulator. At the time of this approval, the estimated economic life of the new Duck Pond Mine was between six and seven years. The contribution agreement for this utility financing did not include any take-or-pay provisions, special security or other special provisions to support such financing commitment.

Faced with an inability to secure Minto financing and the regulatory example regarding the Duck Pond Mine site where utility financing for such a transmission connection was provided with regulatory approval, YEC reviewed the 20-Year Resource Plan objectives and options, as well as the potential terms for YEC to provide financing for the Minto Capital Cost Contribution, noting the following in particular:

- **Surplus Hydro**: WAF surplus hydro conditions provide near-term opportunities to secure long-term benefits for other Yukon ratepayers if sales can be made to the Minto Mine; however, forecasts demonstrate that this surplus and the related opportunities are "time limited' and will shrink each year.

- **Investment only to serve Mine would ignore long-term Resource Plan objectives**: The ESRs regarding maximum utility investment by YEC in an extension of service to the Minto Mine would, under the current surplus hydro conditions, support a YEC investment of at least $7 million in a 35 kV extension

[2] As noted in the 1985 NEB report on NCPC, the utility (NCPC) bore all of the risk and cost for the original WAF transmission from Whitehorse to the Faro mine.

to serve only the Mine[3]; however, this approach would develop facilities only to serve the Mine, on the understanding that all of these facilities (including the 35 kV line from Carmacks to Minto Landing) would be removed when the Mine shut down.

- **Long-term use planned for CS facilities**: The CS Project facilities as planned would be built as long-term ongoing infrastructure for the benefit of all Yukon ratepayers, as the first stage of the project to connect the WAF and MD grids, and not solely to serve only one customer (the Minto Mine); to this end, these CS facilities as planned will not be decommissioned or shut down when the Mine is shut down. However, Stage One from Carmacks to Pelly Crossing at 138 kV (to contribute to the long-term project objective) requires material investment by YEC beyond what is needed simply to connect the Minto Mine to the WAF grid at 35 kV.

- **Magnitude of Minto savings creates special opportunities:** Minto can afford, from its diesel generation cost savings related to securing grid electricity, to pay fully for the capital costs otherwise needed for it to connect the Mine to the grid, i.e., material cost saving benefits are still available to the Minto Mine from Grid Electricity service even if the Mine was required to pay 100% of the cost estimated for the basic additional facilities (i.e., for additional 35 kV line facilities between Carmacks and Minto Landing) to connect the Mine with the WAF grid.[4] Based on Minto committing, as part of its Capital Cost Contribution, to fund $7.2 million of the CS Project capital cost (as well as all of the actual Mine Spur capital costs), YEC's investment derived from new power sales using the current hydro surplus can go towards development of long-term infrastructure in the CS Project as planned in the Resource Plan.

- **Minto minimum take-or-pay commitment of $24 million within eight years of YEC service**: The Minto minimum take-or-pay commitment provided YEC with confirmation as to special added commitments by Minto, in addition to the $7.2 million Capital Cost Contribution to the CS Project, to provide material revenues to YEC from near-term sales of surplus hydro, i.e., such revenues will, in combination with the Mine Net Revenue Account, enable YEC to, in effect,

[3] See response to YUB-YEC-1-7.
[4] Based on Attachment D to the Application, Minto savings from 2008 to 2016 would approximate $23.7 million ($16.6 million present value); the estimate of $26.5 million includes YEC payments for the Diesel Units.

recover the full expected costs of the Stage One CS Project over the life of this Mine.[5]

- **Minto security provided to YEC**: In addition to the $7.2 million Capital Cost Contribution to the CS Project and the $24 million take-or-pay commitment, the YEC Security provides YEC with a charge over the all assets of Minto, including the Mine, second only to the Current Bank Financing[6], as continuing security for the payment of the Capital Cost Contribution plus accrued interest, the Minto Power Bills, the minimum take-or-pay obligations, the Decommissioning Cost Payment, and Minto payments to Caterpillar related to the Cat Leases after these leases are assigned to YEC.

Overall, the above considerations combined with the fact that sale of YEC's hydro surplus at the Mine Firm Rate will not only reduce the YEC risk as each year of new service passes but will result in material benefits to ratepayers (see response to YUB-YEC-1-4) convinced YEC that it would be prudent to conclude the PPA for YUB review and approval.

If approved by the YUB, the PPA means that a major Yukon infrastructure development can now be undertaken which will ultimately interconnect YEC's two grids.

Subject to completion of its due diligence and the other conditions in the PPA, YEC is satisfied that although it is taking a risk, that risk is manageable (with the various terms and conditions under the PPA including the Mine Net Revenue Account) and it is a risk worth taking in these circumstances. For more on due diligence please see YUB-YEC-1-29.

[5] See Attachment C to Application; also response to YUB-YEC-1-15.

[6] A material element of YEC's review involved consideration of the expected life of the Minto Mine, which Minto's current official mine plan sets out as 7.2 years (or until at least the fall of 2014 if commercial operation begins in June 2007), and the PPA expects to exceed 10 years (or until at least the fall of 2017). In contrast, with completion of the BMO $40 million financing, Minto has covenanted under Section 6.6(d) of the PPA (subject to Section 6.6(h)) to repay the amounts owing under the remaining Macquarie financing (the PLF Agreement) in full on or before November 30, 2009.