

1 **REFERENCE: YUB Report to Executive Commissioner YEC 20-Year Resource**  
2 **Plan**

3  
4 **PREAMBLE:**

5  
6 On January 15, 2007, the YUB presented its recommendations regarding the hearing  
7 into YEC's 20-Year Resource Plan.

8  
9 **QUESTION:**

- 10  
11 a) Does YEC view these recommendations as an equivalent to a Board Order?  
12 Please elaborate as to why or why not.  
13 b) Does YEC agree that the fundamental premise of a Cost of Service Study is cost  
14 causation? Please elaborate as to why or why not.  
15 c) Does YEC agree that cost causation is predicated upon planning criteria?  
16 Please elaborate as to why or why not.  
17

18 **ANSWER:**

19  
20 **(a)**

21  
22 The YUB Recommendations arising from the review of YEC's 20-Year Resource Plan  
23 are not a Board Order. YEC views the Recommendations as equivalent to those  
24 provided in the 1992 Report to the Commissioner-in-Executive-Council regarding the  
25 YEC and YECL Resource Plan reviewed at that time, i.e., these recommendations arise  
26 from a specific direction under the Act for the Board to provide a report on a specific  
27 matter, with recommendations, to the Commissioner in Executive Council. YEC  
28 assumes that any Board Order under the Act, pursuant to the Board's mandate, will be  
29 clearly set out as such by the Board.  
30

31 **(b)**

32  
33 The purpose of a Cost of Service (**COS**) study is to allocate costs fairly across the  
34 various customer classes on a system. Cost causation is one factor underlying a COS  
35 study. However note that cost causation can have a number of different meanings, so  
36 other aspects of professional practice must inform the exercise.  
37

1 **(c)**

2

3 To the extent system loads are driving investment pursuant to an established planning  
4 criteria, this would be an example of one of many potential cost causation links that  
5 would merit attention in a cost of service classification and allocation process. This type  
6 of cost causation arrangement is typical of demand-related generation costs, which are  
7 typically allocated to customers based on their share of the system that is driving the  
8 investment.

1 **REFERENCE: YUB Report to Executive Commissioner YEC 20-Year Resource**  
2 **Plan – page 10 of 55**  
3

4 **PREAMBLE:**  
5

6 “The Board recommends that, in order to ensure that no new generating capacity is  
7 added for the purposes of ensuring reliable supply to major industrial customers and to  
8 ensure consistency with the N-1 criterion, major industrial loads should not be included  
9 in the LOLE calculation.”  
10

11 **QUESTION:**  
12

- 13 a) Does YEC agree with the Board’s above noted recommendation? More  
14 specifically, does YEC agree that no new generating capacity be planned or  
15 added to the system for the purpose of ensuring reliable supply to major  
16 industrial customers served under Rate Schedule 39?  
17 b) In light of the Board’s recommendation, please explain why you have allocated  
18 any generation or transmission costs classified as demand related to Rate  
19 Schedule 39.  
20 c) In light of the Board’s recommendation, please explain how YEC can propose a  
21 firm mine rate when you have not planned for a reliable supply to customers  
22 served under Rate Schedule 39?  
23 d) If no new generation or transmission is planned for major industrial customers,  
24 does YEC agree that this could likely change Minto Explorations’ position on the  
25 PPA? If yes, please explain YEC’s understanding of this change? If not, please  
26 explain why not?  
27 e) Please explain how the Board’s recommendation impacts the planning and  
28 timing of construction of the Aishihik #3 hydro unit.  
29

30 **ANSWER:**  
31

32 **(a) and (b)**  
33

34 The Board’s report in this regard appears to reflect a misunderstanding of the capacity  
35 planning criteria adopted by YEC as it impacts industrial customers<sup>1</sup>.

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<sup>1</sup> At page 11 of the Board’s Report, the Board stated that it was “YEC’s testimony that new generating capacity will not be planned, or added to the system, for the purpose of ensuring reliable supply to industrial loads” [a similar statement also

1 YEC's criteria as adopted reflect the need to plan the generating and transmission  
2 system to reflect reliable supply to industrial customer loads (based on including such  
3 loads in the LOLE calculations) to the extent these loads are firm power (i.e., would  
4 include "Rate Schedule 39 Firm Mine Rate" industrial loads, but not "Rate Schedule 35  
5 Low Grade Ore Processing Secondary Energy", for example).

6  
7 However, the Board's report states at page 10 that "YEC indicated that new generating  
8 capacity will not be planned or added to the system for the purpose of ensuring reliable  
9 supply to major industrial customers," and then goes on to note that the definition of the  
10 LOLE criterion "does not mention exclusion of major industrial loads explicitly..." and that  
11 if such loads were included in the LOLE calculations "the Board considers it to be an  
12 inconsistent approach, as inclusion of major industrial loads in the LOLE calculation will  
13 produce higher LOLE values....that would signal a need for new capacity." The quote in  
14 the YECL question then follows directly after these statements.

15  
16 The confusion appears to arise due to the difference between the LOLE and N-1 criteria  
17 as adopted by YEC, which YEC described as follows in Attachment A of the Reply  
18 Argument:

19  
20 "The largest practical difference between the LOLE criteria and the N-1 criteria is the  
21 calculation, or base of loads, to which the criteria will apply. The LOLE criteria is  
22 designed to ensure all firm loads (including industrial customers being served at firm

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was made at page 10] and a footnote then cites a reference from Mr. Morrison which suggests he indicated industrial customers would be treated, for capacity planning purposes, as if they were secondary sales customers. This interpretation of the reference is not correct. The quote by Mr. Morrison indicated that in an emergency situation (such as an Aishihik line outage at the coldest time of winter) any mines would likely be dropped from the WAF system as an emergency response measure as they would likely have their own emergency backup generation, where other types of customers (such as residential) would not. This is an emergency measure to mitigate the impact of severe outages. The quote however is not intended to indicate that YEC would not plan the system for industrial loads. This was clarified by Mr. Morrison at page 282 of the transcript as follows:

MR. MORRISON: I would just like to clarify, I may have left a wrong impression yesterday when answering a question from Mr. Pinard. It is page 87, and in the first few lines of that page, I had indicated that secondary sales customers and industrial customers are the same. And I just want to be clear that industrial customers are firm customers, they are not secondary sales customers. I was trying to use as an example in terms of backup, but I think I may have kind of lumped them together where I should not have. So in the secondary sales situation, when we reach the capacity in terms of the grid and we have to look at the peak, our practice has been that we have disconnected secondary sales customers if, in fact, to keep them on the system would require us to generate some diesel. So we do not provide any secondary sales if, in fact, we have to go a diesel mode to provide them.

In the case of industrial customers, they are firm customers. Now, in terms of an emergency, we have made it clear to the industrial customer, and we have made it clear, I think, yesterday as well, that the industrial customer would have to have its own backup supply on site. But I just wanted to make sure that we were not considering both industrials and secondaries as the same kind of customer.

THE CHAIR: Thank you, Mr. Morrison

1 rates) receive reasonable utility-grade supply from the system as follows at transcript  
2 page 446 line 7 - page 448 line 9:  
3

4 "Q: Mr. Bowman, yesterday when we were talking, I was left with the  
5 impression that you have factored in the mine loads in your  
6 calculation of the LOLE. Is that correct?  
7

8 A: Yes, when you are looking at the LOLE calculation, and the analysis  
9 of the entire system, you would look at all loads on the system,  
10 which includes the mine loads, and that is consistent with the way  
11 Dr. Billinton dealt with the system in his second report filed in  
12 response to YUB Question 1, the first round interrogatories, where  
13 Yukon Energy asked him to take what had he done in his first report,  
14 looking to the system today, and apply it to the system as it existed  
15 when the Faro mine was on, and he showed the impacts with the  
16 Faro mine associated with the LOLE calculation. And, as a result of  
17 that, and further discussion, what has been adopted by Yukon  
18 Energy is a criteria that says the LOLE will apply to all loads on the  
19 system, whereas the N-1 would apply to all those loads who do not  
20 have their own back-up, their own ability to supply their own power  
21 in emergency situation, which, for the purposes of calculation,  
22 means all loads, less the mines.  
23

24 Q: You know, I thought the same would have applied to the LOLE, that,  
25 since the mine loads are interruptible, that you would not factor that  
26 in to the LOLE either.  
27

28 A: Well, let me be really clear. The mines are not contemplated to be  
29 provided with interruptible power, in the sense that we talk about  
30 interruptible rates in other jurisdictions, or secondary power here, or  
31 something of that nature.  
32

33 Q: Fair enough.  
34

35 A: The service to the mines is intended to be a firm service that Yukon  
36 Energy would provide. It would provide in all hours of the year, as  
37 able to provide it, whether from hydro or from diesel, to a utility  
38 standard, including to a standard that would mean a LOLE of two  
39 hours per year. The comment about interrupting the mines goes  
40 more to when you have turned your mind over from design of the  
41 system, to what does one have to do when we hit those emergency  
42 situations. And when we hit the emergency situations, and you know  
43 the mines have their back-up, and they can keep themselves from  
44 freezing, Yukon Energy would turn its attention to keeping other  
45 people from freezing in the dark, as opposed to the mines, who can  
46 do that for themselves. But it doesn't go into the criteria type of  
47 analysis which says, in providing service to the mines, the system  
48 will be able to provide them with utility grade firm service meeting  
49 an LOLE of two hours per year, or better."  
50

1 Nonetheless, despite the presence of the LOLE criteria there is a significant additional  
2 protection required, given the topology of the Yukon System, to reflect the exposure  
3 to the non-industrial customers to the Aishihik transmission line. This is an added  
4 measure to reflect that, unlike typical mines, most customers do not maintain their  
5 own backup to supply their necessary loads in these situations, as discussed at page  
6 448 line 10 to page 450 line 24:  
7

8 "Q:Aren't you designing the system to meet the requirements, not  
9 specifically to the mines? Like, you are not designing the system to  
10 meet the load requirement of the mines because, as you say, you  
11 know, in an emergency situation, you can curtail the power to the  
12 mines to try to serve other customers.  
13

14 A: No, that is not quite correct. The system would be designed -- let  
15 me go back a step. The system has always been designed, under  
16 the previous criteria, to incorporate the mine loads. The calculation  
17 that was done in the past, on the deterministic criteria, always  
18 looked at all loads, including the mines. The '96 GRA, for example, if  
19 you looked at the peaks and measurement of the criteria, always  
20 had the Faro mine in at about 25 megawatts, at that time, in terms  
21 of determining the adequacy of the system. So it has always been a  
22 component of planning the system. The LOLE criteria continues that  
23 approach, that the system will be planned to ensure reliable service  
24 to all customers, including the mines.  
25

26 The only variation today is that Yukon Energy is proposing to add  
27 this additional, more stringent at the present time, particularly more  
28 stringent with regard to Whitehorse or retail loads, N-1 criteria, that  
29 says, even if I have designed my system to provide utility grade  
30 power at a long-term average of two hours per year, I want to also  
31 be attentive to the impact that can arise from a lengthy outage of  
32 the Aishihik line, which is what the N-1 criteria is meant to address.  
33 And it goes to ensuring that the -- that, in looking at the LOLE  
34 criteria, and the long-run averages, coming up with two hours per  
35 year, one has not ignored that there is a situation where you would  
36 want to be better protected than that, relating to long outages that  
37 can arise with the Aishihik line."  
38

39 In summary, YEC does not agree that its newly adopted capacity planning criteria (or the  
40 previous criteria used for planning the WAF system) would result in no new generating  
41 capacity being planned or added to the system for the purpose of ensuring reliable  
42 supply to major industrial customers served under Rate Schedule 39. YEC also does  
43 not agree with recommendations that its capacity planning criteria should be changed in  
44 this regard, and the PPA was negotiated (and the Application prepared) based on YEC's  
45 currently adopted capacity planning criteria.  
46

1 Yukon Energy looks forward to the next available opportunity to clarify this issue with the  
2 Board.

3

4 **(b), (c) and (d)**

5

6 As noted in part (a), Yukon Energy has used the Rate Schedule 39 Firm Mine Rate  
7 structure, and allocated generation and transmission related demand costs to Minto,  
8 because under the PPA Minto is to receive reliable firm power. This includes the  
9 potential requirement at some point to have to add capacity resources to WAF as  
10 needed to ensure an LOLE of no more than 2 hours/year, to ensure reliable firm power  
11 is made available to all retail, wholesale and industrial customers.

12

13 If new generating capacity was now not to be planned or added to the system for the  
14 purpose of ensuring reliable supply to major industrial loads, the framework for COS  
15 assessment and rate design for the major industrial customer class would likely need to  
16 be radically changed from past YUB and YEC/YECL practice and the provisions of OIC  
17 1995/90. Among other considerations, classification of generation or transmission costs  
18 to this customer class would need to be reviewed.

19

20 In the event a firm mine rate structure is not approved for service to Minto, and only  
21 some form of interruptible power is to be provided, that would violate the basic premise  
22 of the PPA. Such an approach would also violate the basic premise for providing  
23 primary service to industrial customers in Yukon as it has been in place since Yukon  
24 Energy was established. In addition, to the extent only interruptible power was available  
25 for supply to Minto, there would be little basis for a rate at the approximately 10  
26 cents/kW.h average level negotiated, as opposed to something more in the range of  
27 secondary sales which today approximates 6 cents/kW.h. At that rate, it would not be  
28 economically viable to interconnect the mine, and both parties (Minto and YEC) would  
29 be forced to forego the benefits that will arise under the PPA as negotiated.

30

31 **(e)**

32

33 The Board's recommendation in respect of capacity criteria does not affect the planning  
34 or timing of Aishihik 3<sup>rd</sup> turbine, as the 3<sup>rd</sup> turbine project as currently planned is not  
35 related to meeting in any material way YEC's planning capacity (with or without  
36 consideration of Industrial load). It is solely being pursued as a project to help displace  
37 diesel fuel.



1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2

3 **PREAMBLE:**

4

5 YEC has agreed to finance the Mine Spur Capital Cost Contribution plus the Carmacks-  
6 Minto Landing Capital Cost Contribution (Collectively known as the "Capital Cost  
7 Contribution") for varying periods of time.

8

9 **QUESTION:**

10

- 11 a) In YEC's opinion, does this decision to finance Minto Explorations expose YEC  
12 or Yukon ratepayers to additional financial risk?
- 13 b) Does YEC's proposed subordinated security arrangement bring YEC and  
14 electrical customers back to a neutral position similar to what would be the case  
15 if Minto Explorations paid the contribution up front?
- 16 c) Does YEC believe this decision to finance Minto Explorations will have any  
17 impact on the YEC risk profile and allowed rate return? Please elaborate as to  
18 why or why not.
- 19 d) Please quantify the impact this decision to finance Minto Explorations will have  
20 on YEC's capital structure.
- 21 e) Please quantify the impact this decision to finance Minto Explorations will have  
22 on YEC's debt coverage ratios, bond ratings and the associated impact on YEC's  
23 cost of borrowing.
- 24 f) In the past, has YEC financed other customers in a similar manner? If so, please  
25 provide the details of such arrangements.
- 26 g) Given this proposed arrangement, does YEC anticipate financing other industrial  
27 customers such as Carmacks Copper? Please elaborate as to why or why not.  
28 Does YEC consider that it must treat other industrial customers interconnecting  
29 to other locations (i.e. Not the Carmacks-Stewart Crossing line) on the system in  
30 a consistent manner? If not, why not?
- 31 h) Given this proposed arrangement, does YEC anticipate financing residential and  
32 commercial customers in the future? Please elaborate as to why or why not.

1 **ANSWER:**

2

3 **(a)**

4

5 Please see YUB-YEC-1-32 and YUB-YEC-1-34. There is risk, even with the YEC  
6 Security arrangements. However, as outlined in YUB-YEC-1-32 and YUB-YEC-1-34,  
7 subject to completion of its due diligence and contingent on YUB approval of the other  
8 conditions in the PPA, YEC is satisfied that the risk is manageable and worth taking with  
9 the various terms and conditions under the PPA, including the Mine Net Revenue  
10 Account in place to manage that risk and ensure ratepayers are not likely to be  
11 adversely impacted.

12

13 **(b)**

14

15 Please see the answer to YECL-YEC-1-3(a).

16

17 **(c), (d) and (e)**

18

19 Although serving industrial customers and developing major new projects has in the past  
20 typically increased YEC's risk profile, serving those customers or those projects has not  
21 led to the YUB changing YEC's allowed rate of return. YEC's debt is guaranteed by the  
22 Yukon Government and this guarantee is the key factor affecting YEC's borrowing costs  
23 and overall risk profile. YEC's capital structure is not expected to be materially changed  
24 (although the Mine Net Revenue Account will in effect constitute a separate source of  
25 financing, the treatment of which has yet to be determined). The operation of the Mine  
26 Net Revenue Account also will mitigate any near term adverse impact on ratepayers.  
27 YEC has not undertaken an assessment of the impacts on YEC's debt coverage ratios,  
28 bond ratings or cost of borrowing.

29

30 **(f)**

31

32 Please see answer to YUB-YEC-1-34.

33

34 **(g)**

35

36 As set out in YUB-YEC-1-34, this current financing represented a special circumstance  
37 predicated upon Minto's inability to obtain conventional debt financing to pay YEC at the

1   outset or to provide a letter of credit, plus other factors as noted (including ability to sell  
2   surplus hydro power at firm rates), and YEC does not at this time anticipate such an  
3   arrangement being automatically agreed to or appropriate with other possible industrial  
4   customers. Because each possible industrial customer will have different needs, and it  
5   is unlikely that YEC will have surplus power in the foreseeable future, YEC does not  
6   believe the issue of consistency identified in the question is relevant.

7

8   **(h)**

9

10   No. Please see the answer to YECL-YEC-1-3(g) as well as YUB-YEC-1-34.



1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2  
3 **PREAMBLE:**

4  
5 YEC has agreed to finance the Mine Spur Capital Cost Contribution plus the Carmacks-  
6 Minto Landing Capital Cost Contribution (Collectively known as the “Capital Cost  
7 Contribution”) for varying periods of time. The Economic Development Act and  
8 associated regulation OIC 1993/099 contain provisions to establish Energy Infrastructure  
9 Loans for Resource Development Regulation (“Energy Infrastructure Loan Program”).

10  
11 **QUESTION:**

- 12
- 13 a) Please provide YEC’s understanding of why Minto Explorations was unable or  
14 unwilling to go to the markets to obtain financing for their Capital Cost  
15 Contribution?
  - 16 b) Please provide YEC’s understanding of why Minto Explorations has not paid up  
17 front even a small percentage of the Capital Cost Contribution?
  - 18 c) Why did YEC not access or attempt to access this existing program for at least a  
19 portion of the proposed financing of Minto Explorations’ Capital Cost  
20 Contribution?
  - 21 d) Does YEC agree that the use of the Energy Infrastructure Loan Program would  
22 put the financial risk of financing of Minto Explorations on taxpayers as opposed  
23 to rate payers?
  - 24 e) Please explain YEC’s views on why YTG created this program if YEC was willing  
25 to finance contributions?
  - 26 f) Under what circumstances does YEC see the Energy Infrastructure Loan  
27 Program being used?
  - 28 g) Why did YEC not access or attempt its parent, the Yukon Development  
29 Corporation, to finance Minto Explorations’ Capital Cost Contribution?
  - 30 h) Does YEC agree that the use of the Yukon Development Corporation would put  
31 the financial risk of financing Minto Explorations on taxpayers as opposed to rate  
32 payers?
  - 33 i) Please describe why YEC did not use Part III of Schedule B of the Electrical  
34 Service Regulations to determine an appropriate utility investment for the  
35 extension of service required for Minto Explorations?
- 36

1 j) Is YEC aware of any other utility investment levels that have been approved in  
2 other jurisdictions for investment in service to industrial customers with a non  
3 standard service life? If so, please elaborate.  
4

5 **ANSWER:**

6

7 **(a) and (b)**

8

9 Please see response to YUB-YEC-1-34.

10

11 Minto indicated to YEC that it was not able to provide one-time upfront capital through  
12 conventional debt markets in order to access ongoing power cost savings compared to  
13 running its own diesels as, similar to other mining outfits, upfront capital is a scarce  
14 resource to the company.

15

16 Instead, YEC and Minto developed an approach to the PPA that reflected Minto's  
17 situation and focused on securing long-term infrastructure benefits for Yukon ratepayers  
18 reflecting Minto's investment in the assets (through repayment of the amounts YEC is  
19 financing) based on the ongoing savings Minto will achieve. As set out in the PPA  
20 Application, various specific measures were included to manage and mitigate YEC and  
21 ratepayer risks, including the YEC Security and the Mine Net Revenue Account.

22

23 **(c)**

24

25 YEC has no access to the program referenced. It is a program administered by  
26 Government of Yukon, and is specifically not available to a public utility.

27

28 **(d), (e) and (f)**

29

30 Yukon Energy cannot comment on Yukon Government programs. Any potential use of  
31 the cited program is a matter between Minto and the Government of Yukon. To YEC's  
32 knowledge, the program is not relevant to Minto with respect to the PPA as: 1) the  
33 maximum value of the loans under the program is \$3 million; and, 2) Minto would not  
34 qualify for a loan under this program due to the security and encumbered assets  
35 provisions.

1 **(g) and (h)**

2

3 Yukon Development financing for this project relates to no-cost capital towards the  
4 Carmacks-Stewart line. YDC financing was not available to Minto for their capital  
5 contribution.

6

7 **(i)**

8

9 Please see YUB-YEC-1-7.

10

11 **(j)**

12

13 YEC is aware of the Duck Pond mine in Newfoundland, which recently was connected to  
14 the Island Interconnected System. In that case the estimated economic life of the mine  
15 was expected to be between six and seven years, and the costs of the extension to  
16 serve the mine was financed by the utility (Newfoundland Hydro) over a five-year period  
17 which would be one to two years less than the expected life of the mine. The  
18 contribution agreement between the utility and the Duck Pond Mine did not include any  
19 take-or-pay provisions, special security or other special provisions to support such  
20 financing commitments. The Duck Pond mine case is further discussed in YUB-YEC-1-  
21 34.



1 **REFERENCE: Part 5 of the PPA and Section 5.1.1 of the Application**

2  
3 **PREAMBLE:**

4  
5 YEC has agreed to finance Minto Explorations for the Mine Spur Capital Cost  
6 Contribution plus the Carmacks-Minto Landing Capital Cost Contribution (Collectively  
7 known as the "Capital Cost Contribution") for varying periods of time. Under the Rural  
8 Electrification Program, the Government of the Yukon provides loans to rural residential,  
9 small load commercial and other non-industrial property outside incorporated  
10 communities where the Yukon Government is the property taxation authority to help  
11 cover the customer contribution required to connect to electrical utility service. Funding  
12 to any project, excluding any contribution by the utility, is limited to a loan maximum of  
13 25% of the total assessed value of land and improvements within the project area.

14  
15 **QUESTION:**

- 16  
17 a) Please explain YEC's view on why the government started this program that  
18 keeps the financing of rate payers separate and distinct from the two regulated  
19 electrical utilities?  
20 b) Please explain YEC's view on why the Yukon electrical utilities have not provided  
21 additional loans to residential customers to fund customer contributions?  
22 c) Please explain YEC's view on why the government has limited the loan to a  
23 maximum of 25% of the total assessed value of land and improvements within  
24 the project area?  
25 d) Once it becomes more widely known that YEC has financed 100% of Minto  
26 Explorations' customer contribution, does YEC anticipate pressure will be  
27 brought to bear on the utilities as well as the Yukon Utilities Board to allow utility  
28 financing of residential and commercial customer contributions? If yes, what is  
29 YEC's position on this possibility? If not, please explain why this would not be  
30 the case.

31  
32 **ANSWER:**

33  
34 **(a)**

35  
36 YEC cannot comment on why the Yukon Government created the referenced program.  
37

1 **(b)**

2

3 Yukon Energy has not provided loans to residential customers as it is not normal utility  
4 practice, and because there are alternative means for residential customers to access  
5 funding for their interconnections where required, including the referenced YTG  
6 program.

7

8 **(c)**

9

10 YEC cannot comment on Yukon Government programs. It is presumed that the limit  
11 reflects the lender's assessment as to the likelihood of recovering on their loan – one of  
12 the principles used by YEC in assessing the financing of Minto's interconnection.

13

14 **(d)**

15

16 No. YEC does not expect there to be pressure nor justification for such financing as 1)  
17 there are other mechanisms available to these customers such as the above referenced  
18 program, and 2) there is no ready precedent YEC is aware of for a utility to fund  
19 interconnections of residential or commercial customers. There is precedent for a utility  
20 to finance the costs to interconnect industrial customers (the Duck Pond mine in  
21 Newfoundland) and since that financing was put in place, YEC is not aware of any new  
22 pressures being put on Newfoundland Hydro to provide financing to new residential  
23 customers.

1 **REFERENCE: Mine Net Revenue Account approval – page 3 of Application;**  
2 **Page 11 – 12 of the Application; Attachment C of Application;**  
3 **Page 17 of the PPA**  
4

5 **PREAMBLE:**  
6

7 YEC seeks approval of provisions respecting the Mine Net Revenue Account as set out  
8 in Section 3.6 of the PPA.  
9

10 **QUESTION:**  
11

- 12 a) In YEC's opinion, please elaborate on any and all circumstances that would  
13 result in the Mine "Net Revenue" Deferral Account being a Mine "Net Expense"  
14 Deferral Account.
- 15 b) Besides YEC's commitment with the Mayo/Dawson transmission line that  
16 committed that rate payers would be no worse off with the construction of the  
17 Mayo/Dawson transmission line vs. continuing to run the diesel plant in Dawson  
18 City, is YEC able to provide any other existing example(s) where there is a "no  
19 net cost to ratepayers" statement or policy or commitment that has been  
20 approved by a Public Utilities Board?
- 21 c) Given that YEC has made statements that represent at least three separate  
22 projects will have "no adverse impact to ratepayers" (e.g. (1) Mayo to Dawson  
23 Transmission Line (2) Stage One of the Carmacks to Stewart Transmission Line  
24 (Carmacks to Pelly Crossing) / Minto Spur Line and (3) Stage Two of the  
25 Carmacks to Stewart Transmission Line (Pelly Crossing to Stewart Crossing),  
26 how is YEC proposing to track and regularly report to the Yukon Utilities Board  
27 on these statements to ensure the commitments are met and incremental  
28 revenues and incremental costs are allocated to the proper project?
- 29 d) Please confirm that as part of the next GRA filing, two separate cost of service  
30 studies will be required? (E.g. A first cost of service study that will include the  
31 load of Minto Explorations and be used to determine the costs allocated to Minto  
32 Explorations. A second cost of service study that will exclude the load of Minto  
33 Explorations and will be used to determine the costs allocated to all other classes  
34 of customers. That is, on Schedule A-17, YEC forecasts a 2008 Total Yukon  
35 Cost of Service of \$48,966,200 of which \$3,250,000 is allocated to the Industrial  
36 Class. On the same page, YEC forecasts a Total Yukon Cost of Service of  
37 \$46,693,000 without the Minto mine on the system which would then be

1 recovered from all other non-industrial rate classes.)  
2 e) Given that current customers are paying for the infrastructure that is being used  
3 to generate and transmit the surplus energy used to serve the mine, does YEC  
4 agree that its proposal creates intergenerational inequities between the  
5 customers who are paying for the system today and those who may benefit in the  
6 future?  
7

8 **ANSWER:**

9  
10 **(a)**

11  
12 Attachment C to the Application indicates specific annual examples (in the final year of  
13 assumed mine operation) of net expense entries to this account. In general, YEC  
14 cannot elaborate on “any and all” such circumstances. So long as the Mine operates as  
15 planned through most of the life expected in the Attachment C analysis, and surplus  
16 hydro conditions approximate what is assumed in this analysis, the overall account is  
17 expected to remain positive.  
18

19 Please see YUB-YEC-1-6 and YUB-YEC-1-15 for further detail on how this deferral  
20 account will operate to ensure that incremental annual Mine Net Revenue or net costs  
21 do not affect YEC earnings or the determination of the revenue requirements affecting  
22 other ratepayers in the Yukon. Expenses charged to the deferral account would include  
23 all ongoing annual costs still remaining for the CS Project facilities as well as any  
24 realized risks related to temporary or premature Mine shutdowns or closures, CS capital  
25 cost escalations beyond those already assumed, or the impact (in terms of increased  
26 reliance on incremental diesel generation to serve Minto loads) of premature reductions  
27 in surplus hydro generation due to other new mine loads or other higher-than-expected  
28 WAF load increases.  
29

30 **(b)**

31  
32 Yes. This is the same basic principle that applies in the case of many utility rate  
33 offerings approved by various utility regulators including, for example, the YUB in  
34 respect of the Secondary Energy offering, which is only to be made available to the  
35 extent there is “no net cost” to other ratepayers (and in fact there is net benefits to other  
36 ratepayers).  
37

1 **(c)**

2  
3 YEC is proposing that the commitments be tracked by way of established mechanisms,  
4 for example the annual calculation of the YDC Flexible Debt financing in respect of  
5 Mayo-Dawson (which ensures that in each year if the system would otherwise have  
6 higher costs with the Mayo-Dawson line that it would have had if it had stayed on diesel,  
7 YDC will receive a lower interest rate to ensure ratepayers are “kept whole”) and the  
8 Mine Net Revenue Account (which similarly ensures the incremental costs and revenues  
9 of the PPA and related Stage One of the Carmacks-Stewart project are routinely  
10 tracked). When and if YEC develops a specific plan to proceed with Stage Two of the  
11 CS Project, the matter of ratepayer impacts and risks will be revisited in the context of  
12 the then forecast diesel generation costs without this development.

13  
14 **(d)**

15  
16 It is likely that as part of the next GRA a cost of service study reflecting the entire costs  
17 of the system as it exists (without modifications reflecting the impact of the Mine Net  
18 Revenue Account) will determine the suitability of the Rate Schedule 39 (i.e., Minto) rate,  
19 including application of OIC 1995/90. Rates for other classes will be set pursuant to  
20 other requirements (including for example OIC 1995/90 directives on equalized rates,  
21 run-our rates and the YEC wholesale rate), which will be assessed net of all transfers to  
22 the Mine Net Revenue Account as part of the consolidated revenue requirement. These  
23 transfers will ensure that ratepayers essentially face rates that are not materially different  
24 than they would have experienced had the Carmacks-Stewart project not been built and  
25 Minto not connected to the system (i.e., ratepayers will be held whole). It is not clear  
26 that this will necessarily require a separate cost of service study. That is a matter for  
27 review at a future GRA. See also response to YUB-YEC-1-10(4).

28  
29 **(e)**

30  
31 No. In all utility rate setting, costs related to assets that will provide long-term value are  
32 assigned to the ratepayers of the day, even though in many cases future generations will  
33 also benefit. For example, today’s ratepayers in Yukon, BC, Manitoba, etc., are  
34 benefiting materially from rates that reflect the investment of past generations in lower  
35 cost hydraulic generation assets rather than just diesel or other thermal generation.

36



1 **REFERENCE:** Attachment C of the Application (Table C-1 – Page C-4)

2

3 **PREAMBLE:**

4

5 As proposed by YEC, the Mine Net Revenue Account will be applied against the  
6 undepreciated balance of the CS transmission project or for any new generation  
7 infrastructure developed by YEC on an accelerated basis due to the Minto mine or the  
8 CS project.

9

10 **QUESTION:**

11

12 a) As current customers are paying the carrying costs of the generation that is  
13 providing the surplus energy, please explain how these customers will benefit  
14 from YEC's termination proposal?

15

16 **ANSWER:**

17

18 Please see YECL-YEC-1-6(e). In all utility rate setting, costs related to assets that will  
19 provide long-term value are assigned to the ratepayers of the day, even though in many  
20 cases future generations will also benefit.

21

22 Section 3.6 is expected to provide, prior to termination of Minto Mine operations, for the  
23 deferral account to offset rate base or be otherwise used as a contribution towards  
24 certain capital costs (e.g., CS Project costs).



1 **REFERENCE: Attachment C of the Application (Table C-1 – Page C-4)**

2  
3 **PREAMBLE:**

4  
5 YECL wishes to better understand how the YEC/Minto Agreement will operate.  
6 Assuming there was a significant decrease in the price of copper such that the off-take  
7 agreements Minto Explorations has secured go unrealized and, as a result, Minto  
8 Explorations is forced to declare bankruptcy with YEC having not realized any of its  
9 security due to its subordinated position and electrical service is discontinued on  
10 December 31, 2010.

11  
12 **QUESTION:**

- 13  
14 a) Please calculate the cost impact as of December 31, 2010.  
15 b) Please describe who would be responsible for this cost impact.  
16 c) Assuming that it is YEC's shareholder that is responsible for this cost impact as  
17 there are to be no adverse impacts to rate payers, please indicate whether it  
18 would be treated as "disallowed assets" or whether YDC, YEC's shareholder,  
19 would make a cash payment to YEC?  
20 d) If there is to be a cash payment to YEC, can YEC please provide a copy of the  
21 agreement with the supplier of the funds?  
22 e) If the treatment is one of "disallowed assets", please indicate how rate payers will  
23 be protected from the impacts on capital structure, debt coverage ratios, possible  
24 lower bond ratings and the associated higher cost of borrowing money.

25  
26 **ANSWER:**

27  
28 **(a) to (e)**

29  
30 The assumptions stipulated are sensational and ignore the facts in this case. The  
31 purchaser of the copper concentrates from Minto is MRI, a multi-billion dollar  
32 conglomerate. There is no reasonable basis at this time to suspect that MRI will not  
33 honour its contractual commitments.

34  
35 The consequences of Minto defaulting on its financial obligations to YEC Minto are  
36 further discussed in YUB-YEC-1-32 (also see YUB-YEC-1-14), including situations  
37 where YEC's interests are still subordinate to the Macquarie Bank Limited.

1 It is anticipated that prior to March 31, 2007, the MRI Agreement will be amended such  
2 that MRI no longer has security over the Copper Concentrate and instead will purchase  
3 and pay for the Copper Concentrate on the Mine Site.<sup>1</sup> In these circumstances MRI  
4 would not have security in front of YEC or Macquarie Bank. Since it is anticipated that  
5 the PLF financing will be entirely paid off by November 30, 2009 and that the SLF  
6 financing will not proceed (given the new BMO debenture financing), it can be expected  
7 that YEC will have a first in line security interest over the Mine's assets by December 30,  
8 2010.

9  
10 While ensuring no adverse rate impacts on consumers is one of the key premises  
11 underlying the PPA, YUB-YEC-1-14 provides for the case of an extreme scenario where  
12 there is a risk that adverse rate impacts could occur if there is a default relatively early  
13 in the expected Mine life associated with a permanent closure of the Mine. Based on the  
14 investments arranged by Macquarie and BMO after extensive separate due diligence  
15 reviews, YEC does not see a near term permanent closure as a likely risk once the Mine  
16 is in commercial operation (which is a condition that must occur before YEC proceeds to  
17 start to construct the Transmission Project). Nevertheless, YEC is also completing its  
18 own extensive due diligence review (see YUB-YEC-1-29).

19  
20 In the event of default by Minto, YUB-YEC-1-32 sets out that the PPA includes many  
21 provisions designed to prevent any net cost to Yukon ratepayers including the Capital  
22 Cost Contribution, the take-or-pay provisions, the YEC Security, and the Mine Net  
23 Revenue Account. A default does not automatically mean that there will be a net cost to  
24 YEC or other Yukon ratepayers.

---

<sup>1</sup> Section 3.1(d) of the PPA sets out that if the MRI Agreement is not amended, prior to March 31, 2007, YEC and MRI will enter into an agreement with MRI and Minto governing the respective obligations of each of MRI and YEC under the MRI Agreement and the YEC Security on terms and conditions satisfactory to YEC, acting reasonably. Under section 6.6, Minto has covenanted with YEC not to permit the amount of principal outstanding for the MRI Agreement to exceed \$20 million (USD).

1 **REFERENCE: Section 10 of the PPA (Pages 29 – 34) and Section 4.2.2 of the**  
2 **Application**

3  
4 **PREAMBLE:**

5  
6 Upon the start of YEC's delivery of Grid Electricity to the Mine, YEC will assume from  
7 Minto the Cat Leases for the four 1.6 MW trailer mounted diesel units at the Mine.  
8 Under the PPA, Minto will be allowed to require YEC run the Diesel Units to supply the  
9 Mine with electricity at Minto's sole cost for fuel and operator assistance when YEC is  
10 unable to supply Grid Electricity and for so long as the units are not required by YEC to  
11 supply electricity to the WAF grid.

12  
13 **QUESTION:**

- 14
- 15 a) Please explain why this proposed source of capacity and energy was not
  - 16 proposed or discussed as part of YEC's 20 Year Resource Plan?
  - 17 b) Will YEC ever allow Minto to exceed their contract demand by running the on-site
  - 18 diesel simultaneous to providing grid energy? Please elaborate as to why or why
  - 19 not.
  - 20 c) The unplanned outage of the Aishihik transmission line may prevent YEC from
  - 21 supplying Grid Electricity to the Mine and thus Minto may elect to have the Mine-
  - 22 site Diesel Units run to supply Minto. In YEC's opinion, does this negate the
  - 23 intent of the exclusion of industrial load in the N-1 portion of the New Planning
  - 24 Criteria? Please elaborate as to why or why not.
  - 25 d) For each of the 1.6 MW diesel units to be leased and or purchased by YEC,
  - 26 please provide the estimated total amount of hours on each of the major
  - 27 components at the Commencement of Delivery. For greater clarity, please
  - 28 confirm the percentage of each asset's remaining life at the time of
  - 29 Commencement of Delivery.
  - 30 e) Please provide a copy of the business case completed by YEC to support the
  - 31 inclusion of the mine site diesel units within the PPA. This analysis should
  - 32 include the impact of purchasing used vs. new diesel generation equipment.
  - 33 f) As the Mine-site Diesel Units are not "needed" at the currently envisages
  - 34 Commencement of Delivery date, why should customers effectively commence
  - 35 paying for them at that time in the Mine Revenue Deferral Account?
  - 36 g) Under what circumstances would YEC not purchase the diesels from CAT?
- 37

1 **ANSWER:**

2  
3 **(a)**

4  
5 At the time the initial 20-Year Resource Plan was prepared the potential acquisition of  
6 the Diesel Units was not considered; however, prior to the hearing YEC filed  
7 interrogatory responses YUB-YEC-2-10(f) which identified the potential option of  
8 purchasing four high speed diesel units from Minto at the Mine site as part of the PPA  
9 negotiations. Please see YUB-YEC-1-8 for further discussion.

10  
11 **(b)**

12  
13 No. The only way Minto can increase its contract demand is pursuant to the PPA, and  
14 any such increase would be provided by “grid electricity”.

15  
16 Section 4.5 of the PPA sets out that YEC’s obligation to supply Mine Firm Electricity to  
17 Minto will not exceed the Maximum Electric Demand in effect at any time. If Minto  
18 requires an increase to its Maximum Electric Demand in excess of that under section  
19 4.1(a) Minto must provide YEC with written notice of the specified amount of the  
20 requested increase together with the period of time during which the increase is required  
21 and the related increase in Mine Firm Electricity Electric Energy requirement. After  
22 receipt of the notice under section 4.5(a) of the PPA, section 4.5(b) provides that YEC  
23 will review the request and determine whether or not its facilities have the transmission  
24 capacity to supply and maintain that increased Electric Demand, as well as any potential  
25 requirement for an increase to the Mine Firm Rate related to such increase in Mine Firm  
26 Electricity Electric Energy and YEC will forthwith provide written notice to Minto of YEC’s  
27 determinations. If YEC is unable to agree to the requested increase in Maximum Electric  
28 Demand, no increase in Maximum Electric Demand will be provided.

29  
30 Minto may only require that the Diesel Units be used to supply electricity to the Mine in  
31 circumstances where (1) under section 4.8 Minto considers its equipment at the mine to  
32 be at risk of damage from the supply of Grid Electricity by YEC under the Agreement,  
33 and (2) under 10.4 (b) if YEC is unable to deliver Grid Electricity to the Mine. In both  
34 cases Minto may only require that the Diesel units be used to supply the Mine where  
35 YEC is also otherwise unable to use the Diesel Units to supply Electricity to the WAF  
36 grid. In both cases Minto will also pay the sole cost for fuel and operator assistance.

1 **(c)**

2  
3 No, the intent of the N-1 portion of YEC's current capacity planning criteria is not  
4 negated by the PPA provisions regarding the Diesel Units.

5  
6 An outage of the Aishihik Transmission Line, in and of itself, would not prevent YEC from  
7 supplying Grid Electricity to the Mine. The mine is to be provided firm service, which  
8 would be provided from Grid Electricity (including integrated supply from Whitehorse,  
9 Faro, YECL's WAF diesels, and YEC's diesel loads located at the Minto mine). Loss of  
10 the Aishihik line during non winter peak periods, for example, would not necessarily  
11 prevent YEC from supplying Grid Electricity to the Mine.

12  
13 Conversely, the Mine Diesel Units may be used by YEC to supply power needed to the  
14 WAF grid. In an extreme situation of an emergency resulting from failure of the Aishihik  
15 line, YEC could terminate service to the Minto Mine and require use of the Mine Diesel  
16 Units to supply other non-industrial customers on the WAF grid.

17  
18 Minto itself may only require the use of the Diesel Units at the Mine Site in  
19 circumstances as set out in 10.4(b) (or section 4.8) where YEC is otherwise also unable  
20 to use the Diesel Units to supply Electricity to the WAF grid. In these specific and  
21 limiting circumstances Minto may provide written notice to YEC requiring that the Diesel  
22 Units be used to supply the Mine with Electricity, and if the Diesel Units are used to  
23 supply the Mine, Minto must pay the cost of fuel and operator assistance.

24  
25 The only situation that could give rise to sections 10.4(b) or 4.8, where Minto can require  
26 that the YEC diesels at Minto be operated to provide supply to the Mine, is if Minto is  
27 unable to use these units to supply the WAF grid (which clearly includes cases where  
28 line failure isolates the Mine from the main components of the WAF grid). This type of  
29 isolated operation for this Mine is not relevant to consideration of N-1 or LOLE  
30 calculations for the purpose of YEC's current capacity planning criteria.

31  
32 **(d)**

33  
34 Minto has estimated that at Commencement of Delivery (assuming this occurs about 16  
35 to 19 months after start of the Mine's commercial operations), two diesel units will have  
36 14,000 hours of service, one unit will be at 11,000 hours and one unit will be at 6,000  
37 hours (overall total of about 45,000 hours of service for all four units).

1 **(e)**

2

3 Please see YUB-YEC-1-8 and YUB-YEC-1-13; also YCS-YEC-1-3.

4

5 **(f)**

6

7 Please see answer to YUB-YEC-1-8(1) and YCS-YEC-1-3.

8

9 These units were referenced in the Resource Plan hearing primarily as a near term  
10 contingency option to facilitate meeting WAF capacity planning needs in a cost effective  
11 and timely manner. The price for these units under the PPA (i.e., not exceeding \$350  
12 per kW) is very competitive with costs estimated on the Resource Plan Hearing for the  
13 Mirrlees Life Extension Project. Should the PPA be approved and the CS/MS Project  
14 proceed, YEC will reassess the timing of the Mirrlees Life Extension plans in the context  
15 of having the Mine Site diesel capacity available in the near term on the WAF system.

16

17 YUB-YEC-1-8 sets out additional contingency benefits that also related to the purchase  
18 of these units.

19

20 **(g)**

21

22 Provided the conditions as set out in Section 10.2 of the PPA are met, YEC will  
23 purchase the Diesel Units.

24

25 Section 10.2 of the PPA set out that YEC's obligation to take on assignment of the Cat  
26 Leases is conditional upon the conditions listed in 10.2(a) through (f) being either fulfilled  
27 as set out or waived by YEC. YEC must be provided with written confirmation that the  
28 Cat Leases are in good standing and that all amounts due and owing under the Cat  
29 Leases have been paid in full and that Minto is able to make the payments under 10.3(b)  
30 of the PPA. Minto and Sherwood must also assign all other warranty rights on the Diesel  
31 Units under the Cat Leases or under any other warranty on the Diesel Units.

32

33 Under condition 10.2(d) Minto must provide all maintenance records for the Diesel Units  
34 to YEC, including daily operator logs, all oil and filter changes, oil sample analysis and a  
35 record of all routine and non-routine work done and all overhaul reports, and per  
36 condition 10.2(h), YEC having an opportunity to inspect the Diesel Units and being

1 satisfied, acting reasonably, that the condition of such Diesel Units is consistent with  
2 sections 10.2(e), (f) and (g) as follows:

- 3
- 4 • Prior to taking assignment of the Diesel Units YEC must be satisfied that the  
5 Diesel units are in good condition and fit for their intended purpose at time of  
6 purchase.
- 7 • Minto representing and warranting to YEC that as at Commencement of Delivery,  
8 each of the Diesel Units: (i) has a continuous rating of at least 1600 kW per  
9 generator at 4160 V output; (ii) conforms to the specifications and descriptions in  
10 Schedule G of the PPA.
- 11 • Minto performing prior to purchase by YEC (i) a minor or top end overhaul on  
12 each of the Diesel Units in accordance with manufacturer recommendations for  
13 an overhaul on such a Diesel Unit with approximately 8,000 hours of operation;  
14 and (ii) for each of the Diesel Units with 16,000 hours of operation or more, a  
15 major overhaul in accordance with manufacturer recommendations for an  
16 overhaul of such a Diesel Unit with approximately 16,000 hours of operation.

17

18 Under section 10.2(i), YEC and Minto must also execute and deliver the following  
19 agreements:

- 20
- 21 • A sub-lease and an easement or right of way providing YEC with access to the  
22 Mine and Mine Site to provide YEC with access at all times to the Diesel Units  
23 located in the Diesel Plant Site at a fee of \$10.00 per year.
- 24 • An operating agreement under which Minto will provide YEC with fuel and  
25 operator assistance and fuel inventory, as reasonably required by YEC to  
26 operate the Diesel Units, the costs for such assistance to be charged by Minto to  
27 YEC on a monthly basis at Minto's actual costs (including direct and reasonable  
28 indirect costs and, in relation to fuel cost, taxes on fuel applicable to stationary  
29 diesel use by YEC) for payment by YEC within 15 business days of receipt of  
30 such invoice.
- 31 • If possible, Minto assigning to YEC permits and licences required to operate the  
32 Diesel Units, on terms and conditions satisfactory to YEC, acting reasonably.

33

34 The parties must exercise commercially reasonable efforts to ensure the conditions in  
35 10.2 for which they are responsible are either fulfilled or waived on or before  
36 Commencement of Delivery, and if any conditions are not fulfilled or waived by that date,  
37 YEC will not be bound to take assignment of the leases.



1 **REFERENCE: Section 4.1 of the PPA (Pages 18) and Page 8 of the Application**

2  
3 **PREAMBLE:**

4  
5 YEC is proposing a new rate that would only be available to customers supplied under  
6 Rate Schedule 39 with availability determined by YEC based on surplus hydro as well as  
7 transmission capacity as well as meeting the electrical demand of customers served by  
8 Rate Schedule 32. The rate is only to be used at a mine site engaged primarily in  
9 copper production for processing ore with less than 1% copper content.

10  
11 **QUESTION:**

- 12
- 13 a) Secondary Sales Rate Schedule 32 is based on the promise of avoided costs.  
14 The rate changes on a quarterly basis to reflect changes in the underlying  
15 avoided costs. Please explain why this rate, selling the same product, is not  
16 based on the premise of avoided costs?
  - 17 b) Given the PPA does not propose to have separate revenue class metering for  
18 energy delivered under Rate Schedule 35 and 39, please explain, in detail, how  
19 YEC proposes it will be able to determine what portion of measured energy and  
20 measured demand will be allocated to Rate Schedule 39 as opposed to Rate  
21 Schedule 35.
  - 22 c) Can YEC provide any examples where a utility charges for electricity delivered  
23 on anything other than revenue class metering?
  - 24 d) Can YEC provide examples where a utility allows a customer to be responsible  
25 for allocating the amount of energy between two rate schedules?
  - 26 e) How in real time, can YEC determine that there is enough surplus hydro  
27 generated energy after serving secondary sales customers on Rate 32 to allow  
28 energy sales to Rate 35 customers?
  - 29 f) Why has YEC proposed to have Rate Schedule 35 only be applicable to the  
30 processing of low grade "copper"? Were any other metals considered?
  - 31 g) Why was a copper content of less than 1% chosen as the threshold?
  - 32 h) For greater clarity, please provide a numerical example that shows the maximum  
33 amount of Rate Schedule 35 demand and energy that Minto Explorations would  
34 be able to receive in a given calendar year.
  - 35 i) For greater clarity, please provide a numerical example that shows the weighted  
36 average energy rate Minto Explorations will be paying for electricity assuming it

1 takes the maximum amount of energy allowed under Rate Schedules 35 and 39  
2 in a given calendar year.  
3

4 **ANSWER:**

5  
6 **(a)**

7  
8 One reason avoided costs are not used as a measure in setting the rate for the Low  
9 Grade Ore service is that Minto has no external “avoided costs” related to processing  
10 Low Grade Ore. Absent this rate schedule, as noted in the Application at page 9, Minto  
11 either can use the Firm Mine Rate to process this ore (if economic conditions so allow)  
12 or simply not proceed to process this stockpiled ore. This situation differs fundamentally  
13 from that facing Rate Schedule 32 customers (where heat must be secured one way or  
14 the other, and the customer must under the rate have installed an alternative source of  
15 heat energy the cost of which is therefore “avoided” when Rate Schedule 32 service is  
16 used). To the extent that Minto is “avoiding” a cost in this instance, it is the relatively  
17 stable Firm Mine Rate rather than a quarterly fluctuating oil-based energy alternative.  
18

19 In summary, Rate 35 is selling a product that at first glance appears to be the same as  
20 what Rate 32 is selling, i.e., interruptible surplus hydro energy. However, there are  
21 major differences in the customer use characteristics for this “same” product – and there  
22 are also major differences in the terms and conditions associated with each “product”  
23 (including differences in priority access to the product).  
24

25 **(b)**

26  
27 Please see YUB-YEC-1-11(2).  
28

29 Rate Schedule 35, in the written text of Schedule D, sets out three approaches to  
30 assessing the quantity of power that qualifies under Rate Schedule 35 as opposed to  
31 Rate Schedule 39 (under “Applicable” point (2) parts (a) through (c)).  
32

33 **(c)**

34  
35 YEC is aware of a number of other jurisdictions where multiple rate offerings can be  
36 provided via the same meter.  
37

1 For example, industrial customers in Newfoundland can receive firm power for all service  
2 up to their specified “power on order” level (measured in MW - set in each individual  
3 contract) and any power consumed in excess of this level is a form of interruptible power  
4 with different rates for demand and energy than the normal firm power rates.

5  
6 A similar rate offering in Manitoba, the Industrial Surplus Energy program, offered  
7 interruptible power as a supplement to firm service which did not require a separate  
8 meter. Energy under this rate schedule comprised all power taken above a specified  
9 “Reference Demand” level.

10  
11 **(d)**

12  
13 Examples cited under (c) above rely upon clear rules to establish the portion of the  
14 metered energy used for different allowed rates and purposes. The customer under  
15 Rate Schedule 35 will need to address similar reporting needs, and will not be granted  
16 the discretion implied in the question.

17  
18 Please see YUB-YEC-1-11(2) for an explanation of how auditing of the Low Grade Ore  
19 Processing Secondary Energy will work. The rate will only apply when reporting, as  
20 reasonably required by YEC, can be established to confirm or determine the amount of  
21 secondary energy used at the Mine site as distinct from firm energy under the Firm Mine  
22 rate. Failing such reporting as reasonably required by YEC, all energy use will be  
23 charged at the Firm Mine Rate. The parties intend to work together to establish  
24 auditable reporting and controls as reasonably required by YEC to confirm the  
25 secondary energy has been used only to process Low Grade Ore.

26  
27 **(e)**

28  
29 Rate Schedule 35 set out in Schedule D of the PPA, provides that YEC will notify  
30 participating customers on at least a seasonal basis, and more frequently as required, as  
31 to the expected availability (if any) of such secondary energy, and the customer and  
32 YEC shall then agree in writing from time to time as to the maximum Secondary Energy  
33 available to the customer under Rate Schedule 35 (mention is made of possible weekly  
34 arrangements as to allowed maximum energy use during peak winter months).  
35 Provision is made also under Rate 35 for interruption on short notice (within no more  
36 than 24 hours) if conditions so require.

1 YEC has the discretion to end subscription to the project (and limit quantities delivered)  
2 on either of its systems when the supply of surplus energy on that system becomes fully  
3 contracted under Rate Schedule 32.

4  
5 **(f)**

6  
7 Please see YUB-YEC-1-11(2) and YCS-YEC-1-2.

8  
9 **(g)**

10  
11 Please see YUB-YEC-1-11(2) and YCS-YEC-1-2.

12  
13 **(h) and (i)**

14  
15 The maximum Rate Schedule 35 (Low Grade Ore Processing Secondary Energy) that  
16 Minto can take in any one year period is set out at section 4.1 of the PPA.

17  
18 In the initial years (prior to the Capital Cost Contribution plus accrued interest being fully  
19 paid, or June 30, 2015, whichever is earlier), Minto's use of this rate schedule is subject  
20 to Minto first consuming 32 GW.h of Mine Firm Electricity. Energy consumed above 32  
21 GW.h can be used under Rate Schedule 35 so long as it meets all of the terms and  
22 conditions of this rate schedule and Minto's total consumption (Rate Schedule 39 plus  
23 35) does not exceed 4.4 MVA (unless Minto at some point requests and YEC agrees to  
24 an increase in this maximum demand – section 4.1 provides for such an increase to 6.0  
25 MV.A on six month's notice).

26  
27 Assuming the current allowed for Maximum Electric Demand (4.4 MV.A), even at a very  
28 high power and load factor (95% and 90% respectively), the maximum energy that can  
29 be delivered at the Maximum Electric Demand of 4.4 MV.A is only about 33.0 GW.h, or a  
30 maximum Low Grade Ore Processing Energy of 1 GW.h. Under this scenario, the total  
31 bill to Minto would be as follows:

- 32  
33
- 34 • 12 months times 4.4 MVA times \$15.00 for a total demand charge of \$792,000
  - 35 • 32 GW.h times 7.60 cents/kW.h for a total Firm Energy charge of \$2.432 million
  - 36 • 1 GW.h times 6.00 cents/kW.h for a total Low Grade Ore energy charge of  
37 \$0.060 million
  - Total annual bill - \$3.284 million, or an average energy cost of 9.952 cents/kW.h

1 Alternatively, assuming that the allowed for Maximum Electric Demand is increased to  
2 6.0 MV.A as provided for in Section 4.1, at the same very high power and load factor  
3 (95% and 90% respectively), the maximum energy that can be delivered at the  
4 Maximum Electric Demand of 6.0 MV.A is about 44.9 GW.h (which is 2.9 GW.h/year  
5 higher than the maximum annual Electric Energy of 42 GWh/year allowed to be  
6 delivered under Section 4.1). Assuming under this scenario a maximum Low Grade Ore  
7 Processing Energy of 10 GW.h, and agreement (supported by adequate records and  
8 auditable reporting) that the added MV.A above 4.4 MV.A relates only to Rate 35 use,  
9 the total bill to Minto would be as follows:

- 10
- 11 • 12 months times 4.4 MVA times \$15.00 for a total demand charge of \$792,000
  - 12 • 32 GW.h times 7.60 cents/kW.h for a total Firm Energy charge of \$2.432 million
  - 13 • 10 GW.h times 6.00 cents/kW.h for a total Low Grade Ore energy charge of  
14 \$0.600 million
  - 15 • Total annual bill - \$3.824 million, or an average energy cost of 9.105 cents/kW.h
- 16

17 In later years (after the Capital Cost Contribution plus accrued interest being fully paid,  
18 or June 30, 2015, whichever is earlier), Minto will be allowed to use Rate 35 secondary  
19 energy up to Minto's full maximum Electric Energy permitted under Section 4.1(a) (i.e.,  
20 42 GWh./year), subject to the same Maximum Electric Demand limits. YEC has not  
21 estimates of the maximum amounts that might result, but in theory all of the Mine  
22 processing energy might in some years be Rate 35 energy at 6.0 cents per kW.h  
23 (assuming reliance only on stockpiled Low Grade Ore).



1 **REFERENCE: Schedule 1 (Page 4) of the Application**

2

3 **PREAMBLE:**

4

5 YEC has provided estimated Project capital costs ranging from \$17.2 million to \$23.1  
6 million. Per Section 3.2 of the Application, by July 31, 2007, YEC will have received  
7 tenders for equipment and materials and as otherwise required for construction of the  
8 Transmission Project and the YEC Board of Directors will have approved contracts for  
9 the construction of the Transmission Project.

10

11 **QUESTION:**

12

13 1. In YEC's opinion, at what Project capital cost does the Transmission Project  
14 become uneconomic?

15

16 **ANSWER:**

17

18 At this time analysis in the Application suggests that the project remains economic within  
19 the range of costs considered to date, and YEC has not determined at what capital cost  
20 the Transmission Project would become uneconomic. YEC will continue to review this  
21 matter during the coming months.



1 **REFERENCE: Schedule 1 (Page 4) of the Application; Page 3 of the PPA**

2

3 **PREAMBLE:**

4

5 Regardless of the actual costs incurred by YEC in constructing the transmission line  
6 from Carmacks to Minto Landing, Minto Explorations' contribution is fixed at \$7.2 million.

7

8 **QUESTION:**

9

- 10 a) Please explain how this arrangement is consistent with the long established  
11 principle of customers paying actual costs incurred to provide service.
- 12 b) Given the design, procurement and construction of the transmission and the spur  
13 line are expected to happen simultaneously, please explain, in detail, how YEC  
14 intends to demonstrate appropriate costs will be allocated to the spur line as  
15 opposed to the transmission line.
- 16 c) If there are costs overruns (or savings) on actuals vs. estimates on the  
17 transmission line between Carmacks and Minto Landing, does YEC agree it is  
18 reasonable to allocate a consistent percentage increase (or decrease) to the \$7.2  
19 million estimate? If not, why not?

20

21 **ANSWER:**

22

23 **(a)**

24

25 Please see YUB-YEC-1-7.

26

27 **(b)**

28

29 Please see YUB-YEC-1-7 and PWP-YEC-1-11.

30

31 **(c)**

32

33 Please see YUB-YEC-1-9.



1 **REFERENCE: Attachment C Mine Net Revenue Account Examples**

2  
3 **PREAMBLE:**

4  
5 The PPA defines the Mine Net Revenue in any YEC fiscal year as the amount, if any,  
6 equal to:

- 7  
8 a) The Minto Power Bills plus any take-or-pay payments by Minto in that fiscal year,  
9 less.  
10 b) The Incremental YEC Costs in that fiscal year. These specific incremental costs  
11 are defined as incremental YEC expenses and return on rate base in that year, if  
12 any, due to the supply of Electricity to Minto by YEC (1).  
13

14 **QUESTION:**

- 15  
16 a) If Carmacks Copper becomes a customer of YEC, please explain whether the  
17 revenue from their power bills flows into this Mine Net Revenue Account. If not,  
18 will YEC commit to filing GRA at that time so that other customers will have their  
19 rates reduced accordingly?  
20 b) In footnote 1 on page C-1, YEC has committed to including any incremental  
21 increase in expenses and return on rate base related to accelerated development  
22 of other YEC generation projects to displace diesel generation that would  
23 otherwise not have been required if YEC was not supplying Electricity to Minto.  
24 Assuming that YEC intends to include industrial load in its LOLE calculations,  
25 why has YEC not included the cost of capacity related generation projects that  
26 will be accelerated due to the supplying of Electricity to Minto?  
27 c) With respect to the "Incremental Decrease in Secondary Sales" associated with  
28 serving the Minto Mine as opposed to Rate Schedule 32 customers, please  
29 explain why the base case secondary sales have been reduced from 30 GW.h in  
30 the 20 Year Resource Plan to 20 GW.h in YEC's latest application?  
31 d) Please explain how current ratepayers are held harmless under YEC's Mine Net  
32 Revenue Account if they are no longer going to benefit from additional secondary  
33 sales as secondary sales move from their current level of approximately 20  
34 GW.h's per year up to a future total of 30 GW.h's per year?  
35  
36  
37

1 **ANSWER:**

2

3 **(a)**

4

5 The PPA with Minto makes no provision for inclusion of any non-Minto revenues in this  
6 specific Mine Net Revenue Account (i.e., this account does not provide for inclusion of  
7 Carmacks Copper revenues).

8

9 A PPA will be required with Carmacks Copper before YEC would undertake to develop  
10 the necessary spur line connection to this mine. YEC assumes that any such PPA with  
11 Carmacks Copper will require YUB approval, and thus provide the opportunity for review  
12 of all relevant issues. YEC anticipates also that material differences in circumstances  
13 relative to the Minto PPA will need to be addressed for each new industrial customer and  
14 any related new PPAs (See response to YUB-YEC-1-34, YECL-YEC-1-3(g)).

15

16 **(b)**

17

18 With or without Minto, the N-1 criteria (which ignores industrial loads) is the driving factor  
19 at this time for new investment in WAF generation for capacity reasons. As a result, as  
20 reviewed in the Resource Plan hearing, there is no incremental cost impact on  
21 generation capacity from serving Minto. The Resource Plan hearing also noted that this  
22 situation may change if additional mine loads are added to WAF.

23

24 **(c) and (d)**

25

26 Yukon Energy currently has WAF Rate 32 secondary sales volumes that have remained  
27 reasonably stable in the last two years at approximately 20 GW.h depending on the  
28 weather and other conditions in any particular year. At this time, YEC does not expect to  
29 see added secondary customers or added secondary sales loads on the WAF system.  
30 In this context it is not clear what is meant by the statement “as secondary sales move  
31 from their current level of approximately 20 GW.h’s per year up to a future total of 30  
32 GW.h’s per year”. In particular, aside from lack of evidence of any such growth, any new  
33 Rate 32 customers today would also need to note the risk that further additions to mine  
34 load could remove all of the hydro surplus in the very near term (such that a new Rate  
35 35 customer might face material difficulty recovering any fixed investments in such  
36 service).

1 **REFERENCE: Attachment D of Application**

2  
3 **PREAMBLE:**

4  
5 Attachment D estimates Minto Explorations' electricity power cost savings with and  
6 without the PPA as well as with and without YEC buying the on site diesel units.

7  
8 **QUESTION:**

- 9  
10 a) Please indicate, in the YEC's opinion, the reasonableness of Minto Explorations'  
11 on site diesel cost estimate of the \$.24/for on-site diesel generation. YEC's  
12 analysis should include a breakdown of the unit cost into O & M, fuel and capital.  
13 Please also indicate the diesel cost per liter and the assumed heat rate.
- 14 b) Please provide the Internal Rate of Return (IRR) and the payback period for  
15 Minto Explorations on this PPA. Please comment on the reasonableness of this  
16 IRR compared to other projects.
- 17 c) Please provide this Table D-1 with the assumption that the contribution for the  
18 Spur Line and Minto's portion of the Carmacks to Pelly portion was 100% paid for  
19 at the commencement of grid service.
- 20 d) Please provide the Table D-1 in response to C but with fuel and O & M costs  
21 escalating at 2% as opposed to the 0% used in the provided analysis. (Note:  
22 YEC used an inflation rate of 2% in Attachment B – Minto Mine Impact on the  
23 WAF System.) Please comment on the rate of increase in grid rates versus the  
24 escalation of the cost of diesel.
- 25 e) In YEC's opinion, please elaborate what risk, if any, Minto Explorations has  
26 accepted with the proposed PPA.

27  
28 **ANSWER:**

29  
30 **(a)**

31  
32 The full basis for the Minto 24 cent/kWh estimate is part of the confidential Feasibility  
33 Study. YEC believes that this estimate appears to be consistent with the earlier  
34 Resource Plan diesel fuel price estimates (in range of 70-75 cents/litre), and as such  
35 likely understates more recent diesel fuel price experience within the past year. The  
36 heat rate for the Diesel Units approximates 3.7 kW.h/L

1 **(b)**

2

3 Please see Table D-1 of the Application, which indicates a present value savings to  
4 Minto of \$16.61 million (2007\$) at a discount rate of 7.5%. YEC cannot comment on  
5 what other investment opportunities maybe available to Minto or what their respective  
6 returns might be.

7

8 **(c)**

9

10 See Attached "YECL-YEC-1-14(c) - Revised Table D-1". The change in NPV for Minto  
11 (excluding the diesel unit purchase) under this scenario compared to Table D-1 in the  
12 Application is from \$16.61 million to \$16.65 million (2007\$) at a 7.5% discount rate. The  
13 minimal change in NPV is because the carrying cost of the loan (7.5%) is equal to the  
14 discount rate. To the extent Minto assumes a different internal time value of money for  
15 their own analysis (which YEC understands to be materially higher than 7.5%), the two  
16 scenarios would have widely varying NPVs with the upfront payment version being far  
17 less attractive (far lower NPV of savings) to Minto than the YEC financed version.

18

19 **(d)**

20

21 See Attached "YECL-YEC-1-14(d) - Revised Table D-1" YEC has no comment on  
22 assumed inflation rates for diesel generation versus Rate 39.

23

24 **(e)**

25

26 The PPA was not established with Minto in order to have Minto adopt new risks related  
27 to their operations. The PPA was established in order to achieve benefits for Minto and  
28 YEC ratepayers. Minto has risk under the PPA as regard the take-or-pay obligation and  
29 all of its fixed cost obligations undertaken.

**YECL-YEC-1-14(c) Revised Table D-1: Summary of Minto Electricity Cost Cash Flows with and without PPA (\$000,000)**  
Power Requirement at 32.5 GW.h/year - 2008 through 2016

|  | Minto Electricity Cash Flows (\$million) |      |      |      |      |      |      |      |      |
|--|--|------|------|------|------|------|------|------|------|
| Year   | 1  | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    |
| Year Starting :  | 2008                                     | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
| (half year)  |  |      |      |      |      |      |      |      |      |
| <b>On Site Diesel (without PPA)</b>                                | 3.9                                      | 7.8  | 7.8  | 7.8  | 7.8  | 7.8  | 7.8  | 7.8  | 7.8  |
| \$/kWh (2008\$)  |  |      |      |      |      |      |      |      |      |
| 0.24   |  |      |      |      |      |      |      |      |      |
| <b>Minto Electricity Costs with PPA</b>                            |  |      |      |      |      |      |      |      |      |
| Power Rate   | 1.63                                     | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| <b>Capital Cost Contribution at \$11 million</b>                   |  |      |      |      |      |      |      |      |      |
| Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)         |  |      |      |      |      |      |      |      |      |
| CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs) |  |      |      |      |      |      |      |      |      |
| Total Capital Cost Contribution Payments                           | 11.03                                    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -    |
| <b>Total PPA Grid Power Cost</b>                                   | 12.65                                    | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 | 3.25 |
| <b>Net Cash Saving for Minto Electricity</b>                       | -8.75                                    | 4.55 | 4.55 | 4.55 | 4.55 | 4.55 | 4.55 | 4.55 | 4.55 |

PV  
7.5%  
\$16.65

**Summary of Minto Electricity Cost Cash Flows with and without PPA inducing Diesel Units (\$000,000)**

Power Requirement at 32.5 GW.h/year - 2008 through 2016

|  | Minto Electricity Cash Flows (\$million) |       |       |       |       |       |       |       |      |
|--|--|-------|-------|-------|-------|-------|-------|-------|------|
| Year   | 1  | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9    |
| Year Starting :  | 2008                                     | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016 |
| (half year)  |  |       |       |       |       |       |       |       |      |
| <b>On Site Diesel (without PPA)</b>                                | 3.9                                      | 7.8   | 7.8   | 7.8   | 7.8   | 7.8   | 7.8   | 7.8   | 7.8  |
| \$/kWh   |  |       |       |       |       |       |       |       |      |
| 0.24   |  |       |       |       |       |       |       |       |      |
| <b>Minto Electricity Costs with PPA</b>                            |  |       |       |       |       |       |       |       |      |
| Power Rate   | 1.63                                     | 3.25  | 3.25  | 3.25  | 3.25  | 3.25  | 3.25  | 3.25  | 3.25 |
| <b>Capital Cost Contribution at \$11 million</b>                   |  |       |       |       |       |       |       |       |      |
| Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)         |  |       |       |       |       |       |       |       |      |
| Diesel Units offset payments by YEC (\$2.24 million)               | 0.35                                     | 0.70  | 0.70  | 0.70  | 0.70  | 0.70  | 0.70  | 0.35  | -    |
| Total Including Diesel   | -0.20                                    | -0.41 | -0.41 | -0.41 | -0.41 | -0.41 | -0.41 | -0.20 | -    |
| CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs) | 0.15                                     | 0.29  | 0.29  | 0.29  | 0.29  | 0.29  | 0.29  | 0.15  | 0.00 |
| Total Capital Cost Contribution Payments                           | 0.26                                     | 0.52  | 0.52  | 0.52  | 1.60  | 2.68  | 2.68  | 1.34  | -    |
| <b>Total PPA Grid Power Cost</b>                                   | 0.41                                     | 0.81  | 0.81  | 0.81  | 1.89  | 2.97  | 2.97  | 1.48  | -    |
| <b>Net Cash Saving for Minto Electricity</b>                       | 1.87                                     | 3.74  | 3.74  | 3.74  | 5.14  | 6.22  | 6.22  | 4.73  | 4.55 |

PV  
7.5%  
\$18.70

**YECL-YEC-1-14(d) Revised Table D-1: Summary of Minto Electricity Cost Cash Flows with and without PPA (\$000,000)**

Power Requirement at 32.5 GW.h/year - 2008 through 2016

| Inflation Factor   | Minto Electricity Cash Flows (\$million) |              |              |              |              |              |              |              |              |
|--|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|  | 1<br>2008<br>(half year)                 | 2<br>2009    | 3<br>2010    | 4<br>2011    | 5<br>2012    | 6<br>2013    | 7<br>2014    | 8<br>2015    | 9<br>2016    |
| 2%   | 1  | 1.02         | 1.04         | 1.06         | 1.08         | 1.10         | 1.13         | 1.15         | 1.17         |
| <b>On Site Diesel (without PPA)</b>                                | <b>3.9</b>                               | <b>7.956</b> | <b>8.115</b> | <b>8.277</b> | <b>8.443</b> | <b>8.612</b> | <b>8.784</b> | <b>8.960</b> | <b>9.139</b> |
| <b>Minto Electricity Costs with PPA</b>                            | <b>1.63</b>                              | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  |
| <b>Capital Cost Contribution at \$11 million</b>                   | <b>0.35</b>                              | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.35</b>  | <b>-</b>     |
| Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)         | 0.26                                     | 0.52         | 0.52         | 0.52         | 1.60         | 2.68         | 2.68         | 1.34         | -            |
| CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs) | 0.61                                     | 1.22         | 1.22         | 1.22         | 2.30         | 3.38         | 3.38         | 1.69         | -            |
| Total Capital Cost Contribution Payments                           |  |              |              |              |              |              |              |              |              |
| <b>Total PPA Grid Power Cost</b>                                   | <b>2.24</b>                              | <b>4.47</b>  | <b>4.47</b>  | <b>4.47</b>  | <b>5.55</b>  | <b>6.63</b>  | <b>6.63</b>  | <b>4.94</b>  | <b>3.25</b>  |
| <b>Net Cash Saving for Minto Electricity</b>                       | <b>1.66</b>                              | <b>3.48</b>  | <b>3.64</b>  | <b>3.81</b>  | <b>2.89</b>  | <b>1.98</b>  | <b>2.16</b>  | <b>4.02</b>  | <b>5.89</b>  |

**Summary of Minto Electricity Cost Cash Flows with and without PPA inducing Diesel Units (\$000,000)**

Power Requirement at 32.5 GW.h/year - 2008 through 2016

| Inflation Factor   | Minto Electricity Cash Flows (\$million) |              |              |              |              |              |              |              |              |
|--|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|  | 1<br>2008<br>(half year)                 | 2<br>2009    | 3<br>2010    | 4<br>2011    | 5<br>2012    | 6<br>2013    | 7<br>2014    | 8<br>2015    | 9<br>2016    |
| 2%   | 1  | 1.02         | 1.04         | 1.06         | 1.08         | 1.10         | 1.13         | 1.15         | 1.17         |
| <b>On Site Diesel (without PPA)</b>                                | <b>3.9</b>                               | <b>7.956</b> | <b>8.115</b> | <b>8.277</b> | <b>8.443</b> | <b>8.612</b> | <b>8.784</b> | <b>8.960</b> | <b>9.139</b> |
| <b>Minto Electricity Costs with PPA</b>                            | <b>1.63</b>                              | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  | <b>3.25</b>  |
| <b>Capital Cost Contribution at \$11 million</b>                   | <b>0.35</b>                              | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.70</b>  | <b>0.35</b>  | <b>-</b>     |
| Mine Spur cost (est. \$3.8 million - 7 yr blended monthly)         | -0.20                                    | -0.41        | -0.41        | -0.41        | -0.41        | -0.41        | -0.41        | -0.20        | -            |
| Diesel Units offset payments by YEC (\$2.24 million)               | 0.15                                     | 0.29         | 0.29         | 0.29         | 0.29         | 0.29         | 0.29         | 0.15         | 0.00         |
| Total Including Diesel   |  |              |              |              |              |              |              |              |              |
| CS contribution (\$7.2 million-interest only 4 yrs, blended 3 yrs) | 0.26                                     | 0.52         | 0.52         | 0.52         | 1.60         | 2.68         | 2.68         | 1.34         | -            |
| Total Capital Cost Contribution Payments                           | 0.41                                     | 0.81         | 0.81         | 0.81         | 1.89         | 2.97         | 2.97         | 1.48         | -            |
| <b>Total PPA Grid Power Cost</b>                                   | <b>2.03</b>                              | <b>4.06</b>  | <b>4.06</b>  | <b>4.06</b>  | <b>5.14</b>  | <b>6.22</b>  | <b>6.22</b>  | <b>4.73</b>  | <b>3.25</b>  |
| <b>Net Cash Saving for Minto Electricity</b>                       | <b>1.87</b>                              | <b>3.89</b>  | <b>4.05</b>  | <b>4.22</b>  | <b>3.30</b>  | <b>2.39</b>  | <b>2.57</b>  | <b>4.23</b>  | <b>5.89</b>  |

1 **REFERENCE: Schedule A-1 of the Application**

2

3 **PREAMBLE:**

4

5 The load of Minto is expressed as 32, 500 MWh, coincident peak demand of 4,004 kW  
6 and a peak annual demand of 4,400 kW (non-coincident peak).

7

8 **QUESTION:**

9

- 10 a) Please indicate what due diligence YEC did to verify this load level.  
11 b) Please indicate what analysis YEC has done to justify such a high load factor.

12

13 **ANSWER:**

14

15 **(a) and (b)**

16

17 The energy loads overall (32.5 GWh/year, number of years) reflect the public information  
18 from the Feasibility Study results prepared by Hatch and related information released by  
19 Minto.

20

21 The PPA sets out Minto's requirements, i.e., Minto has specified its maximum kV.A  
22 electric demand (which results in the observed load factors, given the energy loads).  
23 YEC has not done any separate review of the required kV.A demand loads, or any  
24 analysis to justify the load factor.



1 **REFERENCE: Schedule C Firm Mine Rate Schedule 39 and OIC 1995/90**

2

3 **PREAMBLE:**

4

5 YEC states that the rate is available throughout the YEC service area and the OIC states  
6 that "6.1(1) ...and the rates charged by both utilities must be the same."

7

8 **QUESTION:**

9

- 10 a) Please describe the rate design principles YEC used in designing the proposed  
11 demand vs. energy charges. That is, the proposed demand charge is  
12 decreasing whereas the proposed energy charge is increasing.
- 13 b) Please indicate why Rate Schedule 39 does not state that it is available  
14 throughout YECL service area?
- 15 c) Please indicate why under the Fixed Charge that there is not a statement that  
16 reads "A fixed monthly charge as determined for each customer based on fixed  
17 customer-specific costs of service. To date, the following amount has been  
18 determined:"
- 19 d) Contrary to the current Rate Schedule 39, please explain why YEC has chosen  
20 to exclude the fuel rider (Rider F) from the proposed revised rate.
- 21 e) Does YEC propose to include Rider F for future Rate Schedule 39 customers  
22 that are ineligible for the Mine Net Revenue Account? Please elaborate as to  
23 why or why not.

24

25 **ANSWER:**

26

27 **(a)**

28

29 Cost of service principles and methods used to determine the Firm Mine Rate are set out  
30 in Schedule A of the PPA Application and further discussed in YUB-YEC-1-10 and YUB-  
31 YEC-1-20. See also UCG-YEC-1-40 for review of differences between the existing and  
32 proposed Rate 39.

33

34 **(b)**

35

36 This is a YEC Application, and during the period of YEC's existence YECL has not  
37 served major industrial customers. It is also not clear how, if at all, the rate may need

1 modification in the event that such a customer was to be served in future from YECL's  
2 distribution system areas.

3  
4 **(c)**

5  
6 This is not a material change or issue. Currently, Minto is the only Firm Mine Rate  
7 customer. In the future, if a new Firm Mine Rate customer wishes to receive service  
8 under the Firm Mine Rate it is anticipated that, among any other changes needed to  
9 Rate 39, the fixed charge will be amended to specify any additional fixed monthly charge  
10 as determined between YEC and the new customer based on fixed customer-specific  
11 costs of service.

12  
13 **(d)**

14  
15 YEC has determined a rate for Minto that collects the full cost of service for the system  
16 including diesel fuel at today's forecast prices. Rider F is an account that solely adjusts  
17 for changes in diesel fuel since the respective classes' firm rate was last established,  
18 which for all other classes served by YECL is the late 1990s when diesel prices were  
19 much lower.

20  
21 Also, unlike the Rate Schedule 39 in place when the Faro mine was on the system, there  
22 is no material diesel on WAF today, and the diesel for isolated systems continues to  
23 decline with the conversion of Dawson and Stewart Crossing and planned conversion or  
24 Pelly Crossing to hydro systems. To the extent that diesel fuel is required on WAF after  
25 the Minto mine is connected, substantial components of this diesel would be assigned to  
26 the Mine Net Revenue Account in any event (charged at full diesel prices then in effect),  
27 so there is no basis for a Rider F adjustment.

28  
29 **(e)**

30  
31 YEC will review the appropriate approach on this matter for future Rate 39 customers at  
32 the time when arrangements are being made with these customers and applications are  
33 being prepared to the YUB for any adjustments needed to Rate 39.

1 **REFERENCE: Schedule D Rate Schedule 35 and OIC 1995/90**

2

3 **PREAMBLE:**

4

5 YEC states that the rate is available in parts of the Whitehorse-Aishihik Faro and Mayo-  
6 Dawson systems as determined by Yukon Energy Corporation and the OIC states that  
7 "6.(1) ...and the rates charged by both utilities must be the same."

8

9 **QUESTION:**

10

- 11 a) Please indicate why Rate Schedule 35 does not state that it is available in all  
12 parts of the two grids?  
13 b) Please indicate why it states as determined by only YEC?  
14 c) Please indicate if this rate will be offered to other mines that are processing other  
15 "low grade" ore bodies?

16

17 **ANSWER:**

18

19 **(a)**

20

21 The Rate Schedule does note that the rate is available on "the Whitehorse-Aishihik-Faro  
22 and Mayo-Dawson systems".

23

24 **(b)**

25

26 The rate is based on their being a surplus at Yukon Energy's hydro generating plants.  
27 This is consistent with the wording in the approved Rate Schedule 32 for the existing  
28 Secondary Energy rate offering.

29

30 **(c)**

31

32 Please see YUB-YEC-1-11, YCS-YEC-1-2, and YECL-YEC-1-10. Currently, the rate  
33 only has relevance with regard to processing Low Grade Ore at a mine site engaged  
34 primarily in copper production as defined in the PPA. The Low Grade Ore criteria would  
35 have no meaning or relevance in the case of a mine site not engaged primarily in copper  
36 production. YEC intends to review this terminology in the event that any other mine  
37 emerges that might potentially meet such a criterion on circumstances where the rate

- 1 might be available due to surplus hydro still be available. Any potential future revisions
- 2 to the rate will need to be assessed at that time based on the facts and forecasts then
- 3 available.

1 **REFERENCE: Section 5.1.2 of the Application and the Yukon Development**  
2 **Corporation Regulation**

3  
4 **PREAMBLE:**

5  
6 In the Yukon Development Corporation's Regulations, reference is made that the Board  
7 of Directors of the Yukon Development Corporation is responsible to ensure the Yukon  
8 Energy Corporation adopts generally accepted accounting procedures appropriate for an  
9 electric utility.

10  
11 **QUESTION:**

- 12
- 13 a) Does YEC believe the proposed accounting treatment of the Mine Net Revenue  
14 Account is in accordance with Generally Accepted Accounting Principles?  
15 Please elaborate as to why or why not.
  - 16 b) Has YEC confirmed or had discussions with its auditor, the Auditor General of  
17 Canada, as to whether the accounting treatment associated with its proposed  
18 Mine Net Revenue Account is in accordance with Generally Accepted Accounting  
19 Principles? If yes, please elaborate as to when these discussions are expected  
20 to take place.
  - 21 c) If the proposed accounting treatment is not in accordance with Generally  
22 Accepted Accounting Principles, how does YEC intend on meeting the  
23 requirements of the Yukon Development Corporation's Regulations?
  - 24 d) If the proposed accounting treatment is not in accordance with Generally  
25 Accepted Accounting Principles, please explain, in YEC's opinion, the financial  
26 and or other impacts expected as a result of receiving a qualified audit opinion.
- 27

28 **ANSWER:**

29  
30 **(a) and (b)**

31  
32 The primary source of generally accepted accounting principles for entities in Canada is  
33 the Canadian Institute of Chartered Accountants Handbook, which is largely silent on  
34 specific accounting treatment for regulated accounts and transactions. The Accounting  
35 Standards Board of the CICA, which sets the standards described in the Handbook, has  
36 advised that entities meeting the definition of a regulated entity may choose to rely on  
37 the US Statement of Financial Accounting Standard 71 (FAS 71). YEC and its auditors

1 have reviewed the applicable definitions and confirmed that YEC meets the definition of  
2 a regulated entity.

3  
4 As defined in the PPA, the Mine Net Revenue Account is expected to be a mechanism  
5 that will be approved by the YUB so as to create an account balance that YEC will hold  
6 until the regulator directs its disposition to the benefit of ratepayers. This is consistent  
7 with the provisions of section 11 of FAS 71, which notes:

8  
9 Rate actions of a regulator can impose a liability on a regulated enterprise. Such  
10 liabilities are usually obligations to the enterprises' customers. A regulator can  
11 require that a gain...be given to customers over future periods. That would be  
12 accomplished, for rate-making purposes, by amortizing the gain over those future  
13 periods and reducing rates to reduce revenues in approximately the amount of  
14 the amortization. If a gain is to be amortized over future periods for rate-making  
15 purposes, the regulated enterprise shall not recognize that gain in income of the  
16 current period. Instead, it shall record it as a liability for future reductions of  
17 charges to customers that are expected to result.

18  
19 In this regard, the YUB's approval of the Mine Net Revenue Account as described in the  
20 PPA would confirm the accounting treatment set out by YEC, and therefore be  
21 considered to be consistent with generally accepted accounting principles.

22  
23 YEC has not specifically discussed the Mine Net Revenue account with its auditors, but  
24 has addressed a number of similar "regulatory liability" accounts in the past on roughly  
25 the same basis in its financial statements (e.g., the Faro Mine Dewatering Account).

26  
27 **(c) and (d)**

28  
29 YEC does not expect to receive a qualified audit opinion related to this account. The  
30 Mine Net Revenue account is primarily a tool for setting rates under the YUB.  
31 Regardless as whether this ultimately becomes an issue with the auditors, YEC will  
32 ensure that for setting rates and all matters related to the YUB, the Mine Net Revenue  
33 account operates pursuant to the PPA and YUB approvals.

1 **REFERENCE: Section 5.1.5 of the Application and Part 11 of the PPA**

2

3 **PREAMBLE:**

4

5 In Section 5.1.5 of the Application, YEC states “Estimated Decommissioning Costs,  
6 established prior to actual decommissioning, equal 25% of the Capital Cost to build the  
7 Mine Spur”

8

9 **QUESTION:**

10

11 a) Please detail how the 25% of Capital Cost was derived.

12

13 b) Please confirm whether this rate is consistent with what YEC currently has in its  
14 most recent depreciation study and associated rates. If there is a difference,  
15 please elaborate as to why.

15

16 **ANSWER:**

17

18 **(a) and (b)**

19

20 The rate is based on YEC’s last depreciation study, which sets salvage costs for  
21 transmission components approximately averaging 25%, as follows:

22

- 23 • Poles and fixtures – 35%
- 24 • Brushing – 0%
- 25 • Survey Costs – 0%
- 26 • Overhead Conductors/Poles – 15%
- 27 • Overhead Conductors/Towers – 20%
- 28 • Substation Equipment – 15%
- 29 • Substation Buildings – 10%
- 30 • Substation Fences – 5%



1 **REFERENCE: Section 5.1.1 (Page 13) of the Application and Definitions in the**  
2 **PPA**

3  
4 **PREAMBLE:**

5  
6 Yukon Electrical would like to better understand the capital cost estimate associated with  
7 this portion of the line.

8  
9 **QUESTION:**

10

11 a) Please provide a detailed cost estimate of a 35 kV line for this segment of the CS  
12 project

13 b) Please confirm whether this estimate was derived in house or whether there was  
14 any input from third parties.

15

16 **ANSWER:**

17

18 **(a) and (b)**

19

20 The estimated cost for a 35 kV line for the Minto Spur is \$3.83 million at in-service, as  
21 shown at page 13 of the PPA application. This is based on the following:

22

- 23 • 27 km at \$85,000/km = \$2.295 million
- 24 • 350m of river crossing at \$900/m additional cost = \$0.315 million
- 25 • Substations at \$500,000
- 26 • Construction cost in 2005\$ = \$3.110 million

27

28 Plus 10% for design and licencing totals \$3.421 million.

29

30 Plus three years of inflation totaling 7.7%, and interest during construction assumed at  
31 4% of total cost (only those costs outstanding over the end of a year attract IDC).

32

33 Total in-service cost of \$3.83 million.

34

35 The estimate above was developed in-house based on YEC experience, and after  
36 consultation with third parties including line designers and YEC's resource planning  
37 advisors.



1 **REFERENCE: PPA**

2

3 **PREAMBLE:**

4

5 Costs have been incurred by both parties in negotiating the PPA.

6

7 **QUESTION:**

8

9 a) Please detail the costs incurred by YEC to negotiate the PPA.

10 b) Please detail where these costs have been allocated or charged.

11 c) Please indicate if YEC or YDC have paid for any of the costs incurred by Minto  
12 Explorations in negotiating the PPA.

13

14 **ANSWER:**

15

16 (a) and (b)

17

18 As of the end of February 2007 YEC has spent approximately \$400,000 on negotiations  
19 for the PPA. Costs are still being incurred for such things as due diligence. Detailed cost  
20 breakdowns cannot be provided at this time.

21

22 (c)

23

24 YEC and YDC have not paid Minto Explorations negotiation costs for the PPA.



1 **REFERENCE: Section 4.1.2 (Page 7) of the Application**

2

3 **PREAMBLE:**

4

5 YEC states “The Peak Shaving Rate Option benefits YEC by lowering the need to plan  
6 for running peaking diesels”.

7

8 **QUESTION:**

9

10 a) Please explain how this statement fits into the LOLE planning criteria included in  
11 the YUB’s Recommendations.

12 b) Please explain how this statement fits into the N-1 planning criteria included in  
13 the YUB’s Recommendations.

14

15 **ANSWER:**

16

17 **(a) and (b)**

18

19 The reference does not relate to planning criteria. It relates to the operating requirement  
20 in winter to run diesels to meet peak loads. Peak shaving as proposed is a DSM  
21 measure to help avoid the need for diesel fuel.

22

23 It does not relate to capacity planning and capital investment which are the basic  
24 aspects of the LOLE and N-1 criteria.

25

26 Peak shaving at the Minto Mine could contribute to reducing peak winter load  
27 requirements on WAF if and when sufficient additional new mine load is added to the  
28 WAF system (see Resource Plan).

