LEADING EDGE
(LE)

REFERENCE: **Application, page 4**

QUESTION:

a) Did YEC and YECL consider or discuss rate design options "between" options A and B, in particular with respect to the percentage of 2009 diesel cost that the runoff rate is set at? Please describe these discussions and explain why no middle ground option was developed and brought forward.

ANSWER:

(a)

Yukon Energy Response

Please see response to CW-YEC/YECL-1-19 (and Application at page 4YEC-9).

Yukon Electrical Response

YECL and YEC worked diligently in an effort to present a uniform and consistent approach whenever possible to concepts relating to cost of service, rate design and Terms and Conditions. However, this goal was not always met as each Company has its own views regarding how best to address certain matters. The differences in rate design concepts between the Companies are further explained in YUB-YEC/YECL-1-24.

While the Companies were able to present a joint application to the extent possible, the Companies believed there were significant differences on how best to reflect the percentage of 2009 diesel cost in the runoff rates to allow for a middle ground and still file a joint application by the Board established timelines.

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 3-5, line 25 Aishihik Plant:

a) Does Aishihik plant normally contribute capacity to meeting the winter peak demand on the WAF system?

ANSWER:

(a)

Yes, it normally does.

However, the appropriate test is not what the plant normally does, but factors such as what the plant is designed and built to do, or what system characteristics drive its costs, with consideration for the related costs, savings, benefits and underlying investment. For example, today the system normally operates with 100% hydro generation, but there are times when a modest amount of diesel generation is required for peaking, and very limited, but very key, times when all available diesel generation is required for emergency dispatch. The cost driver for installing and maintaining the complement of diesel units is peak demand, and as such that is how their costs are allocated, even though they are not normally used.

While the Aishihik plant normally contributes to carrying loads at peak times, it is not part of the planning criteria for reliable capacity at this time. In this way, similar to wind, the presence of kW.h output at peak times does not mean the unit is considered firm generation.

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 35, lines 27-29 (and also page 2-9, lines 20-22):

Here we find the comment "…Aishihik generation is considered to not contribute to the WAF system's ability to serve peak loads at critical times due to transmission constraints."

a) Does the transmission line that connects the Aishihik plant to the WAF grid have less than 30MW carrying capacity during the winter period?

b) What is its carrying capacity of this line during the winter?

c) Is the Aishihik plant not relied upon first and foremost for meeting a large portion of the WAF peak load in winter as previously recognized in GRAs (see Page 3,4A-8)?

ANSWER:

(a), **(b)** and **(c)**

When in service, the Aishihik line has a full 30 MW carrying capacity. As a result, the Aishihik plant is relied upon to meet a large portion of the WAF energy load in winter, when the line is functional. When planning the system to meet peak loads, the Aishihik plant is not relied upon at all (under the N-1 criteria).

As noted in the Yukon Energy 20-Year Resource Plan Summary of Proposed Actions (page 6) any extended outage on WAF or the Mayo Dawson grid during the winter peak could be extremely serious for all affected customers. Yukon Energy has addressed this concern by incorporating the N-1 standard in its capacity planning criteria which ensures sufficient system capability to continue to serve firm residential and commercial customers when a failure occurs to the single largest system component. The biggest loss of generation on WAF today at winter peak would be 30 MW following a failure of

the Aishihik transmission line[1]; this loss would be far greater than the loss during winter peak of the biggest generator (which currently is a 15 MW generator at Aishihik). As a result, and as noted in the Resource Plan, without twinning of the Aishihik Transmission Line (in order to provide for redundancy), none of the added Aishihik capacity is recognized under the N-1 WAF capacity planning criteria.

[1] The Resource Plan notes at page 3-21 that the Aishihik line connects 31.3 MW of capacity (30 MW from Aishihik, and 1.3 MW of Haines Junction diesel.

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 3-5, line 27:

a) Is the N-1 planning criterion a COS classification methodology?

b) Please explain why what happens during an emergency situation should dictate a COS classification.

c) Is it not usual for remote power plants in Canada to feed into their grid by a single transmission line?

d) How many and what percentage of other Canadian power utilities changed their generation COS classifications when they adopted the N-1 planning criterion?

ANSWER:

(a)

No. It is part of Yukon Energy's capacity planning criteria.

(b)

As noted at page 3-3 classification methods for bulk power reflect consideration of a number of factors including how any given asset or class of assets is used, the basis for the investment in the asset and the benefits of the asset to the system. The N-1 planning criteria indicates the basis for investment in new costs to meet peak demand. In that situation, Aishihik is considered to play little to no role in avoiding new costs to meet peak loads. Also see CW-YEC/YECL-1-2.

(c)

Service through long radial transmission lines is not unusual in remote system. What is unusual is where material components of the system generation can only be accessed through long radial transmission lines. In such cases, it is not uncommon for the assets such as the transmission lines to be classified to energy (such as Manitoba's HVDC transmission system, which connects the majority of northern generation to southern load centers).

(d)

Yukon Energy is not aware of any utilities that changed their generation COS classification on the basis of adopting an N-1 planning criteria.

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 3-5, line 25 Aishihik Plan:

a) How many hours has the Aishihik transmission line been out service or constrained in its carrying capacity on an unplanned basis during each of the past 10 winters (October through April)?

b) How many hours during each of the past 10 winters has the Aishihik power plant not been available or constrained on an unplanned basis due failures within the plant or substation (e.g. power cable failures, pot-head failures, etc.)?

ANSWER:

(a)

A review of the Outage Reports filed with the YUB provides no instances in the past 10 winters (October-April) where the Aishihik transmission line has been out of service on a significant and unplanned basis resulting in a constraint in its carrying capacity.

(b)

A review of Outage Reports for the years 2000 to 2009 notes the following instances that resulted in the Aishihik power plant being unavailable or constrained on an unplanned basis during winter months (October-April):

Date	Outage Duration and Cause
January 23, 2001	Outage duration = 21 min – Equipment Failure – Electrical Fire
June 18, 2002	Outage duration = 2 hr 26 min – sump float tripped AH2 off line.
June 22, 2004	Outage duration = 19 min – AH1 tripped off (guide bearing temperature)
May 14, 2005	Outage duration = 20 min – AH1 tripped off (Lower Guide Bearing Temperature trip)
Jan 29, 2006	Outage duration = 2 – 7 hours – report filed with YUB. Failed cable resulting in loss of all Aishihik output. Plant de-rated to 20 MW until March 12, 2006
December 1, 2008	Outage duration = 1 hr 12 min – failed pothead – plant returned to normal 26 hours later

1

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 3-5, line 25 Aishihik Plant and page 3-6, line 7 Mayo Hydro:

a) Which customer classes would see an increase in allocated costs and which customer classes would see a decrease in allocated costs if the classification of the Aishihik and Mayo power plants were to be restored to 60% to energy and 40% to demand?

ANSWER:

(a)

Customer classes who use relatively larger amounts of energy compared to demand (i.e., higher load factor customers) are adversely affected by allocations to energy, and benefit from allocations to demand. In short, were costs to be shifted from energy back to demand (as proposed by the question) the industrial customer and GS customer cost allocations would benefit (i.e., they would see higher R/C ratios than under the proposed method).

REFERENCE: **Tab 3 Cost of Service**

QUESTION:

Page 3-6, line 7 Mayo Hydro:

a) Why should the existence of an emergency back-up diesel generator in a community dictate the COS allocation of a hydro plant if the hydro plant is relied upon first and foremost?

ANSWER:

(a)

The existence of an emergency back-up diesel generator in a community is not dictating the COS allocation of Mayo Hydro *per se*; given the material changes in circumstances on the system since 1996/97 as well as anticipated changes (i.e., construction of Mayo Dawson line and planned connection of WAF and MD grids via Carmacks-Stewart Transmission Project), the use of the Mayo Plant, the loads served and the benefits of the asset to the system have changed. The plant no longer only services the local Mayo and Keno loads but now serves a larger complement of formerly isolated communities that previously relied upon resident diesel generation to supply baseload requirements. The primary function of the Mayo Plant is to provide energy that offsets the need to rely on local diesel generation with resident diesel units, while these units remain available to provide capacity benefits as required.

In reviewing the cost of service (COS) study for this response, it was noted that the COS provided in Tab 3 inadvertently fails to classify Mayo hydro 100% to energy, but rather uses the old 60% energy and 40% demand classification. The net effect of this error is very small – Tab 4 reports the Residential (Gov't and Non-Gov't) customers costs too high by approximately 0.2-0.3%, and the GS (Gov't and Non-Gov't) and Industrial costs are allocated approximately 0.2%-0.3% too few costs. The R/C ratios reported in Tab 4 will change once the error is fixed, by about this percentage amount. The companies propose to incorporate this correction into any final COS study filed as part of the hearing refiling.

QUESTION:

Page 3-12, Table 3.1(and Page 3.3A-1 line 22):

a) Since system peak is typically during the supper hour during cold weather and which is typically winter and dark, it seems peculiar that Street lights and Space Lights would have a CP load factor of only 46.7% (indicating that less than half of them are on at system peak). Please explain why these numbers were not adjusted from the ATCO Electric study to make them more appropriate to the more northerly region that Yukon is.

ANSWER:

(a)

Street light and Space light load factors are closely related to the number of light-on hours over the year when energy is consumed (*kWh*). Load Factor is equal to the ratio of the average demand (*kWh*/period) to the maximum demand for a period of time (in this case a year).

$$LF = \frac{kWh}{kW\ Demand * Period}$$ where:

kWh: Total energy used.
kW Demand: Maximum demand.
Period: Total hours in the period.

The load factor used is reasonable and appropriate given the above definition.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4 YEC-12, lines 19-21:

a) Regarding "heritage" infrastructure (e.g. Whitehorse Rapids, Aishihik, and Mayo power plants), is it not true that public (taxpayer) funds (federal, territorial, and YDC) have subsidized and are subsidizing some significant projects being constructed at present - in particular the CSTP and Mayo B hydro plant?

b) Is the cost to the electrical ratepayers of this new infrastructure (CSTP, and Mayo B) not close enough to "heritage" infrastructure so that there will be no increase in average rates because of these projects?

c) Since average rates will not be going up how can the utilities really charge "…increased prices that reflect incremental costs for new generation"?

ANSWER:

(a)

Yes. Funding for Carmacks-Stewart Transmission Project, Mayo B Enhancement Project and Aishihik 3rd Turbine has been sourced from parties including the Federal and Territorial government. YDC funding is also part of the arrangements in some cases, but YDC is not a “taxpayer funded” entity.

(b)

The development of Mayo B and CSTP (Stage 1 and 2) including the connection of the Minto mine and Pelly Crossing, are premised on achieving substantial rate benefits for existing customers.

(c)

The cited quote is in regards to raising the runoff block rates to better send price signals representing the costs of incremental consumption, the costs of added diesel generation

(which is materially higher than the last time runoff block prices were set) and the effects of incremental consumption on system supply.

The presence of material heritage generation (such as Whitehorse Rapids) or new generation sources that are charged to ratepayers at an price reflective of past heritage resources does not undermine this price signal for incremental consumption. Overall, the basis for rate design in Yukon is premised on a balanced approach, as follows:

- A territory-wide sharing of the benefits of the large renewable hydro generation and related transmission assets (through first block rates, as required by the OIC 1995/90);

- While at the same time sending an incremental price signal in regards to the costs of new supplies (through runoff rates, also as required by OIC 1995/90).

This is not unlike the design of two block rates, for example, that existed for the Faro mine, for wholesale sales to YECL (through the Energy Reconciliation Adjustment), and for other utilities such as sales to industrial customers in BC under the “stepped rates” approach.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4 YEC-17 and Tab 7 page 7-5:

a) There is no discussion that the utilities seriously considered seasonal rates. The rational indicated is that there are no studies that indicate a cost benefit. Do the utilities have any studies that indicate that seasonal rates would not be cost effective? If so please provide copies of these studies.

b) Have the utilities considered the possibility that seasonal rates may encourage power consumption during the summer season when hydro supplies are ample?

c) The need for diesel generation in the winter as load growth seems well documented in this the utilities' Phase II GRA, and in Yukon Energy's 2008-2009 GRA. Given this and the utilities preparedness to implement additional rate blocks why do they think seasonal rates would not be cost effective compared to the traditional approach?

ANSWER:

(a), **(b)** and **(c)**

Currently no specific studies have been undertaken with regard to implementing seasonal rates. Please see CW-YEC/YECL-1-25 for a discussion of the benefits and limitations of seasonal rates.

Further, and in relation to the filing, given the time constraints inherent in completing the Phase II Rate Application by February 19, 2010, the Companies focused on meeting the requirements of Board Directive 13 of Order 2009-8. This directed the Companies to provide rate design recommendations in the Phase II Application that comply with previous Board direction and current OICs (and required the companies to consider as a starting point past precedents and the rate design framework provided by OIC 1995/90, OIC 2008/149 and OIC 2007/94). Since it has been over 12 years since the last major rate review, the companies focused on addressing the required rate adjustments in an

orderly manner, focusing first on what can and should be considered for implementation today.

In this vein, the consideration of seasonal rates going forward must be tempered by the reality that with diminishing WAF surpluses and current and anticipated load levels, the current system is returning to the condition of having "diesel on the margin" for material portions of the year. In this vein, there are also increasing exposure to low water conditions when they arise (i.e., drought conditions) resulting in hydro generation shortfalls and costly requirements for diesel generation throughout the year. This concern was noted in the Yukon Energy 2008/2009 GRA (Tab 2, page 2-10) where Yukon Energy anticipated there would be requirements for increasing secondary sales interruptions after the test years based on water availability. While these concerns may be heighted in winter when loads are higher they are not expected to be confined to this time period. This speaks to seasonal rates becoming less relevant to the evolving system, and the requirement for rates that provide for economy and efficiency (based on the incremental cost of diesel) becoming more relevant.

To the extent there are surpluses in terms of summer hydro, these are presently being made available to customers under the secondary sales program, and this will continue so long as any such surpluses remain.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4 YEC-20, line 20:

a) Why did YEC/YECL consider a rate block of 700 to 2000 kWh for residential customers rather than looking at two rate blocks within the present OIC limitation of 1000kWh for equalized rates?

ANSWER:

(a)

The utilities considered numerous possible rate block structures, as set out in Tab 4YEC page 4YEC-20. One of these, as noted in the question, had two rate blocks applying when a customer used 1000 kW.h/month; the first applied to the first 700 kW.h/month and the second rate block applied to all kW.h between 700 and 1000 kW.h/month.

To be clear, there is no OIC limitation of 1000 kW.h for equalized rates – the OIC requirement is that all non-runoff blocks must be equalized, and the runoff rate cannot start at a level less than 1000 kW.h per month.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4 YEC-26, lines 5-9:

a) Why did Yukon Energy select 80% of the cost of diesel, $0.2239 per kWh, which seems bordering on punitive, as the runoff rate for what is a first step towards making runoff costs incremental diesel costs, as opposed to a figure somewhere between 50% (which is only marginally above present rates) and 80%.

b) About 11.3% of bills annually exceed 2500 kWh in consumption whereas about 29.9% of bills annually exceed 1000 kWh in consumption (page 4.1 A-4 and others). Did Yukon Energy consider sending a somewhat stronger signal to the larger percentage of customers by setting a higher rate for the second block energy? Why did Yukon Energy choose not to do so?

ANSWER:

(a)

For a detailed discussion of rate design Option A, please see the response to CW-YEC/YECL-1-19.

Yukon Energy can see no basis to conclude that Option A is in any way “punitive”, for a number of reasons:

1) Option A leads to rate decreases to 90% of residential customers. The remaining 10% of very large users only have the new higher runoff rate apply to their marginal consumption above 1500 kW.h per month, so in most cases it only applies to a small minority of their consumption (less than 1% of customers use above 3000 kW.h/month).

2) The rate proposed remains below the costs that this very high level of incremental consumption drives on the system when diesel generation is being driven (due to the 80% factor). This means that incremental load growth by these very large customers, which serves to drive material spending on new generation

(such as diesel fuel), remains priced “below cost” (and as such fails to fully reflect economic efficiency principles).

3) The proposed runoff rate, at 22.39 cents/kW.h remains below approved rates in place in many northern jurisdictions; for example, the proposed runoff rate for hydro zones remains below the present runoff rate in Old Crow (25.77 cents/kW.h), and well below rates paid throughout almost the entire NWT (including Yellowknife) where residential rates approximate 22 cents/kW.h for every kW.h consumed (there are no runoff blocks, etc. in Yellowknife).

Option A is already a moderated response to the requirement to restore runoff rates that reflect economy and efficiency (i.e., it does not reflect 100% of incremental cost of diesel but is at the mid-way point of 100% incremental cost and 50% which is noted in CW-YEC/YECL-1-19 results in no change in rates at this time.

Option A also complies with the Order-in-Council directives to the Board and past practice for rate design in Yukon under such Orders-in-Council, and has a much stronger long-term price efficiency signal to ratepayers at a time when diesel generation is once again becoming relevant on the margin in the hydro rate zone as well as continuing to be relevant in the various diesel rate zones.

(b)

The rate design focused on the need to meet the OIC requirements and to send an efficiency signal to large users (approx 10% of non-government residential users > 1500 kWh per month in most communities).

The rate also provides the users noted (those between 1000 kW.h and 1500 kW.h) with both a lower bill, plus an increased efficiency signal due to the new second (non-runoff block). This arises as a user consuming 1500 kW.h would face approximately the same bill after implementation of Option A, but have a better opportunity to see savings from load reductions they undertake from implementing efficiency measures (almost a 20% better opportunity to capture savings - see CW-YEC/YECL-16(h)).

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4 YEC-30, lines 11-13:

a) The proposed General Service non-government third energy block rate of $0.2239 is identical to the runoff residential rate and seems no less punitive in this rate class. Why did Yukon Energy not spread the economy and efficiency "signal" to more customers by having a higher second block rate?

ANSWER:

(a)

Please see LE-YEC/YECL-1-12 with respect to allegations of “punitive” rates.

Both the second and “third” block GS rates under Option A are designed to parallel the residential rate designs in both price and coverage, with approximately 90% of the customers fully covered by the first two blocks, and the remainder being exposed to the runoff block. The only exception for GS customers is the approximately 100 of the very largest GS customers, who require individual attention as discussed at Tab 4YEC starting at page 4YEC-27.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Tables A4.1 & B4.1:

a) Please provide a table of information of overall residential non-government and General Service non-government annual (2009) energy consumption broken down by monthly consumption blocks of no less than 250 kWh for residential customer and no less than 1000 kWh for General Service customers. For example residential non-government consumption 0-250 kWh in a month = ? kWh per year; 251 to 500 kWh in a month = ? kWh per year; 501 to 750 kWh in a month = ? kWh per year; etc.

ANSWER:

(a)

Billing data analysis to determine percentages of customers using within certain "blocks" as used for the Phase II application is primarily based on the 2007 actual billing data (for example, see the percentage breakdowns in Appendix 4.1AYEC at Table A4.4). For consistency reasons, the requested information has also been prepared based on the same set of data. Please see attached Table 1 for information of overall Residential non-government energy consumption. Note that the data does not permit analysis at increments less than 100 kW.h (so, for example, 250 kW.h cannot be analyzed).

Table 1

Residential Non-Government Annual Energy Consumption by Monthly Consumption Blocks

	Monthly Consumption Blocks (kWh)					
	0-300	**301-600**	**601-900**	**901-1200**	**1201-1500**	**1501-1800**
Annual Consumption (MWh)	42,754	34,336	23,126	13,188	6,882	3,591

	Monthly Consumption Blocks (kWh)					
	1801-2100	**2101-2400**	**2401-2700**	**2701-3000**	**3001+**	**Total**
Annual Consumption (MWh)	2,015	1,213	792	531	1,404	129,833

Please see attached Table 2 for information of overall General Service non-government energy consumption.

General Service Non-Government Annual Energy Consumption by Monthly Consumption Blocks

	Monthly Consumption Blocks (kWh)					
	0-1000	**1001-2000**	**2001-3000**	**3001-5000**	**5001-10000**	**10001-15000**
Annual Consumption (MWh)	18,728	11,311	7,549	9,737	12,424	6,311

	Monthly Consumption Blocks (kWh)					
	15001-20000	**20001-25000**	**25001-30000**	**30001-35000**	**35000+**	**Total**
Annual Consumption (MWh)	3,914	2,674	2,071	1,582	15,843	92,144

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Pages 4.1 & 5:

a) We note that the bill comparisons are carried out with and without the government IER subsidy; in fact it appears that Option A rate design is intended to facilitate the potential end of the IER by lowering first block rates. Is Yukon Energy aware of any plans by YTG to terminate the IER?

ANSWER:

(a)

Please see response to YUB-YEC/YECL-1-20(b) which notes the Interim Electrical Rebate (IER) is by definition an interim measure, which was specifically noted to terminate following the Phase II proceeding.

Bill comparisons were provided with the understanding that the IER is an interim measure, and comparisons with and without the government subsidy were provided to demonstrate bill impacts in the event the subsidy was to be terminated. It is relevant to the Board and intervenors to understand the potential impacts on bills of the Phase II rate changes being implemented concurrently with any termination of IER.

In any event, the Option A provides material reductions in rates for residential non-government customers using up to 1000 kW.h per month, but these reductions only serve to offset about one-half of the impact on bills of any possible IER elimination. It is not fair to characterize the process of developing Option A as being driven by a plan to facilitate the end of the IER.

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Page 4.1A-5:

a) The bill calculations shown in this table cannot be exactly duplicated with the information provided at the bottom of the table. Please provide actual calculations for a residential bill for 1250 kWh in a month under (1) existing rates and (2) under proposed rates showing the order in which the calculations are actually carried out and all the digits of the rates and charges used in the calculations.

ANSWER:

(a)

Please see the attached Tables 1a – 1d for sample residential bill calculations under existing rates.

Table 1a – Hydro Zone

Consumption	**1250** kW.h				
Customer charge	$11.90				$11.90
Block 1 energy charge	1000	kwh @	$0.0986		$98.60
Block 2 energy charge	250	kwh @	$0.1045		$26.13
Base billing					$136.63
Rider J	$136.63	x	12.460%	=	$17.02
Rider R	$136.63	x	10.526%	=	$14.38
Yukon rebate of Fed/Ter Income Tax	$136.63	x	-0.500%	=	($0.68)
Yukon Interim ElectricalRrebate	1000	x	-$0.02660	=	($26.60)
Rider F	1250	x	-$0.00354	=	($4.43)
Subtotal					$136.32
GST	$136.32	x	5.000%	=	$6.82
Total					**$143.14**

Table 1b – Large Diesel Zone

Consumption **1250** kW.h

Customer charge	$11.90				$11.90
Block 1 energy charge	1000	kwh @	$0.0986		$98.60
Block 2 energy charge	250	kwh @	$0.1045		$26.13
Base billing					$136.63
Rider J	$136.63	x	12.460%	=	$17.02
Rider R	$136.63	x	10.526%	=	$14.38
Yukon rebate of Fed/Ter Income Tax	$136.63	x	-0.500%	=	($0.68)
Yukon Interim ElectricalRrebate	1000	x	-$0.02660	=	($26.60)
Rider F	1250	x	-$0.00354	=	($4.43)
Subtotal					$136.32
GST	$136.32	x	5.000%	=	$6.82
Total					**$143.14**

Table 1c – Small Diesel Zone

Consumption **1250** kW.h

Customer charge	$11.90				$11.90
Block 1 energy charge	1000	kwh @	$0.0986		$98.60
Block 2 energy charge	250	kwh @	$0.1236		$30.90
Base billing					$141.40
Rider J	$141.40	x	12.460%	=	$17.62
Rider R	$141.40	x	10.526%	=	$14.88
Yukon rebate of Fed/Ter Income Tax	$141.40	x	-0.500%	=	($0.71)
Yukon Interim ElectricalRrebate	1000	x	-$0.02660	=	($26.60)
Rider F	1250	x	-$0.00354	=	($4.43)
Subtotal					$142.17
GST	$142.17	x	5.000%	=	$7.11
Total					**$149.28**

Table 1d – Old Crow Zone

Consumption	**1250** kW.h				
Customer charge	$11.90				$11.90
Block 1 energy charge	1000	kwh @	$0.0986		$98.60
Block 2 energy charge	250	kwh @	$0.2577		$64.43
Base billing					$174.93
Rider J	$174.93	x	12.460%	=	$21.80
Rider R	$174.93	x	10.526%	=	$18.41
Yukon rebate of Fed/Ter Income Tax	$174.93	x	-0.500%	=	($0.87)
Yukon Interim ElectricalRrebate	1000	x	-$0.02660	=	($26.60)
Rider F	1250	x	-$0.00354	=	($4.43)
Subtotal					$183.23
GST	$183.23	x	5.000%	=	$9.16
Total					**$192.40**

Please see the attached Tables 2a – 2d for sample residential bill calculations under proposed rates.

Table 2a – Hydro Zone

Consumption	**1250** kW.h				
Customer charge	$14.65				$14.65
Block 1 energy charge	1000	kwh @	$0.1090		$109.00
Block 2 energy charge	250	kwh @	$0.1522		$38.05
Block 3 energy charge	0	kwh @	$0.2239		$0.00
Base billing					$161.70
YEC Revenue shortfall rider	$161.70	x		=	$0.00
YECL Revenue shortfall rider	$161.70	x		=	$0.00
Yukon rebate of Fed/Ter Income Tax	$161.70	x	-0.500%	=	($0.81)
Yukon interim electrical rebate	1000	x	-$0.02660	=	($26.60)
Fuel adjustment rider	1250	x	-$0.00354	=	($4.43)
Subtotal					$129.87
GST	$129.87	x	5.000%	=	$6.49
Total					**$136.36**

Table 2b – Large Diesel Zone

Consumption **1250** kW.h

Customer charge	$14.65				$14.65
Block 1 energy charge	1000	kwh @	$0.1090		$109.00
Block 2 energy charge	250	kwh @	$0.1522		$38.05
Block 3 energy charge	0	kwh @	$0.2239		$0.00
Base billing					$161.70
YEC Revenue shortfall rider	$161.70	x		=	$0.00
YECL Revenue shortfall rider	$161.70	x		=	$0.00
Yukon rebate of Fed/Ter Income Tax	$161.70	x	-0.500%	=	($0.81)
Yukon interim electrical rebate	1000	x	-$0.02660	=	($26.60)
Fuel adjustment rider	1250	x	-$0.00354	=	($4.43)
Subtotal					$129.87
GST	$129.87	x	5.000%	=	$6.49
Total					**$136.36**

Table 2c – Small Diesel Zone

Consumption **1250** kW.h

Customer charge	$14.65				$14.65
Block 1 energy charge	1000	kwh @	$0.1090		$109.00
Block 2 energy charge	250	kwh @	$0.1522		$38.05
Block 3 energy charge	0	kwh @	$0.2239		$0.00
Base billing					$161.70
YEC Revenue shortfall rider	$161.70	x		=	$0.00
YECL Revenue shortfall rider	$161.70	x		=	$0.00
Yukon rebate of Fed/Ter Income Tax	$161.70	x	-0.500%	=	($0.81)
Yukon interim electrical rebate	1000	x	-$0.02660	=	($26.60)
Fuel adjustment rider	1250	x	-$0.00354	=	($4.43)
Subtotal					$129.87
GST	$129.87	x	5.000%	=	$6.49
Total					**$136.36**

Table 2d – Old Crow Zone

Consumption	**1250** kW.h				
Customer charge	$14.65				$14.65
Block 1 energy charge	1000	kwh @	$0.1090		$109.00
Block 2 energy charge	250	kwh @	$0.1522		$38.05
Block 3 energy charge	0	kwh @	$0.2239		$0.00
Base billing					$161.70
YEC Revenue shortfall rider	$161.70	x		=	$0.00
YECL Revenue shortfall rider	$161.70	x		=	$0.00
Yukon rebate of Fed/Ter Income Tax	$161.70	x	-0.500%	=	($0.81)
Yukon interim electrical rebate	1000	x	-$0.02660	=	($26.60)
Fuel adjustment rider	1250	x	-$0.00354	=	($4.43)
Subtotal					$129.87
GST	$129.87	x	5.000%	=	$6.49
Total					**$136.36**

REFERENCE: **YEC Rate Design - Yukon Energy Discussion**

QUESTION:

Pages 4.1 A-4 & 5 and other similar bill comparisons:

a) Are the Income Tax Rebate and GST included in these calculated bills?

ANSWER:

(a)

Yes, the Income Tax Rebate and GST are included in the calculated bills. Please see LE-YEC/YECL-1-16 for sample bill calculation details.

QUESTION:

Page 4YECL-4, line12:

a) Please describe how the proposed energy rates which reduces the cost of energy for all monthly consumption under 2500 kWh in a month representing 98.3% of all residential bills (and 97.8% of energy consumption) sends signals encouraging economy and efficiency to customers.

ANSWER:

(a)

Yukon Electrical Response

Please refer to YUB-YEC/YECL-1-24.

Page4YECL-4, line 12 refers to YECL's proposed runoff rates for Residential and General Service runoff rates. YECL's proposed residential non-government rates do not reduce the cost of energy for all monthly consumption under 2500 kW.h. YECL's proposed Option B residential non-government rates send the same signal under current rates for the first energy block (0-1000 kW.h) to 100% of the customers, a lighter signal to consumption in the second block (1001-2500 kW.h) to approximately 28% of the customers and a stronger signal to consumption in the third or runoff block (>2500 kW.h) to approximately 2% of the customers. Please refer to Graph 1 on PAGE4YECL-15 or YUB-YEC/YECL-1-24(a) Figures 1 and 2 for bill impacts from YECL's proposed Option B. YECL believes Option B is balanced and sends signals encouraging economy and efficiency when considering that the current non-government residential R/C is 79% and the IER is currently in place. As explained in YUB-YEC/YECL-1-22, YECL considers that the term economy and efficiency encompasses more than providing a signal to customers of the short run incremental cost of diesel.

Yukon Energy Response

The question references Option B rate designs and the signals this option sends as compared to today's rates. In short, in YEC's view as compared to today's rates Option B does not encourage any notable efficiency measures, as it is largely retaining today's rates status quo.

The design of rates in a jurisdiction with "tiers" of generation that have materially different costs, as is now relatively typical of hydro based systems, requires careful consideration. This is because the rate design needs to both provide overall cost benefits to customers arising from lower cost heritage generation, while at the same time ensuring such lower cost power is not leading to inappropriate signals about the "marginal" or incremental cost of new power supplies going forward. In Yukon today, both factors are at work. The average cost of heritage power is declining, as these assets become depreciated, become more fully utilized, and are enhanced through such measures as CSTP, while the average cost of incremental supplies has approximately tripled since 1997 when runoff rates were last set. The rate designs being proposed today reflect this divergence. In the case of Option A, this is reflected by reductions in the first block energy rate which shares with all Yukoners the benefits of the heritage power assets (regardless as to whether the customer is located on the integrated system) while also sending the signal to the largest users that the incremental costs of adding supply to serve their loads is much higher than when these rates were last set.

Consider the approximate rate impacts arising from the two Options in Tab 4YEC (as set out in Table 1 below). Option B has very limited affect, with almost all customers in the middle range (no notable increases or decreases) with the exception of a small amount of users in small diesel communities or Old Crow who see notable decreases. Option A in contrast has notable decreases in the shared, equalized block intended to share throughout Yukon the benefit of heritage generation, while sending stronger price signals on the incremental consumption (larger loads) regarding the costs of new supplies.

1 **Table 1: Approximate Rate Impact Arising from Option A and Option B**

2

Approx Rate Impact	Non-Government Customers Affected	
	Option A	Option B
Larger Increases (in excess of 4%)	• Largest 10% of residential customers (using 1500 kW.h/mo or more on hydro or large diesel systems; 1700-2000 kW.h/mo in small diesel or Old Crow) *[largest 1% of customers see impacts of 20%-40%]* • 10% of GS customers – those using from 7500 to 85000 kW.h/month in hydro and large diesel zone	None
Smaller Increases (1-4%)	No residential • A very small number of GS customers over approx 85000 kW.h/month in hydro and large diesel	• Largest 1% of residential customers; residential usage in hydro and large diesel above 3000 kW.h • GS customers on hydro and large diesel system using 18,000 to 40,000 kW.h/mo
No notable change (1% increase to 1% decrease)	None	• 99% of hydro and large diesel residential users (up to 3000 kW.h); small diesel and Old Crow up to 1000 kW.h/month • All hydro and non-diesel GS, with the exception of a band from 18,000 to 40,000 kW.h.mo
Smaller Decreases (1-4%)	• 5% of residential customers; those using approx 1300-1500 kW.h/mo on hydro or large diesel systems • 5% of GS; those using from 3500-4500 kW.h/mo in hydro and large diesel	None
Larger Decreases (in excess of 4%)	• 85% of residential customers; those using up to 1300 kW.h/mo on hydro or large diesel systems, up to 1700-	• Residential usage in small diesel and Old Crow above approx 1000-1200 kW.h/month • All small diesel and Old Crow GS

Approx Rate Impact	Non-Government Customers Affected	
	1900 kW.h/mo on small diesel or Old Crow systems • 80% of GS customers; those using up to 3500 kW.h/mo on hydro and large diesel systems, 15000 kW.h/mo in small diesel, and all Old Crow GS customers.	users above 2500 kW.h/mo

1

QUESTION:

Page 4YECL-5, line 3:

a) Please describe how the energy rate for the second block, which is lower than the present runoff rate plus riders R and J, was determined.

ANSWER:

(a)

The second block rate was determined by a function of the residential non-government rate class.

The revenue from the customer charge, block 1 energy charge and block 3 energy charge are removed from the total costs attributed to the residential non-government rate class.

- Total cost attributed to the residential non-government rate class is determined due to OIC 2008/047 where the increase to existing retail rates must be the same. This increase is 23.1% or the same as Rider J and R combined.

- Customer revenue is the current rate increased at 23.1% applied to the forecast billing determinants.

- Block 1 energy revenue is the current rate increased at 23.1% applied to the forecast billing determinants.

- Block 3 energy revenue is 50% of incremental cost of diesel (Table 4.3 PAGE4YECL-9) applied to forecast billing determinants.

This remaining amount is the revenue to be generated by the block 2 energy charge. The remaining revenue divided by the billing determinants resulted in an energy charge of 12.82 ¢/kW.h.

QUESTION:

Page 4YECL-5, line 3:

a) Please describe how the proposed second block rate will discourage the installation of electric heating on the WAF system which is driving up winter loads and diesel generation on the margin to service this load.

ANSWER:

(a)

Yukon Electrical Response

In YECL's view, over time as the IER is removed, OIC 2008/149 expires and as the runoff block moves toward 100% incremental cost of diesel and residential non-government customers on the WAF grid see the true electric costs, the proposed second block rate will act as a buffer or transition from lower hydro costs to higher diesel costs. YECL's proposal is to find a reasonable balance between sending a price based on the current costing environment and encouraging electrical conservation. As explained in YUB-YEC/YECL-1-24, it is YECL's view that sending a signal to customers to use another energy source without the customer becoming more 'energy' efficient does not accomplish economy and efficient rate design. YECL considers this rate design practice as rate discrimination against a specific group, in this case high consumption users due to electric heating. As mentioned at the Pre-Application workshop (PAGE7.1B-43) "Absolute consumption is not related to efficient or inefficient use."

Yukon Energy Response

The question addresses the proposed second block (the proposed new interim non-runoff block) in YECL's proposed residential rate from Tab 4YECL (termed Option B in Yukon Energy's Tab 4).

The YEC and YECL proposed residential rate design proposals both create a new second block rate at 1,001 kW.h/month to act as a buffer or transition from lower heritage costs applicable for the first block rates to higher incremental energy costs (e.g., runoff costs) in the third block.

In YEC's view, the proposal under Option A to extend the second block to 1,500 kW.h/month (about 90% of non-government annual bills do not exceed this level), is consistent with the transition zone objective; with the proposed second block rate at 15.22 c/kW.h, Option A also provides a meaningful transition between its first block (10.90 c/kWh) and third block (22.39 c/kW.h) rates.

As explained in CW-YEC/YECL-1-19(a) and (d), in YEC's view Option A as proposed will begin to restore an efficient price signal with regard to the runoff rate and therefore the second block rate as proposed will also provide a meaningful transition as residential customer use increases above 1,000 kWh/month.

The principled basis for this overall rate design approach as adopted to date in Yukon, with runoff rates reflecting runoff costs, is reviewed in CW-YEC-1-12 (a) and (b) and CW-YEC/YECL-1-14(b) and (c). YEC does not consider this rate design approach to discriminate against any specific group, i.e., all high consumption users are treated the same.

QUESTION:

Page 4YECL-5, line 3:

a) Please describe how and why the third rate block (runoff) was set at 2500 kWh in a month.

ANSWER:

(a)

Please refer to YUB-YEC/YECL-1-25(a).

QUESTION:

Page 4YECL-5, line 3:

a) Please describe how signals for economy and efficiency are sent to customers in the large and small diesel zones.

ANSWER:

(a)

The approach taken for customers in the large and small diesel zones is consistent with customers in the Hydro zone. The question that YECL has considered in the context of rate design is “how to design just and reasonable rates that reflect costs more accurately than existing rates that still promotes energy efficiency under the current costing environment.” This is explained in detail in YUB-YEC/YECL-1-22 and YUB-YEC/YECL-1-24.

QUESTION:

Page 5-3, lines 16-18:

a) Please explain why a discretionary "may" is added in the proposed rewording as opposed to leaving it certain. Will this not simply result in push-back from all affected customers and therefore complaints and a higher administration cost for all customers to bear?

ANSWER:

(a)

Using the discretionary "may" in the rewording of Article 4.15 of the Terms and Conditions allows YECL and YEC the flexibility to apply this clause as it applies to each utility's own practices and procedures. It is not YECL's current practice to back bill customers who reconnect within 12 months of disconnection. YECL would, however, be aware if a customer was trying to "game" the system by repeatedly disconnecting and reconnecting service and could then enforce the back billing provision at its discretion. The vast majority of customers who do disconnect and reconnect within a 12 month period are considered seasonal customers and are already excluded from this provision.

Yukon Energy Response

Yukon Energy accepts the practice of electing not to charge the amounts, as set out by YECL and suggests it sets out a reasonable approach to Yukon for small accounts that are of less value than the administrative effort required. However, for larger accounts (perhaps where the minimum monthly bill is above $500 – this would only be the large General Service customers who peak at approximately 100 kW or above, and Industrial accounts) the provision needs to be designed to protect other system ratepayers from concerns over any customer "gaming" of the system and to make it clear to these large customers that the charge will be applied.

QUESTION:

Page 5-5, Table 5.2:

a) For residential (single dwellings) are any of the MILs of neighbouring utilities the actual average cost of either an overhead or an underground connection?

ANSWER:

(a)

The MILs shown in Table 2 for ATCO Electric, Fortis Alberta and Northland Utilities are, to the best of the Companies' knowledge, not equal to the actual average cost of either an overhead or an underground connection. Based on recent MIL studies published in their respective DTA's or GRA's:

- FortisAlberta's residential MIL approaches the target average cost of a sample underground subdivision (Source: 2010 – 2011 DTA);

- ATCO Electric's residential MIL approaches the target average cost of a blend of underground and overhead extensions, whereby, generally 80% of new extensions are underground. (Source: 2009 – 2010 DTA);

- Northland Utilities (Yellowknife) residential MIL approaches the average cost of underground subdivision. (Source: 2008 – 2010 GRA); and

- Northland Utilities (NWT) residential MIL approaches the average cost of overhead services. (Source: 2008 – 2010 GRA).

YECL cannot comment on the MILs in relation to costs for NTPC or BC Hydro.

QUESTION:

Page 5-5:

a) What is the average cost of a new overhead power connection to a single family home in Whitehorse?

ANSWER:

(a)

As there has not been an overhead subdivision in Whitehorse in many years, the cost of an overhead connection can only be estimated. The estimated cost for a typical new overhead power connection to a single family home in Whitehorse, is $2,661 (in 2011$).

QUESTION:

Page 5-7, lines 10-11:

a) Given the lengthy process to get utility investments in secondary sales approved in the first place, please explain why the investment in secondary customers will be terminated as opposed to being left as a placeholder and set to $0.00.

ANSWER:

(a)

The utilities do not view any practical difference to the two scenarios. Either leads to no utility investment in secondary sales at this time, and no future utility investment in secondary sales connections without some later approval of the Board.

QUESTION:

Pages 5-7&8, and page 5.1-34:

a) Please explain or provide examples of extensions of service to customers not covered in Paragraph 2 of Schedule B.

b) How are summer-only seasonal businesses treated now and how would they be treated in future?

c) How are recreational use cabins and cottages treated now and how would they be treated in future?

ANSWER:

(a)

New extensions to customers not covered in Paragraph 2 are covered under Paragraph 1, where these customers are expected to be in-service for the full service life which is 30 years for residential and street lights, and 25 years for general service customers. Continuous revenue streams from those customers during that period would also be expected. Examples would be single family dwellings, townhomes, apartment buildings, and small and large businesses.

(b)

Currently, investment in seasonal businesses is pro-rated based on the number of months in a year they will be in operation. No changes are being proposed to this practice.

(c)

Cabins and cottages receive full investment levels. No changes are being proposed to this practice.

QUESTION:

Page 5-7, line 27 & on:

a) The suggested new wording implies that a residential customer who uses propane or oil to heat water and / or for cooking, and who is energy efficient and consequently has a very low power consumption (and whose load characteristic thus varies materially from the average), would or could be treated differently from high residential power consumers. Please explain how these customers would be treated.

ANSWER:

(a)

Typical residential investment is based on per site MIL and is thus independent of energy efficiency and overall power consumption. These customers would be eligible to receive full investment up to the cost of the new extension. This reference to Paragraph 2, of Schedule B, usually applies to general service type loads.

REFERENCE: **Terms and Conditions of Service**

QUESTION:

Page 5.1-5:

a) The proposed Terms and Conditions of Service indicate that the Electric Service Tariff which is composed of the rate schedules and the Terms and Conditions of Service (presently the Electric Service Regulations) are available on both Yukon Energy's and Yukon Electric's websites. While the Electric Service Regulations were found on both, the author could not find the rate schedules on either website on June 16. Did the author overlook them or are they not yet there? Are the utilities going to place them on their websites?

ANSWER:

(a)

Yukon Energy Response

Rate Schedules are available on the Yukon Energy website at the link below.

http://www.yukonenergy.ca/customer/commercial/schedules/

Yukon Electrical Response

The YECL website has a bill calculator for customers to use and understand their bill and rates. This interactive tool allows customers to clearly identify all base rates and riders that apply to them. YECL feels that this presentation is more valuable to customers than written rate schedules. However, if there is interest from customers for YECL to post the actual rate schedules YECL will make arrangements to do so.

QUESTION:

Page 5.1-12 & 13:

a) How does Yukon Electric ensure that customers do not use or install electric heat in diesel served communities?

ANSWER:

(a)

When connecting new loads YECL gathers information from the customer about service sizes and heating systems that they plan to use. In general, this information is used to size the transformer and wires appropriately. In diesel communities YECL uses this to ensure the customer is not connecting electric heat, since there is limited supply. If electric heat is in the customer's plans YECL informs them that heating load cannot normally be accommodated and that YECL has the right to not allow that type of load at the time of connection. Also, once a service has been connected YECL normally does not allow electric heating load to be knowingly connected.

QUESTION:

Page 5.1-14 and Page 7-4, Cost Sharing: For each of Yukon Energy and Yukon Electric please provide the following information for non-industrial customers:

a) For each of the years 2000-2009 the annual administration cost for all cost sharing tracking activities (post construction) for distribution extensions towards which non-industrial customers paid construction contributions. Please provide the supporting documentation.

b) For each of the years 2000-2009 the total number of distribution extensions towards which non-industrial customers paid construction contributions.

c) For each of the years 2000-2009 the number of distribution extensions towards which non-industrial customers paid construction contributions in excess of $5,000 each.

d) For each of the years 2000-2009 the number of distribution extensions towards which non-industrial customers paid construction contributions in excess of $10,000 each.

e) For each of the years 2000-2009 the number of distribution extensions towards which non-industrial customers paid construction contributions in excess of $15,000 each.

f) For each of the years 2000-2009 the number of distribution extensions towards which non-industrial customers paid construction contributions in excess of $20,000 each.

g) For each of the years 2000-2009 the number of distribution extensions towards which non-industrial customers paid construction contributions in excess of $25,000 each.

ANSWER:

(a)

YEC and YECL are unable to provide the requested data because administration costs, including specifically for cost sharing, are not tracked.

(b) to **(g)**

YEC and YECL have provided actual data for the last three years. This is consistent with the information timeline provided in YECL's 2009 GRA. In Board Order 2008-5, the Board approved that unless the information is to test items such as load forecasts and continuity of capital additions, three years of actual information is appropriate. Please see the attached Table 1 for the YEC summary and Table 2 for YECL summary of the requested information.

Table 1 YEC Summary

Total Number of Distribution Extensions Where Non-industrial Customers Paid Construction Contributions			
	2007	**2008**	**2009**
Total (b)	**24**	**22**	**22**
greater than $5,000 (c)	7	7	8
greater than $1,000 (d)	5	1	4
greater than $15,000 (e)	3	1	2
greater than $20,000 (f)	2	1	1
greater than $25,000 (g)	2	1	1

Table 2 YECL Summary

Total Number of Distribution Extensions Where Non-industrial Customers Paid Construction Contributions			
	2007	**2008**	**2009**
Total (b)	**155**	**180**	**175**
greater than $5,000 (c)	72	108	118
greater than $10,000 (d)	38	46	51
greater than $15,000 (e)	29	29	34
greater than $20,000 (f)	28	25	25
greater than $25,000 (g)	20	20	21

QUESTION:

Page 5.1-14 and Page 7-4, Cost Sharing: For each of Yukon Energy and Yukon Electric please provide the following information:

a) For each distribution extension included in response to LE-YEC/YECL-1-31(c) please provide the number of new customers that connected to cost sharing projects in the 5 years that the cost sharing arrangement was in place.

b) For each distribution extension included in response to LE-YEC/YECL-1-31(d) please provide the number of new customers that connected to cost sharing projects in the 5 years that the cost sharing arrangement was in place.

c) For each distribution extension included in response to LE-YEC/YECL-1-31(e) please provide the number of new customers that connected to cost sharing projects in the 5 years that the cost sharing arrangement was in place.

d) For each distribution extension included in response to LE-YEC/YECL-1-31(f) please provide the number of new customers that connected to cost sharing projects in the 5 years that the cost sharing arrangement was in place.

e) For each distribution extension included in response to LE-YEC/YECL-1-31(g) please provide the number of new customers that connected to cost sharing projects in the 5 years that the cost sharing arrangement was in place.

ANSWER:

(a) to **(e)**

Yukon Energy Response

The total number of Yukon Energy customers that received a cost share in the last 3 years is as follows:

- 2007 - 2 customers
- 2008 – 53 customers
- 2009 – 2 customers

Yukon Energy had no customers with a cost sharing arrangement greater than $5,000 in these years.

Yukon Electrical Response

YECL has provided actual data for the last three years. This is consistent with the information timeline provided in YECL's 2009 GRA. In Board Order 2008-5, the Board approved that unless the information is to test items such as load forecasts and continuity of capital additions, three years of actual information is appropriate.

Total Number of New Non-Industrial Customers Who Paid Cost Sharing			
Contribution of Original Customer	**2007**	**2008**	**2009**
greater than $5,000 (a)	1	2	6
greater than $10,000 (b)	0	0	4
greater than $15,000 (c)	0	0	2
greater than $20,000 (d)	0	0	2
greater than $25,000 (e)	0	0	1

QUESTION:

Page 5.1-35 part (a):

a) The first sentence does not appear to make sense, please provide the correct (or clearer) wording.

ANSWER:

(a)

Part (a) should read:

"(a) At the time of the request for underground Service, where no Service is available in the area to be served by such extension and where not less than 25 single family dwellings (or such lesser number as may be agreed to by the Company) will be connected to such extension (the "underground service area"), each of which is situated upon said subdivision;"