

**CITY OF WHITEHORSE
(CW)**

1 **ISSUE:** **COS Study – Hydro – Whitehorse Unit #4 (WH4) – Classified**
2 **100% to Energy**

3
4 **REFERENCE:** **Application, Section 3.2, page 3-5**

5
6 **PREAMBLE:**

7
8 The Utilities state:

9
10 In 2009, unlike the 1996/97 GRA, Whitehorse Unit #4 is expected to make a positive net
11 contribution to meeting customer demand under drought conditions at the time of the
12 winter system peak. Overall, however, reliance during the winter peak on a net
13 contribution of only 4 MW of the 20 MW total capacity of Whitehorse Unit #4 confirms
14 that this unit continues to differ materially from other generation units for the purpose of
15 cost classification. Accordingly, consistent with past practice and the purpose for which
16 the unit was originally constructed and for simplicity, the Whitehorse Unit #4 continues to
17 be classified 100% to energy.

18
19 **QUESTION:**

- 20
21 a) With reliance during the winter peak on a net contribution of 4 MW of the 20 MW
22 total capacity of Whitehorse Unit #4, please explain why YEC would not allocate
23 some percentage (for example, 20%) to demand and the remainder to energy?
24
25 b) Please explain how "this unit continues to differ materially from other generation
26 units for the purpose of cost classification."
27
28 c) Please explain how being "consistent with past practice" should be a prime
29 consideration considering Whitehorse Unit #4 is expected, unlike in the past, to
30 make a positive net contribution to meeting customer demand.
31
32 d) Please confirm that in the 1992 Report (Appendix 7.1, p.7.1C-28), the Board
33 agrees with the company's position that "cost causation relates to the original
34 reason for constructing the generating facilities" only because the Board did "not
35 have any evidence to indicate that these two differ." If not confirmed, please
36 explain fully.

1 e) If (d) is confirmed, please comment on the appropriateness of relying on "the
2 purpose for which the unit was originally constructed" when the current use for
3 generation assets such as Whitehorse Unit #4 differs significantly from their
4 original planned operations.

5
6 f) Please explain why "simplicity" should be a key premise in determining the
7 proper classification of Whitehorse Unit #4.

8
9 g) Please provide the study requested by the Board in Recommendation #3 of the
10 1992 Report (Appendix 7.1, page 7.1C-61).

11
12 **ANSWER:**

13
14 **(a)**

15
16 While there may be some merit to the suggestion, reallocating some percentage of
17 Whitehorse Unit #4 costs to demand to recognize the small net contribution that the unit
18 makes to meeting peak winter demand would have very little change in the overall COS
19 results. It is not easy to quickly change just this one asset as described, but even in the
20 extreme example that all Yukon hydro assets are changed to 40% demand and 60%
21 energy (i.e., well beyond the change requested in the question), the net effect on
22 residential class allocated costs is only on the order of 1%.

23
24 **(b)**

25
26 The first three units installed at Whitehorse were designed to use effectively all firm
27 winter water flows. The installation of the fourth unit was justified on the basis of added
28 energy generation primarily in summer, not when the system was peaking or demand
29 constrained.

30
31 **(c)**

32
33 As noted at page 3-5 of the Application, while the unit makes a net contribution to winter
34 capacity of the Whitehorse Plant, the net contribution that can be relied upon from unit
35 #4 (4 MW) is small compared to the total MW capacity of the unit (20 MW).

1 **(d)**

2
3 Confirmed.
4

5 **(e)**

6
7 As noted at page 3-5 of the Application, the current use of the asset is not materially
8 different than the purpose for which it was originally constructed. The capability of a 4
9 unit Whitehorse plant is only modestly larger than a 3 unit plant in winter, but much
10 larger in summer. Under this generation profile, the benefit of the 4th unit is primarily
11 energy, not capacity.
12

13 **(f)**

14
15 Simplicity is a criteria for determining the appropriateness of cost of service methods
16 when adding complexity does not materially affected results.
17

18 **(g)**

19
20 Please see Appendix 7.1, page 7.1C-64 to 65.

ISSUE: COS Study – Aishihik Plant (existing, excluding Aishihik 3rd Turbine) - Classified 100% of Energy

REFERENCE: Application, Section 3.2, p.3-5

PREAMBLE:

The Utilities state:

Under the new capacity planning criteria recently adopted in Yukon Energy's 20-Year Resource Plan: 2006-2025 (driven by N-1 methods), Aishihik generation is considered to not contribute to the WAF system's ability to serve peak loads at critical times due to transmission constraints. As a result, there must be sufficient diesel generation installed (plus WH and Fish Lake winter capacity) to permit the full system loads to be carried. Consequently, Aishihik's contribution to system service is solely of an energy benefit (offsetting the use of the diesel plants to provide energy or peaking output). This methodology differs from the classification adopted in the 1996/97 GRA COS (before the new capacity planning criteria was adopted), when Aishihik plant costs were classified 60% energy and 40% demand.

QUESTION:

- a) Please explain why a capacity planning criteria is determinative with regard to cost of service classification?
- b) Particularly with regard to the N-1 criteria, why should the COS classification of the Aishihik plant cost be based on an emergency capacity planning criteria?
- c) Please define "critical times".
- d) Why is the Aishihik generation's contribution to the WAF system's ability to serve peak loads at these "critical times" principal to the determination of the classification of Aishihik plant costs?
- e) Does Aishihik generation typically contribute to the WAF system's ability to serve peak loads? Please provide for the last 5 years and also forecast for 2008 and

1 2010, the net contribution of Aishihik generation to serve peak loads during the
2 winter peak.
3

4 f) Why are the Utilities most concerned with capacity planning criteria when
5 classifying the Aishihik plant, rather than the considerations that the Utilities have
6 applies to classify Whitehorse Unit #4 (namely, being consistent with past
7 practice, the purpose for which the unit was originally constructed and
8 simplicity)?
9

10 g) Please provide another version of the cost of serve study based on the Aishihik
11 plant costs being classified as 60% energy and 40% demand.
12

13 **ANSWER:**
14

15 **(a) and (b)**
16

17 A capacity planning criteria is not determinative with respect to classification of assets in
18 the cost of service study, but it is an important factor. This is because capacity planning
19 criteria is one of the items underlying the reason for making investments in the system.
20

21 One type of assessment that can be done to help determine the classification of assets
22 in a cost of service study is looking at the cost characteristics of a “pure” load – either
23 pure capacity (1 added MW at peak times, but for a very short duration) or pure energy
24 (1 MW.h that has to be delivered at sometime during the year, but without any
25 restrictions on when it can be delivered).
26

27 • Additions of pure capacity loads will drive the need for added diesel units on the
28 system (who will run very infrequently if at all) due to capacity planning criteria,
29 and potentially added investment in distribution systems. In Yukon, these types
30 of loads will not drive investment in new hydro units, or any material investment
31 in new or upgraded transmission.
32

33 • Additions of pure energy loads will drive added diesel fuel consumption in the
34 short-run, or in the longer term would likely drive the development of added
35 renewable power generation along with the transmission lines needed to deliver
36 this renewable generation to the load.

1 The cost of service study attempts to classify assets largely to reflect these cost drivers.
2 Pure capacity loads do not drive new investment along the lines of Aishihik; only loads
3 that have substantial energy component drive these type of resources.
4

5 **(c)**
6

7 The Planning Criteria were recently discussed in the response to YUB-YEC/YECL-1-6 in
8 the Mayo B Part 3 hearing. "Critical times" in relation to the emergency N-1 criteria may
9 be defined as a serious sustained outage of a critical system component (e.g. on WAF
10 the interruptions of the Aishihik transmission line), during the period of peak winter loads.
11

12 **(d)**
13

14 Please see (a).
15

16 **(e)**
17

18 Yes. Please see LE-YEC/YECL-1-2(a).
19

20 Per the table below, over the past 5 years Aishihik has provided, on average, 45% of
21 WAF winter peak load and would be expected to contribute at this same level for the
22 winter peak for 2010.
23

Year	Date	WAF Peak (MW)	AH Load (MW)	AH as % of WAF Peak
2005	12-Jan-05	56.27	22.76	40.4%
2006	26-Nov-06	61.36	29.7	48.4%
2007	10-Jan-07	59.00	27.9	47.3%
2008	21-Dec-08	63.52	29.13	45.9%
2009	21-Dec-09	64.91	29.24	45.0%

1 **(f)**

2

3 All of these items are considerations in the classification of assets. See (a) above. Both
4 Aishihik and Whitehorse #4 are classified the same; 100% energy, as they are both
5 focused on providing kW.h, not on ensuring the reliable capability of the system to meet
6 peak loads at critical times.

7

8 **(g)**

9

10 Please see Attachment CW-YEC/YECL-1-2(g).

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: Residential Government
2009

Schedule 4-T-27
Page 27

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	88	102	190
Transmission - Transmission Line	0	0	58	58
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	18	10	0	27
Carrying Costs (Excluding Return and Income Tax)	31	16	0	47
Operating & Maintenance Costs	21	11	0	32
Customer Accounting & Public Information	37	0	2	39
Insurance	2	1	0	4
Revenue Offsets	-8	-3	0	-11
Administrative & General	24	8	0	31
Amortization of Contributions	-9	-5	0	-14
	-----	-----	-----	-----
Total	116	126	163	405
	=====	=====	=====	=====
Unit Cost	458.5	289.2	7.5	
	\$/customer	\$/kW	c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: Residential Non-Government
2009

Schedule 4-T-28
Page 28

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	5,599	6,502	12,102
Transmission - Transmission Line	0	0	3,714	3,714
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	993	625	0	1,618
Carrying Costs (Excluding Return	1,731	1,057	0	2,788
Operating & Maintenance Costs	1,180	706	0	1,885
Customer Accounting & Public Information	2,068	0	148	2,216
Insurance	135	80	0	214
Revenue Offsets	-444	-172	0	-616
Administrative & General	1,315	510	0	1,825
Amortization of Contributions	-575	-342	0	-917
	-----	-----	-----	-----
Total	6,402	8,064	10,365	24,830
	=====	=====	=====	=====
Unit Cost	453.1	289.9	7.5	
	\$/customer	\$/kW	c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: General Service Government
2009

Schedule 4-T-29
Page 29

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	1,526	2,429	3,955
Transmission - Transmission Line	0	0	1,387	1,387
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	40	173	0	213
Carrying Costs (Excluding Return and Income Tax)	66	292	0	359
Operating & Maintenance Costs	48	195	0	243
Customer Accounting & Public Information	80	0	55	136
Insurance	5	22	0	27
Revenue Offsets	-17	-48	0	-65
Administrative & General	52	141	0	193
Amortization of Contributions	-14	-60	0	-74
	-----	-----	-----	-----
Total	260	2,243	3,871	6,374
	=====	=====	=====	=====
Unit Cost	474.3	295.8	7.5	
	\$/customer	\$/kW	c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: General Service - Non Government
2009

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	3,369	5,362	8,732
Transmission - Transmission Line	0	0	3,063	3,063
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	184	387	0	571
Carrying Costs (Excluding Return and Income Tax)	307	653	0	960
Operating & Maintenance Costs	212	436	0	648
Customer Accounting & Public information	372	0	122	494
Insurance	24	49	0	73
Revenue Offsets	-80	-106	0	-186
Administrative & General	237	315	0	552
Amortization of Contributions	-48	-99	0	-147
	-----	-----	-----	-----
Total	1,207	5,004	8,547	14,759
	=====	=====	=====	=====
Unit Cost	475.5	299.0	7.5	
	\$/customer	\$/kW	c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: Industrial
2009

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	767	1,262	2,029
Transmission - Transmission Line	0	0	721	721
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	0	0	0	0
Carrying Costs (Excluding Return and Income Tax)	0	36	0	36
Operating & Maintenance Costs	0	64	0	64
Customer Accounting & Public Information	0	0	31	31
Insurance Expense	0	7	0	7
Revenue Offsets	-0	-7	0	-8
Administrative & General	0	22	0	22
Amortization of Contributions	0	0	0	0
	-----	-----	-----	-----
Total	0	889	2,014	2,903
	=====	=====	=====	=====
Unit Cost	0.0	207.7	6.9	
	\$/customer	\$/kW	c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: Street Lights
2009

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	187	180	366
Transmission - Transmission Line	0	0	103	103
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	181	18	0	199
Carrying Costs (Excluding Return and Income Tax)	364	30	0	394
Operating & Maintenance Costs	248	20	0	268
Customer Accounting & Public information	0	0	4	4
Insurance	28	2	0	31
Revenue Offsets	-60	-5	0	-65
Administrative & General	177	15	0	191
Amortization of Contributions	-40	-3	0	-43
	-----	-----	-----	-----
Total	898	264	286	1,448
	=====	=====	=====	=====
Unit Cost		284.2 \$/kW	7.5 c/kWh	

Yukon
2009 GRA
Combined YECL and YEC
Summary of Fully Allocated Costs by Rate Class: Sentinel Lights
2009

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Production	0	32	31	62
Transmission - Transmission Line	0	0	17	17
Transmission - Other	0	0	0	0
Distribution				
Return and Income Tax	5	3	0	8
Carrying Costs (Excluding Return and Income Tax)	13	5	0	18
Operating & Maintenance Costs	0	3	0	3
Customer Accounting & Public information	0	0	1	1
Insurance	1	0	0	1
Revenue Offsets	-1	-1	0	-2
Administrative & General	4	3	0	6
Amortization of Contributions	-0	-0	0	-1
	-----	-----	-----	-----
Total	21	46	49	115
	=====	=====	=====	=====
Unit Cost		288.4	7.5	
		\$/kW	c/kWh	
	=====	=====	=====	=====

1 **ISSUE: COS – Mayo Hydro – Classified 100% to Energy**

3 **REFERENCE: Application, Section 3.2, p. 3-6**

5 **PREAMBLE:**

7 The Utilities state:

9 In 1992, Mayo Hydro was substantially underutilized, supplying only the local Mayo and
10 Keno loads. At that time the plant was classified 60% energy and 40% demand. It is also
11 noted that the loads on the MD system are able, if needed, to be supplied by resident
12 diesel assets which are in the rate base in each major community location (Mayo,
13 Stewart Crossing, and Dawson). Consequently, the primary function for the Mayo hydro
14 system is to provide energy to offset what would otherwise be the requirement to
15 operate these diesel units.

17 **QUESTION:**

- 19 a) Does Mayo Hydro generation typically contribute to the MD system's ability to
20 serve peak loads?
- 22 b) Please provide the net contribution of Mayo Hydro generation to serve peak
23 loads during the winter peak for the years since the commissioning of the MD
24 transmission line. Please also provide the forecast net contribution of Mayo
25 Hydro generation that served, or is expected to serve, MD peak loads during the
26 winter peaks for 2009 and 2010.
- 28 c) How many times since the commissioning of the MD transmission line have the
29 resident diesel assets located in Mayo, Stewart Crossing and Dawson, supplied
30 the full load on the MD system? Please document these occurrences.
- 32 d) Please comment on the reasonableness of basing the classification of the Mayo
33 hydro plant on the existence of diesel units that could, but typically don't, supply
34 the load of the entire MD system. Please explain fully.

1 e) Is it consistent or reasonable for the Utilities to adopt as their key principle in
2 determining the classification of Mayo hydro plant that the resident diesel units
3 could supply the load for the entire MD system, while actively seeking to avoid
4 "the need for expensive diesel generation?" Please explain fully.

5
6 f) Please provide another version of the cost of service study based on the Mayo
7 plant costs being classified as 60% energy and 40% demand.
8

9 **ANSWER:**

10
11 **(a)**

12
13 Yes, it normally does.
14

15 However, the appropriate test is not what the plant normally does, but factors such as
16 what the plant is designed and built to do, or what system characteristics drive its costs,
17 with consideration for the related costs, savings, benefits and underlying investment. For
18 example, today the system normally operates with 100% hydro generation, but there are
19 times when a modest amount of diesel generation is required for peaking, and very
20 limited, but very key, times when all available diesel generation is required for
21 emergency dispatch. The cost driver for installing and maintaining the complement of
22 diesel units is peak demand, and as such that is how their costs are allocated, even
23 though they are not normally used.
24

25 In the case of Mayo, the hydro plant does typically supply both products, energy and
26 demand, but the presence of the hydro plant does not drive any cost savings in terms of
27 diesel plant (you still need a diesel plant in Mayo and Dawson) but does drive material
28 savings in diesel fuel from not having to run these plants. In this way, the economic
29 benefit profile of having the hydro plant, versus not having the plant, is heavily
30 dependent on energy cost savings (kW.h) not capacity contribution.
31

32 **(b)**

33
34 See the table below.

1 Since commissioning the MD transmission line in 2003 Mayo Hydro generation has
2 provided on average 95% of the MD winter peak load and would be expected to
3 contribute at approximately 94% for the winter peak for 2010.

4 **Mayo Hydro as % of MD Load**

Year	Date	MD Peak (MW)	MH Load (MW)	MH as % of MD Peak
2004	29-Jan-04	4.44	4.44	100.0%
2005	13-Jan-05	4.48	4.52	100.9%
2006	23-Nov-06	4.88	4.77	97.7%
2007	3-Dec-07	4.96	4.03	81.3%
2008	7-Feb-08	5.04	4.73	93.8%
2009	8-Jan-09	5.01	4.72	94.2%

5
6 **(c)**

7
8 Please see table provided below. Referencing data that starts in 2005, there are 3
9 instances where resident diesel assets have supplied the full load on the MD system.

10

Date	Duration and Purpose
October 17, 2007	1 hour – Outage coincident with preventative maintenance on MH1 resulted in using diesel to restore MD grid
September 21, 2009	5 hours – Mayo hydro units were out of service while divers were in the water clearing the trash rack
October 8 & 9 2009	9 hours – Mayo hydro units were out of service while divers were in the water clearing the trash rack

11
12 There are multiple instances where Dawson has supplied 100% diesel when a Mayo
13 hydro unit has not been available for planned or unplanned outage purposes. There are
14 also instances where the transmission line between Dawson and Mayo was not

1 energized resulting in Stewart Crossing and Dawson City being on diesel generation
2 while Mayo maintained at least one or both hydro units.

3
4 **(d)**

5
6 Please see (a).

7
8 **(e)**

9
10 Yes.

11
12 The quote in regard to avoiding “the need for expensive diesel generation” is referencing
13 fuel. There is very little cost barrier to installing and maintaining diesel units in any
14 community. The primary cost driver for developing hydro is to offset the need for using
15 expensive diesel fuel. At a basic level, Mayo generation is displacing other generation
16 (i.e., diesel) that would otherwise be required to meet base loads on the system.

17
18 **(f)**

19
20 Please see LE-YEC/YECL-1-7(a). As noted in that response, the cost of service version
21 requested is in fact the version provided in Tab 3 of the Application.

1 **ISSUE: Cost of Service Study**

3 **REFERENCE: Application, Section 3.2, pages 3-7 to 3-8**

5 **PREAMBLE:**

7 The Utilities state:

9 Transmission – classified 100% to Energy (after all contributions) – The Companies
10 propose to change the classifications used in the 1996/97 GRA for two reasons:

12 1) The material changes on the system since the 1996/97 GRA, including the
13 closure of Faro Mine, the construction of Mayo Dawson transmission line and the
14 anticipated interconnection of the grid through the completion of the CSTP.

16 2) Relative importance of the transmission system in providing the benefit of
17 avoiding expensive diesel generation.

19 **QUESTION:**

21 a) Please provide a calculation of the benefit of avoided diesel generation that the
22 transmission system provides.

24 b) Please provide a calculation of the total amount of transmission cost that the
25 Utilities propose to allocate to energy.

27 **ANSWER:**

29 **(a)**

31 The existing transmission system delivers hydro power from generating stations in
32 Mayo, Aishihik and Whitehorse to offset diesel generation in the other communities on
33 the grid systems. Absent the transmission system, only the City of Whitehorse on the
34 WAF grid and the village of Mayo on the Mayo-Dawson grid would be served by the low
35 cost hydro power. Please see attached Table 1 for a calculation of the benefit of avoided
36 diesel generation that the transmission system provides.

1 **Table 1**

Forecast Avoided Diesel Generation Benefit Provided by Transmission System in 2009

	Hydro Generation / Avoided Diesel Generaton (MWh)	Fuel Efficiency	Avoided Fuel Consumption (000 L)	Fuel Price (\$/L)	Avoided Fuel Cost (\$000)
WAF	64,857	3.55	18,269	0.992	18,123
MD	19,339	3.71	5,213	0.975	5,082
Total	84,196		23,482		23,206

Notes:

WAF grid avoided diesel generation is calculated as total WAF grid hydro generation less total generation required to serve Whitehorse wholesales.

MD grid avoided diesel generation is calculated as total MD grid hydro generation less total generation required to serve Mayo load.

2

3

4 As noted in Table 1, replacing the benefits of the transmission delivered power to the
5 communities that would otherwise have to operate with diesel would cost on the order of
6 \$23 million in 2009 for fuel alone (not including variable O&M, etc.).

7

8 **(b)**

9

10 Calculation of the total amount of transmission cost that the Utilities propose to allocate
11 to energy is provided on Schedule 4-T-19 of the Cost of Service Study. The schedule is
12 reproduced below.

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-4

Schedule 4-T-19
Page 19

Yukon
2009 GRA
Combined YECL and YEC
2009
Allocation of Direct Transmission Line Costs

	Customer (\$000)	Demand (\$000)	Energy (\$000)	Total (\$000)
Depreciation	0	0	2,101	2,101
Municipal and Franchise Taxes	0	0	124	124
Return on Ratebase	0	0	2,901	2,901
Income Taxes	0	0	43	43
General Plant Carrying Costs	0	0	1,160	1,160
Miscellaneous Reserve Carrying Costs	0	0	-14	-14
Maintenance Reserves Carrying Costs	0	0	0	0
Deferred Expenses (Transmission) Carrying Costs	0	0	0	0
Deferred Expenses (Other) Carrying Costs	0	0	160	160
Working Capital Carrying Costs	0	0	111	111
Rate Case Expense Carrying Costs	0	0	29	29
Unamortized Bad Debt & Land Gains	0	0	0	0
Unamortized DSM Costs	0	0	0	0
Unamortized Overhaul Costs	0	0	0	0
Transmission O&M	0	0	1,226	1,226
Insurance	0	0	315	315
Administrative General	0	0	1,805	1,805
Amortization of Contributions	0	0	-897	-897
	-----	-----	-----	-----
Total	0	0	9,063	9,063
	=====	=====	=====	=====

1
2

1 **ISSUE:** **COS Study – Transmission – Classified 100% to Energy**

3 **REFERENCE:** **Application Section 3.2, p. 3-8**

5 **PREAMBLE:**

7 The Utilities state:

9 ...absent the transmission interconnections to any given community today, there would
10 be a requirement to operate the presently installed diesel generating plants to serve
11 load. This would materially increase the cost of power in Yukon, and would drive what is
12 entirely an energy-related cost item – diesel fuel. Consequently, the cost profile in terms
13 of benefits of installed transmission relates almost entirely to avoid energy-related diesel
14 fuel costs.

16 **QUESTION:**

- 18 a) Please confirm that the transmission interconnections are, in fact, serving the
19 peak requirements in "any given community." If not confirmed, please explain
20 fully.
- 22 b) Please explain why it wouldn't be more logical to consider the transmission
23 assets as serving the peak demand requirements of the system and diesel as
24 simply the back-up.
- 26 c) Please explain why it is necessary to treat the diesel facilities as being so
27 prominent that the avoidance of their use is considered the very reason the
28 transmission lines exist?
- 30 d) Why propose the change to classification of transmission assets from 100%
31 Demand (in the previous COS study (Appendix 7.1C, p.74)) to 100% Energy.
- 33 e) Wouldn't a more gradual change in classification be more appropriate, for
34 example to 50/50 Demand/Energy? If not, please explain fully.
- 35 f) Please provide for the last 10 years and forecast for 2009 and 2010 the net
36 contribution of WAF transmission line to supplying the peak loads during the
37 annual winter peak.

1 g) How many times in the last 10 years have the resident diesel assets located in
2 the major centres on the WAF system supplied the full load on the WAF system?
3

4 h) Please provide another version of the cost of service study based on the
5 Transmission plant costs being classified to 100% Demand.
6

7 i) Please provide another version of the cost of service study based on the
8 Transmission plant costs being classified to 50/50 Demand/Energy.
9

10 **ANSWER:**
11

12 **(a) and (b)**
13

14 Confirmed. The transmission system typically supplies both demand and energy to a
15 community. However, as noted in CW-YEC/YECL-1-2(a), the purpose of transmission
16 (and the driver for investment in transmission) is typically not to provide capacity
17 services, or to save costs related to capacity. As demonstrated with the Mayo-Dawson
18 line (where the diesel plant – the capacity-related generation – remains largely in place)
19 the benefits and cost drivers for transmission investment in Yukon are almost entirely
20 energy related.
21

22 **(c)**
23

24 The diesel generation alternative in Yukon is so prominent as it is a very costly and non-
25 renewable source of generation, such that significant efforts are taken to avoid having to
26 generate with diesel. The economics of the Mayo Dawson line, for example, were based
27 almost 100% on avoiding diesel fuel generation.
28

29 **(d)**
30

31 See responses to (a), (b) and (c) above.

1 **(e)**

2
3 The approach noted would be a more gradual change, but does not reflect the realities
4 of the system, which is today heavily oriented towards addressing energy cost drivers,
5 much more so than capacity. The impact also would not be material. Specifically, moving
6 the cost classification for transmission from 100% energy to 50% energy: 50% demand
7 would increase the costs allocated to residential non-government customers by
8 approximately 1% as compared to the companies' proposal.
9

10 **(f)**

11
12 The net contribution of WAF transmission line to supplying the peak loads during the
13 annual winter peak would be equal to the generation as provided by Aishihik; please see
14 response to CW-YEC/YECL-1-2(e) which provides Aishihik as % of WAF peak for the
15 last 5 years as well as for 2009 and 2010.
16

17 **(g)**

18
19 There are no instances in the last 10 years where the diesel assets located in the major
20 centres on the WAF system have supplied the full load on the WAF system. There is not
21 enough diesel generation capacity on the WAF to meet the full WAF system load without
22 some supporting hydro generation (at least from Whitehorse hydro). In the event of an
23 outage the diesel assets are typically used to restore power to segments of the WAF
24 which are subsequently transferred to, and supplied by, restored hydro generation.
25

26 **(h)**

27
28 Please see Attachment CW-YEC/YECL-1-5(h).
29

30 **(i)**

31
32 Please see Attachment CW-YEC/YECL-1-5(i).

1 **ISSUE:** COS Study – Transmission – Classified 100% to Energy

3 **REFERENCE:** Application Section 3.2, p.3-8

5 **PREAMBLE:**

7 The Utilities state:

9 In addition, transmission in Yukon is designed and sized to address considerations of
10 length, voltage stability, and losses, and investment is not being driven to enhance
11 existing transmission assets (e.g., twinning lines, or reconductoring) to serve growing
12 peak loads. For this reason, the cost profile of transmission in Yukon is heavily oriented
13 towards energy.

15 **QUESTION:**

17 a) Please provide a clear explanation as to why and how "transmission in Yukon is
18 designed and sized to address considerations of length, voltage stability, and
19 losses".

21 b) Please provide a clear explanation and evidence for the claim that "investment is
22 not being driven to enhance existing transmission assets (e.g., twinning lines, or
23 reconductoring) to serve growing peak loads.

25 c) Please explain why the answers to a) and b) above mean that "the cost profile of
26 transmission in Yukon is heavily oriented towards energy."

28 **ANSWER:**

30 **(a)**

32 The development of transmission systems requires attention to a number of factors to
33 ensure long term cost effectiveness. This leads to design trade-offs between conductor
34 size and system stability. All of these factors have very significant cost implications.

- 1 • **Voltage selection** has a significant impact on transmission line costs as it
2 determines pole size and spacing.
- 3
- 4 • **Conductor sizing** has a smaller but significant effect, i.e. larger conductor
5 decreases line losses to deliver more energy over a longer distance.
- 6
- 7 • **Voltage stability** is a factor affecting substation design and costs affecting
8 transformer and reactive power compensation equipment.
- 9

10 In Yukon, there is very little transmission investment driven by additions of peak loads
11 that exceed existing transmission design. For example, the transmission line to Faro was
12 designed so as to permit supply to the Faro mine. Without the Faro mine in service,
13 additions of small increments of demand loads at Faro is not driving the need to upgrade
14 the line.

15
16 **(b)**
17

18 The two largest transmission investments undertaken in the last 10 years are the Mayo
19 Dawson Transmission Project and the Carmacks-Stewart Transmission Project. Both
20 projects were justified based on the ability to connect communities (or in the case of
21 CSTP a mine) to the grid system in order to provide access to lower cost surplus
22 generation and reduce reliance on costly diesel generation. Aside from these major
23 investments, other transmission investments included in Yukon Energy's 2008/2009
24 GRA were related to assessments, ongoing maintenance, pole treatments and upgrades
25 (see Yukon Energy's 2008/2009 GRA, Tab 5, pages 5-18 to 5-19). There has been no
26 projects to undertake major twinning or reconductoring initiatives.

27
28 Twinning of the Aishihik line was reviewed during the hearing to review Yukon Energy's
29 20-Year Resource Plan in 2006. This option was identified due to firm capacity benefits
30 – i.e., had it been constructed its costs would likely have been classified to peak
31 demand. Yukon Energy noted at that time that the project was not the lowest cost option
32 for securing capacity when compared to either a new diesel plant in Whitehorse or the
33 Mirrlees life extension projects.

1 **(c)**

2

3 Please see response to CW-YEC/YECL-1-5(a), (b) and (c) and Application at page 3-8.
4 Current investment in transmission is oriented towards ensuring transmission
5 connections are available to connect communities to the grid and reduce reliance on
6 costly diesel generation for meeting baseload energy requirements. As noted in (b)
7 above investment has not been focused on projects that would augment the ability of the
8 transmission system to provide for growing peak loads.

1 **ISSUE: Secondary Sales**

3 **REFERENCE: Application, Section 3.2, page 3-9**

5 **PREAMBLE:**

7 The Utilities state:

9 In short, secondary sales rates bear no relation to a cost based standard in terms of the
10 costs to the utilities to supply the service but rather a "value of service" concept based
11 on the customer's avoided costs of their alternative source of heat. The companies use
12 these secondary sales revenues to reduce the firm rate revenues required to be
13 collected from the retail and industrial customer classes.

15 **QUESTION:**

- 17 a) What are the costs (e.g. transmission losses, SCADA, metering, marketing,
18 company investment, etc.) to provide secondary sales?
- 20 b) Please quantify these costs and calculate a revenue/cost ratio for secondary
21 sales.
- 23 c) Where do these costs appear in the cost of service study and how are these
24 costs allocated in the cost of service study?
- 26 d) Please explain fully how "value of service" rates are economically efficient and
27 promote efficient usage of the system.
- 29 e) At the current "value of service" rate, does YEC/YECL sell all the secondary
30 energy that is available? If not, please explain fully.

1 **ANSWER:**

2
3 **(a)**

4
5 Current incremental costs to provide secondary energy by Yukon Energy are minimal.
6 Any cost of incremental transmission losses are very low because, by definition, the
7 sales are only being made at a time of surplus hydro availability. There are no
8 incremental SCADA costs. There are no notable additional metering costs or marketing
9 costs, with the exception of approximately 20 meter reads and bills sent per month. The
10 only significant company investment by Yukon Energy was an investment of \$142k in a
11 transformer for the Yukon Hospital Corporation for secondary sales use in 2003.

12
13 **(b)**

14
15 It is not possible to do the requested calculation, as there is very little to no costs to
16 serve secondary sales. A ratio of revenue (which is very substantial) to the extremely
17 low level of costs cannot be prepared in a meaningful manner.

18
19 **(c)**

20
21 As noted above, there are almost no incremental costs of serving secondary sales.
22 Absent secondary loads, the utilities would not have any material savings. To the extent
23 there are very small costs for meter reading and billing, these costs arise in the
24 distribution function.

25
26 **(d)**

27
28 Please see response to CW-YEC/YEC-1-24.

29
30 The intent of the secondary sales retail rate is to maximize the amount of revenue
31 available to offset ongoing fixed Yukon Energy costs while still leaving the secondary
32 sales customer with some energy cost savings compared with what the customer would
33 otherwise pay for heating fuel (typically heating oil). This is economically efficient and
34 promotes efficient usage of the system in that surplus power that would otherwise be
35 spilled is available to secondary sales customers at a rate that provides the customer
36 with cost savings compared to what they would otherwise pay for heating fuel.

1 Ratepayers benefit overall as the revenues from secondary sales reduce the amounts
2 that would otherwise need to be recovered through rates.

3
4 **(e)**

5
6 All available secondary energy is not sold. Up to now, secondary sales customers have
7 been able to purchase virtually all of the secondary power they require throughout the
8 year with very few interruptions of service. At times they have been unable to purchase
9 all that they would like due to the unavailability of their own secondary energy equipment
10 such as boilers due to equipment problems and planned maintenance. Due to the
11 current forecast of reduced availability of secondary energy, YEC/YECL have been not
12 been actively soliciting new secondary sales customers and have make sure that any
13 new potential secondary sales customer that has approached them is aware of the
14 forecast reduced availability of secondary energy in the future.

15
16 In order to market “all” available secondary energy, it would be necessary to continue
17 connecting customers beyond the point where interruptions would be extremely typical
18 occurrences. The existing secondary customers, and potential customers, have not
19 indicated a desire to make the investment and operational changes required to use
20 secondary energy when it will only be available for brief periods.

1 **ISSUE: COS Study – Proposed versus 1997**

3 **REFERENCE: Application, Section 3.2, page 3-8**

5 **PREAMBLE:**

7 The City wishes to understand more about the changes in the proposed COS Study
8 versus the 1997 COS Study.

10 **QUESTION:**

- 12 a) Please provide a list of changes to the proposed cost of services study as
13 compared to the cost of service study from 1997. Please provide a full
14 explanation of each and show the monetary effect on the residential non-
15 government class and the general service non-government class.
- 17 b) Please explain what changes between the time of the Workshop and the time of
18 this Application to lead the Utilities to propose a more dramatic change in the
19 transmission classification ratio (i.e. 100% Demand to 100% Energy).
- 21 c) Please explain why there is a \$0 classification for "Transmission - Other" to
22 Demand in Schedules 4-T-27 through 4-T-32, while there were positive amount
23 in this line item in the 1997 COS (Schedules 5-32 through 5-38).
- 25 d) Please explain why the classification ratio of Production of Residential Non-
26 government has changed to 34.1/65.9 Demand/Energy (Sch. 4-T-28) from
27 28.6/71.3 Demand/Energy in the 1997 COS study (Schedule 5-33).
- 29 e) Please explain why the classification ratio of Return & Income Tax to Residential
30 Non-government has changed to 61.4/38.6 Customer/Demand (Sch, 4-T-28)
31 from 66.2/33.8 Customer/Demand in the 1997 COS study.
- 33 f) Please explain why the classification ratio of Customer Accounting and Marketing
34 to General Service Non-government have changed to 75.3/24.7
35 Customer/Energy (Sch. 4-T-30) from 100/0 Customer/Energy in the 1997 COS
36 study (Schedule 5-35).

1 g) Please explain why the classification of Insurance to General Service Non-
2 government has changed to a Customer/Demand split (Sch. 4-T-30) from a
3 Customer/Demand/Energy allotment in the 1997 COS study (Schedule 5-35).

4
5 h) Please explain why the classification of O&M cost to Industrial has changed to
6 100% Demand (Sch. 4-T-31) from a Customer/Demand split in the 1997 COS
7 study (Schedule 5-36).

8
9 i) Please explain why the classification of Administrative & General costs to
10 Industrial has changed to 100% Demand (Sch. 4-T-31) from a
11 Customer/Demand split in the 1997 COS study (Schedule 5-36).

12
13 j) Please explain why the classification of Amortization of Contributions to Industrial
14 changed to \$0 (Sch. 4-T-31) from a 100% Demand classification of \$24,000 in
15 the 1997 COS study (Schedule 5-36).

16
17 k) Please explain why the classification ratio of Return & Income Tax to Street
18 Lights has changed to 91.0/9.0 Customer/Demand (Sch.4-T-32) from 78.0/22.0
19 Customer/Demand in the 1997 COS study (Schedule 5-37).

20
21 l) Please explain why the classification of Customer Accounting and Public
22 Information to Street Lights has changed to 100% Energy (Sch. 4-T-32) from
23 100% Customer in the 1997 COS study (Schedule 5-37).

24
25 **ANSWER:**

26
27 **(a)**

28
29 The following changes were made to the cost of service study since 1997:

- 30
31 • Bulk power classification factors (production and transmission); please refer to
32 YUB-YEC/YECL-1-1(a), (b), (c) and section 3.2.1 in the Cost of Service
33 document in the Phase II filing.

- Distribution plant classification factors; please refer to YUB-YEC/YECL-1-7 (a) and Appendix 3.2 in the Cost of Service document in the Phase II filing.
- Revenue offsets were credited to rate classes based on distribution assets; change to rate class totals shown below.

Rate Class	Revenue Offset 2009 method	Rev Offset calculated 1996/7 method
Residential Government	\$401	\$401
Residential Non Government	\$24,592	\$24,601
General Service Government	\$6,442	\$6,438
General Service Non Government	\$14,909	\$14,903
Industrial	\$2,946	\$2,944
Street Lights	\$1,432	\$1,435
Sentinel Lights	\$112	\$112

Also please refer to page 3-11 line 13 in the Cost of Service document in the Phase II filing.

- Customer accounting classification was changed to 100% customer from 98% customer 2% energy; please refer to YUB-YEC/YECL-1-28(e). The Customer Accounting classification was adjusted to match the classifications used in Northland Utilities Hay River and Northland Utilities Yellowknife. These changes were approved in decisions 2-2009 (NWT) and 1-2009 (NUY).

(b)

There were no specific changes between the workshop and the time of this Application in relation to the change in transmission classification. See page 3.4A-11 of the Application which notes that Yukon Energy proposed this treatment for WAF transmission as far back as in the 2007 Minto Mine PPA Application “to reflect the approach adopted for other new transmission projects designed to displace diesel energy generation (rather than to meet system winter peak demands).”

1 **(c)**

2
3 In the 1996/7 filing, the YECL Transmission Substation PP&E was classified as
4 Transmission Line – Other. In the 2009 filing, the YECL Transmission Substation was
5 added to the YEC Transmission PP&E so that it could all be classified in the same way.
6 In 1996/7 due to conditions that were applied to the Transmission Line PP&E to
7 accommodate the Faro mine, the YECL PP&E was detailed separately. This exception
8 was not required for the current filing.

9
10 **(d)**

11
12 The Production Residential Non Government ratio of Demand to Energy change from
13 1996/7 is a result of higher costs (\$11,863 in 2009 vs. \$10,755 in 1996) and the Bulk
14 Power production classification factors that were updated for the 2009 filing which
15 shifted some costs from a demand classification to an energy classification (Aishihik and
16 Mayo plants shifted from 40% demand to 100% energy).

17
18 **(e)**

19
20 The Return and Income Tax Residential Non Government ratio of Customer to Demand
21 change from 1996/7 is a result of the Distribution Asset classification factors that were
22 updated for the 2009 filing (A net shift of cost from customer to demand). This created by
23 pole plant shifting from 75% customer to 56% customer. This was offset by conductor
24 and transformer plant which shifted from 30% customer to a 52% customer (conductor)
25 & 56% customer (transformer) classification). This resulted in the shift in the ratio of
26 customer to demand from 1996/7.

27
28 **(f)**

29
30 The Customer Accounting and Public Information General Service Non Government
31 ratio of Customer to Energy in 1996/7 was incorrect. Public information costs are
32 allocated 85% to energy. The 1996/7 model had a formula error that did not correctly
33 calculate the public information costs by classification. The formula was updated for the
34 2009 filing to calculate the correct amount.

1 **(g)**

2
3 The classification of Insurance to General Service Non Government in 1996/7 included
4 insurance costs that were identified as PLPD. PLPD insurance is allocated on energy.
5 The 2009 filing did not have any insurance identified as PLPD. The general insurance is
6 allocated on Distribution Plant which is all classified as customer and demand.
7

8 **(h)**

9
10 Distribution O&M costs are allocated on Distribution Plant. The Industrial rate class has
11 \$3,000 of Distribution Plant classified to customer and \$2,302,000 of Distribution Plant
12 classified to demand. The allocation of O&M costs to the customer classification would
13 be less than .13% versus 99.87% to demand, and would not show on the model output
14 due to the small amount that is calculated.
15

16 **(i)**

17
18 The Administrative and General costs are allocated to rate classes on the basis of the
19 Sum of All Service Costs excluding A&G, but including revenue offsets. The Industrial
20 rate class did not have any costs assigned to the customer classification and no A&G
21 costs were calculated and assigned due to this.
22

23 **(j)**

24
25 The Amortization of Contributions is dependent on contributions being assigned to the
26 rate class, The Industrial rate class does not have any contributions assigned in 2009,
27 and therefore no amortization was calculated.
28

29 **(k)**

30
31 The Street Light customer classified PP&E is directly assigned (PP&E amount has
32 changed since 1996/7), the demand PP&E (i.e. transformers, land rights, substation
33 equipment, poles and conductors) amount has changed as well because the Distribution
34 classification factor study ratios have changed for poles, conductor and transformers (a
35 net shift of cost from customer to demand created by pole plant shifting from 75%
36 customer to 56% customer which was offset by conductor and transformer plant which
37 shifted from 30% customer to a 52% customer (conductor) & 56% customer

1 (transformer) classification). This resulted in the shift in the ratio of customer to demand
2 from 1996/7.

3

4 **(I)**

5

6 There are no Customer Accounting costs assigned to lights because there is little billing
7 work required, and the lights are generally not metered. Public Information costs are
8 allocated on 15% Customer count and 85% on energy, since no customers are related
9 to Street Lights, costs were only allocated on Energy.

ISSUE: Allocation Methods

REFERENCE: Application Section 3.2, Table 3.1, page 3-12

PREAMBLE:

The utilities provide the following table:

Demand Load Characteristics at the Meter, By Class

		2009	1996/97
Residential Non-Government	CP load factor	56.5%	53.0%
	NCP load factor	48.2%	45.6%
Residential Government	CP load factor	56.5%	49.2%
	NCP load factor	48.2%	42.3%
General Service Non-Government	CP load factor	77.4%	61.5%
	NCP load factor	63.6%	49.2%
General Service Government	CP load factor	77.4%	66.5%
	NCP load factor	63.6%	53.2%
Industrial	CP load factor	77.4%	99.9%
	NCP load factor	N/A	N/A ²
Streetlights	CP load factor	46.7%	48.0%
	NCP load factor	46.7%	48.0%
Space Lights	CP load factor	46.7%	47.7%
	NCP load factor	46.7%	47.7%

QUESTION:

- a) Please provide the calculations for all the above-noted percentages.

ANSWER:

(a)

Please see the attached table.

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-9

Demand Load Characteristics at the Meter, By Class

1996/97

Rate Class	Energy Sales (kWh)	Customer Numbers	Average Annual Energy Bill (kWh)	Difference Adjustment	CP Load Factor Adjustment	Reconciliation Adjustment	CP (kW)	CP Load Factor
	A	B	C=A/(B*12)	D=(C^0.885)* 0.005925	E	F	G=(B*D) /(E/F)	H=A/(G*8760)
Residential-NG	120,779,403	11,712	859	2.341	1.036	0.9823	26,000	53.0%
Residential-G	4,252,287	479	740	2.050	1.036	1.0400	986	49.2%
General Service-NG	76,386,087	1,990	3,199	7.492	1.036	0.9856	14,184	61.5%
General Service-G	52,715,902	746	5,889	12.858	1.036	0.9776	9,051	66.5%
Industrial	184,028,804						21,031	99.9%
Streetlights	2,787,625						663	48.0%
Space Lights	786,001						188	47.7%

Rate Class	Energy Sales (kWh)	CP (kW)	CP Load Factor Adjustment	NCP Load Factor Adjustment	NCP (kW)	NCP Load Factor
	A	B	C	D	E=B*C/D	F=A/(E*8760)
Residential-NG	120,779,403	26,000	1.036	0.8900	30,265	45.6%
Residential-G	4,252,287	986	1.036	0.8900	1,148	42.3%
General Service-NG	76,386,087	14,184	1.115	0.8920	17,730	49.2%
General Service-G	52,715,902	9,051	1.115	0.8920	11,314	53.2%
Industrial	184,028,804	21,031				N/A
Streetlights	2,787,625	663			663	48.0%
Space Lights	786,001	188			188	47.7%

2009

Rate Class	Energy Sales (kWh)	Customer Numbers	Average Annual Energy Bill (kWh)	Difference Adjustment	CP Load Factor Adjustment	Reconciliation Adjustment	CP (kW)	CP Load Factor
	A	B	C=A/(B*12)	D=(C^0.885)* 0.005925	E	F	G=(B*D) /(E/F)	H=A/(G*8760)
Residential-NG	139,798,064	14,381	810	2.222	1.131	1.000	28,253	56.5%
Residential-G								
General Service-NG	164,908,629	3,086	4,453	10.041	1.274	1.000	24,321	77.4%
General Service-G								77.4%
Industrial								
Streetlights	3,799,560						929	46.7%
Space Lights	645,660						158	46.7%

Rate Class	Energy Sales (kWh)	Customer Numbers	Average Annual Energy Bill (kWh)	Difference Adjustment	NCP Load Factor Adjustment	Reconciliation Adjustment	NCP (kW)	NCP Load Factor
	A	B	C=A/(B*12)	D=(C^0.885)* 0.005925	E	F	G=(B*D) /(E/F)	H=A/(G*8760)
Residential-NG	139,798,064	14,381	810	2.222	0.966	1.000	33,079	48.2%
Residential-G								
General Service-NG	164,908,629	3,086	4,453	10.041	1.047	1.000	29,594	63.6%
General Service-G								
Industrial								N/A
Streetlights	3,799,560						929	46.7%
Space Lights	645,660						158	46.7%

1

ISSUE: Revenue/Cost Ratios

REFERENCE: Table 3.2, page 3 – 13

PREAMBLE: The Utilities provide the following table:

Table 3.2:
Revenue to Cost (R/C) Ratios by Rate Class – 1997 and 2009 (%)

Customer Class	1997 Final Approved	2009
Residential Government	100%	105%
Residential Non Government	81%	79%
General Service Government	143%	144%
General Service Non Government	110%	117%
Industrial	100%	109%
Street Lights	110%	69%
Sentinel Lights	110%	148%

QUESTION:

- a) Please provide a table of revenue/cost ratios by rate component (fixed monthly, demand and energy rates) for each rate offered to each rate class, e.g., for the General Service Class provide the revenue/cost ratio for each rate component of rates 2160, 2170, 2260, 2270, 2360, 2370, 2460, 2470, 2180, 2280, 2380, 2480, 61, 66, 67, 75, 76 and secondary sales 32 and 43.

ANSWER:

(a)

The cost of service model does not provide details to the level requested therefore revenue/cost ratios are not possible.

1 **ISSUE:** **Cost of Service Study, Billing determinants**

3 **REFERENCE:** **Application 6-2, lines 9 – 15**

5 **PREAMBLE:**

7 The Utilities state:

9 Preparation of a new cost of service study will require a number of matters to be
10 addressed. First, there will need to be an approved revenue requirement for each of the
11 two utilities on a consistent test year basis as well as the determination of billing
12 determinants and load characteristics by customer class. The key methods (such as
13 classification of generation and transmission assets) will also need to be reviewed to
14 ensure that the cost of service approach properly tracks the cost imposed on the current
15 system (with its adjustments since 1997) on each customer class.

17 **QUESTION:**

- 19 a) Are the billing determinants referenced in the above statement the ones shown in
20 Table 4-T-34 of the cost of service study? If not, please provide the billing
21 determinants for which the Utilities seek approval.
- 23 b) Are the billing determinants in Table 4-T-34 actual or forecast numbers of
24 customers, demand and energy? If forecast, please provide the 2009 actuals and
25 provide an explanation for any differences between forecast and actual.
- 27 c) Please provide a table that reconciles the requested rates multiplied by the billing
28 determinants used in the cost of service study to the combined 2009 revenue
29 requirements of the Utilities.

31 **ANSWER:**

33 **(a)**

35 The billing determinants in Schedule 4-T-34 are used to calculate the unit cost for each
36 rate class. The billing determinants are found in the COS_Calc_YEC1.xls and
37 COS_Calc_YECL1.xls spreadsheets in the Load Forecast worksheets and are sourced

1 from the EDLA Yukon 2009.xls spreadsheet. A CD with the complete model containing
2 these spreadsheets will be mailed separately. Please email
3 scott.duncan@atcoelectric.com with contact information (name, address, numbers of CD
4 copies) to request a copy.

5
6 **(b)**

7
8 The billing determinants used in the Phase II filings were approved in the Phase I filing in
9 YUB Board Order 2009-2 (YECL) and 2009-10 (YEC). Billing determinants actuals are
10 not available, billing determinant actuals are a Phase I matter and are not relevant to the
11 current Phase II filing which uses the approved Phase I determinants.

12
13 **(c)**

14
15 For Option A, please refer to CW-YEC/YECL-21(a) Schedule 1. For Option B, please
16 refer to the application, Schedule YECL B 4.7.

1 **ISSUE: Economy and Efficiency**

3 **REFERENCE: Application, page 1-10, lines 22-25**

5 **PREAMBLE:**

7 The Utilities state:

9 **Economy and Efficiency Rate Principles/Directives:** Promoting economy and
10 efficiency by sending customers a price signal at higher levels of consumption in an
11 increasing cost environment. The rate design proposal considers how best to adjust
12 runoff rates to reflect 2009 incremental costs based on current fuel prices in the current
13 costing environment. The need to adjust runoff rates to reflect approved 2009
14 incremental costs based on current fuel prices reflects the following considerations:

16 **QUESTION:**

- 18 a) Is the economy and efficiency that the Utilities seek being applied equally among
19 all customer classes (residential, commercial and industrial)? Please explain and
20 demonstrate.
- 22 b) As demonstrated in (a) above, if one or more classes of customers are not
23 expected to have to practice the same level of economy and efficiency as the
24 other rate class(es), please explain why?
- 26 c) How will customer behavior change in response to the Utilities' "efficiency price
27 signals"? Please provide separate explanations for the proposed Options A and
28 B.
- 30 d) How will the behavioral changes result in economy and efficiency for the
31 customers? Please provide separate explanations for the proposed Options A
32 and B.
- 34 e) Please explain how is that YEC makes the connection from "economy and
35 efficiency" as described in OIC 1995/90 to YEC's proposal that run-off rate must
36 be based on the incremental cost of diesel.

1 f) Does YECL agree with YEC's position as put forth in (e) above? Please explain
2 fully.

3
4 g) Is it YEC's position that the current rate structure complies with OIC 1995/90?
5 Please explain fully.

6
7 h) Is it YEC's position that the proposed Option A rate design complied with OIC
8 1995/90? Please explain fully.

9
10 i) Is it YEC's position that the proposed Option B rate design complies with OIC
11 1995/90? Please explain fully.

12
13 j) Is it YECL's position that the current rate structure complies with OIC 1995/90?
14 Please explain fully.

15
16 k) Is it YECL's position that its proposed rate design complies with OIC 1995/90?
17 Please explain fully.

18
19 l) The Utilities state: "retail runoff block adjustments do not need to be differed and
20 can be undertaken now". Is it YEC's position that retail runoff block adjustments
21 must be undertaken now?

22
23 m) If retail runoff block adjustments do not need to be undertaken at this time,
24 please explain what the harm would be, if any, in waiting until a future GRA to
25 implement these types of change when the OICs have expired? Please explain
26 fully.

27
28 n) Please provide YECL's full responses to (l) and (m) above.

29
30 **ANSWER:**

31
32 **(a) and (b)**

33
34 **Yukon Energy Response**

35 Economy and Efficiency is being applied among all of the smaller non-government
36 customer classes equally (residential and smaller GS customers up to 20,000
37 kW.h/month). For these customers, the rate design is based on a three block structure

1 with increasing rates for each larger block terminating in a runoff block that is priced in
2 relation to diesel energy.

3
4 For the larger customers (industrial, wholesale, and larger GS above 20,000
5 kW.h/month), the concept of economy and efficiency is also intended to apply
6 consistently, once all the needed measures are implemented.

- 7
- 8 • For wholesale, the measure that achieves this is the ERA, which is proposed to
9 be re-benchmarked in this application to the price of diesel generation, and will
10 apply in any month where diesel is on the margin.
 - 11
 - 12 • For industrial, Rate Schedule 39 as presently in place contains provisions for a
13 “base load energy” to be established (once diesel is on the margin) to provide the
14 same type of runoff rate as for other customer classes, also benchmarked to the
15 price of diesel generation.
 - 16
 - 17 • For large GS customers (over 20,000 kW.h/month) (approximately 100
18 customers, of which approximately half are government, such as hospitals), this
19 type of provision is intended to be developed in the next GRA. It was simply not
20 possible in the time available for this hearing to have a full rate design for this
21 situation resolved.

22
23 The rate policy direction as set out in OIC 1995/90 (section 4 (3)) applies only to retail
24 customers and requires that the Board fix a runoff rate block for each non-government
25 retail customer class on the basis of rate design principles to promote economy and
26 efficiency. This rate policy direction does not specify that economy and efficiency “be
27 applied equally among all rate classes”; however, to the extent that runoff rates for non-
28 government retail customers (non-government residential and non-government general
29 service) are set based on the same basis (i.e., in this case the same percentage of
30 incremental costs [80% for Option A rate proposal and 50% for Option B rate proposal])
31 then an equal efficiency signal is being sent to all non-government retail customers.
32 Different block sizes may mean slightly different percentages of customer in each non-
33 government retail class are exposed to an efficiency price signal; however, as noted the
34 OIC direction does not require that equal efficiency signals be applied to different rate
35 classes, only that a runoff rate be set that provides for economy and efficiency in each
36 retail rate class.

Yukon Electrical Response

In response to YUB-YEC/YECL-1-22, YECL stated that its view of economy and efficiency shall reflect the principle of fairness, which means that to the extent practicable rate design should seek to ensure that customers pay for the costs that they impose on the system. This includes (1) rates for electricity that are set equal to the short run incremental costs should result in an amount of consumption which maximizes the benefit to ratepayers of utilizing its production resources. When price equals the incremental cost, the production cost of the last unit should equal the value of that unit to the customer (2). In general, a utility should strive to ensure that no rate class should pay more for service than the cost of serving them.

Based on the above, with respect to the first point, economy and efficiency is not being sought equally among all rate classes due to the differences in rate structures and components between rate classes. For example, streetlight rates do not have an energy block to facilitate sending an energy price signal to this rate class.

With respect to the second point regarding cost causality, while YECL recognizes that current OICs restrict the ability to move more closely to full cost recovery, economy and efficiency is not being sought among all customer classes.

(c) and (d)

Please see discussion on elasticities provided in response to CW-YEC/YECL-1-16. Over the short term customer response to any price signals is not expected to be elastic; however, based on standard experience in the utility industry, over the longer term it may be expected that customers can take measures to increase efficiency of electricity use (e.g., replacement of existing appliances with more efficient appliances).

(e)

Please see CW-YEC/YECL-1-19.

(f)

Please refer to CW-YEC/YECL-1-19 for YECL's comments.

1 **(g)**

2
3 No. As retail rates have had no redesign in 12 years, during a period where diesel prices
4 roughly tripled and the Yukon systems have moved closer and closer to diesel being on
5 the margin, there is no basis to conclude today that rates appropriately reflect economy
6 and efficiency.
7

8 Table 4.5 on page 4YEC-22 of the Application provides rates for the incremental cost of
9 diesel in each rate zone based on 1997 fuel prices and updated based on 2009 fuel
10 prices; this demonstrates the clear difference in the incremental cost of diesel in the
11 Hydro zone in 1997 at 10.45 cents/kWh compared to 32.74 cents/kWh in 2009.
12

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

14
15 Please see response to CW-YEC/YECL-1-19.
16

17 **(j)**

18
19 The current rate structure, which is the outcome from the 1996/1997 GRA and approved
20 in Order 1996-7, complies with OIC 1995/90.
21

22 OIC 1995/090 states: "The Board must fix runoff rates for each non-government retail
23 customer class on the basis of rate design principles to promote economy and
24 efficiency..." To the extent that the OIC 1995/090 does not specify what level of rates
25 shall reflect the incremental cost of diesel, YECL believes that the current rate design
26 complies with OIC 1995/090. While YECL agrees that incremental diesel generation
27 shall be a meaningful price signal, it does not agree to what level the incremental cost
28 shall be reflected.
29

30 **(k)**

31
32 The proposed rate structure complies with OIC 1995/90. Please refer to PAGE 4YECL-4
33 of the Application, which is also provided below.
34

35 "In accordance with OIC 1995/90, the rate design adjustments proposed in the
36 Application:

- 1 • Reflect rate design principles established in Canada for utilities as well as past
2 practice in Yukon;
3
- 4 • Continue to ensure that firm retail rates are equalized throughout Yukon within
5 each rate class other than for runoff rates; and
6
- 7 • Adjust, on the basis of rate design principles, where and to the extent practicable
8 based on the level of incremental diesel generation that is being triggered due to
9 increasing consumption, retail runoff rates to provide for economy and efficiency
10 by reflecting short term incremental generation cost as a price signal at higher
11 levels of consumption.
12

13 Adjust the wholesale rate as required to enable Yukon Energy to recover its costs that
14 are not recovered from its other customers.”
15

16 **(l) and (m)**
17

18 Please see response to CW-YEC/YECL-1-19.
19

20 **(n)**
21

22 As stated in response to YUB-YEC/YECL-1-22, YECL’s understanding of the term
23 economy and efficiency is based on the explanation as set out on Page 4YEC-10,
24 footnote no. 5, of the Application, “based on Board precedent, economy and efficiency in
25 the Yukon context is expressed by sending a price signal for consumption on the margin
26 based on the short run incremental cost of diesel.” YECL believes that a balanced
27 approach to rate design must be taken in this Application that sends customers a
28 reasonable price signal that tells them that costs increase as consumption increases and
29 the economic considerations regarding the price of incremental cost of diesel generation
30 today. YECL does not believe sending a price signal greater than 50% of the
31 incremental cost of diesel is appropriate at this time. This is explained in more detail in
32 response to YUB-YEC/YECL-1-24.
33

34 YECL believes that the reasons stated in the Application, Page 4YECL-10, are
35 appropriate reasons why a rate design adjustment was considered at this time.

1 A lesser percentage of 50% of incremental cost was considered more reasonable at this
2 time due to:

- 3
- 4 • Limits related to inter-class rate balancing (i.e., OIC 2008/149);
- 5
- 6 • Reducing rate shock impact across customer classes; and
- 7
- 8 • Avoidance of undue discrimination.
- 9

10 Allowing further adjustments to rates when more accurate signals showing how costs
11 move with usage is identified.

1 **ISSUE: Rate Design**

2
3 **REFERENCE: Application, Tab 4, page 4 YEC - 17**

4
5 **PREAMBLE:**

6
7 YEC states:

8
9 **1) Rate adjustments can be made, subject to not resulting in rebalancing or**
10 **unequal revenue increases between rate classes (per OIC 2008/149)**

11
12 a) OIC 2008/149 in essence prevents inter-class rate rebalancing for these retail
13 classes (i.e., there cannot be changes in overall revenues, at 2009 approved
14 forecast loads, for any of the classes relative to Table 4.1); this requires, for
15 example, that if the runoff rate is raised for a class that an offsetting rate
16 decrease must be made in the first block [and/or the customer or demand
17 charge] for that class to keep the overall class revenue rate unchanged.

18
19 b) Subject to this requirement, OIC 2008/149 does not prevent the Companies
20 from intra class adjustments (i.e., adjusting the runoff rate upwards to reflect
21 incremental costs and lowering the lower block rate on an equal basis).

22
23 **2) New non-runoff rate blocks can be considered subject to ensuring that**
24 **rates within each such new non-government retail rate block are the same**
25 **throughout Yukon.**

26
27 a) Variation is allowed for separate runoff energy rates for non-government retail
28 customers in different communities or rate zones provided such rates are
29 fixed for each community or zone based on the same rate design principles.

30
31 b) OIC 1995/50 (section 4.(2)) requires that there be at least 2 energy rate
32 blocks for each non-government retail customer class: at least one equalized
33 rate block and a runoff energy block that provides for economy and efficiency.

34
35 c) Provided any additional energy rate block in the rate class is equalized
36 throughout Yukon, the OIC allows for multiple equalized rate blocks, e.g., this
37 would allow in the residential non-government class for a first block set at 700

1 kWh and a higher second block set at 1000 kWh, 1,500 kWh or 2,000 kWh,
2 with the third rate block for use in excess of the second block limit) then being
3 the runoff rate.
4

5 **3) A runoff rate must be set for each non-government retail class that**
6 **provides for economy and efficiency**
7

- 8 a) The runoff rate block applies to all consumption over a particular level.
9
10 b) Such runoff rates cannot initiate with usage below 1000 kWh/month for
11 residential or 200 kWh per month for general service
12
13 c) Past Board direction has provided that economy and efficiency is promoted in
14 Yukon runoff rate design through runoff rates that reflect at least the short-run
15 incremental generation costs. In all prior GRA reviews this was based on the
16 cost of diesel in each rate zone plus provision for short run incremental O&M
17 costs for diesel generation.
18

19 **QUESTION:**
20

- 21 a) Please confirm that the above-cited passage is YEC's interpretation of the
22 constraints imposed by OICs 2008/149 and 1995/90. If not confirmed, please
23 explain fully. If confirmed, please explain how YECL's interpretation differs.
24
25 b) Does YEC interpret that it is constrained from applying these principles of
26 economy and efficiency to the design of rates and rate blocks other than the
27 runoff rates? If yes, please explain fully why YEC believes itself to be constrained
28 from applying principles of economy and efficiency to all its rates and rate blocks.
29

30 **ANSWER:**
31

32 **(a)**
33

34 To the extent that the noted quote appears in Tab 4YEC, it is YEC's view of the rate
35 policy direction provided by OIC 1995/90, OIC 2008/149 and OIC 2007/94; however, the
36 above are also cited in Tab 1 which is a joint effort of the companies, and are fact-

1 specific statements regarding how rate policy OICs currently operate or have been
2 interpreted in past Board Orders and Board recommendations.

3
4 **(b)**

5
6 As a concept “economy and efficiency” can be applied through different rate designs so
7 long as the rates comply with the other principles as set out in the OICs.

8
9 In this sense the following would constrain applying principles of economy and efficiency
10 to design of rates and rate blocks other than runout rates:

- 11
- 12 • Per OIC 2007/94, industrial rates must conform with Attachment A to that OIC
13 until January 1, 2013.
 - 14
 - 15 • Per OIC 2008/149, retail rate adjustments must not result in rebalancing or
16 unequal revenue increases between classes. There is very few constraints on
17 how to redesign rates within a class, so long as the total amounts paid do not
18 reflect a rebalancing between classes.
 - 19
 - 20 • Per OIC 1995/90, there must be at least 2 rate blocks for retail rates with one
21 rate block equalized throughout Yukon and one runout rate block that applies to
22 all consumption over a particular level and provides for economy and efficiency
23 (and need not be equalized throughout Yukon).

1 **ISSUE: Principles of Rate Design**

2
3 **REFERENCE: Application, Appendix 7.1, page 7.1A-11, Tab 4 YEC final and**
4 **Tab 4 YECL Final**

5
6 **PREAMBLE:**

7
8 The City wishes to understand the proposed rate design principles underlying Options A
9 and B residential rate design. The Utilities provided the following excerpt, attributed to
10 Bonbright:

11
12 Yukon Briefing - November 4, 2009

13
14 Rate Design Principles (Bonbright)

- 15
- 16 • Recover revenue requirement;
 - 17
 - 18 • Recognize the cost of service as determined by cost studies and the cost of
 - 19 existing and future facilities to provide service;
 - 20
 - 21 • Avoid undue discrimination between rate classes and individual customers within
 - 22 each customer class;
 - 23
 - 24 • Consider the rate levels, structures and policies of other utilities, particularly
 - 25 those with similar load and service characteristics;
 - 26
 - 27 • Promote ease of understanding and acceptance by customers as well as ease of
 - 28 administration and economy of billing; and
 - 29
 - 30 • Recognize the level and structure of existing rates and their historical
 - 31 development.
 - 32

33 The following is an excerpt from James C. Bonbright's Principles of Public Utility Rates
34 (Second Edition, March 1988), citing the ten attributes of a sound rate structure:

1 *Revenue-related Attributes:*

- 2
- 3 1) Effectiveness in yielding total revenue requirements under the fair-return
4 standard without any socially undesirable expansion of the rate base or socially
5 undesirable level of product quality and safety.
- 6
- 7 2) Revenue stability and predictability, with a minimum of unexpected changes
8 seriously adverse to utility companies.
- 9
- 10 3) Stability and predictability of the rates themselves, with a minimum of unexpected
11 changes seriously adverse to ratepayers and with a sense of historical continuity
12 (Compare "The best tax is an old tax.").
- 13

14 *Cost-related Attributes:*

- 15
- 16 4) Static efficiency of the rate classes and rate blocks in discouraging wasteful use
17 of service while promoting all justified types and amounts of use:
- 18 a) In the control of the total amounts of service supplied by the company;
19 and
- 20 b) In the control of the relative uses of alternative types of service by
21 ratepayers (on-peak versus off-peak service or higher quality versus
22 lower quality service).
- 23
- 24 5) Reflection of all of the present and future private and social costs and benefits
25 occasioned by a service's provision (i.e., all internalities and externalities).
- 26
- 27 6) Fairness of the specific rates in the apportionment of total costs of service among
28 the different ratepayers so as to avoid arbitrariness and capriciousness and to
29 attain equity in three dimensions: (1) *horizontal* (i.e., equals treated equally); (2)
30 *vertical* i.e., unequals treated unequally; and (3) *anonymous* (i.e., no ratepayers
31 demands can be diverted away uneconomically from an incumbent by a potential
32 entrant).
- 33
- 34 7) Avoidance of undue discrimination in rate relationships so as to be, if possible,
35 Compensatory i.e., subsidy free with no inter-customer burdens).

- 1 8) Dynamic efficiency in promoting innovation and responding economically to
2 changing demand and supply patterns.

3
4 *Practical-related Attributes:*

- 5
6 9) The related, practical attributes of simplicity, certainty, convenience of payment,
7 economy in collection, understandability, public acceptability, and feasibility of
8 application.

- 9
10 10) Freedom from controversies as to proper interpretation.

11
12 **QUESTION:**

- 13
14 a) Please confirm that the excerpt provided the Utilities in the November 4, 2009
15 briefing to the Yukon Government is not a quote from Bonbright but rather the
16 Utilities' interpretation of Bonbright's attributes of a sound rate structure. If not
17 confirmed, please explain fully.

- 18
19 b) Please provide a justification for the proposed Option A rate design based on
20 Bonbright's ten attributes of a sound rate structure.

- 21
22 c) Please discuss what, if any, of Bonbright's ten attributes are not satisfied by
23 Option A.

- 24
25 d) Please provide a justification for the proposed Option B rate design according to
26 Bonbright's ten attributes of a sound rate structure.

- 27
28 e) Please discuss what, if any, of Bonbright's ten attributes are not satisfied by
29 Option B.

- 30
31 f) Please discuss how the proposed Option A rate design promotes "stability and
32 predictability of the rates, with a minimum of unexpected changes seriously
33 adverse to ratepayers" (Bonbright's attribute No. 3).

1 g) Please discuss how the proposed Option B rate design promotes "stability and
2 predictability of the rates, with a minimum of unexpected changes seriously
3 adverse to ratepayers" (Bonbright's attribute No. 3).
4

5 h) Options A & B propose blocks for certain residential rate classes (1180 Hydro
6 Gov, 1280 Sm Diesel Gov, 1380 Lg Diesel Gov, 1480 Old Crow Gov) that are not
7 either consistently increasing or decreasing in nature, for example, the second
8 rate block is greater than the first, but the third rate block is less than the second.

9 i. Please provide the rationale for this inconsistency in the rate blocks.

10 ii. Please indicate if YEC or YECL have had residential rate blocks of this
11 type approved in the past. If yes, please specify.

12 iii. Please explain if or how the proposed inconsistent rate blocks can be
13 reconciled with Bonbright's rate design principle No. 3 which requires
14 "stability and predictability of the rates themselves and have a sense of
15 historical continuity."
16

17 i) Bonbright's attribute No. 10 states that there should be "freedom from
18 controversies as to proper interpretation." The City notes YEC and YECL's
19 disagreement in the interpretation of OIC 1995/90 as to how rate design should
20 be implemented. Please reconcile how Option A can satisfy this attribute, given
21 the differing interpretations between the Utilities.
22

23 **ANSWER:**

24
25 **(a)**
26

27 **Yukon Electrical Response**

28 Confirmed.
29

30 **(b) and (c)**
31

32 **Yukon Energy Response**

33 See also response to YUB-YEC/YECL-1-21.
34

35 Bonbright's criteria are above ordered under 3 headings: revenue related attributes, cost
36 related attributes and practical related attributes.

1 In terms of revenue related attributes, the rate design provides for rates sufficient to
2 collect the 2009 Consolidated Firm Rate Revenue requirement of \$50.833 million and
3 rate revenue requirement as approved specifically for Yukon Energy and Yukon
4 Electrical.

5
6 The proposed Option A Rate also in its design reflects stability and predictability
7 considerations. OIC 1995/90 requires runoff rates that reflect economy and efficiency
8 (and based on past precedent this is based on the incremental cost of diesel). Setting
9 the runoff rate at 80% of incremental cost (instead of the full incremental cost) of diesel
10 allows for the required step towards economy and efficiency to be taken in a moderated
11 fashion. Further, by adding an additional equalized rate block rate impacts are
12 moderated and in effect smaller energy users receive net benefits due to lower rates.
13 Should the IER be terminated at some future time, the first block rate decrease would
14 moderate the impacts that would result.

15
16 The Option A rate design provides for a better efficiency price signal (compared to the
17 current runoff rate based off 1996/97 fuel prices and compared to Option B which is
18 based on only 50% of the incremental cost of diesel).

19
20 However, as noted in the application, Bonbright principles related to the fair
21 apportionment of total costs of service to ratepayers cannot be satisfied at this time due
22 to the effects of OIC 2008/149 which prohibits rate rebalancing that would result in
23 differing percentage rate changes for customer classes cannot be undertaken until after
24 the OIC expires on December 31, 2012.

25
26 In terms of the practical-related attributes lists, Option A is based on a familiar Yukon
27 stepped rate design with the exception that an additional equalized block as been added
28 to address rate stability/rate shock considerations. In this sense the general framework
29 of increasing rate blocks with one runoff block designed to provide an efficiency signal is
30 familiar to ratepayers (and in this sense not controversial) and should be both
31 understandable and acceptable and is within the ability of the utilities to administer.

32
33 All Bonbright criteria are addressed by Option A, with the exception of apportionment of
34 costs, which is prohibited at the present time by OIC 2008/149.

1 (d)

2
3 **Yukon Electrical Response**

4 YECL's proposed Option B was designed based on the current rate design framework
5 provided by OIC 1995/90, OIC 2008/149 and OIC 2207/94, as well as how the
6 Companies and the Board have been guided by this framework in the past. As a result,
7 there may be certain aspects of YECL's proposed rate design that are not entirely
8 consistent with certain Bonbright's competing objectives. YECL attempted to balance, to
9 the extent possible, the current rate design framework and some of the key principles
10 espoused by Bonbright.

11
12 (e)

13
14 **Yukon Electrical Response**

15 Points 6 and 7 may not be consistent with OIC 2008/149 regarding inter-class
16 rebalancing.

17
18 **Yukon Energy Response**

19 No rate option can satisfy all of the criteria simultaneously, by definition. Yukon Energy's
20 view of Option B as set out by YEC in Tab 4YEC, is a rate design with the primary
21 attribute of criteria 2 in mind (rate stability), in this case the maintenance of rates largely
22 unchanged at this time for nearly all customers.

23
24 In terms of Bonbright's criteria, Option B most notably fails criteria 4 and 5, which seek to
25 ensure that private decisions made about electrical consumption provide for a balance of
26 encouraging "justified types and amounts of use" while "discouraging wasteful use" and
27 seeking to ensure all costs and externalities are part of the price signal.

28
29 In Yukon, the power system is fundamentally comprised of two "tiers" of generation:

- 30
31 • Low cost renewable heritage generation, which has a limited quantity available,
32 and is being effectively fully consumed at the load levels existing or forecast in
33 the near future.
34
35 • High cost, GHG emitting diesel generation which will become an increasingly
36 prominent portion of grid supply. New renewable developments, such as new
37 hydro and wind, may become available to offset portions of this diesel

1 generation, but these new sources will almost certainly be much higher cost than
2 the heritage generation and will not offset 100% of the diesel generation that will
3 become part of grid supply.
4

5 The framework of OIC 1995/90 recognizes this reality, by its imposition of a “blocking”
6 structure. In short, the OIC serves to ensure that, for a reasonable quantity of power
7 (e.g., for not less than 1000 kW.h per month of usage for residential customers) the
8 benefits of the heritage generation will be shared throughout Yukon to all non-
9 government customers. This is consistent with Bonbright’s concept of “justified types and
10 amounts of use”. The OIC also requires a runoff block focus on efficiency, or what
11 Bonbright has described as “ensuring all costs and externalities are part of the price
12 signal” particularly as part of discouraging any “wasteful use”. The OIC runoff rate
13 framework, combined with past utility proposals and Board decisions, aligns with the
14 higher cost resources (particularly diesel) that become increasingly part of the grid load
15 into the future.
16

17 It is YEC’s view that, Option B fails to reflect any of these principles. First, Option B does
18 not reflect the higher cost “internalities” (and no attempt has been made to incorporate
19 non-financial externalities) of the future supply sources being driven by load growth, by
20 failing to propose an efficient runoff rate design. Second, the option also does not reflect
21 the rate benefits of recent initiatives and investment in enhancing the heritage assets
22 (such as the benefits of CSTP) within the first block, where Yukon policy targets that
23 such benefits should accrue and be shared throughout Yukon for all ratepayers.
24

25 **(f)**
26

27 **Yukon Energy Response**

28 Please see part (b) and (c) above.
29

30 **(g)**
31

32 **Yukon Electrical Response**

33 As noted in response to CW-YEC/YECL-1-12 YECL believes that its proposed Option B,
34 which is based on a lesser percentage of 50% of incremental cost, is considered more
35 reasonable at this time, as it will help provide stability and allow further adjustments to
36 rates when more accurate signals showing how costs move with usage are identified.

1 Please refer to YUB-YEC/YECL-1-24 for YECL's explanation of its proposed Option B
2 including the estimated rate impact for residential and general service rate classes.
3

4 **(h)**

5
6 **Yukon Energy Response**

7 The rate schedules noted in the question apply only to a very small class of Government
8 Residential ratepayers. These rates are only at the levels noted due to the practical
9 requirement that the first block must recover the necessary level of revenue from the
10 class after the higher block rates have been designed, and that there was a desire to
11 maintain continuity between Non-Government and Government rates to the extent
12 possible.
13

14 This situation is not uncommon and has been approved in the past – e.g., the present
15 rates for Government Residential have lower runoff rates than first block rates (while
16 most other classes have higher priced runoff rates than first block rates), due to the
17 same factor (the first block must recover the total target revenue from the class, after the
18 second block rates have been set based on efficiency principles).
19

20 Yukon rates have not previously implemented a specific three block structure (previous
21 rate design as been 2-block structure with the first block equalized and the second
22 (runoff) block based on the incremental cost of diesel).
23

24 **Yukon Electrical Response**

25 i) The inconsistency refers to the increasing or decreasing values of the blocks, but
26 the approach is consistent with OIC's 1995/090 and 2008/149.

27 ii) YECL is not aware of it having similar blocks in the past.

28 iii) Please refer to part (g).
29

30 **(i)**

31
32 **Yukon Energy Response**

33 Neither Option A nor Option B would be difficult to apply or give rise to any controversy
34 in terms of interpretation of the rate schedule. Any ratepayer reviewing the rate schedule
35 would be well aware of the price for power, by month.

- 1 Any regulatory rate proceeding is designed to address differing views, which are taken
- 2 into account by regulatory tribunals in approving a single rate design.

1 **ISSUE: Principles of Rate Design - General Service**

3 **REFERENCE: Application, Tab 4 YEC final and Tab 4 YECL Final**

5 **PREAMBLE:**

7 The City wishes to understand the proposed rate design principles regarding Options A
8 and B General Service.

10 **QUESTION:**

12 a) Please explain why YEC has proposed rate blocks for certain general service
13 rates (2160 Hydro NG, 2260 SM Diesel NG, 2360 Lg Diesel NG, 2170 Hydro
14 Municipal, 2270 Sm Diesel Municipal, 2370 Lg Diesel Municipal, 2180 Hydro
15 Gov, 2280 SM Diesel Gov, 2380 Lg Diesel Gov) that are not either consistently
16 increasing or decreasing in nature. (For example, the second rate block is
17 greater than the first, but the third rate block is less than the second).

19 b) Has YEC had general service rate blocks of this nature approved in the past? If
20 so, please specify.

22 c) Please explain the role of YEC trying to satisfy OIC 1995/90 in the proposing of
23 these inconsistent rate blocks.

25 d) Please explain how the proposed inconsistent rate blocks in Option A are
26 reconciled with Bonbright's rate design principle No.3 (cited in the preamble of
27 the previous question) which requires 'stability and predictability of the rates
28 themselves and have a sense of historical continuity.'

30 e) Please explain why YECL has proposed rate blocks for certain general service
31 rates (2160 Hydro NG, 2360 Lg Diesel NG, 2170 Hydro Municipal, 2370 Lg
32 Diesel Municipal, 2180 Hydro Gov, 2380 Lg Diesel Gov) that are not either
33 consistently increasing or decreasing in nature).

35 f) Has YECL had general service rate blocks of this nature approved in the past? If
36 so, please specify.

1 g) Please explain the role of YECL trying to satisfy OIC 1995/90 in the proposing of
2 these inconsistent rate blocks.

3
4 h) Please explain how YECL's proposed inconsistent rate blocks are reconciled with
5 Bonbright's rate design principle No.3 (cited in the preamble of the previous
6 question) which requires stability and predictability of the rates themselves and
7 have a sense of historical continuity.

8
9 **ANSWER:**

10
11 **(a) and (b)**

12
13 With respect to government rate classes, see CW-YEC/YECL-1-14(h).

14
15 With respect to non-government rates, the situation reflects consistently increasing
16 blocks, with the exception of the few very large customers who use into the new runoff
17 block "Block 3A". For a description of the rate design criteria applied to Block 3A, please
18 see Tab 4YEC, page 28, lines 18-24.

19
20 The current approach is designed to achieve a number of rate design goals and is
21 considered the first necessary step in a staged approach to rate design for the largest
22 customers in the general service class, that combines the requirement for a further rate
23 block (to mitigate impacts of the higher incremental runoff rate on first and second block
24 energy rates) and provides for an orderly process for separating the non-homogenous
25 general service class into two subclasses at a future date.

26
27 To address rate design requirements for large users (e.g., those general service
28 customers with typical monthly use in excess of 20,000 kW.h), the approach in this
29 Application defers establishing a separate rate class for large users. At this time, as an
30 interim measure until the next GRA, the proposed rate design provides for a fourth
31 energy rate block for use in excess of 20,000 kW.h/month. The proposed energy rate for
32 this fourth "large user" rate block reflects status quo current effective runoff rates in each
33 zone (with Rider J and R). The overall result is that the establishment of a separate
34 runoff rate block charge for general service large users is deferred.

1 **(c) and (d)**

2
3 The application discusses how the GS non-government rate block structure is consistent
4 with the rate policy direction provided in OIC 1995/90.

5
6 1. New non-runoff blocks can be considered subject to ensuring that rates within
7 each such new non-government retail rate block are equalized throughout
8 Yukon.

9
10 2. Variation is allowed for separate runoff energy rate blocks in different
11 communities or rate zones provided such rates are fixed for each community or
12 zone based on the same rate design principles.

13
14 3. A runoff rate must be set that provides for economy and efficiency (this rate
15 applies to all consumption over a particular level and cannot initiate for usage
16 below a particular level).

17
18 For all but approximately 109 of the largest GS customers who consume over 20 MW.h
19 in a month (on the order of 3% of overall GS customers), the rate design in all practical
20 respects parallels the residential three block rate design with the third block linked to
21 either 50% (Option B) or 80% (Option A) of the incremental cost of diesel.

22
23 **(e)**

24
25 The first 3 energy blocks increase while the fourth block, consumption >20,000 kW.h,
26 decreases. The companies realize there is greater diversity in the General Service rate
27 classes and that by having a runoff block equivalent to the 3rd block rate, very few
28 customers with consumption >20,000 kW.h would experience a large rate impact. This
29 leads to the future consideration of a possible separate General Service Large User rate
30 class as stated on PAGE4YECL-5. Also, please refer to YUB-Companies-12(b) for an
31 explanation why YECL believes the manner in which its proposed blocking arrangement
32 has been designed is appropriate.

1 **(f)**

2
3 Under the current approved rates, General Service Non-Government rates have a 2
4 block (tier) energy structure with an increasing 2nd energy block. The structure for the
5 Government rates are also 2 tiered with some rates having a higher 2nd block, while
6 other General Service Government rates have a decreasing 2nd block due to the nature
7 of linking the second block to the incremental cost of diesel. This Application proposes to
8 increase the number of energy blocks from 2 to 3.

9
10 **(g)**

11
12 Large General Service customers (monthly consumption > 20,000 kW.h) are being
13 impacted by changes to the first 20,000 kW.h while keeping the same impact as the
14 current rates > 20,000 kW.h. The companies believe the blocking structure and rates
15 meet OIC 1995/010 at this time until the future consideration of a possible separate
16 General Service Large User rate class as stated on PAGE4YECL-5.

17
18 **(h)**

19
20 The companies have stated that it is the balancing of these principles (PAGE7.1B-12
21 slide 25) and not the priority or reconciliation of these principles that is the end goal.
22 YECL believes that the net outcome for large users, who are primarily in the Hydro
23 Zone, are relatively the same in Option B, thus providing stability for these customers.
24 Please refer to YUB-YEC/YECL-1-24a which sets out the rate impact for residential and
25 general service customers under Option B.

1 **ISSUE:** **Rate Design**

3 **REFERENCE:** **Application, Tab 4 YEC and Tab 4 YECL**

5 **PREAMBLE:**

7 The City wishes to understand the Utilities' consideration of the effect the proposed
8 changes to rate design will have on customer behaviour.

10 **QUESTION:**

- 12 a) Please confirm that YEC's forecasts for billing determinants for all rate classes
13 are the same for existing rates as compared to the scenario where Option A
14 rates are adopted. If not confirmed, please explain.
- 16 b) Please confirm YEC and YECL's forecasts for billing determinants for all rate
17 classes are the same for existing rates as compared to the scenario where
18 Option B rates are adopted. If not confirmed, please explain.
- 20 c) Please provide all studies undertaken to help understand or project the price
21 elasticity of demand for the residential non-government class.
- 23 d) If no studies have been undertaken, please provide the support and rationale for
24 the position that billing determinants will not change as a result of the Board
25 adopting Option A rates.
- 27 e) If no studies have been undertaken, please provide the support and rationale for
28 the position that billing determinants will not change as a result of the Board
29 adopting Option B rates.
- 31 f) Does YEC generally consider Yukon residential customers to be environmentally
32 sensitive, aware of price and rate changes and prudent consumers?
- 34 g) Please provide YECL's response to (f).

1 h) Given YEC's assumption in (a), please comment on the fairness or unfairness of
2 imposing rate increases on residential second block customers that YEC
3 assumes these customers have no ability to respond to by reducing their
4 consumption.

5
6 i) Please confirm that the objective of providing a proper price signal through rates
7 is to elicit a behavioural response from customers. If not confirmed, please
8 explain the purpose of providing a proper price signal.

9
10 j) What does YEC seek to accomplish in proposing a rate design such as Option A
11 to attempt to move toward the proper "price signal" while at the same time
12 assuming there will be no change in consumer behaviour resulting from it?

13
14 k) Please provide YECL's answer to (j) as it pertains to Option B.

15
16 l) Please explain why YEC has set the proposed Option A residential run-off rate at
17 only 80% of the incremental cost of diesel rather than 100% as proposed by some
18 intervenors at the December 15, 2009 workshop.

19
20 m) Please explain why YEC has set the proposed Option B residential run-off rate at
21 only 50% of the incremental cost of diesel rather than 100% as proposed by some
22 intervenors at the December 15, 2009 workshop.

23
24 **ANSWER:**

25
26 **(a)**

27
28 Confirmed.

29
30 **(b)**

31
32 Confirmed.

1 (c) to (e)

2
3 **Yukon Energy Response**

4 No specific studies have been undertaken by the Companies on price elasticity of
5 demand for electricity in Yukon. The appropriate studies require availability of extensive
6 historical data on non-inflationary electricity price changes, net of any subsidies to
7 reduce the overall bills. Surveys on theoretical behavior of consumers if there is a price
8 change are not reliable for determining the appropriate elasticity values.

9
10 A number of studies on price elasticity for electric consumption undertaken in the US
11 have demonstrated that for basically all types of consumers, the range of elasticities
12 varies dramatically by market. Power use is far more elastic in California, for example
13 (particularly for heating) than in North Dakota.

14
15 It is important to note that electrical consumption patterns are difficult to change in the
16 short run, but they are price elastic in the long run. Studies undertaken for Manitoba
17 Hydro in 2004 further support that long run elasticities are higher than short run
18 elasticities (which are at best very low), which is in line with the fundamental theory on
19 price elasticity.

20
21 **Yukon Electrical Response**

22 No studies were undertaken.

23
24 The forecast billing determinants used for the 2009 test year in this application will not
25 change. The approval of the forecast billing determinants during the Phase I applications
26 for both companies is made prior to any Phase II rate design considerations.

27
28 (f)

29
30 Yukon residential customers are expected to vary greatly in their perspectives and
31 understanding of the noted matters.

32
33 (g)

34
35 YECL can only speculate on how the consumption patterns of any customer or group of
36 customers would change in response to a price change. In general, YECL considers

1 Yukon residential customers to be environmentally sensitive. YECL is uncertain how this
2 would translate into a response to price and rate changes.

3
4 **(h)**

5
6 The question as noted contains incorrect suppositions and assertions. Part (a) of this
7 question is in regards to elasticities. It does not indicate the degree to which customers
8 have or do not have the *ability* to respond to price changes. Elasticities measure the
9 degree to which customers have the *tendency* to respond to price changes. In any
10 event, under Option A which is YEC's preferred approach, most second block residential
11 customers in fact see bill decreases, not increases (70% of customers only use first
12 block power, of the 30% who use second block power, 2/3 would see lower bills under
13 YEC's Option A than at present – it is only the top 10% of users who would see higher
14 bills). Further, even for large second block consumers (1500 kW.h - the 90th percentile
15 for usage) while their bill will remain the same, their opportunity to save from
16 conservation measures will go notably up from the situation at present. For example, if a
17 1500 kW.h customer reduced their load to 1250 kW.h/month, under present rates their
18 bill would be reduced by \$32.67 (including all taxes and riders), while under Option A
19 rates their reduction would be \$38.82, an increased savings of 18.8%. This type of effect
20 can notably improve the potential for the customer to invest in energy efficiency
21 initiatives and related measures and see economic returns. In short, even at the 1500
22 kW.h level – well into the second block – Option A provides benefits to customers
23 beyond the current rate design or Option B.

24
25 It is also important to note that there are two types of efficiency that are discussed in
26 terms of rate designs:

- 27
28 • Economic efficiency; and
29
30 • Environmental efficiency.
31

32 Economic efficiency is obtained by reflecting the true cost of generation in the electricity
33 price (marginal price for power equals marginal cost for the generation to produce the
34 power). This ensures the efficient pricing of resources and the customers receive a
35 proper price signal as to the true cost of power they are consuming in each consumption
36 block.

1 Environmental efficiency as a more general concept may relate to various interpretations
2 as to the environmental awareness of customers (as noted in part (f) of the question),
3 but is not sufficient nor appropriate as a test in terms of implementing OIC 1995/90.
4

5 **(i)**
6

7 Not confirmed. Sending the proper price signal gives the customer the signal or
8 information to make an informed decision or choice. Customers must weigh the
9 cost/benefit advantages and what it considers to be important (i.e., economics, price,
10 practicality and environment).
11

12 **(j)**
13

14 Please see response to (h) above.
15

16 **(k)**
17

18 Please refer to YUB-YEC/YECL1-22 and 24.
19

20 **(l)**
21

22 Increasing retail runoff rates to reflect 80% of the incremental cost of diesel at this time
23 stops short of moving fully to 100% at this time; however, as noted in CW-YEC/YECL-1-
24 19(a) that option may still exist. In any event, Option A as proposed still achieves notable
25 rate decreases to the first block rates in each retail class, while ensuring that appropriate
26 price signals are provided to consumptions at higher levels to promote economy and
27 efficiency.
28

29 As noted at page 4YEC-19 of the Application, initial consideration was given to using
30 100% of diesel as well as lesser percentages. However, given that runoff rates had not
31 been adjusted since the 1996/97 GRA (and were based on dated and materially lower
32 fuel prices) it was determined reasonable at this time to provide for a step-increase to
33 begin to provide a reasonable linkage to incremental cost.

1 **(m)**

2

3 Please refer to YUB-YEC/YECL-1-22 and 24. Please see CW-YEC/YECL-1-19.

1 **ISSUE:** Rate Design

3 **REFERENCE:** Application, Tab 4YECL, p.4YECL-4

5 **PREAMBLE:**

7 YECL states:

9 A lesser percentage of 50% of incremental cost was considered more reasonable
10 at this time due to:

- 12 • Limits related to inter-class rate balancing (i.e., OIC 2008/149);
- 14 • Reducing rate shock impact across customer classes;
- 16 • Avoidance of undue discrimination; and
- 18 • Allowing further adjustments to rates when more accurate signals
19 showing how costs move with usage is identified.

21 **QUESTION:**

- 23 a) For each bullet, please why YECL believes the higher percentage (80% of
24 incremental cost proposed in YEC Option A) is considered less reasonable.
- 26 b) Please fully explain YECL's concern with rate shock in YEC's proposed Option A
27 rates.
- 29 c) Please expand on how YECL believes that the lesser percentage of 50% will
30 help avoid undue discrimination.
- 32 d) Is YECL aware of the existence of undue discrimination in current rates that will
33 be worsened by the proposed Option A rates?

1 **ANSWER:**

2
3 **(a)**

4
5 Please refer to YUB-YEC/YECL-1-24. YECL points out that in the Residential Non-
6 Government class Option A block 1 energy rate decreases while the class is at 78.9%
7 R/C and the customer charge is at 38.8% R/C. YUB-YEC/YECL-1-24 Figures 1-4
8 demonstrate the rate shock impact across customer classes.

9
10 **(b)**

11
12 Please see YUB-YEC/YECL-1-24 Figures 1-4 that illustrate rate shock impact across
13 customer classes. YECL is concerned with the range of rate shock impact considering
14 no inter-class rebalancing is allowed at this time.

15
16 **(c)**

17
18 The 50% of incremental cost of diesel as a runoff block allows the first energy block to
19 remain at what is currently seen by all customers. As the runoff block increases,
20 something must decrease and in Option A this is the block 1 energy charge. As inter-
21 class rebalancing is allowed and fixed components move to 100% R/C all customers will
22 see an increase in the first block charge, not a decrease.

23
24 **(d)**

25
26 Please refer to YUB-YEC/YECL-1-24 for an explanation of why YECL's proposed Option
27 B rate design will result in less rate discrimination than Option A.

28
29 Current customer charges in Residential rates, no customer charge in General Service
30 rates and General Service Demand rates are below 100% R/C ratios. YECL's proposed
31 Option B increases the rate components after reflecting the increase caused by Rider J
32 and R since inter-class rebalancing is not allowed. As noted in YUB-YEC/YECL-1-24,
33 YECL believes that Option A produces inequitable price signals. Ultimately, a
34 consumer's usage decision should reflect their tradeoff between the value that they
35 receive from electricity and the price they have to pay. If the price of electricity a
36 customer pays is linked to incremental costs that are not being incurred on the system,
37 YECL views this as providing inefficient and inequitable price signals to customers.

1 **ISSUE:** **Rate Design**

3 **REFERENCE:** **Application, Tab 4 YECL**

5 **PREAMBLE:**

7 The City desires to understand YEC's position on YECL's comments.

9 **QUESTION:**

- 11 a) Please provide YEC's comment on the following comments by YECL,
12 particularly, how YEC agrees or disagrees with each comment and why. Please
13 explain fully.
- 14 i. Important rate design matters need to be fully examined and understood
15 in the context of ensuring a fair and reasonable approach is taken
16 towards sending the right price signals to customers. Such issues include:
17 understanding homogeneity of residential customers, estimating elasticity
18 and customer discretionary use across the rate classes, understanding
19 customer response to a proposed rate change, and reflecting more
20 accurate cost based signals in the base rates when current OIC's expire
21 (p.4YECL-11).
 - 22 ii. Proposing significant changes to the current residential blocking structure
23 without assessing residential price elasticity's throughout customer
24 consumption levels to predict energy and revenue impact to Yukon
25 Electrical would not be prudent in a cost environment when surplus hydro
26 generation serves the vast majority of customers' base load. In addition,
27 once OIC 2008/149 expires and interclass rebalancing is allowed, Yukon
28 Electrical will be in a position to address the fair apportionment of costs,
29 which is a critical component in the rate making process to establish more
30 effective "economy and efficient" rates (p.4YECL-14).
 - 31 iii. Proposing significant changes to the current general service rate structure
32 and rate levels without assessing general service price elasticity's
33 throughout customer consumption levels to predict energy and revenue
34 impact to Yukon Electrical would not be prudent in a cost environment
35 when surplus hydro generation serves the vast majority of customers
36 throughout the day and foreseeable future (p.4YECL-18).

1 b) Please fully discuss why YECL does not accept YEC's proposed Option A rate
2 structure and assumptions behind it.

3
4 c) Please explain how Option A can be put forward by YEC as a feasible rate
5 design alternative in light of receiving no support for it from YECL.

6
7 d) Please discuss how, if at all, any difference between the two Utilities' respective
8 interpretations of "economy and efficiency" may have factored into the difference
9 of opinion regarding Option A.

10
11 e) Please discuss how, if at all, any difference between the two Utilities' respective
12 reading of the necessary level of compliance with OIC 1995/90 may have
13 factored in to the difference of opinion regarding Option A.

14
15 f) Please discuss how, if at all, any difference between the two Utilities' respective
16 opinions regarding the relative importance of OIC 1995/90 compared to other
17 rate design criteria may have factored in to the difference of opinion regarding
18 Option A.

19
20 **ANSWER:**

21
22 **(a)**

23
24 In general, Yukon Energy agrees that relevant and important rate design matters need to
25 be fully and fairly examined as part of any rate change. This is the specific and practical
26 purpose of a major and costly Phase II proceeding as is now underway.

27
28 YECL's comments indicate 4 such factors they believe to fit into the category of items
29 that must be fully understood before any notable rate design changes are pursued
30 (homogeneity, elasticity, customer response, and more cost-based signals after OICs
31 expire). Of the four, there is no proposal on the table today to actually investigate the
32 first 3 which fundamentally relate to elasticities. There has never been a Yukon specific
33 elasticity study conducted, and it is not apparent that YECL proposes any such study
34 (which is reasonable – even most large southern jurisdictions many times larger than
35 Yukon cannot justify the cost or complexities of doing their own such studies on their
36 customer loads). As a result, it is not apparent how or if YECL would ever see Yukon be
37 in a place to re-establish rates that have traditionally existed, that are based on the

1 principles directed by the Board in 1992 (after detailed study), and that properly meet the
2 OIC requirements.

3
4 On the fourth item noted (cost-based signals, as linked to the current time-limited OICs),
5 the basic contention is that rates should not be adjusted today in the manner proposed
6 under Option A, and should only be so adjusted in future in circumstances where the
7 government has permitted the Board (via expiry of the noted OIC) to rebalance rates so
8 as to raise rates to residential-non-government customers, simply so rates to primarily
9 government accounts can be lowered (in order to bring R/C ratios back closer to 100%).
10 This is in no way a persuasive argument to YEC for delaying all action on starting to
11 establish reasonable efficiency price signals today as an outcome of the current hearing
12 process (via adoption of a rate similar to Option A). In the event the scenario set out by
13 YECL does in fact occur, and non-government residential rates are suggested by YECL
14 to be raised overall by a large number (approximately 25%), this objective may in fact
15 make it more difficult to, at the same time, target efficiency in runoff rates since the
16 confluence of rate impacts on certain customers may be beyond advisable levels.

17
18 In addition, Yukon Electrical's assertion that "surplus hydro generation serves the vast
19 majority of customers throughout the day and foreseeable future" is patently incorrect.
20 The full recent Mayo B Part III hearing, and Board Report on that proceeding, confirmed,
21 in effect, that the era of "surplus" hydro is over. Major investment is now required in
22 generation, such as Mayo B, and even with this new generation reasonably foreseeable
23 loads in the next few years will drive diesel "on the margin". In addition, diesel continues
24 to be on the margin today in all isolated communities, including Watson Lake. The basic
25 premise for diesel being on the margin is that, simply put, there is no surplus baseload
26 hydro available. In these foreseeable conditions almost any load changes by any
27 customer or class either drives the need for diesel generation at the time of
28 consumption, or requires release of stored water at the time of consumption that drives a
29 need for added diesel generation at a later time when this water would otherwise have
30 been available for generation, absent the noted load.

31
32 In short, Yukon Energy does not view YECL's comments to set out any persuasive or
33 fact-based rationale for delaying all action today on providing efficiency signals to
34 customers consistent with longstanding Yukon practice, and meeting the requirements of
35 OIC 1995/90.

1 **(b)**

2
3 Please see YUB-YEC/YECL-1-24.
4

5 **(c)**

6
7 Please see CW-YEC/YECL-1-19 for a review of YEC's position on Option A. The
8 determination as to the appropriate rate design is a matter for the Board to conclude.
9 This determination must meet OIC requirements imposed on the Board, and is
10 fundamentally a balancing of concerns and interest among the ratepayers in a class. In
11 YEC's view Option A is the best alternative available to meet these various objectives,
12 notwithstanding that YECL or other interested parties may have other views.
13

14 **(d)**

15
16 Please see CW-YEC/YECL-1-19(d).
17

18 **(e)**

19
20 Please see CW-YEC/YECL-1-19(e).
21

22 **(f)**

23
24 Please see CW-YEC/YECL-1-19(f).

1 **ISSUE:** YEC/YECL Rate Design - Options A & B

3 **REFERENCE:** Tab 4 YEC final and Tab 4 YECL Final

5 **PREAMBLE:**

7 The City wishes to understand the difference in position between YEC and YECL.

9 **QUESTION:**

- 11 a) Does YEC prefer Option A or Option B, or are both rate design options equally
12 acceptable? Please provide a rationale for the answer.
- 14 b) Please fully discuss why YECL does not accept YEC's proposed Option A rate
15 structure and assumptions behind it.
- 17 c) Please explain how Option A can be put forward by YEC as a feasible rate
18 design alternative in light of receiving no support for it from YECL.
- 20 d) Please discuss how, if at all, any difference between the two Utilities' respective
21 interpretations of "economy and efficiency" may have factored into the difference
22 of opinion regarding Option A.
- 24 e) Please discuss how, if at all, any difference between the two Utilities' respective
25 reading of the necessary level of compliance with OIC 1995/90 may have
26 factored in to the difference of opinion regarding Option A.
- 28 f) Please discuss how, if at all, any difference between the two Utilities' respective
29 opinions regarding the relative importance of OIC 1995/90 compared to other
30 rate design criteria may have factored in to the difference of opinion regarding
31 Option A.

1 **ANSWER:**

2
3 **(a)**

4
5 Yukon Energy strongly prefers Option A over Option B.

6
7 In summary, Yukon Energy's view on these two options is as follows:

- 8
- 9 • YEC views Option A is a far superior rate design today relative to Option B, as it
10 restores a process for rate design adjustments (after a 12 year period when no
11 rate adjustments could take place) rather than retaining a status quo that no
12 longer reflects current system conditions or near term trends. In this regard,
13 Option A complies clearly with the Order-in-Council directives to the Board and
14 past practice for rate design in Yukon under such Orders-in-Council, and has a
15 much stronger long-term price efficiency signal to ratepayers at a time when
16 diesel generation is once again becoming relevant on the margin in the hydro
17 rate zone as well as continuing to be relevant in the various diesel rate zones.
18
 - 19 • YEC's key reason for providing Option B in Tab 4YEC was illustrate for the Board
20 the range of options considered by the utilities in the time available for the filing.
21 In YEC's view, however, Option B's only underlying attribute is that it leads as a
22 result of the Phase II process to basically no change in rates for almost every
23 customer in Yukon. After 12 years when diesel prices have more than tripled
24 without any rate redesign occurring in Yukon, this seems like a poor outcome
25 were it to arise after all of the costs and effort put into the current proceeding.
26

27 As noted in the application, it was not YEC's intention to limit the Board (or intervenors)
28 to pick one of the two above options. After a long period without review of rate design
29 matters, the utilities were not able within the time available to agree on one joint
30 proposal. The utilities' submission documented the situation at the time of the filing.
31

32 To elaborate on the matter of Order-in-Council compliance as well as past practice in
33 Yukon, the key consideration is that OIC 1995/90 requires that runoff rates must be
34 based on principles that "promote economy and efficiency". This directive has
35 consistently in Yukon (back to at least the 1992 Rate Design hearing) been understood
36 to mean that runoff rates must reflect at least the short-run incremental costs of running
37 diesel generation, if not higher (i.e., discussion at various times also considered adding

1 in extra factors to account for long-run costs of diesel, such as capital investment). This
2 same principle was even applied in 1993/94, notwithstanding that there was no forecast
3 diesel generation on WAF or the Mayo system (loads in each case were much lower
4 than today). Further, this OIC requirement is not unusual in the context of normal rate
5 design principles – as reviewed in past YUB hearings and decisions, proper rate design
6 considerations in any power jurisdiction (with or without an OIC requirement) should try
7 to target runoff rates which are not below the utilities' short-run marginal cost.

8
9 Arguably, the OIC as consistently interpreted only permits rate designs as regards runoff
10 rates that are no lower than 100% incremental diesel (and potentially somewhat higher).
11 However, in developing Option A with runoff rates at 80% of approved short-term diesel
12 generation costs, the utilities took into account the need for some transitional
13 considerations (which is consistent with normal rate design principles), and also
14 recognized that diesel prices today are somewhat below the level approved for the 2009
15 test years for the utilities. It is recognized that the Board could also consider, based on
16 past practice, the option of setting runoff rates at 100% of the approved short-term diesel
17 generation costs.

18
19 Option B was developed much later in the discussions between the utilities, and reflects
20 an approach focused almost entirely on rate stability. In effect, few customers will see
21 any rate impact at all from the implementation of Option B beyond a few impacts related
22 to adjustments to non-runoff rates. For example, for residential customers the effect as
23 shown in Appendix 4.1B YEC, Table B4.4, indicates that the only customers seeing any
24 notable rate change from implementing Option B are those who use between 1000 and
25 2500 kW.h per month or more in the Small Diesel and Old Crow zones, who see
26 reductions of up to 11% (Small Diesel) or 50% (Old Crow) - there are few to no
27 customers actually in these ranges today in these rate zones.

28
29 **(b)**

30
31 In YECL's view Option B was provided as a reasonable rate design proposal under the
32 circumstances that exist today in Yukon. In YECL's view, Option A leads to inappropriate
33 price signals relating to costs that are seldom incurred (or even forecasted to occur) on
34 the system today and in the near future. The difference that has arisen from the current
35 costing environment is that in the past, due to the large industrial load associated with
36 the Anvil Range Mine, diesel generation was on the margin throughout the year. That is

1 not the case today. For a more detailed response regarding YECL's views on the two
2 Options, please refer to YUB-YEC/YECL-1-24.

3
4 **(c)**

5
6 At the end of the day, it is the Board that must determine what rates are just and
7 reasonable and meet all the appropriate tests of rate design and rate policy in the OICs
8 and normal rate design principles. While the utilities clearly have useful input to this
9 deliberation, each option as presented in the application is designed to collect the
10 approved revenue requirement, and any alternative approved by the Board will also
11 need to meet this requirement.

12
13 Yukon Energy's reasons for providing and preferring Option A are set out in response to
14 (a) above. The option was developed through extensive joint discussion with YECL to
15 balance the rate design principles and considerations relevant in Yukon today, and to
16 assist the Board in its current review.

17
18 Yukon Energy understands YECL's primary objections to Option A to be related to two
19 reasons: 1) YECL indicated that in their view it is not clear that baseload diesel
20 generation is indeed part of the grid supply mix in the near future, and 2) Option A is
21 viewed by YECL as providing an adverse rate impact on certain users, notably
22 residential customers above 2500 kW.h and also General Service customers in the
23 range of 20,000 kW.h/month. Yukon Energy's response to these 2 concerns is as
24 follows:

- 25
26 1) Diesel generation remains the **only** source of supply in each of the diesel rate
27 zones and there is no basis today for failing to recognize this reality.
28
29 2) The YUB's review and recommendations regarding YEC's Part 3 application for
30 Mayo B reflect fully how soon the return of baseload diesel is expected to occur
31 on the integrated hydro rate zone grid. Mayo B will be in service by late 2011,
32 but, based on evidence reviewed by the Board during the Mayo B Part 3 hearing,
33 this measure alone will not offset the return of baseload diesel given load growth
34 currently expected to occur over this period. While many other measures are
35 being pursued, including system enhancements and potential DSM
36 programming, as well as the next set of new generation options, these also are

1 not expected to offset the imminent baseload diesel requirements in any near-
2 term period.

3
4 3) Yukon Energy's Appendix 4.1A, Table A4.4 indicates that less than 2% of
5 residential customers use above 2500 kW.h/month in a year (the new runoff rate
6 block proposed in the current application). The average consumption is
7 approximately 700 kW.h/month. While rate impacts for the few customers in the
8 runoff rate block may be notable, it is not uncommon or unreasonable to design
9 rates in a manner that accepts such outcomes. Further, these very large users
10 have seen no change in rate design for over 12 years, during a period when
11 other energy costs, such as heating oil and diesel have tripled.

12
13 4) With respect to GS customers, it is only customers at precisely 20,000
14 kW.h/month who see the largest impacts, and the rate impacts decline above this
15 level (see Table A4.7 in Appendix 4.1YEC), such that the impacts similarly
16 affects only a very small percentage of customers of the very large size range.

17
18 **(d)**

19
20 **Yukon Energy Response**

21 The utilities did experience a difference of view on the matter of "economy and
22 efficiency" in two notable ways (see below), and this factored into the difference of
23 opinion noted. However, this was not the sole factor underlying the divergence of views
24 on Option A versus Option B; there were also differing views as to whether any material
25 rate changes were advisable at the current time.

26
27 With respect to the two factors underlying the definition of "economy and efficiency":

- 28
29 • First, in Yukon Energy's view, the OIC definition of "economy and efficiency" is
30 clearly intended (and has been consistently interpreted) to mean economic
31 efficiency, from a quantitative point of view – i.e., the costs for incremental usage
32 above certain thresholds should equal the cost for incremental supply. In YEC's
33 view, this definition has not to date been read as a generic, qualitative judgment
34 as to whether Yukoners are responsible users of power (in terms of being
35 efficient or inefficient in their usage of electricity).

- 1 • Second, in Yukon Energy's view, economic efficiency must recognize the
2 marginal cost of supply at the present and into the near future, which means
3 diesel on the margin. The utilities differ in their view as to the likelihood of load
4 growth, and the resulting likelihood of diesel being on the margin in the future.
5
- 6 • YECL is uncertain what the production requirements will be on an incremental
7 basis in the near future to meet the proposed load forecast demands. This is the
8 reason why YECL proposed a new Rider D to facilitate events when diesel
9 generation is brought on line. The fact that diesel generation was not forecasted
10 did not provide any reasons to YECL to reflect anything more than 50% of the
11 cost of diesel today.
12

13 **Yukon Electrical Response**

14 Please refer to YUB-YEC/YECL-1-22 and 24.

15

16 **(e) and (f)**

17

18 The utilities agree that the Board is required to comply with OIC rate directives.

1 **ISSUE:** YEC Rate Design - Option A

3 **REFERENCE:** Tab 4 YEC final and Tab 4 YECL Final

5 **PREAMBLE:**

7 The City wishes to more fully understand the proposed Option A and Option B.

9 **QUESTION:**

- 11 a) Please provide the rationale for YEC believing that increasing the existing
12 residential non-government run-off rate to the proposed level of 80% of the
13 incremental cost of diesel should be implemented at one time rather than
14 phasing in the change over several years.
- 16 b) Please provide YECL's definition for "economy and efficiency" as put forth in OIC
17 1995/90.
- 19 c) Please reconcile YECL's definition in (b) above with YECL's proposed rate
20 design.
- 22 d) Please describe the level of urgency and importance YECL assigns to the idea of
23 complying with OIC 1995/90?
- 25 e) If the answer to part (d) above is that complying with OIC 1995/90 is urgent and
26 important, why does YECL's rate design proposal intend to set the residential
27 non-government run-off rate at only 50% of the price of the incremental cost of
28 diesel?
- 30 f) If the answer to part (d) above is that complying with OIC 1995/90 is not urgent
31 and important, why does YECL propose that rates be changed at all? What
32 benefit is derived from this change, as opposed to maintaining the same rates
33 until the OIC's expire on December 31, 2012?
- 35 g) Please provide YEC's definition for "economy and efficiency" as put forth in OIC
36 1995/90.

1 h) Please reconcile YEC's definition above with YEC's proposed rate design Option
2 A.

3
4 i) Please reconcile YEC's definition above with YEC's proposed rate design Option
5 B.

6
7 j) Please describe the level of urgency and importance YEC assigns to the idea of
8 complying with OIC 1995/90?

9
10 k) If the answer to part (j) above is that complying with OIC 1995/90 is urgent and
11 important, why does YEC set the residential non-government run-off rate in
12 Option B at only 50% of the price of the incremental cost of diesel?

13
14 l) If the answer to part (j) above is that complying with OIC 1995/90 is not urgent
15 and important, why does YEC propose that rates be changed at all? What benefit
16 is derived from this change, as opposed to maintain the same rates until the
17 OIC's expire on December 31, 2012?

18
19 **ANSWER:**

20
21 **(a)**

22
23 In YEC's view, the proposal provided in Option A (i.e., to provide for a runoff rate
24 increase to 80% of the 2009 incremental cost of diesel) is a step increase towards
25 reflecting the full cost of diesel. As noted in the discussion at page 4YEC-19 of the
26 Application, initial consideration was given to using 100% of 2009 incremental cost of
27 diesel as well as lesser percentages. As noted in the Application at page 4YEC-9 and in
28 response to CW-YEC/YECL-1-12(h) and (i), Option A (which sets the runoff rate at 80%
29 the cost of diesel) and Option B (which sets the runoff rate at 50% the cost of diesel –
30 effectively no change from the rates in place today) provide the Board with a range of
31 potential rate adjustment options relevant for consideration at this time.

32
33 In YEC's view it is necessary to begin to make material progress towards restoring
34 economy and efficiency in runoff rate design for retail customers for two reasons: (1)
35 Rates have not been updated for 12 years, notwithstanding that OIC 1995/90 requires
36 that runoff rates promote economy and efficiency (and the Board has previously
37 determined that this is to be realized through runoff rates that reflect the incremental cost

1 of diesel); and (2) with diminishing surpluses and expected requirements for baseload
2 diesel generation in the near term and over the longer term on the system it is imperative
3 that consumers begin to receive an appropriate price signal based on the systems
4 changed costing environment. Setting runoff rates at 80% of incremental costs is a first
5 necessary step over the near term in meeting these requirements.

6
7 **(b)**

8
9 Please refer to YUB-YEC/YECL-1-22 and YUB-YEC/YECL-1-24.

10
11 **(c)**

12
13 Please refer to YUB-YEC/YECL-1-22 and YUB-YEC/YECL-1-24.

14
15 **(d)**

16
17 OIC 1995/90 defines the Yukon Government policy regarding rate design. YECL and
18 YEC have put forth a joint application that has 2 options that YECL feels meets OIC
19 1995/90. YECL considers that it must comply with OIC 1995/90. Not complying with OIC
20 1995/90 may result in the Board not approving the joint Phase II application.

21
22 **(e)**

23
24 Please refer to YUB-YEC/YECL-1-22 and YUB-YEC/YECL-1-24. YECL believes that it
25 has put forth a rate design proposal which captures the spirit of “economy and
26 efficiency”, reflects short-run incremental costs, is consistent with past history of Yukon
27 rates and has a good foundation for future rate designs.

28
29 **(f)**

30
31 YECL believes that a moderate adjustment, based on the proposed Option B, at this
32 time is appropriate without resulting in significant rate swings. YECL has also introduced
33 its Rider D to facilitate the approved deferral treatment to recognize the differences
34 between the actual purchases of energy requirements when diesel is on the margin and
35 forecast collection of costs from customers.

1 **(g)**

2
3 YEC's definition of economy and efficiency is based on past practice and prior Board
4 recommendations and precedents in Yukon. This includes the definition provided by the
5 Board in its 1992 Report on Cost of Service and Rate Design. Recommendations related
6 to economy and efficiency in runoff rate design were subsequently reviewed and
7 approved by the Board in Order 1993-8 and 1996-7.

8
9 In the 1992 Report (at page 37) the Board noted "it considers the efficient use of
10 electricity to be the optimal use of electricity over time, where consumers are making
11 rational decision regarding the future and current use of electricity." Based on findings in
12 this report (i.e., that runoff rates for all zones should be adjusted to reflect short-run
13 incremental costs"), and based on subsequent Board Orders accepting this premise,
14 "economy and efficiency" has been promoted in Yukon runoff rate design through runoff
15 rates that reflect at least the short run incremental generation costs. In all prior GRA
16 reviews this was based on the cost of diesel in each rate zone plus provision for short
17 run incremental O&M costs for diesel generation.

18
19 **(h) and (i)**

20
21 With regard to YEC's proposal in this application, please CW-YEC/YECL-1-19(a).

22
23 Neither Option A nor Option B perfectly reflect the incremental cost of diesel (both are
24 too low); however, the options provide the Board with the range of potential rate
25 adjustment options relevant for consideration at this time. As noted in (a) above, initial
26 consideration was given to using 100% of 2009 incremental cost; however, given that
27 runoff rates had not been adjusted since the 1996/97 GRA (and were based on dated
28 and materially lower fuel prices) it was determined reasonable at this time to provide for
29 a step-increase to begin to provide a reasonable linkage to incremental cost.

30
31 **(j)**

32
33 OIC 1995/90 is a rate policy regulation enacted by the Yukon Government pursuant to
34 the Public Utilities Act. It sets out the legal framework for rate-setting and provides
35 specific legal direction to the Yukon Utilities Board related to rate design and rate
36 regulation in Yukon, and as such must be complied with.

- 1 Yukon Energy considers it important to make progress at this time in addressing these
2 long outstanding rate matters. Please see CW-YEC/YECL-1-19(a).
3
4 **(k) and (l)**
5
6 Please see response to CW-YEC/YECL-1-19(a).

1 **ISSUE: Revenue Components for Option A**

2
3 **REFERENCE: Application, Tab 4YECL, Schedule YECL B 4.6, Schedule**
4 **YECL B 4.7**

5
6 **PREAMBLE:**

7
8 The City wishes to understand the differences in revenue components for Options A and
9 B and existing rates

10
11 **QUESTION:**

12
13 a) Please provide for Option A the same data in the same format as provided for
14 Option B in Schedule YECL B 4.7.

15
16 b) Please provide for existing rates the same data in the same format as provided
17 for Option B in Schedule YECL B 4.6, except showing the Rider J and Rider R
18 rate and revenue component totals separately.

19
20 c) Please provide a table in the format of Schedule YECL B 4.7 that compares the
21 revenue components for existing rates (i.e. customer revenue, demand revenue,
22 block 1 energy revenue, block 2 energy revenue, etc.) inclusive of Rate Riders J
23 and R by rate class with the respective rate components for Option A and that
24 also calculates the proposed percentage change in the respective revenue
25 components.

26
27 d) Please provide a table in the format of Schedule YECL B 4.7 that compares the
28 revenue components for existing rates (i.e. customer revenue, demand revenue,
29 block 1 energy revenue, block 2 energy revenue, etc.) inclusive of Rate Riders J
30 and R by rate class with the respective rate components for Option B and that
31 also calculates the proposed percentage change in the respective revenue
32 components.

33
34 e) Please provide a table illustrating how Riders J and R are applied to the
35 respective rate components for Option A, Option B, and existing rates.

36
37 f) Please provide a table illustrating the change in forecast revenue in each rate
38 block in terms of dollar amount and percentage when comparing the existing rate

1 components inclusive of Riders J and R with revenue components proposed for
2 Option A.

3
4 g) Please provide a table illustrating the change in forecast revenue in each rate
5 block in terms of dollar amount and percentage when comparing the existing rate
6 components inclusive of Riders J and R with revenue components proposed for
7 Option B.

8
9 **ANSWER:**

10
11 **(a)**

12
13 Please refer to CW-YEC/YECL-1-21(a) – Schedule 1.

14
15 **(b)**

16
17 Please refer to CW-YEC/YECL-1-21(b) – Schedule 1.

18
19 **(c)**

20
21 Please refer to CW-YEC/YECL-1-21(c) – Schedule 1. For proposed percentage change;
22 please refer to part (f).

23
24 **(d)**

25
26 Please refer to CW-YEC/YECL-1-21(d) – Schedule 1. For proposed percentage change;
27 please refer to part (g).

28
29 **(e)**

30
31 Please refer to CW-YEC/YECL-1-21(e) – Schedule 1.

32
33 **(f)**

34
35 Please refer to CW-YEC/YECL-1-21(f) – Schedule 1.

1 **(g)**

2

3 Please refer to CW-YEC/YECL-1-21(g) – Schedule 1.

Yukon Energy Corporation & Yukon Electrical Company Limited - 2009 Phase II Application
Schedule of Determinants on Proposed Rates (Opt. A)

Yukon Energy and Yukon Electrical
 2009 Phase II Rate Application
 CW-YEC/YECL-1-21(a) Schedule 1

Residential-Non Government

2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)
YECL						
1160 NG - H	11,570		94,533,720	14,592,158	9,489,207	118,615,084
1260 NG - SD	308		962,877	114,525	39,077	1,116,479
1360 NG - LD	682		5,309,797	542,499	275,763	6,128,058
1460 NG - OC	125		763,968	101,340	8,740	874,048
YEC						
1160 NG - H	1,443		9,179,779	884,575	839,605	10,903,958
1260 NG - SD	0		0	0	0	0
1360 NG - LD	0		0	0	0	0
1460 NG - OC	0		0	0	0	0
Total						
1160 NG - H	13,013		103,713,498	15,476,732	10,328,811	129,519,042
1260 NG - SD	308		962,877	114,525	39,077	1,116,479
1360 NG - LD	682		5,309,797	542,499	275,763	6,128,058
1460 NG - OC	125		763,968	101,340	8,740	874,048
Residential-Non Government						
	14,128		110,750,140	16,235,095	10,652,391	137,637,626

Proposed Rate (Opt. A)	Customer Charge	Demand Charge	Block 1 Energy Chg	Block 2 Energy Chg	Block 3 Energy Chg	Rider J Charge	Rider R Charge
	(\$/ cust/ mo.)	(\$ / kW/ mo.)	(¢ / kW.h)	(¢ / kW.h)	(¢ / kW.h)	(%)	(%)
1160 NG - H	14.65		10.90	15.22	22.39	0.000%	0.000%
1260 NG - SD	14.65		10.90	15.22	22.39	0.000%	0.000%
1360 NG - LD	14.65		10.90	15.22	22.39	0.000%	0.000%
1460 NG - OC	14.65		10.90	15.22	49.23	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 NG - H	2,033,953		10,302,483	2,220,926	2,124,646	0	0	16,682,009
1260 NG - SD	54,073		104,936	17,431	8,749	0	0	185,190
1360 NG - LD	119,948		578,673	82,568	61,744	0	0	842,933
1460 NG - OC	22,019		83,259	15,424	4,303	0	0	125,005
Revenue - YEC								
1160 NG - H	253,738		1,000,432	134,632	187,989	0	0	1,576,790
1260 NG - SD	0		0	0	0	0	0	0
1360 NG - LD	0		0	0	0	0	0	0
1460 NG - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 NG - H	2,287,691		11,302,915	2,355,559	2,312,634	0	0	18,258,799
1260 NG - SD	54,073		104,936	17,431	8,749	0	0	185,190
1360 NG - LD	119,948		578,673	82,568	61,744	0	0	842,933
1460 NG - OC	22,019		83,259	15,424	4,303	0	0	125,005
Revenue (\$)	2,483,732		12,069,783	2,470,981	2,387,430	0	0	19,411,927

Yukon Energy Corporation & Yukon Electrical Company Limited - 2009 Phase II Application
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Yukon Energy and Yukon Electrical
 2009 Phase II Rate Application
 CW-YEC/YECL-1-21(a) Schedule 1

Residential-Government

2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)
Billing Determinants						
YECL						
1180 G - H	155		994,502	214,800	126,943	1,336,245
1280 G - SD	26		172,183	28,971	11,707	212,862
1380 G - LD	30		186,366	21,377	4,024	211,766
1480 G - OC	12		81,418	11,223	27,828	120,470
YEC						
1180 G - H	29		233,131	22,124	23,839	279,095
1280 G - SD	0		0	0	0	0
1380 G - LD	0		0	0	0	0
1480 G - OC	0		0	0	0	0
Total						
1180 G - H	184		1,227,633	236,925	150,782	1,615,340
1280 G - SD	26		172,183	28,971	11,707	212,862
1380 G - LD	30		186,366	21,377	4,024	211,766
1480 G - OC	12		81,418	11,223	27,828	120,470
Residential-Government						
	252		1,667,600	298,496	194,342	2,160,438

Proposed Rate (Opt. A)	Customer Charge	Demand Charge	Block 1 Energy Chg	Block 2 Energy Chg	Block 3 Energy Chg	Rider J Charge	Rider R Charge
	(\$/ cust/ mo.)	(\$ / kW/ mo.)	(¢ / kW.h)	(¢ / kW.h)	(¢ / kW.h)	(%)	(%)
1160 G - H	18.47		16.17	15.22	22.39	0.000%	0.000%
1260 G - SD	18.47		16.17	15.22	22.39	0.000%	0.000%
1360 G - LD	18.47		16.17	15.22	22.39	0.000%	0.000%
1460 G - OC	18.47		16.17	15.22	49.23	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 G - H	34,384		160,854	32,693	28,423	0	0	256,353
1260 G - SD	5,763		27,850	4,409	2,621	0	0	40,643
1360 G - LD	6,657		30,143	3,254	901	0	0	40,954
1460 G - OC	2,660		13,169	1,708	13,701	0	0	31,237
Revenue - YEC								
1160 G - H	6,483		37,707	3,367	5,338	0	0	52,895
1260 G - SD	0		0	0	0	0	0	0
1360 G - LD	0		0	0	0	0	0	0
1460 G - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 G - H	40,866		198,562	36,060	33,760	0	0	309,248
1260 G - SD	5,763		27,850	4,409	2,621	0	0	40,643
1360 G - LD	6,657		30,143	3,254	901	0	0	40,954
1460 G - OC	2,660		13,169	1,708	13,701	0	0	31,237
Revenue (\$)	55,945		269,724	45,431	50,983	0	0	422,083

Yukon Energy Corporation & Yukon Electrical Company Limited - 2009 Phase II Application
Schedule of Determinants on Proposed Rates (Opt. A)

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-21(a) Schedule 1

General Service-Non Government

Billing Determinants	2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 3A Energy (kW.h)	Total Energy (kW.h)
YECL							
2160 NG - H	1,737	336,399	24,820,709	31,981,777	2,939,429	19,702,121	79,444,037
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	165	52,808	2,008,485	3,927,867	677,205	7,795,064	14,408,622
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
YEC							
2160 NG - H	299	46,355	2,358,146	4,480,301	355,599	1,923,883	9,117,929
2260 NG - SD	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0
2170 GM - H	55	16,580	452,883	1,953,933	322,865	531,587	3,261,268
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0
Total							
2160 NG - H	2,037	382,754	27,178,855	36,462,078	3,295,029	21,626,004	88,561,966
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	220	69,388	2,461,368	5,881,800	1,000,071	8,326,651	17,669,889
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
General Service-Non Government	2,539	484,399	32,759,765	45,761,496	4,478,079	30,498,556	113,497,895

Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 3A Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2160 NG - H 2170 GM - H	0.00	6.00	8.31	14.90	22.39	12.86	0.000%	0.000%
2260 NG - SD 2270 GM - SD	0.00	6.00	8.31	14.90	22.39	15.22	0.000%	0.000%
2360 NG - LD 2370 GM - LD	0.00	6.00	8.31	14.90	22.39	12.86	0.000%	0.000%
2460 NG - OC 2470 GM - OC	0.00	6.00	8.31	14.90	22.39	31.72	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2160 NG - H	0	2,018,397	2,062,384	4,765,285	658,138	2,533,693	0	0	12,037,896
2260 NG - SD	0	43,868	68,967	119,156	365	0	0	0	232,355
2360 NG - LD	0	111,858	154,181	260,962	31,855	55,964	0	0	614,821
2460 NG - OC	0	9,309	14,762	27,880	0	0	0	0	51,951
2170 GM - H	0	316,847	166,887	585,252	151,626	1,002,445	0	0	2,223,058
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	28,506	21,297	101,226	8,749	14,238	0	0	174,017
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - YEC									
2160 NG - H	0	278,130	195,941	667,565	79,619	247,411	0	0	1,468,666
2260 NG - SD	0	0	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0	0	0
2170 GM - H	0	99,480	37,631	291,136	72,290	68,362	0	0	568,899
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2160 NG - H	0	2,296,526	2,258,325	5,432,850	737,757	2,781,104	0	0	13,506,562
2260 NG - SD	0	43,868	68,967	119,156	365	0	0	0	232,355
2360 NG - LD	0	111,858	154,181	260,962	31,855	55,964	0	0	614,821
2460 NG - OC	0	9,309	14,762	27,880	0	0	0	0	51,951
2170 GM - H	0	416,327	204,518	876,388	223,916	1,070,807	0	0	2,791,957
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	28,506	21,297	101,226	8,749	14,238	0	0	174,017
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue (\$)	0	2,906,394	2,722,050	6,818,463	1,002,642	3,922,114	0	0	17,371,663

Yukon Energy Corporation & Yukon Electrical Company Limited - 2009 Phase II Application
Schedule of Determinants on Proposed Rates (Opt. A)

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-21(a) Schedule 1

General Service-Government

2009									
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 3A Energy (kW.h)	Total Energy (kW.h)		
Billing Determinants									
YECL									
2180 GFT - H	337	128,900	4,617,896	12,625,944	2,375,636	21,339,764	40,959,241		
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095		
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037		
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120		
YEC									
2180 GFT - H	103	21,854	837,208	2,279,237	308,062	3,739,734	7,164,240		
2280 GFT - SD	0	0	0	0	0	0	0		
2380 GFT - LD	0	0	0	0	0	0	0		
2480 GFT - OC	0	0	0	0	0	0	0		
Total									
2180 GFT - H	440	150,753	5,455,104	14,905,181	2,683,698	25,079,498	48,123,481		
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095		
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037		
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120		
General Service-Government	547	165,716	6,617,910	16,515,510	2,867,011	25,410,303	51,410,733		
	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 3A Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)	
Proposed Rate (Opt. A)									
2180 GFT - H	0.00	10.00	18.81	14.90	22.39	12.86	0.000%	0.000%	
2280 GFT - SD	0.00	10.00	18.81	14.90	22.39	15.22	0.000%	0.000%	
2380 GFT - LD	0.00	10.00	18.81	14.90	22.39	12.86	0.000%	0.000%	
2480 GFT - OC	0.00	10.00	18.81	14.90	22.39	31.72	0.000%	0.000%	
	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2180 GFT - H	0	1,288,998	868,589	1,881,266	531,905	2,744,294	0	0	7,315,052
2280 GFT - SD	0	39,717	76,455	51,348	0	0	0	0	167,520
2380 GFT - LD	0	84,684	100,785	157,506	41,044	42,542	0	0	426,561
2480 GFT - OC	0	25,223	41,474	31,084	0	0	0	0	97,782
Revenue - YEC									
2180 GFT - H	0	218,535	157,472	339,606	68,975	480,930	0	0	1,265,518
2280 GFT - SD	0	0	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2180 GFT - H	0	1,507,533	1,026,061	2,220,872	600,880	3,225,223	0	0	8,580,570
2280 GFT - SD	0	39,717	76,455	51,348	0	0	0	0	167,520
2380 GFT - LD	0	84,684	100,785	157,506	41,044	42,542	0	0	426,561
2480 GFT - OC	0	25,223	41,474	31,084	0	0	0	0	97,782
Revenue (\$)									
	0	1,657,158	1,244,776	2,460,811	641,924	3,267,765	0	0	9,272,433

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Industrial

2009							
Billing Determinants	Number of Customers Billed/year	Demand kVA	Total Energy (kW.h)				
YECL	39	0	0	0			
YEC	39	1	62400	29,023,000			
Total	39	1	62,400	29,023,000			
Industrial		1	62,400	29,023,000			
Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kVA.)	Energy Charge (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)	Rider F Charge (¢ / kW.h)	
	39	0.00	15.00	7.600	0.00%	0.00%	0.211
	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenue - YECL	39	0	0	0	0	0	0
Revenue - YEC	39	0	936,000	2,205,748	0	0	61,239
Revenue - Sub Total	39	0	936,000	2,205,748	0	0	61,239
Revenue (\$)		0	936,000	2,205,748	0	0	61,239

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Street Lights - Rate 61/66

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)	Highmast Customers Billed/year
YECL	61/66	4,825	8,578,680	3,438,012	160
YEC	61/66	567	685,400	274,112	0
Total	61/66	5,392	9,264,080	3,712,124	160
Street Lights - Rate 61/66		5,392	9,264,080	3,712,124	160

Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Highmast Charge (\$/ cust/ mo.)	Rider J Charge Revenue	Rider R Charge (%)
61/66	7.83	4.96		1.27	0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Highmast Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	61/66	453,372	425,642	2,435	0	0	881,450
Revenue - YEC	61/66	53,316	34,007	0	0	0	87,323
Revenue - Sub Total	61/66	506,689	459,649	2,435	0	0	968,773
Revenue (\$)		506,689	459,649	2,435	0	0	968,773

Street Lights - Rate 67

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)
YECL	67 - 250 W	47	141,000	55,428
	67 - 400 W	15	72,000	28,440
YEC	67 - 250 W	0	0	0
	67 - 400 W	2	9,600	3,792
Total	67 - 250 W	47	141,000	55,428
	67 - 400 W	17	81,600	32,232
Street Lights - Rate 67		64	222,600	87,660

Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
67 - 250 W	19.05			0.000%	0.000%
67 - 400 W	29.13			0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	67 - 250 W	10,742		0	0	10,742
	67 - 400 W	5,243		0	0	5,243
Revenue - YEC	67 - 250 W	0		0	0	0
	67 - 400 W	699		0	0	699
Revenue - Sub Total	67 - 250 W	10,742		0	0	10,742
	67 - 400 W	5,942		0	0	5,942
Revenue (\$)		16,685		0	0	16,685

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Sentinal Lights - Rate 75/76

2009

Billing Determinants	Number of Customers Billed/year	Demand W	Total Energy (kW.h)	
Total				
75/76 - Normal - 100 W	393	471,700	188,680	Normal: Normal 12-month unmetered service
75/76 - E & M - 100 W	314	376,800	150,720	E & M: Energy and Maintenance only
75/76 - Meter - 100 W	7	8,400	0	(Cust. Pays installation costs)
75/76 - Normal - 175 W	150	315,000	129,600	Meter: 12-month service through customer meter
75/76 - E & M - 175 W	0	0	0	
75/76 - Meter - 175 W	17	35,700	0	
75/76 - Normal - 250 W	1	3,000	1,164	
75/76 - E & M - 250 W	0	0	0	
75/76 - Meter - 250 W	0	0	0	
75/76 - Normal - 400 W	2	9,600	3,816	
75/76 - E & M - 400 W	0	0	0	
75/76 - Meter - 400 W	0	0	0	
75/76 - Normal - 400 W FL	85	408,000	162,180	
75/76 - E & M - 400 W FL	5	24,000	9,540	
75/76 - Meter - 400 W FL	3	14,400	0	
Sentinal Lights - Rate 75/76	977	1,666,600	645,700	

Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
75/76 - Normal - 100 W	14.33			0.000%	0.000%
75/76 - E & M - 100 W	7.95			0.000%	0.000%
75/76 - Meter - 100 W	9.04			0.000%	0.000%
75/76 - Normal - 175 W	17.46			0.000%	0.000%
75/76 - E & M - 175 W	12.15			0.000%	0.000%
75/76 - Meter - 175 W	9.81			0.000%	0.000%
75/76 - Normal - 250 W	21.35			0.000%	0.000%
75/76 - E & M - 250 W	16.20			0.000%	0.000%
75/76 - Meter - 250 W	10.13			0.000%	0.000%
75/76 - Normal - 400 W	28.35			0.000%	0.000%
75/76 - E & M - 400 W	22.91			0.000%	0.000%
75/76 - Meter - 400 W	9.65			0.000%	0.000%
75/76 - Normal - 400 W FL	31.32			0.000%	0.000%
75/76 - E & M - 400 W FL	21.85			0.000%	0.000%
75/76 - Meter - 400 W FL	12.63			0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - Sub Total						
75/76 - Normal - 100 W	67,599			0	0	67,599
75/76 - E & M - 100 W	29,968			0	0	29,968
75/76 - Meter - 100 W	759			0	0	759
75/76 - Normal - 175 W	31,424			0	0	31,424
75/76 - E & M - 175 W	0			0	0	0
75/76 - Meter - 175 W	2,002			0	0	2,002
75/76 - Normal - 250 W	256			0	0	256
75/76 - E & M - 250 W	0			0	0	0
75/76 - Meter - 250 W	0			0	0	0
75/76 - Normal - 400 W	680			0	0	680
75/76 - E & M - 400 W	0			0	0	0
75/76 - Meter - 400 W	0			0	0	0
75/76 - Normal - 400 W FL	31,947			0	0	31,947
75/76 - E & M - 400 W FL	1,311			0	0	1,311
75/76 - Meter - 400 W FL	455			0	0	455
Revenue (\$)	166,402			0	0	166,402

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Secondary Sales

Billing Determinants	2009				
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)
YECL	3200	23	6,954,050		6,954,050
YEC	3200		629,950		629,950
Total	3200	23	7,584,000	0	7,584,000
Secondary Sales		23	7,584,000	0	7,584,000

Proposed Rate (Opt. A)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
	3200	0.00	7.20	0	0.00%	0.00%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	3200	0	500,692	0	0	0	500,692
Revenue - YEC	3200	0	45,356	0	0	0	45,356
Revenue - Sub Total	3200	0	546,048	0	0	0	546,048
Revenue (\$)		0	546,048	0	0	0	546,048

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TOTAL RATE REVENUE - Proposed Rate (Opt. A)

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	2,229,994		11,069,351	2,336,349	2,199,442		0		17,835,136
Government	49,462		232,016	42,064	45,646		0		369,188
General Service									
Non-Government	0	2,528,784	2,488,478	5,859,762	850,734	3,606,341	0		15,334,098
Government	0	1,438,623	1,087,304	2,121,205	572,949	2,786,835	0		8,006,915
Industrial	0	0	0				0	0	0
Street Lights	471,793	425,642	0				0		897,435
Space Lights	162,780	0	0				0		162,780
Secondary Sales	0		500,692	0			0		500,692
Revenues - Primary - YECL	2,914,029	4,393,049	14,877,149	10,359,380	3,668,769	6,393,176			42,605,553
Revenues - Industrial - YECL	0	0	0					0	0
Revenues - Secondary - YECL	0	0	500,692	0					500,692
Revenues - Riders - YECL							0	0	0
Revenues - Other - YECL								827,000	827,000
Revenues - Total - YECL	2,914,029	4,393,049	15,377,841	10,359,380	3,668,769	6,393,176	0	0	43,933,244
Revenues - YEC									
Residential									
Non-Government	253,738		1,000,432	134,632	187,989		0		1,576,790
Government	6,483		37,707	3,367	5,338		0		52,895
General Service									
Non-Government	0	377,610	233,572	958,701	151,908	315,773	0		2,037,564
Government	0	218,535	157,472	339,606	68,975	480,930	0		1,265,518
Industrial	0	936,000	2,205,748	0			0	61,239	3,202,987
Street Lights	54,015	34,007	0				0		88,022
Space Lights	3,622	0	0	0			0		3,622
Secondary Sales	0		45,356	0			0		45,356
Revenues - Primary - YEC	317,859	630,152	1,429,183	1,436,307	414,210	796,703			5,024,413
Revenues - Industrial - YEC	0	936,000	2,205,748	0				61,239	3,202,987
Revenues - Secondary - YEC	0	0	45,356	0					45,356
Revenues - Riders - YEC							0		0
Revenues - Other - YEC								125,000	125,000
Revenues - Total - YEC	317,859	1,566,152	3,680,287	1,436,307	414,210	796,703	0	61,239	8,397,756
Revenues - Total									
Residential									
Non-Government	2,483,732		12,069,783	2,470,981	2,387,430		0		19,411,927
Government	55,945		269,724	45,431	50,983		0		422,083
General Service									
Non-Government	0	2,906,394	2,722,050	6,818,463	1,002,642	3,922,114	0		17,371,663
Government	0	1,657,158	1,244,776	2,460,811	641,924	3,267,765	0		9,272,433
Industrial	0	936,000	2,205,748	0			0	61,239	3,202,987
Street Lights	525,808	459,649	0				0	0	985,457
Space Lights	166,402	0	0				0		166,402
Secondary Sales	0		546,048	0			0		546,048
Revenues - Primary	3,231,888	5,023,201	16,306,332	11,795,686	4,082,979	7,189,879			47,629,965
Revenues - Industrial	0	936,000	2,205,748	0				61,239	3,202,987
Revenues - Secondary	0	0	546,048	0					546,048
Revenues - Riders							0		0
Revenues - Other								952,000	952,000
Revenues - Total	3,231,888	5,959,201	19,058,128	11,795,686	4,082,979	7,189,879	0	61,239	52,331,000

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Residential-Non Government

Billing Determinants	Number of Customers Billed/year	Demand kW	2009		Total Energy (kW.h)
			Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	
YECL					
1160 NG - H	11,570		94,533,720	24,081,364	118,615,084
1260 NG - SD	308		962,877	153,601	1,116,479
1360 NG - LD	682		5,309,797	818,261	6,128,058
1460 NG - OC	125		763,968	110,080	874,048
YEC					
1160 NG - H	1,443		9,179,779	1,724,179	10,903,958
1260 NG - SD	0		0	0	0
1360 NG - LD	0		0	0	0
1460 NG - OC	0		0	0	0
Total					
1160 NG - H	13,013		103,713,498	25,805,544	129,519,042
1260 NG - SD	308		962,877	153,601	1,116,479
1360 NG - LD	682		5,309,797	818,261	6,128,058
1460 NG - OC	125		763,968	110,080	874,048
Residential-Non Government	14,128		110,750,140	26,887,486	137,637,626

Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
1160 NG - H	11.90		9.86	10.45	12.460%	10.526%
1260 NG - SD	11.90		9.86	12.36	12.460%	10.526%
1360 NG - LD	11.90		9.86	10.45	12.460%	10.526%
1460 NG - OC	11.90		9.86	25.77	12.460%	10.526%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL							
1160 NG - H	1,652,153		9,321,025	2,516,503	1,680,814	1,419,924	16,590,419
1260 NG - SD	43,923		94,940	18,985	19,668	16,615	194,131
1360 NG - LD	97,432		523,546	85,508	88,028	74,365	868,880
1460 NG - OC	17,886		75,327	28,368	15,149	12,798	149,527
Revenue - YEC							
1160 NG - H	206,108		905,126	180,177	160,910	135,934	1,588,255
1260 NG - SD	0		0	0	0	0	0
1360 NG - LD	0		0	0	0	0	0
1460 NG - OC	0		0	0	0	0	0
Revenue - Sub Total							
1160 NG - H	1,858,261		10,226,151	2,696,679	1,841,724	1,555,858	18,178,673
1260 NG - SD	43,923		94,940	18,985	19,668	16,615	194,131
1360 NG - LD	97,432		523,546	85,508	88,028	74,365	868,880
1460 NG - OC	17,886		75,327	28,368	15,149	12,798	149,527
Revenue (\$)	2,017,502		10,919,964	2,829,540	1,964,569	1,659,635	19,391,211

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Residential-Government

2009					
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)
Billing Determinants					
YECL					
1180 G - H	155		994,502	341,744	1,336,245
1280 G - SD	26		172,183	40,679	212,862
1380 G - LD	30		186,366	25,400	211,766
1480 G - OC	12		81,418	39,051	120,470
YEC					
1180 G - H	29		233,131	45,963	279,095
1280 G - SD	0		0	0	0
1380 G - LD	0		0	0	0
1480 G - OC	0		0	0	0
Total					
1180 G - H	184		1,227,633	387,707	1,615,340
1280 G - SD	26		172,183	40,679	212,862
1380 G - LD	30		186,366	25,400	211,766
1480 G - OC	12		81,418	39,051	120,470
Residential-Government	252		1,667,600	492,838	2,160,438

Existing Rate	Customer Charge	Demand Charge	Block 1 Energy Chg	Block 2 Energy Chg	Rider J Charge	Rider R Charge
	(\$/ cust/ mo.)	(\$ / kW/ mo.)	(¢ / kW.h)	(¢ / kW.h)	(%)	(%)
1160 G - H	15.00		14.34	10.45	12.460%	10.526%
1260 G - SD	15.00		14.34	12.36	12.460%	10.526%
1360 G - LD	15.00		14.34	10.45	12.460%	10.526%
1460 G - OC	15.00		14.34	25.77	12.460%	10.526%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL							
1160 G - H	27,924		142,612	35,712	25,698	21,710	253,656
1260 G - SD	4,680		24,691	5,028	4,286	3,621	42,306
1360 G - LD	5,406		26,725	2,654	4,334	3,661	42,781
1460 G - OC	2,160		11,675	10,064	2,978	2,516	29,392
Revenue - YEC							
1160 G - H	5,265		33,431	4,803	5,420	4,579	53,498
1260 G - SD	0		0	0	0	0	0
1360 G - LD	0		0	0	0	0	0
1460 G - OC	0		0	0	0	0	0
Revenue - Sub Total							
1160 G - H	33,189		176,043	40,515	31,118	26,288	307,154
1260 G - SD	4,680		24,691	5,028	4,286	3,621	42,306
1360 G - LD	5,406		26,725	2,654	4,334	3,661	42,781
1460 G - OC	2,160		11,675	10,064	2,978	2,516	29,392
Revenue (\$)	45,435		239,134	58,261	42,717	36,086	421,633

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General Service-Non Government

Billing Determinants	2009				
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)
YECL					
2160 NG - H	1,737	336,399	24,820,709	54,623,327	79,444,037
2260 NG - SD	92	7,311	830,009	801,336	1,631,346
2360 NG - LD	157	18,643	1,855,569	2,328,879	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	364,777
2170 GM - H	165	52,808	2,008,485	12,400,137	14,408,622
2270 GM - SD	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	829,166	1,085,471
2470 GM - OC	0	0	0	0	0
YEC					
2160 NG - H	299	46,355	2,358,146	6,759,783	9,117,929
2260 NG - SD	0	0	0	0	0
2360 NG - LD	0	0	0	0	0
2460 NG - OC	0	0	0	0	0
2170 GM - H	55	16,580	452,883	2,808,385	3,261,268
2270 GM - SD	0	0	0	0	0
2370 GM - LD	0	0	0	0	0
2470 GM - OC	0	0	0	0	0
Total					
2160 NG - H	2,037	382,754	27,178,855	61,383,111	88,561,966
2260 NG - SD	92	7,311	830,009	801,336	1,631,346
2360 NG - LD	157	18,643	1,855,569	2,328,879	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	364,777
2170 GM - H	220	69,388	2,461,368	15,208,522	17,669,889
2270 GM - SD	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	829,166	1,085,471
2470 GM - OC	0	0	0	0	0
General Service-Non Government	2,539	484,399	32,759,765	80,738,130	113,497,895

Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2160 NG - H 2170 GM - H	0.00	6.00	8.31	10.45	12.460%	10.526%
2260 NG - SD 2270 GM - SD	0.00	6.00	8.31	12.36	12.460%	10.526%
2360 NG - LD 2370 GM - LD	0.00	6.00	8.31	10.45	12.460%	10.526%
2460 NG - OC 2470 GM - OC	0.00	6.00	8.31	25.77	12.460%	10.526%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL							
2160 NG - H	0	2,018,397	2,062,601	5,708,138	1,219,726	1,030,404	12,039,266
2260 NG - SD	0	43,868	68,974	99,045	26,401	22,303	260,591
2360 NG - LD	0	111,858	154,198	243,368	63,474	53,622	626,519
2460 NG - OC	0	9,309	14,764	48,220	9,008	7,610	88,910
2170 GM - H	0	316,847	166,905	1,295,814	221,734	187,317	2,188,617
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	28,506	21,299	86,648	17,002	14,363	167,818
2470 GM - OC	0	0	0	0	0	0	0
Revenue - YEC							
2160 NG - H	0	278,130	195,962	706,397	147,089	124,258	1,451,836
2260 NG - SD	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0
2170 GM - H	0	99,480	37,635	293,476	53,652	45,324	529,567
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0
Revenue - Sub Total							
2160 NG - H	0	2,296,526	2,258,563	6,414,535	1,366,815	1,154,663	13,491,102
2260 NG - SD	0	43,868	68,974	99,045	26,401	22,303	260,591
2360 NG - LD	0	111,858	154,198	243,368	63,474	53,622	626,519
2460 NG - OC	0	9,309	14,764	48,220	9,008	7,610	88,910
2170 GM - H	0	416,327	204,540	1,589,291	275,386	232,641	2,718,184
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	28,506	21,299	86,648	17,002	14,363	167,818
2470 GM - OC	0	0	0	0	0	0	0
Revenue (\$)	0	2,906,394	2,722,336	8,481,106	1,758,086	1,485,201	17,353,124

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General Service-Government

Billing Determinants	2009				
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)
YECL					
2180 GFT - H	337	128,900	4,617,896	36,341,345	40,959,241
2280 GFT - SD	51	3,972	406,476	344,619	751,095
2380 GFT - LD	36	8,468	535,831	1,571,207	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	429,120
YEC					
2180 GFT - H	103	21,854	837,208	6,327,033	7,164,240
2280 GFT - SD	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0
Total					
2180 GFT - H	440	150,753	5,455,104	42,668,377	48,123,481
2280 GFT - SD	51	3,972	406,476	344,619	751,095
2380 GFT - LD	36	8,468	535,831	1,571,207	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	429,120
General Service-Government	547	165,716	6,617,910	44,792,823	51,410,733

Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2180 GFT - H	0.00	10.00	17.45	10.45	12.460%	10.526%
2280 GFT - SD	0.00	10.00	17.45	12.36	12.460%	10.526%
2380 GFT - LD	0.00	10.00	17.45	10.45	12.460%	10.526%
2480 GFT - OC	0.00	10.00	17.45	25.77	12.460%	10.526%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL							
2180 GFT - H	0	1,288,998	805,823	3,797,671	734,204	620,244	7,246,940
2280 GFT - SD	0	39,717	70,930	42,595	19,094	16,130	188,466
2380 GFT - LD	0	84,684	93,502	164,191	42,660	36,039	421,077
2480 GFT - OC	0	25,223	38,477	53,761	14,636	12,364	144,462
Revenue - YEC							
2180 GFT - H	0	218,535	146,093	661,175	127,815	107,976	1,261,594
2280 GFT - SD	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0
Revenue - Sub Total							
2180 GFT - H	0	1,507,533	951,916	4,458,845	862,019	728,220	8,508,533
2280 GFT - SD	0	39,717	70,930	42,595	19,094	16,130	188,466
2380 GFT - LD	0	84,684	93,502	164,191	42,660	36,039	421,077
2480 GFT - OC	0	25,223	38,477	53,761	14,636	12,364	144,462
Revenue (\$)	0	1,657,158	1,154,825	4,719,393	938,409	792,753	9,262,538

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Industrial

2009							
Billing Determinants	Number of Customers Billed/year	Demand kVA	Total Energy (kW.h)				
YECL	39	0	0	0			
YEC	39	1	62400	29,023,000			
Total	39	1	62,400	29,023,000			
Industrial		1	62,400	29,023,000			
Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kVA.)	Energy Charge (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)	Rider F Charge (¢ / kW.h)	
	39	0.00	15.00	7.600	0.00%	0.00%	0.000
	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue		Total Rate Revenue
Revenue - YECL	39	0	0	0	0	0	0
Revenue - YEC	39	0	936,000	2,205,748	0	0	3,141,748
Revenue - Sub Total	39	0	936,000	2,205,748	0	0	3,141,748
Revenue (\$)		0	936,000	2,205,748	0	0	3,141,748

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Street Lights - Rate 61/66

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)	Highmast Customers Billed/year
YECL	61/66	4,825	8,578,680	3,438,012	160
YEC	61/66	567	685,400	274,112	0
Total	61/66	5,392	9,264,080	3,712,124	160
Street Lights - Rate 61/66		5,392	9,264,080	3,712,124	160

Existing Rate		Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / W/ mo.)	Energy Chg (\$ / kW.h)	Highmast Charge (\$/ cust/ mo.)	Rider J Charge Revenue	Rider R Charge Revenue
61/66		6.36	4.03		1.03	12.460%	10.526%

Revenue (\$)		Customer Revenue	Demand Revenue	Energy Revenue	Highmast Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	61/66	368,244	345,721		1,978	89,206	75,360	880,509
Revenue - YEC	61/66	43,305	27,622		0	8,837	7,466	87,230
Revenue - Sub Total	61/66	411,549	373,342		1,978	98,044	82,826	967,739
Revenue (\$)		411,549	373,342		1,978	98,044	82,826	967,739

Street Lights - Rate 67

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)
YECL	67 - 250 W	47	141,000	55,428
	67 - 400 W	15	72,000	28,440
YEC	67 - 250 W	0	0	0
	67 - 400 W	2	9,600	3,792
Total	67 - 250 W	47	141,000	55,428
	67 - 400 W	17	81,600	32,232
Street Lights - Rate 67		64	222,600	87,660

Existing Rate		Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / W/ mo.)	Energy Chg (\$ / kW.h)	Rider J Charge Revenue	Rider R Charge Revenue
67 - 250 W		15.47			12.460%	10.526%
67 - 400 W		23.66			12.460%	10.526%

Revenue (\$)		Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	67 - 250 W	8,725			1,087	918	10,731
	67 - 400 W	4,259			531	448	5,238
Revenue - YEC	67 - 250 W	0			0	0	0
	67 - 400 W	568			71	60	698
Revenue - Sub Total	67 - 250 W	8,725			1,087	918	10,731
	67 - 400 W	4,827			601	508	5,936
Revenue (\$)		13,552			1,689	1,426	16,667

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Sentinal Lights - Rate 75/76

2009

Billing Determinants	Number of Customers Billed/year	Demand W	Total Energy (kW.h)	
Total				
75/76 - Normal - 100 W	393	471,700	188,680	Normal: Normal 12-month unmeterd service
75/76 - E & M - 100 W	314	376,800	150,720	E & M: Energy and Maintenance only
75/76 - Meter - 100 W	7	8,400	0	(Cust. Pays installation costs)
75/76 - Normal - 175 W	150	315,000	129,600	Meter: 12-month service through customer meter
75/76 - E & M - 175 W	0	0	0	
75/76 - Meter - 175 W	17	35,700	0	
75/76 - Normal - 250 W	1	3,000	1,164	
75/76 - E & M - 250 W	0	0	0	
75/76 - Meter - 250 W	0	0	0	
75/76 - Normal - 400 W	2	9,600	3,816	
75/76 - E & M - 400 W	0	0	0	
75/76 - Meter - 400 W	0	0	0	
75/76 - Normal - 400 W FL	85	408,000	162,180	
75/76 - E & M - 400 W FL	5	24,000	9,540	
75/76 - Meter - 400 W FL	3	14,400	0	
Sentinal Lights - Rate 75/76	977	1,666,600	645,700	

Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
75/76 - Normal - 100 W	11.64			12.460%	10.526%
75/76 - E & M - 100 W	6.46			12.460%	10.526%
75/76 - Meter - 100 W	7.34			12.460%	10.526%
75/76 - Normal - 175 W	14.18			12.460%	10.526%
75/76 - E & M - 175 W	9.87			12.460%	10.526%
75/76 - Meter - 175 W	7.97			12.460%	10.526%
75/76 - Normal - 250 W	17.34			12.460%	10.526%
75/76 - E & M - 250 W	13.16			12.460%	10.526%
75/76 - Meter - 250 W	8.23			12.460%	10.526%
75/76 - Normal - 400 W	23.03			12.460%	10.526%
75/76 - E & M - 400 W	18.61			12.460%	10.526%
75/76 - Meter - 400 W	7.84			12.460%	10.526%
75/76 - Normal - 400 W FL	25.44			12.460%	10.526%
75/76 - E & M - 400 W FL	17.75			12.460%	10.526%
75/76 - Meter - 400 W FL	10.26			12.460%	10.526%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - Sub Total						
75/76 - Normal - 100 W	54,906			6,841	5,779	67,527
75/76 - E & M - 100 W	24,341			3,033	2,562	29,936
75/76 - Meter - 100 W	617			77	65	758
75/76 - Normal - 175 W	25,524			3,180	2,687	31,391
75/76 - E & M - 175 W	0			0	0	0
75/76 - Meter - 175 W	1,626			203	171	2,000
75/76 - Normal - 250 W	208			26	22	256
75/76 - E & M - 250 W	0			0	0	0
75/76 - Meter - 250 W	0			0	0	0
75/76 - Normal - 400 W	553			69	58	680
75/76 - E & M - 400 W	0			0	0	0
75/76 - Meter - 400 W	0			0	0	0
75/76 - Normal - 400 W FL	25,949			3,233	2,731	31,913
75/76 - E & M - 400 W FL	1,065			133	112	1,310
75/76 - Meter - 400 W FL	369			46	39	454
Revenue (\$)	135,158			16,841	14,227	166,225

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Secondary Sales

Billing Determinants	2009				
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)
YECL	3200	23	6,954,050		6,954,050
YEC	3200		629,950		629,950
Total	3200	23	7,584,000	0	7,584,000
Secondary Sales		23	7,584,000	0	7,584,000

Existing Rate	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
	3200	0.00	7.20	0	0.00%	0.00%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	3200	0	500,692	0	0	0	500,692
Revenue - YEC	3200	0	45,356	0	0	0	45,356
Revenue - Sub Total	3200	0	546,048	0	0	0	546,048
Revenue (\$)		0	546,048	0	0	0	546,048

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TOTAL RATE REVENUE - EXISTING RATE

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Rider F Charge Revenue		Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	1,811,394		10,014,838	2,649,364	1,803,659	1,523,701			17,802,956
Government	40,170		205,703	53,458	37,297	31,508			368,135
General Service									
Non-Government	0	2,528,784	2,488,740	7,481,233	1,557,345	1,315,619			15,371,721
Government	0	1,438,623	1,008,733	4,058,218	810,594	684,777			8,000,944
Industrial	0	0	0	0	0	0	0		0
Street Lights	383,205	345,721	0		90,824	76,727			896,477
Space Lights	132,216	0	0	0	16,474	13,917			162,607
Secondary Sales	0		500,692	0	0	0			500,692
Revenues - Primary - YECL	2,366,985	4,313,128	13,718,013	14,242,272					34,640,398
Revenues - Industrial - YECL	0	0	0	0			0		0
Revenues - Secondary - YECL	0	0	500,692	0					500,692
Revenues - Riders - YECL					4,316,194	3,646,248			7,962,442
Revenues - Other - YECL								827,000	827,000
Revenues - Total - YECL	2,366,985	4,313,128	14,218,705	14,242,272	4,316,194	3,646,248	0	0	43,930,532
Revenues - YEC									
Residential									
Non-Government	206,108		905,126	180,177	160,910	135,934			1,588,255
Government	5,265		33,431	4,803	5,420	4,579			53,498
General Service									
Non-Government	0	377,610	233,596	999,874	200,741	169,582			1,981,403
Government	0	218,535	146,093	661,175	127,815	107,976			1,261,594
Industrial	0	936,000	2,205,748	0	0	0	0		3,141,748
Street Lights	43,873	27,622	0		8,908	7,526			87,928
Space Lights	2,942	0	0	0	367	310			3,618
Secondary Sales	0		45,356	0	0	0			45,356
Revenues - Primary - YEC	258,188	623,767	1,318,246	1,846,028					4,046,230
Revenues - Industrial - YEC	0	936,000	2,205,748	0			0		3,141,748
Revenues - Secondary - YEC	0	0	45,356	0					45,356
Revenues - Riders - YEC					504,160	425,906			930,066
Revenues - Other - YEC								125,000	125,000
Revenues - Total - YEC	258,188	1,559,767	3,569,351	1,846,028	504,160	425,906	0	125,000	8,288,400
Revenues - Total									
Residential									
Non-Government	2,017,502		10,919,964	2,829,540	1,964,569	1,659,635			19,391,211
Government	45,435		239,134	58,261	42,717	36,086			421,633
General Service									
Non-Government	0	2,906,394	2,722,336	8,481,106	1,758,086	1,485,201			17,353,124
Government	0	1,657,158	1,154,825	4,719,393	938,409	792,753			9,262,538
Industrial	0	936,000	2,205,748	0	0	0	0		3,141,748
Street Lights	427,079	373,342	0		99,732	84,252			984,406
Space Lights	135,158	0	0	0	16,841	14,227			166,225
Secondary Sales	0		546,048	0	0	0			546,048
Revenues - Primary	2,625,173	4,936,894	15,036,259	16,088,301					38,686,628
Revenues - Industrial	0	936,000	2,205,748	0			0		3,141,748
Revenues - Secondary	0	0	546,048	0					546,048
Revenues - Riders					4,820,354	4,072,154			8,892,508
Revenues - Other								952,000	952,000
Revenues - Total	2,625,173	5,872,894	17,788,055	16,088,301	4,820,354	4,072,154	0	952,000	52,218,932

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Residential-Non Government

Billing Determinants	2009					
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)
YECL						
1160 NG - H	11,570		94,533,720	14,592,158	9,489,207	118,615,084
1260 NG - SD	308		962,877	114,525	39,077	1,116,479
1360 NG - LD	682		5,309,797	542,499	275,763	6,128,058
1460 NG - OC	125		763,968	101,340	8,740	874,048
YEC						
1160 NG - H	1,443		9,179,779	884,575	839,605	10,903,958
1260 NG - SD	0		0	0	0	0
1360 NG - LD	0		0	0	0	0
1460 NG - OC	0		0	0	0	0
Total						
1160 NG - H	13,013		103,713,498	15,476,732	10,328,811	129,519,042
1260 NG - SD	308		962,877	114,525	39,077	1,116,479
1360 NG - LD	682		5,309,797	542,499	275,763	6,128,058
1460 NG - OC	125		763,968	101,340	8,740	874,048
Residential-Non Government	14,128		110,750,140	16,235,095	10,652,391	137,637,626

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
1160 NG - H	14.64		12.13	12.85	12.85	0.000%	0.000%
1260 NG - SD	14.64		12.13	15.20	15.20	0.000%	0.000%
1360 NG - LD	14.64		12.13	12.85	12.85	0.000%	0.000%
1460 NG - OC	14.64		12.13	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 NG - H	2,031,917		11,463,556	1,875,390	1,219,556	0	0	16,590,419
1260 NG - SD	54,019		116,763	17,409	5,940	0	0	194,131
1360 NG - LD	119,828		643,888	69,722	35,441	0	0	868,880
1460 NG - OC	21,997		92,642	32,118	2,770	0	0	149,527
Revenue - YEC								
1160 NG - H	253,484		1,113,178	113,686	107,906	0	0	1,588,255
1260 NG - SD	0		0	0	0	0	0	0
1360 NG - LD	0		0	0	0	0	0	0
1460 NG - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 NG - H	2,285,401		12,576,734	1,989,075	1,327,463	0	0	18,178,673
1260 NG - SD	54,019		116,763	17,409	5,940	0	0	194,131
1360 NG - LD	119,828		643,888	69,722	35,441	0	0	868,880
1460 NG - OC	21,997		92,642	32,118	2,770	0	0	149,527
Revenue (\$)	2,481,245		13,430,027	2,108,325	1,371,614	0	0	19,391,211

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Residential-Government

Billing Determinants	2009					
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)
YECL						
1180 G - H	155		994,502	214,800	126,943	1,336,245
1280 G - SD	26		172,183	28,971	11,707	212,862
1380 G - LD	30		186,366	21,377	4,024	211,766
1480 G - OC	12		81,418	11,223	27,828	120,470
YEC						
1180 G - H	29		233,131	22,124	23,839	279,095
1280 G - SD	0		0	0	0	0
1380 G - LD	0		0	0	0	0
1480 G - OC	0		0	0	0	0
Total						
1180 G - H	184		1,227,633	236,925	150,782	1,615,340
1280 G - SD	26		172,183	28,971	11,707	212,862
1380 G - LD	30		186,366	21,377	4,024	211,766
1480 G - OC	12		81,418	11,223	27,828	120,470
Residential-Government	252		1,667,600	298,496	194,342	2,160,438

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
1160 G - H	18.45		17.64	12.85	12.85	0.000%	0.000%
1260 G - SD	18.45		17.64	15.20	15.20	0.000%	0.000%
1360 G - LD	18.45		17.64	12.85	12.85	0.000%	0.000%
1460 G - OC	18.45		17.64	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 G - H	34,342		175,392	27,606	16,315	0	0	253,656
1260 G - SD	5,756		30,367	4,404	1,780	0	0	42,306
1360 G - LD	6,649		32,868	2,747	517	0	0	42,781
1460 G - OC	2,656		14,359	3,557	8,820	0	0	29,392
Revenue - YEC								
1160 G - H	6,475		41,115	2,843	3,064	0	0	53,498
1260 G - SD	0		0	0	0	0	0	0
1360 G - LD	0		0	0	0	0	0	0
1460 G - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 G - H	40,818		216,508	30,450	19,379	0	0	307,154
1260 G - SD	5,756		30,367	4,404	1,780	0	0	42,306
1360 G - LD	6,649		32,868	2,747	517	0	0	42,781
1460 G - OC	2,656		14,359	3,557	8,820	0	0	29,392
Revenue (\$)	55,878		294,101	41,158	30,495	0	0	421,633

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General Service-Non Government

Billing Determinants	2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 3A Energy (kW.h)	Total Energy (kW.h)
YECL							
2160 NG - H	1,737	336,399	24,820,709	31,981,777	2,939,429	19,702,121	79,444,037
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	165	52,808	2,008,485	3,927,867	677,205	7,795,064	14,408,622
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
YEC							
2160 NG - H	299	46,355	2,358,146	4,480,301	355,599	1,923,883	9,117,929
2260 NG - SD	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0
2170 GM - H	55	16,580	452,883	1,953,933	322,865	531,587	3,261,268
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0
Total							
2160 NG - H	2,037	382,754	27,178,855	36,462,078	3,295,029	21,626,004	88,561,966
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	220	69,388	2,461,368	5,881,800	1,000,071	8,326,651	17,669,889
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
General Service-Non Government	2,539	484,399	32,759,765	45,761,496	4,478,079	30,498,556	113,497,895

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 3A Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2160 NG - H 2170 GM - H	0.00	7.38	10.22	12.85	12.85	12.85	0.000%	0.000%
2260 NG - SD 2270 GM - SD	0.00	7.38	10.22	15.20	15.20	15.20	0.000%	0.000%
2360 NG - LD 2370 GM - LD	0.00	7.38	10.22	12.85	12.85	12.85	0.000%	0.000%
2460 NG - OC 2470 GM - OC	0.00	7.38	10.22	31.69	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2160 NG - H	0	2,482,345	2,536,710	4,110,310	377,777	2,532,124	0	0	12,039,266
2260 NG - SD	0	53,951	84,828	121,564	248	0	0	0	260,591
2360 NG - LD	0	137,569	189,642	225,094	18,285	55,930	0	0	626,519
2460 NG - OC	0	11,449	18,157	59,304	0	0	0	0	88,910
2170 GM - H	0	389,677	205,270	504,811	87,035	1,001,825	0	0	2,188,617
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	35,059	26,195	87,313	5,022	14,230	0	0	167,818
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - YEC									
2160 NG - H	0	342,060	241,006	575,810	45,702	247,258	0	0	1,451,836
2260 NG - SD	0	0	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0	0	0
2170 GM - H	0	122,347	46,285	251,120	41,495	68,320	0	0	529,567
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2160 NG - H	0	2,824,406	2,777,716	4,686,120	423,478	2,779,382	0	0	13,491,102
2260 NG - SD	0	53,951	84,828	121,564	248	0	0	0	260,591
2360 NG - LD	0	137,569	189,642	225,094	18,285	55,930	0	0	626,519
2460 NG - OC	0	11,449	18,157	59,304	0	0	0	0	88,910
2170 GM - H	0	512,024	251,555	755,931	128,529	1,070,144	0	0	2,718,184
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	35,059	26,195	87,313	5,022	14,230	0	0	167,818
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue (\$)	0	3,574,458	3,348,093	5,935,325	575,563	3,919,686	0	0	17,353,124

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General Service-Government

Billing Determinants	2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 3A Energy (kW.h)	Total Energy (kW.h)
YECL							
2180 GFT - H	337	128,900	4,617,896	12,625,944	2,375,636	21,339,764	40,959,241
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120
YEC							
2180 GFT - H	103	21,854	837,208	2,279,237	308,062	3,739,734	7,164,240
2280 GFT - SD	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0
Total							
2180 GFT - H	440	150,753	5,455,104	14,905,181	2,683,698	25,079,498	48,123,481
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120
General Service-Government	547	165,716	6,617,910	16,515,510	2,867,011	25,410,303	51,410,733

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 3A Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2180 GFT - H	0.00	12.30	21.46	12.85	12.85	12.85	0.000%	0.000%
2280 GFT - SD	0.00	12.30	21.46	15.20	15.20	15.20	0.000%	0.000%
2380 GFT - LD	0.00	12.30	21.46	12.85	12.85	12.85	0.000%	0.000%
2480 GFT - OC	0.00	12.30	21.46	31.69	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2180 GFT - H	0	1,585,287	991,049	1,622,691	305,318	2,742,594	0	0	7,246,940
2280 GFT - SD	0	48,846	87,234	52,386	0	0	0	0	188,466
2380 GFT - LD	0	104,150	114,995	135,858	23,559	42,515	0	0	421,077
2480 GFT - OC	0	31,021	47,322	66,119	0	0	0	0	144,462
Revenue - YEC									
2180 GFT - H	0	268,768	179,674	292,928	39,592	480,632	0	0	1,261,594
2280 GFT - SD	0	0	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2180 GFT - H	0	1,854,055	1,170,723	1,915,619	344,910	3,223,226	0	0	8,508,533
2280 GFT - SD	0	48,846	87,234	52,386	0	0	0	0	188,466
2380 GFT - LD	0	104,150	114,995	135,858	23,559	42,515	0	0	421,077
2480 GFT - OC	0	31,021	47,322	66,119	0	0	0	0	144,462
Revenue (\$)	0	2,038,072	1,420,274	2,169,982	368,469	3,265,742	0	0	9,262,538

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Industrial

2009

Billing Determinants	Number of Customers Billed/year	Demand kVA	Total Energy (kW.h)				
YECL	39	0	0	0			
YEC	39	1	62400	29,023,000			
Total	39	1	62,400	29,023,000			
Industrial		1	62,400	29,023,000			
Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kVA.)	Energy Charge (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)	Rider F Charge (¢ / kW.h)	
	39	0.00	15.00	7.600	0.00%	0.00%	0.000
	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenue - YECL	39	0	0	0	0	0	0
Revenue - YEC	39	0	936,000	2,205,748	0	0	3,141,748
Revenue - Sub Total	39	0	936,000	2,205,748	0	0	3,141,748
Revenue (\$)		0	936,000	2,205,748	0	0	3,141,748

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Street Lights - Rate 61/66

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)	Highmast Customers Billed/year			
YECL		61/66	4,825	8,578,680	3,438,012	160		
YEC		61/66	567	685,400	274,112	0		
Total		61/66	5,392	9,264,080	3,712,124	160		
Street Lights - Rate 61/66		5,392	9,264,080	3,712,124	160			
Existing Rate (With J & R)		Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Highmast Charge (\$/ cust/ mo.)	Rider J Charge Revenue	Rider R Charge (%)	
61/66		7.82	4.96		1.27	0.000%	0.000%	
Revenue (\$)		Customer Revenue	Demand Revenue	Energy Revenue	Highmast Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL		61/66	452,889	425,188		2,432	0	880,509
Revenue - YEC		61/66	53,259	33,971		0	0	87,230
Revenue - Sub Total		61/66	506,148	459,159		2,432	0	967,739
Revenue (\$)		506,148	459,159		2,432	0	0	967,739

Street Lights - Rate 67

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)			
YECL	67 - 250 W	47	141,000	55,428			
	67 - 400 W	15	72,000	28,440			
YEC	67 - 250 W	0	0	0			
	67 - 400 W	2	9,600	3,792			
Total	67 - 250 W	47	141,000	55,428			
	67 - 400 W	17	81,600	32,232			
Street Lights - Rate 67		64	222,600	87,660			
Existing Rate (With J & R)		Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge Revenue	
	67 - 250 W	19.03			0.000%	0.000%	
	67 - 400 W	29.10			0.000%	0.000%	
Revenue (\$)		Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	67 - 250 W	10,731			0	0	10,731
	67 - 400 W	5,238			0	0	5,238
Revenue - YEC	67 - 250 W	0			0	0	0
	67 - 400 W	698			0	0	698
Revenue - Sub Total	67 - 250 W	10,731			0	0	10,731
	67 - 400 W	5,936			0	0	5,936
Revenue (\$)		16,667			0	0	16,667

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Sentinal Lights - Rate 75/76

2009

Billing Determinants	Number of Customers Billed/year	Demand W	Total Energy (kW.h)	
Total				
75/76 - Normal - 100 W	393	471,700	188,680	Normal: Normal 12-month unmetered service
75/76 - E & M - 100 W	314	376,800	150,720	E & M: Energy and Maintenance only
75/76 - Meter - 100 W	7	8,400	0	(Cust. Pays installation costs)
75/76 - Normal - 175 W	150	315,000	129,600	Meter: 12-month service through customer meter
75/76 - E & M - 175 W	0	0	0	
75/76 - Meter - 175 W	17	35,700	0	
75/76 - Normal - 250 W	1	3,000	1,164	
75/76 - E & M - 250 W	0	0	0	
75/76 - Meter - 250 W	0	0	0	
75/76 - Normal - 400 W	2	9,600	3,816	
75/76 - E & M - 400 W	0	0	0	
75/76 - Meter - 400 W	0	0	0	
75/76 - Normal - 400 W FL	85	408,000	162,180	
75/76 - E & M - 400 W FL	5	24,000	9,540	
75/76 - Meter - 400 W FL	3	14,400	0	
Sentinal Lights - Rate 75/76	977	1,666,600	645,700	

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
75/76 - Normal - 100 W	14.32			0.000%	0.000%
75/76 - E & M - 100 W	7.94			0.000%	0.000%
75/76 - Meter - 100 W	9.03			0.000%	0.000%
75/76 - Normal - 175 W	17.44			0.000%	0.000%
75/76 - E & M - 175 W	12.14			0.000%	0.000%
75/76 - Meter - 175 W	9.80			0.000%	0.000%
75/76 - Normal - 250 W	21.33			0.000%	0.000%
75/76 - E & M - 250 W	16.18			0.000%	0.000%
75/76 - Meter - 250 W	10.12			0.000%	0.000%
75/76 - Normal - 400 W	28.32			0.000%	0.000%
75/76 - E & M - 400 W	22.89			0.000%	0.000%
75/76 - Meter - 400 W	9.64			0.000%	0.000%
75/76 - Normal - 400 W FL	31.29			0.000%	0.000%
75/76 - E & M - 400 W FL	21.83			0.000%	0.000%
75/76 - Meter - 400 W FL	12.62			0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - Sub Total						
75/76 - Normal - 100 W	67,527			0	0	67,527
75/76 - E & M - 100 W	29,936			0	0	29,936
75/76 - Meter - 100 W	758			0	0	758
75/76 - Normal - 175 W	31,391			0	0	31,391
75/76 - E & M - 175 W	0			0	0	0
75/76 - Meter - 175 W	2,000			0	0	2,000
75/76 - Normal - 250 W	256			0	0	256
75/76 - E & M - 250 W	0			0	0	0
75/76 - Meter - 250 W	0			0	0	0
75/76 - Normal - 400 W	680			0	0	680
75/76 - E & M - 400 W	0			0	0	0
75/76 - Meter - 400 W	0			0	0	0
75/76 - Normal - 400 W FL	31,913			0	0	31,913
75/76 - E & M - 400 W FL	1,310			0	0	1,310
75/76 - Meter - 400 W FL	454			0	0	454
Revenue (\$)	166,225			0	0	166,225

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Secondary Sales

Billing Determinants	2009					
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)	
YECL	3200	23	6,954,050		6,954,050	
YEC	3200		629,950		629,950	
Total	3200	23	7,584,000	0	7,584,000	
Secondary Sales		23	7,584,000	0	7,584,000	

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
	3200	0.00	7.20	0	0.00%	0.00%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	3200	0	500,692	0	0	0	500,692
Revenue - YEC	3200	0	45,356	0	0	0	45,356
Revenue - Sub Total	3200	0	546,048	0	0	0	546,048
Revenue (\$)		0	546,048	0	0	0	546,048

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TOTAL RATE REVENUE - Existing Rate (With J & R)

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	2,227,761		12,316,848	1,994,639	1,263,708		0		17,802,956
Government	49,403		252,986	38,314	27,431		0		368,135
General Service									
Non-Government	0	3,110,050	3,060,802	5,108,395	488,366	3,604,108	0		15,371,721
Government	0	1,769,305	1,240,600	1,877,053	328,877	2,785,110	0		8,000,944
Industrial	0	0	0				0	0	0
Street Lights	471,289	425,188	0				0		896,477
Space Lights	162,607	0	0				0		162,607
Secondary Sales	0		500,692	0			0		500,692
Revenues - Primary - YECL	2,911,060	5,304,543	16,871,236	9,018,402	2,108,382	6,389,217			42,602,840
Revenues - Industrial - YECL	0	0	0					0	0
Revenues - Secondary - YECL	0	0	500,692	0					500,692
Revenues - Riders - YECL							0	0	0
Revenues - Other - YECL									827,000
Revenues - Total - YECL	2,911,060	5,304,543	17,371,927	9,018,402	2,108,382	6,389,217	0	0	43,930,532
Revenues - YEC									
Residential									
Non-Government	253,484		1,113,178	113,686	107,906		0		1,588,255
Government	6,475		41,115	2,843	3,064		0		53,498
General Service									
Non-Government	0	464,407	287,291	826,930	87,197	315,578	0		1,981,403
Government	0	268,768	179,674	292,928	39,592	480,632	0		1,261,594
Industrial	0	936,000	2,205,748	0			0	0	3,141,748
Street Lights	53,958	33,971	0				0		87,928
Space Lights	3,618	0	0	0			0		3,618
Secondary Sales	0		45,356	0			0		45,356
Revenues - Primary - YEC	317,535	767,146	1,621,259	1,236,388	237,759	796,210			4,976,296
Revenues - Industrial - YEC	0	936,000	2,205,748	0				0	3,141,748
Revenues - Secondary - YEC	0	0	45,356	0					45,356
Revenues - Riders - YEC							0		0
Revenues - Other - YEC									125,000
Revenues - Total - YEC	317,535	1,703,146	3,872,363	1,236,388	237,759	796,210	0	0	8,288,400
Revenues - Total									
Residential									
Non-Government	2,481,245		13,430,027	2,108,325	1,371,614		0		19,391,211
Government	55,878		294,101	41,158	30,495		0		421,633
General Service									
Non-Government	0	3,574,458	3,348,093	5,935,325	575,563	3,919,686	0		17,353,124
Government	0	2,038,072	1,420,274	2,169,982	368,469	3,265,742	0		9,262,538
Industrial	0	936,000	2,205,748	0			0	0	3,141,748
Street Lights	525,247	459,159	0				0	0	984,406
Space Lights	166,225	0	0				0		166,225
Secondary Sales	0		546,048	0			0		546,048
Revenues - Primary	3,228,596	6,071,689	18,492,494	10,254,789	2,346,141	7,185,427			47,579,136
Revenues - Industrial	0	936,000	2,205,748	0				0	3,141,748
Revenues - Secondary	0	0	546,048	0					546,048
Revenues - Riders							0		0
Revenues - Other									952,000
Revenues - Total	3,228,596	7,007,689	21,244,290	10,254,789	2,346,141	7,185,427	0	0	52,218,932

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Residential-Non Government

2009								
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)		
Billing Determinants								
YECL								
1160 NG - H	11,570		94,533,720	21,353,217	2,728,147	118,615,084		
1260 NG - SD	308		962,877	150,252	3,349	1,116,479		
1360 NG - LD	682		5,309,797	769,237	49,024	6,128,058		
1460 NG - OC	125		763,968	108,332	1,748	874,048		
YEC								
1160 NG - H	1,443		9,179,779	1,429,773	294,407	10,903,958		
1260 NG - SD	0		0	0	0	0		
1360 NG - LD	0		0	0	0	0		
1460 NG - OC	0		0	0	0	0		
Total								
1160 NG - H	13,013		103,713,498	22,782,990	3,022,554	129,519,042		
1260 NG - SD	308		962,877	150,252	3,349	1,116,479		
1360 NG - LD	682		5,309,797	769,237	49,024	6,128,058		
1460 NG - OC	125		763,968	108,332	1,748	874,048		
Residential-Non Government	14,128		110,750,140	23,810,811	3,076,676	137,637,626		
	Customer Charge	Demand Charge	Block 1 Energy Chg	Block 2 Energy Chg	Block 3 Energy Chg	Rider J Charge	Rider R Charge	
Existing Rate (With J & R)	(\$/ cust/ mo.)	(\$ / kW/ mo.)	(¢ / kW.h)	(¢ / kW.h)	(¢ / kW.h)	(%)	(%)	
1160 NG - H	14.64		12.13	12.85	12.85	0.000%	0.000%	
1260 NG - SD	14.64		12.13	15.20	15.20	0.000%	0.000%	
1360 NG - LD	14.64		12.13	12.85	12.85	0.000%	0.000%	
1460 NG - OC	14.64		12.13	31.69	31.69	0.000%	0.000%	
	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 NG - H	2,031,917		11,463,556	2,744,323	350,622	0	0	16,590,419
1260 NG - SD	54,019		116,763	22,840	509	0	0	194,131
1360 NG - LD	119,828		643,888	98,863	6,301	0	0	868,880
1460 NG - OC	21,997		92,642	34,334	554	0	0	149,527
Revenue - YEC								
1160 NG - H	253,484		1,113,178	183,755	37,837	0	0	1,588,255
1260 NG - SD	0		0	0	0	0	0	0
1360 NG - LD	0		0	0	0	0	0	0
1460 NG - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 NG - H	2,285,401		12,576,734	2,928,078	388,460	0	0	18,178,673
1260 NG - SD	54,019		116,763	22,840	509	0	0	194,131
1360 NG - LD	119,828		643,888	98,863	6,301	0	0	868,880
1460 NG - OC	21,997		92,642	34,334	554	0	0	149,527
Revenue (\$)	2,481,245		13,430,027	3,084,115	395,824	0	0	19,391,211

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Residential-Government

2009								
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Total Energy (kW.h)		
Billing Determinants								
YECL								
1180 G - H	155		994,502	309,674	32,070	1,336,245		
1280 G - SD	26		172,183	39,189	1,490	212,862		
1380 G - LD	30		186,366	25,400	0	211,766		
1480 G - OC	12		81,418	19,656	19,396	120,470		
YEC								
1180 G - H	29		233,131	29,218	16,746	279,095		
1280 G - SD	0		0	0	0	0		
1380 G - LD	0		0	0	0	0		
1480 G - OC	0		0	0	0	0		
Total								
1180 G - H	184		1,227,633	338,891	48,816	1,615,340		
1280 G - SD	26		172,183	39,189	1,490	212,862		
1380 G - LD	30		186,366	25,400	0	211,766		
1480 G - OC	12		81,418	19,656	19,396	120,470		
Residential-Government	252		1,667,600	423,136	69,701	2,160,438		
				0.032262534				
	Customer Charge	Demand Charge	Block 1 Energy Chg	Block 2 Energy Chg	Block 3 Energy Chg	Rider J Charge	Rider R Charge	
Existing Rate (With J & R)	(\$/ cust/ mo.)	(\$ / kW/ mo.)	(¢ / kW.h)	(¢ / kW.h)	(¢ / kW.h)	(%)	(%)	
1160 G - H	18.45		17.64	12.85	12.85	0.000%	0.000%	
1260 G - SD	18.45		17.64	15.20	15.20	0.000%	0.000%	
1360 G - LD	18.45		17.64	12.85	12.85	0.000%	0.000%	
1460 G - OC	18.45		17.64	31.69	31.69	0.000%	0.000%	
	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL								
1160 G - H	34,342		175,392	39,799	4,122	0	0	253,656
1260 G - SD	5,756		30,367	5,957	227	0	0	42,306
1360 G - LD	6,649		32,868	3,264	0	0	0	42,781
1460 G - OC	2,656		14,359	6,230	6,147	0	0	29,392
Revenue - YEC								
1160 G - H	6,475		41,115	3,755	2,152	0	0	53,498
1260 G - SD	0		0	0	0	0	0	0
1360 G - LD	0		0	0	0	0	0	0
1460 G - OC	0		0	0	0	0	0	0
Revenue - Sub Total								
1160 G - H	40,818		216,508	43,554	6,274	0	0	307,154
1260 G - SD	5,756		30,367	5,957	227	0	0	42,306
1360 G - LD	6,649		32,868	3,264	0	0	0	42,781
1460 G - OC	2,656		14,359	6,230	6,147	0	0	29,392
Revenue (\$)	55,878		294,101	59,006	12,647	0	0	421,633

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General Service-Non Government

Billing Determinants	2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 4 Energy (kW.h)	Total Energy (kW.h)
YECL							
2160 NG - H	1,737	336,399	24,820,709	31,981,777	2,939,429	19,702,121	79,444,037
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	165	52,808	2,008,485	3,927,867	677,205	7,795,064	14,408,622
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
YEC							
2160 NG - H	299	46,355	2,358,146	4,480,301	355,599	1,923,883	9,117,929
2260 NG - SD	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0
2170 GM - H	55	16,580	452,883	1,953,933	322,865	531,587	3,261,268
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0
Total							
2160 NG - H	2,037	382,754	27,178,855	36,462,078	3,295,029	21,626,004	88,561,966
2260 NG - SD	92	7,311	830,009	799,705	1,631	0	1,631,346
2360 NG - LD	157	18,643	1,855,569	1,751,425	142,271	435,183	4,184,447
2460 NG - OC	16	1,551	177,660	187,117	0	0	364,777
2170 GM - H	220	69,388	2,461,368	5,881,800	1,000,071	8,326,651	17,669,889
2270 GM - SD	0	0	0	0	0	0	0
2370 GM - LD	18	4,751	256,304	679,371	39,077	110,718	1,085,471
2470 GM - OC	0	0	0	0	0	0	0
General Service-Non Government	2,539	484,399	32,759,765	45,761,496	4,478,079	30,498,556	113,497,895

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 4 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2160 NG - H 2170 GM - H	0.00	7.38	10.22	12.85	12.85	12.85	0.000%	0.000%
2260 NG - SD 2270 GM - SD	0.00	7.38	10.22	15.20	15.20	15.20	0.000%	0.000%
2360 NG - LD 2370 GM - LD	0.00	7.38	10.22	12.85	12.85	12.85	0.000%	0.000%
2460 NG - OC 2470 GM - OC	0.00	7.38	10.22	31.69	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 4 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2160 NG - H	0	2,482,345	2,536,710	4,110,310	377,777	2,532,124	0	0	12,039,266
2260 NG - SD	0	53,951	84,828	121,564	248	0	0	0	260,591
2360 NG - LD	0	137,569	189,642	225,094	18,285	55,930	0	0	626,519
2460 NG - OC	0	11,449	18,157	59,304	0	0	0	0	88,910
2170 GM - H	0	389,677	205,270	504,811	87,035	1,001,825	0	0	2,188,617
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	35,059	26,195	87,313	5,022	14,230	0	0	167,818
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - YEC									
2160 NG - H	0	342,060	241,006	575,810	45,702	247,258	0	0	1,451,836
2260 NG - SD	0	0	0	0	0	0	0	0	0
2360 NG - LD	0	0	0	0	0	0	0	0	0
2460 NG - OC	0	0	0	0	0	0	0	0	0
2170 GM - H	0	122,347	46,285	251,120	41,495	68,320	0	0	529,567
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	0	0	0	0	0	0	0	0
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2160 NG - H	0	2,824,406	2,777,716	4,686,120	423,478	2,779,382	0	0	13,491,102
2260 NG - SD	0	53,951	84,828	121,564	248	0	0	0	260,591
2360 NG - LD	0	137,569	189,642	225,094	18,285	55,930	0	0	626,519
2460 NG - OC	0	11,449	18,157	59,304	0	0	0	0	88,910
2170 GM - H	0	512,024	251,555	755,931	128,529	1,070,144	0	0	2,718,184
2270 GM - SD	0	0	0	0	0	0	0	0	0
2370 GM - LD	0	35,059	26,195	87,313	5,022	14,230	0	0	167,818
2470 GM - OC	0	0	0	0	0	0	0	0	0
Revenue (\$)	0	3,574,458	3,348,093	5,935,325	575,563	3,919,686	0	0	17,353,124

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General Service-Government

Billing Determinants	2009						
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Block 3 Energy (kW.h)	Block 4 Energy (kW.h)	Total Energy (kW.h)
YECL							
2180 GFT - H	337	128,900	4,617,896	12,625,944	2,375,636	21,339,764	40,959,241
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120
YEC							
2180 GFT - H	103	21,854	837,208	2,279,237	308,062	3,739,734	7,164,240
2280 GFT - SD	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0
Total							
2180 GFT - H	440	150,753	5,455,104	14,905,181	2,683,698	25,079,498	48,123,481
2280 GFT - SD	51	3,972	406,476	344,619	0	0	751,095
2380 GFT - LD	36	8,468	535,831	1,057,090	183,312	330,805	2,107,037
2480 GFT - OC	20	2,522	220,500	208,620	0	0	429,120
General Service-Government	547	165,716	6,617,910	16,515,510	2,867,011	25,410,303	51,410,733

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Block 3 Energy Chg (¢ / kW.h)	Block 4 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
2180 GFT - H	0.00	12.30	21.46	12.85	12.85	12.85	0.000%	0.000%
2280 GFT - SD	0.00	12.30	21.46	15.20	15.20	15.20	0.000%	0.000%
2380 GFT - LD	0.00	12.30	21.46	12.85	12.85	12.85	0.000%	0.000%
2480 GFT - OC	0.00	12.30	21.46	31.69	31.69	31.69	0.000%	0.000%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 4 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL									
2180 GFT - H	0	1,585,287	991,049	1,622,691	305,318	2,742,594	0	0	7,246,940
2280 GFT - SD	0	48,846	87,234	52,386	0	0	0	0	188,466
2380 GFT - LD	0	104,150	114,995	135,858	23,559	42,515	0	0	421,077
2480 GFT - OC	0	31,021	47,322	66,119	0	0	0	0	144,462
Revenue - YEC									
2180 GFT - H	0	268,768	179,674	292,928	39,592	480,632	0	0	1,261,594
2280 GFT - SD	0	0	0	0	0	0	0	0	0
2380 GFT - LD	0	0	0	0	0	0	0	0	0
2480 GFT - OC	0	0	0	0	0	0	0	0	0
Revenue - Sub Total									
2180 GFT - H	0	1,854,055	1,170,723	1,915,619	344,910	3,223,226	0	0	8,508,533
2280 GFT - SD	0	48,846	87,234	52,386	0	0	0	0	188,466
2380 GFT - LD	0	104,150	114,995	135,858	23,559	42,515	0	0	421,077
2480 GFT - OC	0	31,021	47,322	66,119	0	0	0	0	144,462
Revenue (\$)	0	2,038,072	1,420,274	2,169,982	368,469	3,265,742	0	0	9,262,538

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Industrial

2009							
Billing Determinants	Number of Customers Billed/year	Demand kVA	Total Energy (kW.h)				
YECL	39	0	0	0			
YEC	39	1	62400	29,023,000			
Total	39	1	62,400	29,023,000			
Industrial		1	62,400	29,023,000			
Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kVA.)	Energy Charge (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)	Rider F Charge (¢ / kW.h)	
	39	0.00	15.00	7.600	0.00%	0.00%	0.000
	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenue - YECL	39	0	0	0	0	0	0
Revenue - YEC	39	0	936,000	2,205,748	0	0	3,141,748
Revenue - Sub Total	39	0	936,000	2,205,748	0	0	3,141,748
Revenue (\$)		0	936,000	2,205,748	0	0	3,141,748

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Street Lights - Rate 61/66

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)	Highmast Customers Billed/year
YECL	61/66	4,825	8,578,680	3,438,012	160
YEC	61/66	567	685,400	274,112	0
Total	61/66	5,392	9,264,080	3,712,124	160
Street Lights - Rate 61/66		5,392	9,264,080	3,712,124	160

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Highmast Charge (\$/ cust/ mo.)	Rider J Charge Revenue	Rider R Charge (%)
61/66	7.82	4.96		1.27	0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Highmast Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	61/66	452,889	425,188	2,432	0	0	880,509
Revenue - YEC	61/66	53,259	33,971	0	0	0	87,230
Revenue - Sub Total	61/66	506,148	459,159	2,432	0	0	967,739
Revenue (\$)		506,148	459,159	2,432	0	0	967,739

Street Lights - Rate 67

2009

Billing Determinants		Number of Customers Billed/year	Demand W	Total Energy (kW.h)
YECL	67 - 250 W	47	141,000	55,428
	67 - 400 W	15	72,000	28,440
YEC	67 - 250 W	0	0	0
	67 - 400 W	2	9,600	3,792
Total	67 - 250 W	47	141,000	55,428
	67 - 400 W	17	81,600	32,232
Street Lights - Rate 67		64	222,600	87,660

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
67 - 250 W	19.03			0.000%	0.000%
67 - 400 W	29.10			0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	67 - 250 W	10,731		0	0	10,731
	67 - 400 W	5,238		0	0	5,238
Revenue - YEC	67 - 250 W	0		0	0	0
	67 - 400 W	698		0	0	698
Revenue - Sub Total	67 - 250 W	10,731		0	0	10,731
	67 - 400 W	5,936		0	0	5,936
Revenue (\$)		16,667		0	0	16,667

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Sentinal Lights - Rate 75/76

2009

Billing Determinants	Number of Customers Billed/year	Demand W	Total Energy (kW.h)	
Total				
75/76 - Normal - 100 W	393	471,700	188,680	Normal: Normal 12-month unmetered service
75/76 - E & M - 100 W	314	376,800	150,720	E & M: Energy and Maintenance only
75/76 - Meter - 100 W	7	8,400	0	(Cust. Pays installation costs)
75/76 - Normal - 175 W	150	315,000	129,600	Meter: 12-month service through customer meter
75/76 - E & M - 175 W	0	0	0	
75/76 - Meter - 175 W	17	35,700	0	
75/76 - Normal - 250 W	1	3,000	1,164	
75/76 - E & M - 250 W	0	0	0	
75/76 - Meter - 250 W	0	0	0	
75/76 - Normal - 400 W	2	9,600	3,816	
75/76 - E & M - 400 W	0	0	0	
75/76 - Meter - 400 W	0	0	0	
75/76 - Normal - 400 W FL	85	408,000	162,180	
75/76 - E & M - 400 W FL	5	24,000	9,540	
75/76 - Meter - 400 W FL	3	14,400	0	
Sentinal Lights - Rate 75/76	977	1,666,600	645,700	

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (¢ / W/ mo.)	Energy Chg (¢ / kW.h)	Rider J Charge Revenue	Rider R Charge (%)
75/76 - Normal - 100 W	14.32			0.000%	0.000%
75/76 - E & M - 100 W	7.94			0.000%	0.000%
75/76 - Meter - 100 W	9.03			0.000%	0.000%
75/76 - Normal - 175 W	17.44			0.000%	0.000%
75/76 - E & M - 175 W	12.14			0.000%	0.000%
75/76 - Meter - 175 W	9.80			0.000%	0.000%
75/76 - Normal - 250 W	21.33			0.000%	0.000%
75/76 - E & M - 250 W	16.18			0.000%	0.000%
75/76 - Meter - 250 W	10.12			0.000%	0.000%
75/76 - Normal - 400 W	28.32			0.000%	0.000%
75/76 - E & M - 400 W	22.89			0.000%	0.000%
75/76 - Meter - 400 W	9.64			0.000%	0.000%
75/76 - Normal - 400 W FL	31.29			0.000%	0.000%
75/76 - E & M - 400 W FL	21.83			0.000%	0.000%
75/76 - Meter - 400 W FL	12.62			0.000%	0.000%

Revenue (\$)	Customer Revenue	Demand Revenue	Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - Sub Total						
75/76 - Normal - 100 W	67,527			0	0	67,527
75/76 - E & M - 100 W	29,936			0	0	29,936
75/76 - Meter - 100 W	758			0	0	758
75/76 - Normal - 175 W	31,391			0	0	31,391
75/76 - E & M - 175 W	0			0	0	0
75/76 - Meter - 175 W	2,000			0	0	2,000
75/76 - Normal - 250 W	256			0	0	256
75/76 - E & M - 250 W	0			0	0	0
75/76 - Meter - 250 W	0			0	0	0
75/76 - Normal - 400 W	680			0	0	680
75/76 - E & M - 400 W	0			0	0	0
75/76 - Meter - 400 W	0			0	0	0
75/76 - Normal - 400 W FL	31,913			0	0	31,913
75/76 - E & M - 400 W FL	1,310			0	0	1,310
75/76 - Meter - 400 W FL	454			0	0	454
Revenue (\$)	166,225			0	0	166,225

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Secondary Sales

Billing Determinants	2009					
	Number of Customers Billed/year	Demand kW	Block 1 Energy (kW.h)	Block 2 Energy (kW.h)	Total Energy (kW.h)	
YECL	3200	23	6,954,050		6,954,050	
YEC	3200		629,950		629,950	
Total	3200	23	7,584,000	0	7,584,000	
Secondary Sales		23	7,584,000	0	7,584,000	

Existing Rate (With J & R)	Customer Charge (\$/ cust/ mo.)	Demand Charge (\$ / kW/ mo.)	Block 1 Energy Chg (¢ / kW.h)	Block 2 Energy Chg (¢ / kW.h)	Rider J Charge (%)	Rider R Charge (%)
	3200	0.00	7.20	0	0.00%	0.00%

	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Rider J Charge Revenue	Rider R Charge Revenue	Total Rate Revenue
Revenue - YECL	3200	0	500,692	0	0	0	500,692
Revenue - YEC	3200	0	45,356	0	0	0	45,356
Revenue - Sub Total	3200	0	546,048	0	0	0	546,048
Revenue (\$)		0	546,048	0	0	0	546,048

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TOTAL RATE REVENUE - Existing Rate (With J & R)

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 4 Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	2,227,761		12,316,848	2,900,360	357,986		0		17,802,956
Government	49,403		252,986	55,251	10,495		0		368,135
General Service									
Non-Government	0	3,110,050	3,060,802	5,108,395	488,366	3,604,108	0		15,371,721
Government	0	1,769,305	1,240,600	1,877,053	328,877	2,785,110	0		8,000,944
Industrial	0	0	0				0	0	0
Street Lights	471,289	425,188	0				0		896,477
Space Lights	162,607	0	0				0		162,607
Secondary Sales	0		500,692	0			0		500,692
Revenues - Primary - YECL	2,911,060	5,304,543	16,871,236	9,941,059	1,185,725	6,389,217			42,602,840
Revenues - Industrial - YECL	0	0	0					0	0
Revenues - Secondary - YECL	0	0	500,692	0					500,692
Revenues - Riders - YECL							0	0	0
Revenues - Other - YECL								827,000	827,000
Revenues - Total - YECL	2,911,060	5,304,543	17,371,927	9,941,059	1,185,725	6,389,217	0	0	43,930,532
Revenues - YEC									
Residential									
Non-Government	253,484		1,113,178	183,755	37,837		0		1,588,255
Government	6,475		41,115	3,755	2,152		0		53,498
General Service									
Non-Government	0	464,407	287,291	826,930	87,197	315,578	0		1,981,403
Government	0	268,768	179,674	292,928	39,592	480,632	0		1,261,594
Industrial	0	936,000	2,205,748	0			0	0	3,141,748
Street Lights	53,958	33,971	0				0		87,928
Space Lights	3,618	0	0	0			0		3,618
Secondary Sales	0		45,356	0			0		45,356
Revenues - Primary - YEC	317,535	767,146	1,621,259	1,307,368	166,778	796,210			4,976,296
Revenues - Industrial - YEC	0	936,000	2,205,748	0				0	3,141,748
Revenues - Secondary - YEC	0	0	45,356	0					45,356
Revenues - Riders - YEC							0		0
Revenues - Other - YEC								125,000	125,000
Revenues - Total - YEC	317,535	1,703,146	3,872,363	1,307,368	166,778	796,210	0	0	8,288,400
Revenues - Total									
Residential									
Non-Government	2,481,245		13,430,027	3,084,115	395,824		0		19,391,211
Government	55,878		294,101	59,006	12,647		0		421,633
General Service									
Non-Government	0	3,574,458	3,348,093	5,935,325	575,563	3,919,686	0		17,353,124
Government	0	2,038,072	1,420,274	2,169,982	368,469	3,265,742	0		9,262,538
Industrial	0	936,000	2,205,748	0			0	0	3,141,748
Street Lights	525,247	459,159	0				0	0	984,406
Space Lights	166,225	0	0				0		166,225
Secondary Sales	0		546,048	0			0		546,048
Revenues - Primary	3,228,596	6,071,689	18,492,494	11,248,428	1,352,503	7,185,427			47,579,136
Revenues - Industrial	0	936,000	2,205,748	0				0	3,141,748
Revenues - Secondary	0	0	546,048	0					546,048
Revenues - Riders							0		0
Revenues - Other								952,000	952,000
Revenues - Total	3,228,596	7,007,689	21,244,290	11,248,428	1,352,503	7,185,427	0	0	52,218,932

Illustration of how Rider J and R are applied to existing rates.

Charge	\$11.90 /cust./month - customer charge
Rider J	12.460%
Rider R	10.526%

Formula= $11.90 \times (1 + 12.460\% + 10.526\%)$
Result =14.64

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COMPARISON OF RATE REVENUE BY PERCENTAGE (CW-YEC/YECL 21a Schedule 1 & CW-YEC/YECL 21c Schedule 1) CW-YEC/YECL-1-21(f) Schedule 1

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	0.10%		-10.13%	17.13%	74.05%				0.18%
Government	0.12%		-8.29%	9.79%	66.40%				0.29%
General Service									
Non-Government		-18.69%	-18.70%	14.71%	74.20%	0.06%			-0.24%
Government		-18.69%	-12.36%	13.01%	74.21%	0.06%			0.07%
Industrial									
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%		0.11%					0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%						0.00%
Revenues - Primary - YECL	0.10%	-17.18%	-11.82%	14.87%	74.01%	0.06%			0.01%
Revenues - Industrial - YECL									
Revenues - Secondary - YECL			0.00%						0.00%
Revenues - Riders - YECL									
Revenues - Other - YECL								0.00%	0.00%
Revenues - Total - YECL	0.10%	-17.18%	-11.48%	14.87%	74.01%	0.06%		0.00%	0.01%
Revenues - YEC									
Residential									
Non-Government	0.10%		-10.13%	18.42%	74.21%				-0.72%
Government	0.12%		-8.29%	18.42%	74.21%				-1.13%
General Service									
Non-Government		-18.69%	-18.70%	15.93%	74.21%	0.06%			2.83%
Government		-18.69%	-12.36%	15.93%	74.21%	0.06%			0.31%
Industrial		0.00%	0.00%						1.95%
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%							0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%						0.00%
Revenues - Primary - YEC	0.10%	-17.86%	-11.85%	16.17%	74.21%	0.06%			0.97%
Revenues - Industrial - YEC		0.00%	0.00%						1.95%
Revenues - Secondary - YEC			0.00%						0.00%
Revenues - Riders - YEC									
Revenues - Other - YEC								0.00%	0.00%
Revenues - Total - YEC	0.10%	-8.04%	-4.96%	16.17%	74.21%	0.06%		0.00%	1.32%
Revenues - Total									
Residential									
Non-Government	0.10%		-10.13%	17.20%	74.06%				0.11%
Government	0.12%		-8.29%	10.38%	67.18%				0.11%
General Service									
Non-Government		-18.69%	-18.70%	14.88%	74.20%	0.06%			0.11%
Government		-18.69%	-12.36%	13.40%	74.21%	0.06%			0.11%
Industrial		0.00%	0.00%						1.95%
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%		0.11%					0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%						0.00%
Revenues - Primary	0.10%	-17.27%	-11.82%	15.03%	74.03%	0.06%			0.11%
Revenues - Industrial		0.00%	0.00%						1.95%
Revenues - Secondary			0.00%						0.00%
Revenues - Riders									
Revenues - Other								0.00%	0.00%
Revenues - Total	0.10%	-14.96%	-10.29%	15.03%	74.03%	0.06%		0.00%	0.21%

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COMPARISON OF RATE REVENUE BY REVENUE (CW-YEC/YECL 21a Schedule 1 & CW-YEC/YECL 21c Schedule 1)

2009										
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue	
Revenues - YECL										
Residential										
Non-Government	2,232		-1,247,497	341,711	935,734					32,180
Government	59		-20,970	3,749	18,214					1,053
General Service										
Non-Government		-581,266	-572,324	751,367	362,367	2,233				-37,623
Government		-330,682	-153,296	244,151	244,072	1,726				5,971
Industrial										
Street Lights	503	454								958
61/66	484	454		3						941
67	17									17
Space Lights	174									174
Secondary Sales			0							0
Revenues - Primary - YECL	2,969	-911,494	-1,994,087	1,340,978	1,560,387	3,959				2,712
Revenues - Industrial - YECL										
Revenues - Secondary - YECL			0							0
Revenues - Riders - YECL										
Revenues - Other - YECL								0		0
Revenues - Total - YECL	2,969	-911,494	-1,994,087	1,340,978	1,560,387	3,959	0	0	0	2,712
Revenues - YEC										
Residential										
Non-Government	254		-112,747	20,946	80,082					-11,464
Government	8		-3,408	524	2,274					-603
General Service										
Non-Government		-86,797	-53,719	131,771	64,712	196				56,161
Government		-50,232	-22,202	46,678	29,383	298				3,925
Industrial										
Street Lights	58	36								94
61/66	57	36		0						93
67	1									1
Space Lights	4									4
Secondary Sales			0							0
Revenues - Primary - YEC	323	-136,994	-192,076	199,919	176,451	493				48,117
Revenues - Industrial - YEC										
Revenues - Secondary - YEC			0							0
Revenues - Riders - YEC										
Revenues - Other - YEC								0		0
Revenues - Total - YEC	323	-136,994	-192,076	199,919	176,451	493	0	61,239	0	109,356
Revenues - Total										
Residential										
Non-Government	2,486		-1,360,244	362,657	1,015,816					20,716
Government	67		-24,378	4,273	20,488					450
General Service										
Non-Government		-668,064	-626,043	883,138	427,079	2,429				18,539
Government		-380,914	-175,498	290,829	273,454	2,023				9,895
Industrial										
Street Lights	561	491								1,052
61/66	541	491		3						1,034
67	18									18
Space Lights	178									178
Secondary Sales			0							0
Revenues - Primary	3,292	-1,048,488	-2,186,162	1,540,897	1,736,838	4,452				50,829
Revenues - Industrial										
Revenues - Secondary			0							0
Revenues - Riders										
Revenues - Other								0		0
Revenues - Total	3,292	-1,048,488	-2,186,162	1,540,897	1,736,838	4,452	0	61,239	0	112,068

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COMPARISON OF RATE REVENUE BY PERCENTAGE (Schedule YECL B4.7 & CW-YEC/YECL 21d Schedule 1)

2009									
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue
Revenues - YECL									
Residential									
Non-Government	0.10%		0.11%	-1.08%	8.84%				0.09%
Government	0.12%		1.63%	-8.61%	1.61%				-0.11%
General Service									
Non-Government		0.15%	0.10%	-0.88%	8.88%	0.06%			0.05%
Government		0.09%	0.09%	-1.63%	8.88%	0.06%			0.04%
Industrial									
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%		0.11%					0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%						0.00%
Revenues - Primary - YECL	0.10%	0.13%	0.13%	-1.12%	8.80%	0.06%			0.07%
Revenues - Industrial - YECL									
Revenues - Secondary - YECL			0.00%						0.00%
Revenues - Riders - YECL									
Revenues - Other - YECL								0.00%	0.00%
Revenues - Total - YECL	0.10%	0.13%	0.13%	-1.12%	8.80%	0.06%	#DIV/0!	0.00%	0.06%
Revenues - YEC									
Residential									
Non-Government	0.10%		0.11%	-0.26%	8.88%				0.28%
Government	0.12%		1.63%	-0.26%	8.88%				1.60%
General Service									
Non-Government		0.15%	0.10%	0.18%	8.88%	0.06%			0.52%
Government		0.09%	0.09%	0.91%	8.88%	0.06%			0.55%
Industrial		0.00%	0.00%					#DIV/0!	1.95%
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%							0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%	#DIV/0!					0.00%
Revenues - Primary - YEC	0.10%	0.13%	0.15%	0.28%	8.88%	0.06%			0.45%
Revenues - Industrial - YEC		0.00%	0.00%					#DIV/0!	1.95%
Revenues - Secondary - YEC			0.00%						0.00%
Revenues - Riders - YEC									
Revenues - Other - YEC								0.00%	0.00%
Revenues - Total - YEC	0.10%	0.06%	0.06%	0.28%	8.88%	0.06%	#DIV/0!	0.00%	1.01%
Revenues - Total									
Residential									
Non-Government	0.10%		0.11%	-1.03%	8.85%				0.11%
Government	0.12%		1.63%	-8.07%	2.85%				0.11%
General Service									
Non-Government		0.15%	0.10%	-0.73%	8.88%	0.06%			0.11%
Government		0.09%	0.09%	-1.29%	8.88%	0.06%			0.11%
Industrial		0.00%	0.00%					#DIV/0!	1.95%
Street Lights	0.11%	0.11%							0.11%
61/66	0.11%	0.11%		0.11%					0.11%
67	0.11%								0.11%
Space Lights	0.11%								0.11%
Secondary Sales			0.00%						0.00%
Revenues - Primary	0.10%	0.13%	0.13%	-0.96%	8.81%	0.06%			0.11%
Revenues - Industrial		0.00%	0.00%					#DIV/0!	1.95%
Revenues - Secondary			0.00%						0.00%
Revenues - Riders									
Revenues - Other								0.00%	0.00%
Revenues - Total	0.10%	0.11%	0.11%	-0.96%	8.81%	0.06%	#DIV/0!	0.00%	0.21%

Yukon Energy Corporation & Yukon Electrical Company Limited - 2009 Phase II Application
Schedule of Determinants - Comparisons

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-21(g) Schedule 1

COMPARISON OF RATE REVENUE BY REVENUE (Schedule YECL B4.7 & CW-YEC/YECL 21d Schedule 1)

2009										
Revenue (\$)	Customer Revenue	Demand Revenue	Block 1 Energy Revenue	Block 2 Energy Revenue	Block 3 Energy Revenue	Block 3A Energy Revenue	Rider J & R Charge Revenue	Rider F Charge Revenue	Total Rate Revenue	
Revenues - YECL										
Residential										
Non-Government	2,232		13,794	-31,352	31,653				16,327	
Government	59		4,118	-4,754	169				-408	
General Service										
Non-Government		4,569	2,954	-44,951	43,345	2,233			8,150	
Government		1,640	1,095	-30,683	29,218	1,726			2,996	
Industrial										
Street Lights	503	454							958	
61/66	484	454		3					941	
67	17								17	
Space Lights	174								174	
Secondary Sales			0						0	
Revenues - Primary - YECL	2,969	6,663	21,961	-111,741	104,385	3,959			28,196	
Revenues - Industrial - YECL										
Revenues - Secondary - YECL			0						0	
Revenues - Riders - YECL										
Revenues - Other - YECL								0	0	
Revenues - Total - YECL	2,969	6,663	21,961	-111,741	104,385	3,959	0	0	0	28,196
Revenues - YEC										
Residential										
Non-Government	254		1,247	-473	3,362				4,389	
Government	8		669	-10	191				859	
General Service										
Non-Government		682	277	1,487	7,747	196			10,389	
Government		249	159	2,677	3,517	298			6,900	
Industrial										
Street Lights	58	36							94	
61/66	57	36		0					93	
67	1								1	
Space Lights	4								4	
Secondary Sales			0						0	
Revenues - Primary - YEC	323	968	2,352	3,681	14,817	493			22,634	
Revenues - Industrial - YEC										
Revenues - Secondary - YEC			0						0	
Revenues - Riders - YEC										
Revenues - Other - YEC								0	0	
Revenues - Total - YEC	323	968	2,352	3,681	14,817	493	0	61,239	0	83,872
Revenues - Total										
Residential										
Non-Government	2,486		15,040	-31,825	35,015				20,716	
Government	67		4,787	-4,764	360				450	
General Service										
Non-Government		5,251	3,231	-43,464	51,092	2,429			18,539	
Government		1,889	1,254	-28,006	32,735	2,023			9,895	
Industrial										
Street Lights	561	491							1,052	
61/66	541	491		3					1,034	
67	18								18	
Space Lights	178								178	
Secondary Sales			0						0	
Revenues - Primary	3,292	7,631	24,312	-108,060	119,202	4,452			50,829	
Revenues - Industrial										
Revenues - Secondary			0						0	
Revenues - Riders										
Revenues - Other								0	0	
Revenues - Total	3,292	7,631	24,312	-108,060	119,202	4,452	0	61,239	0	112,068

1 **ISSUE:** **Street Lights**

2 **REFERENCE:** **Application, page 7-22, Issue No. 56**

3 **PREAMBLE:**

No.	Intervenor	Submission Date	Issue	Response
56	City of Whitehorse	15-Jan-10	Rate Design: The City notes that electric utilities in BC and Alberta offer investment (by customers) and non-investment rates for streetlights and sentinel lights should be made available to customers in the Yukon.	The Companies were not able to consider this option in this Application.

4
5 **QUESTION:**

- 6 a) Why were the Utilities not able to consider this option in this Application?
- 7
- 8 b) Did the Utilities contact customers of streetlights and sentinel lights to determine
- 9 whether there was any need for an investment option?
- 10
- 11 c) Does YECL's parent company, ATCO Electric, offer an investment option for
- 12 street and sentinel lighting?
- 13
- 14 d) Are there any other electric utilities in Canada that do not offer an investment
- 15 option for street and sentinel lighting?
- 16

17 **ANSWER:**

18
19 **(a)**

20

21 The Utilities were not able to consider this option due to all the issues tabled and the

22 time frame to address them in.

1 **(b)**

2

3 No.

4

5 **(c)**

6

7 Yes.

8

9 **(d)**

10

11 YECL has not completed a thorough review of all Canadian electric utility investment
12 practices, however for the utilities that YECL has reviewed in the past YECL is not aware
13 of any that do not offer an investment option.

1 **ISSUE:** **Secondary Sales**

2
3 **REFERENCE:** **Tab 5, page 5-7, lines 6-11 and YEC Mayo B Application page**
4 **28, footnote 38**

5
6 **PREAMBLE:**

7
8 The Utilities indicate that:

9
10 For secondary sales, as noted in Tab 1, the availability of secondary sales on each
11 hydro grid system is presently diminishing and interruptions are becoming more
12 common. The emphasis at the present time has shifted, since 2005 when the Maximum
13 Company Investment provision was instituted for secondary sales, to maintaining the
14 secondary program for existing customers but not expanding the program for new
15 customers who will see limited availability. Consequently, utility investment in extensions
16 for Secondary Energy customers is proposed to be terminated.

17
18 YEC's Mayo B Application stated:

19
20 In each case other than the very high load case there is also a net contribution of Mayo
21 B to the ability of YEC to support secondary sales, conservatively estimated as varying
22 from about 0.5 GW.h to 2.0 GW.h/year.

23
24 **QUESTION:**

25
26 a) Please reconcile the different forecasts in the two applications regarding future
27 secondary sales.

28
29 b) Please confirm that the Board concluded at page 12 of its May 17, 2010 report to
30 the Minister on Mayo B that: "In consideration of the above, the Board is of the
31 view that YEC's load forecast is conservative. Accordingly, the Board finds that
32 YEC's load forecast for the period used to evaluate the economics of the Mayo B
33 Project is reasonable."

1 c) If more secondary sales are available in the future, as the evidence accepted in
2 the Mayo B appears to indicate, how should the policy on secondary sales MIL
3 be modified?
4

5 **ANSWER:**
6

7 **(a)**
8

9 There is no inconsistency between the two applications. The Mayo B application is
10 based on the future loads, where there will be diesel on the margin and substantial
11 periods when secondary is not available at all or only in very limited quantities. While the
12 Mayo B project will help increase the availability of secondary energy, it will remain a
13 product available in only limited quantities.
14

15 **(b)**
16

17 Confirmed.
18

19 **(c)**
20

21 The secondary sales MIL policy should not be modified for the noted situation. The key
22 point is that there is an existing complement of large secondary customers who can
23 make use of most of the power available today. As the availability declines in future,
24 such that there is only parts of the year when secondary power is available, there is little
25 interest in incenting new customers to sign up in this situation. The benefits of Mayo B in
26 terms of supporting added secondary energy, is a beneficial aspect of the project, but it
27 is very small in relation to the existing size of the program, at more than 20 GW.h.

ISSUE: Secondary Sales

REFERENCE: Application, Section 7, page 7-22, No. 54

PREAMBLE:

No.	Intervenor	Submission Date	Issue	Response
54	City of Whitehorse	15-Jan-10	Rate Design: The City believes that the rate for secondary power should be capped at a percentage of the base General Service power rate rather than based on the cost of diesel fuel. Given that secondary power is not derived from diesel, but rather surplus hydro generation.	See Tab 4, section 4.5.1 no changes to the secondary sales rates are proposed at this time.

The City notes that the current rate formula for secondary sales creates substantial variability in the secondary sales rate and causes great uncertainty in costs for the City.

QUESTION:

- a) Please explain fully the logic behind linking the secondary sales rate formula to the cost of diesel.
- b) Please provide the Utilities' comments on the idea of setting the secondary sales rate as a percentage of the general service block 1 base energy charge, in an effort to reduce its variability.
- c) Please comment on the reasonableness of the proposal in (b) given that secondary power is not derived from diesel, but rather arises from surplus hydro generation.
- d) Why are the Utilities not proposing any changes to the secondary sales rates?

1 e) Please provide the Utilities' comments on the idea of establishing a secondary
2 sales deferral account that would refund to customers any over-collections from
3 customers resulting from actual experience that differs markedly from the
4 forecasted secondary sales?

5
6 **ANSWER:**

7
8 **(a)**

9
10 The intent of the secondary sales retail rate is to maximize the amount of revenue
11 available to offset ongoing fixed utility costs that would otherwise be paid by firm power
12 customers, while still leaving the secondary sales customer with energy cost savings
13 compared with what the customer would otherwise pay for heating fuel (typically heating
14 oil)¹. Thus, secondary rates are set at 2/3 the forecast equivalent cost of heat energy
15 derived from fuel oil. The rate is no more variable than the oil price that the customer
16 would otherwise pay if secondary were not available.

17
18 Secondary sales rate design is based on value for service principles - it is not a cost-
19 based rate. This was discussed in detail in the response to YUB-YEC-1-12.1 filed during
20 the 2005 Requirement Revenues and Related Matters proceeding. In that response, the
21 history and rationale for the rate were discussed and the following was noted:

- 22
- 23 • The original rate was based on a percentage of the avoided cost of heating with
24 fossil fuel, namely fuel oil.
 - 25
 - 26 • In 1991, the Board approved a similar variable (monthly) rate for the sale of
27 secondary power to the United Keno Hill Mine based on a 90% of avoided cost.
28 The Board also approved a fixed rate for secondary sales to the Whitehorse
29 Hospital at 4.01 cents/kWh.
 - 30
 - 31 • In the 1993/94 GRA both of the above-noted rates were consolidated to a single
32 fixed rate of 3.3 cents/kWh.

¹ All revenue secured from secondary sales directly reduces the amounts needed to be recovered from firm rates. All firm retail customer classes benefit through paying lower rates than they would otherwise need to due to the lower Yukon Energy Revenue Requirement. Secondary Sales customers benefit through receiving some energy cost savings via service under Rate Schedule 32.

1 In 2005, Yukon Energy sought to re-base the rate in order to fix the customer savings at
2 30% of the avoided cost of heating with fuel oil, utilizing a quarterly adjustment
3 mechanism. At that time Yukon Energy noted that an interruptible rate should fluctuate
4 with the underlying price of oil in order to achieve fairness to both the interruptible
5 customers and the firm power customers. The level of customer savings provided for in
6 the new rate reflected past practice as well as customer cost savings per kWh during
7 most of the 2000 to 2003 period (see Application, pages 4-7 and 4-8), an objective to
8 maximize use of available surplus supply, previous statements as to the percentage of
9 energy savings relative to the avoided cost of diesel fuel oil, and other considerations.

10
11 In general, rate shock issues due to higher rates for secondary energy are not relevant
12 so long as such increases to the price of secondary energy are tied to the underlying
13 price of oil and reflect “energy price shocks” with respect to world oil prices, over which
14 Yukon Energy has no control. Secondary energy rates are not intended to protect
15 customers from the heating price variations they would otherwise experience if they
16 were heating with oil. Secondary energy is only designed to provide customers savings
17 compared to those oil prices, whatever they may be at any given point in time. In this
18 regard, reduction in the secondary rate to reflect any reductions in the price of oil is
19 important to protect customer savings and continued use of secondary energy.

20
21 **(b) and (c)**

22
23 The approach proposed would not accord with a rate based on “value of service”
24 principles – the value of the energy is inherently linked to what the customer would
25 otherwise have to pay for heating oil.

26
27 **(d)**

28
29 As noted in (a) above. These rates were extensively reviewed in 2005, and today
30 represent an appropriate balancing of the savings to secondary users, and value to firm
31 power customers.

32
33 **(e)**

34
35 This is a Phase I issue linked to revenue requirements and not a Phase II matter. In the
36 current proceeding, revenue requirements have been previously debated and reviewed
37 by the Board and established by Board Order.

1 **ISSUE: Seasonal Rates**

3 **REFERENCE: Application, Section 7.2, Items 5 & 31**

5 **PREAMBLE:**

7 The Utilities state:

9 The Companies have not proposed seasonal or time of use rates in this Application. The
10 implementation of seasonal rates would only be considered in light of appropriate
11 studies to indicate some form of sustained cost-based rationale that provided benefits in
12 excess of the costs and administrative issues of implementing a more or complex rate
13 structure.

15 Introducing seasonal or TOU rates would introduce complications (including
16 complications related to billing customers such as additional costs, cancelled or re-bill
17 implications,) and also introduced a level of complexity and confusion into Yukon rates
18 that needs to be fully considered and tested before such rates could reasonably be
19 advanced in any proposal to the YUB for review.

21 **QUESTION:**

23 a) Please explain why the Utilities propose to move ahead with rate design changes
24 to the residential non-government class without any studies regarding customer
25 response through elasticities, but will not move ahead without studies in this case
26 of seasonal sales?

28 b) Please explain the potential connection between seasonal sales and secondary
29 sales. For example, would an inexpensive single block rate in the summer time
30 substantially reduce the availability of secondary sales? Please explain fully.

32 c) Please list and fully explain all complications / confusion that YEC believes would
33 result from the introduction of seasonal or TOU rates.

1 d) Please explain why YEC believes seasonal rates would introduce a level of
2 complexity and confusion into Yukon rates that is greater than the changes
3 proposed in Option A?
4

5 **ANSWER:**
6

7 **(a)**
8

9 The quotation referenced in regards to “studies” on time of use rates is not about
10 elasticities or customer response. It is made in regards to studies about the “cost-based
11 rationale” for proceeding with time of use rates. The implementation of time of use rates
12 need to reflect a cost-based rationale on the system, which can be very difficult to
13 assess and analyze for hydro-based systems. This is one of the reasons few
14 jurisdictions with a dominant hydro supply (e.g., Manitoba, Newfoundland) have rates
15 that are “time of use” in that they vary by season.
16

17 In 2009 in Yukon, use of energy in winter does not have a materially different cost profile
18 than use of energy in summer. Similarly, when the system is loaded as it was in the last
19 GRA (i.e., with the Faro mine operating), the cost profile of energy use in summer was
20 largely the same as the cost profile in winter – both uses largely drove increased
21 requirements for diesel generation.
22

23 Under system loading conditions as they are expected to exist into the medium term (3-5
24 years), it is possible that there could be a cost based rationale underlying a conclusion
25 that energy usage in summer is of a lower cost profile than energy use in winter. This
26 would not be true, however, if the use of energy in summer (which may be served by
27 hydro) only serves to use water from the system that could alternatively have been
28 stored for use in winter. This underlying cost profile also varies depending on the water
29 available on the system – e.g., in drought years, any use of power at any time of the
30 year will either require diesel generation, or will require use of water that could
31 alternatively be used at a different time of the year to offset diesel generation. In those
32 drought situations, all energy consumed drives diesel requirements.

1 With respect to runoff rate design, there is no requirement today for studies on the cost
2 based rationale for such inverted rates. This is for two reasons:

3
4 1) Adjustments to non-government retail runoff rates are required to comply with
5 direction provided by OIC 1995/90 regarding establishment of runoff blocks that
6 reflect principles of economy and efficiency.

7
8 2) The design of runoff blocks and definition of economy and efficiency in relation to
9 Yukon Rate policy has been subject to extensive past study and review, and a
10 number of Board precedents are available that to define how this principles is to
11 be achieved in rates. Please see response to CW-YEC/YECL-1-19.

12
13 **(b)**

14
15 There is no evidence that would suggest there would be different seasonal uptake that
16 would displace secondary sales in summer if first block rates were lower.

17
18 **(c)**

19
20 Complexities would include the following:

- 21
- 22 • In the event TOU rates is intended to address varying rates daily (e.g., on peak
23 versus off peak), there would be major changes required in metering
24 infrastructure. It is not presently possible to meter most accounts in this manner.
 - 25
26 • Billing concerns first and foremost arise with respect to billing cycles and tracking
27 usage by customers during periods where the rates are changing (e.g., for
28 seasonal rates). This includes dealing with estimated bills in cases where meters
29 cannot be read at the cut-off date. In addition, cases where bills must be adjusted
30 or restated for past periods when the rates were changing would require manual
31 consideration. In addition, it becomes necessary to not only determine when the
32 power was consumed (i.e., before or after the rate change) but also from which
33 rate block during that period.

- 1 • Requirement to make changes to billing system (would require some cost-benefit
2 analysis to determine whether such changes to the current billing system are
3 economically efficient/feasible).
4
- 5 • The rates could drive a need to consider impacts on cost of service (new
6 rates/rate classes would require adjustments to COS study and alter results –
7 including possibly seeking to distinguish “winter” costs from “summer” costs).
8
- 9 • Requirement for consideration on ability to implement a seasonal rate structure
10 within rate policy environment established by OIC 1995/90.
11

12 **(d)**
13

14 The question is not clear. There are no challenges evident in moving forward today with
15 either Option A or Option B, in terms of complexity or confusion. Each is readily
16 implemented in the billing and metering systems in place, and each reflects common
17 understanding in Yukon that costs for power vary by usage blocks.

1 **ISSUE:** **Maximum Investment Level (MIL)**

2
3 **REFERENCE:** **Application, Section 5.3**

4
5 **PREAMBLE:**

6
7 The City wishes to determine the degree of customer acceptance of the proposed MILs.

8
9 **QUESTION:**

- 10
- 11 a) Do the Utilities agree that stakeholders concerned with the Utilities' MILs would consist
- 12 of, at least, municipalities, residential customers, commercial customers, government,
- 13 developers and contractors?
- 14
- 15 b) Please document the input that each of the stakeholders and any stakeholder group not
- 16 listed in (a) above have had into the proposed MILs. How was each stakeholder group's
- 17 input incorporated into the Application?
- 18
- 19 c) Please confirm that the Utilities are only requesting the Board's approval of MIL rates on
- 20 the line labeled 2011. Please confirm that, in the absence of a further application, these
- 21 MILs continue in effect.
- 22
- 23 d) Please provide a full explanation as to why YEC and YECL were not able to agree on
- 24 MIL rates for future years?
- 25
- 26 e) What are the respective positions of YEC and YECL on future rates and the period over
- 27 which the revised MILs should be phased in?
- 28
- 29 f) Please discuss in detail why these rates are intended to apply as of January 1, 2011 and
- 30 not upon YUB approval.
- 31
- 32 g) What proportion of actual construction cost will be paid by customers and the utility for
- 33 each year in Table 5.4? What will be the average required customer contribution in
- 34 dollars for each rate each year in Table 5.4?

1 h) What will the forecast increase in customer rates required by the increased company
2 MIL by rate class in each year in Table 5.4?

3
4 i) What are the intergenerational inequities inherent in the customer contribution levels at
5 the current rate and at the levels proposed by the Utilities? Please explain fully.
6

7 **ANSWER:**

8
9 **(a)**

10
11 Yes.

12
13 **(b)**

14
15 On December 15, 2009, an Open House for Stakeholders was held whereby stakeholders were
16 encouraged to provide comments in writing for consideration. Feedback was received from
17 Leading Edge and the City of Whitehorse. Responses to these stakeholder's comments can be
18 found under Tab 7 of the application.
19

20 **(c)**

21
22 YECL is requesting the Board's approval of the MILs from 2011 to 2015 as detailed in Tab 5,
23 Appendix 5.4, of the application. YEC only supports approval of the 2011 values at this time.
24

25 **(d)**

26
27 Please see (e).

1 (e)

2
3 **Yukon Energy Response**

4 Yukon Energy views the proposed MIL levels for 2011 as an appropriate and timely update to
5 the present levels, which have not been updated for many years. The time available for
6 preparation of this Rate Application did not permit an agreement to be reached between the
7 Companies in respect of:

- 8
9 a. The use of an “average cost” standard; or
10 b. Multi-year implementation of the Maximum Company Investment levels noted in Table
11 5.3.

12
13 Agreement exists in respect of the present Application, for one-time increases to take effect as
14 part of this Application for connections starting January 2011.

15
16 In light of the lengthy time since at least Residential and Street Lighting Maximum Company
17 Investment Levels were increased, and the clear distinction between present Yukon levels and
18 the levels used in other jurisdictions for these classes of customers, increases in the Maximum
19 Company Investment levels for these classes are appropriate. In the first step (2011), YECL’s
20 study proposes increasing these values by 30-40% to \$1,250/site for Residential, \$625/dwelling
21 unit for Residential Multi-Dwelling, and \$930/light for Street Lighting. As these items have not
22 been increased in over 20 years, and the proposed values are approximately within the ranges
23 used by neighbouring utilities, this one-time adjustment is timely and appropriate.

24
25 With respect to General Service, the YECL study proposal in year 1 has very little net effect on
26 mid-size GS loads within the average range of 39 kW (noted in the YECL study as average
27 loads, who will see an increase in investment of approximately 3%). As this value was updated
28 more recently (in 2005) and is presently within the range of values used by neighbouring
29 utilities, the first year change proposed in the YECL study (to \$5,355 plus \$275/kW) is
30 reasonable. The change to the structure of the MIL (to a “fixed plus variable” approach) is well
31 advised.

32
33 The proposals with respect to subsequent years after 2011 noted in YECL’s study are premised
34 on a material departure from past Yukon methodology, from the MIL levels approved in other
35 jurisdictions, and from the percentage contribution that the MIL is targeted to make towards the
36 costs of new extensions. Each of these is addressed below:

- 1 a. **Past Practice:** Past Yukon practice for setting MIL levels, similar to other jurisdictions
2 such as BC and Manitoba is based on the principle of protecting existing ratepayers from
3 adverse rate impacts that arise due to rate base investment in connecting new
4 customers. This same principle was applied in determining recent utility versus customer
5 investment in such situations as new secondary customers, or in the connection of Minto
6 mine (which was developed to bring material ratepayer benefits from the connection of a
7 new customer, rather than just to protect customers from adverse rate impacts). Yukon
8 has not previously used any principle of the type proposed by YECL – that an “average
9 cost” extension should be covered by the MIL. It is not apparent that the new principle
10 proposed by YECL gives sufficient attention to the protection of existing customers and
11 will instead lead to excessive rate base investments in connecting new customers -
12 investments that must be borne by the customers who are presently on the system.
13
- 14 b. **Other Jurisdictions:** As noted in Table 5.2, the MIL levels for residential customers in
15 other jurisdictions tend towards \$1200-\$1500 per site. The exception is Yellowknife
16 (Northland Utilities) which is dominated by a much higher priced power regime (rates in
17 Yellowknife are in the range of 20-30 cents/kW.h) and in any event only totals \$2100 per
18 site. The YECL proposal targets Yukon MILs up to \$4700 per site by 2015. These utility
19 investments will become part of rate base and paid for by all of the other ratepayers on
20 the system. Similar trends exist for General Service, where the YECL proposed Yukon
21 levels by 2015 are near or exceed the highest levels recorded in any other jurisdiction
22 (Alberta as highest), and far exceed the levels typical in the jurisdictions studied. There
23 does not appear to be any supportable rationale for setting Yukon MIL levels at this very
24 high level in relation to these other jurisdictions.
25
- 26 c. **Percentage of Costs Covered by MIL:** The YECL study on MIL levels, provided in
27 Appendix 5.4 indicates at Table 4 that residential MIL levels in Yukon in 1989 covered
28 approximately 33% of the average cost of connection. The study indicated this has
29 eroded to 21% of the average cost of connection by 2011 (forecast). YECL uses this
30 erosion rationale to justify changes today, but instead proposes raise the level to 100%
31 of the average cost of connection. This is a clear departure from any past experience in
32 Yukon, including the last time MIL levels were set.

Yukon Electrical Response

YECL's position is described in detail in the MIL Study included as Appendix 5.4 of the application. The study is based on approved guiding principles developed in response to the Alberta Utilities Commission Decision 2008-011 regarding Fortis Alberta's 2008/2009 Negotiated Settlement Agreement. Several Alberta utilities and stakeholders participated in the process that established the guiding principles. Stakeholders consisted of ATCO Electric, Fortis Alberta, Consumers' Coalition of Alberta, Central Alberta REA, Enmax, Epcor and the Utilities Consumer Advocate. YECL has proposed to phase in the maximum investment levels over a period of 5 years to align the investment levels with the target MILs. It is important to note that the rate impact as a result of the proposed increases is set out as follows:

Rate Class	2011	2012	2013	2014	2015
Residential	0.02%	0.06%	0.12%	0.19%	0.28%
General Service	0.03%	0.08%	0.13%	0.17%	0.22%
Street Lighting	0.07%	0.22%	0.41%	0.65%	0.95%

(f)

YECL assumed that a decision from the Board would be rendered by December 31, 2010, and thus an implementation date of January 1, 2011, was assumed for ease of application. The MILs would not be put into effect until the Board provides approval.

(g)

For the purpose of responding to this part, YECL has assumed that the reference to Table 5.4 was in error and that it was meant to be Table 5.3.

In YECL's study of the MILs YECL has proposed to increase the levels to be equivalent to the average cost of constructing a new extension for residential and general service customers respectively. A comparison of the costs covered on an average basis would show that a customer would not be required to make a contribution once the targeted MIL (average cost) is met. It should be recognized that it is an average; customers with extension costs greater than the maximum available investment would be required to make a contribution and company investment in extensions costing less than the maximum available investment would be capped at the cost. Please refer to the MIL Study included as Appendix 5.4 of the application for details on the methodology proposed.

Residential MIL Comparison to Costs

Year		Average Cost per Site	MIL (Per Site)	% Investment	% Customer Contribution
Proposed	2011	\$ 4,373	\$ 1,250	29%	71%
	2012	\$ 4,451	\$ 1,740	39%	61%
	2013	\$ 4,531	\$ 2,420	53%	47%
	2014	\$ 4,613	\$ 3,360	73%	27%
	2015	\$ 4,700	\$ 4,700	100%	0%

General Service MIL Comparison to Costs

Year		Average Cost for 39 kW Site ⁽¹⁾	Fixed (Per Site) (A)	Variable (Per kW) (B)	Maximum Investment (A)+(39*(B))	% Investment	% Customer Contribution
Proposed	2011	\$ 17,627	\$ 5,355	\$ 275	\$ 16,080	91%	9%
	2012	\$ 17,944	\$ 5,500	\$ 280	\$ 16,420	92%	8%
	2013	\$ 18,267	\$ 5,650	\$ 290	\$ 16,960	93%	7%
	2014	\$ 18,596	\$ 5,800	\$ 295	\$ 17,305	93%	7%
	2015	\$ 18,931	\$ 5,955	\$ 305	\$ 17,850	94%	6%

Note: (1) Average cost is the 2011\$ average cost of an extension escalated at 1.8%

(h)

For the purpose of responding to this part, YECL has assumed that the reference to Table 5.4 was in error and that it was meant to be Table 5.3. Please refer to Table 13 of Appendix 5.4 of the application for a table of rate impacts.

(i)

Construction costs have continually risen since the last time the MILs were reviewed and changed (please refer to the MIL Study included as Appendix 5.4 of the application). With the MIL's having been fixed over a number of years, new extension customers are not receiving the same share of company investment that prior year customers have been receiving. In other words, this inequity has current customers bearing more of the construction costs now than prior year customers.

YECL is proposing to bring the MILs to a level, such as the average cost of construction for residential and street light customers, or a share of the projects being covered for general service customers. Once these levels are achieved over the 5-year proposed transition period,

- 1 from 2011 to 2015, changes in the MILs would be made using this methodology (detailed in the
- 2 MIL Study, Appendix 5.4), and in an effort to reduce future inequities for new customers.

ISSUE: Maximum Investment Level (MIL)

REFERENCE: Application Table 5.2

PREAMBLE:

The Utilities provide the following table:

Table 5.2: 2009 Maximum Company Investment Levels of Neighbouring Utilities

	Northland Utilities (NUY)	Northland Utilities (NWT)	NTPC	BC Hydro	ATCO Electric	Fortis Alberta
Residential	\$2100/site	\$1500/site	\$1500/site	\$1475/site	\$1200/site	\$1200/site
Residential – Multi Dwelling	\$700/site	\$750/Unit	\$750/unit			
General Service	\$300/kW	\$300/kW	\$250/kW	\$200/kW	\$1256/kW	\$5275 Fixed plus \$839/kW
Street Lighting	Cost of installation	\$1200/light	Cost of installation	\$150/Fixture	\$1400/Light	\$1400/Light

QUESTION:

- a) Please provide a table of average construction costs for each rate class for each utility in Table 5.2. Please include in this Table the portion of average construction costs provided by customer construction and by the utility.
- b) Please provide the investment options offered for each customer class of the utilities listed in Table 5.2, and the corresponding rates for service with and without customer investment.
- c) Why haven't the Utilities included an investment option so that customers have the choice of lowering their rates for service by investing more in their service?

ANSWER:

(a)

The cost data in the table below was obtained from recent MIL studies published in the respective utility GTAs or GRAs. The cost data has been kept in the dollars that were quoted in the studies.

Yukon Energy and Yukon Electrical
2009 Phase II Rate Application
CW-YEC/YECL-1-27

Average Construction Costs

Rate Class	Units	Northland ⁽¹⁾ Utilities (NUY) (2007\$)	Northland ⁽²⁾ Utilities (NWT) (Hay River, 2007\$)	NTPC	BC Hydro	ATCO ⁽³⁾ Electric (2009\$)	Fortis ⁽⁴⁾ Alberta (2010\$)
Residential	per lot	\$4,150	\$2,460	n/a	n/a	\$6,302	\$2,525
General Service	per kW	\$388	\$492 - \$1,049	n/a	n/a	\$2,493	n/a
Street Lighting	per light	\$5,235	\$4,099	n/a	n/a	\$6,066	\$3,720

2009 Maximum Company Investment Levels

Rate Class	Units	Northland Utilities (NUY)	Northland Utilities (NWT)	NTPC	BC Hydro	ATCO Electric	Fortis Alberta
Residential	per lot	\$2,100	\$1,500	\$1,500	\$1,475	\$1,200	\$1,200
General Service	per kW	\$300	\$300	\$250	\$200	\$1,256	\$5,275 + \$839/kW
Street Lighting	per light	Cost of Installation	\$1,200	Cost of Installation	\$150	\$1,400	\$1,400

Utility's Share of Construction Costs

Rate Class	Units	Northland Utilities (NUY)	Northland Utilities (NWT)	NTPC	BC Hydro	ATCO Electric	Fortis Alberta
Residential	per lot	51%	61%	n/a	n/a	19%	48%
General Service	per kW	77%	29% - 61%	n/a	n/a	50%	n/a
Street Lighting	per light	100%	29%	n/a	n/a	23%	38%

Customer's Share of Construction Costs

Rate Class	Units	Northland Utilities (NUY)	Northland Utilities (NWT)	NTPC	BC Hydro	ATCO Electric	Fortis Alberta
Residential	per lot	49%	39%	n/a	n/a	81%	52%
General Service	per kW	23%	61% - 29%	n/a	n/a	50%	n/a
Street Lighting	per light	0%	71%	n/a	n/a	77%	62%

* "n/a" denotes not available

Sources:

- (1) 2008 - 2010 NUL (Yellowknife) GRA, Attachment 7.3
- (2) 2008 - 2010 NUL (NWT) GRA, Attachment 7.3
- (3) 2011 - 2012 ATCO Electric GTA, Attachment 20
- (4) 2010 - 2011 FortisAlberta DTA, Section 9 - Appendix O

(b)

ATCO Electric:

As per Schedule B, of ATCO Electric's Terms and Conditions for Distribution Service Connections ATCO Electric will apply a modified investment (pro-rata) based on an evaluation of a customer's service life and load expectations that are expected to substantially deviate from the norm. ATCO Electric will not invest in temporary services that are expected to be in service less than 1 year.

1 ATCO Electric does not offer investment and non-investment rates to customers, except
2 for street and private lighting customers. For these classes of customers ATCO Electric
3 offers investment and non-investment rates and maximum available investment options.
4 For street lighting the investment options usually correspond with the Franchise
5 agreement.

6
7 **Northland Utilities (NUY):**

8
9 As per Schedule A, of Northland Utilities (NUY) Terms and Conditions of Service,
10 Northland will apply a modified investment (pro-ratio) based on an evaluation of a
11 customer's service life and load expectations that are expected to substantially deviate
12 from the norm. Northland will not invest in temporary services that are expected to be in
13 service less than 1 year.

14
15 Northland Utilities (NUY) does not offer investment and non-investment rates to
16 customers. For street lighting the investment options corresponds with the Franchise
17 agreement.

18
19 **Northland Utilities (NWT):**

20
21 As per Schedule A, of Northland Utilities (NWT) Terms and Conditions of Service,
22 Northland will apply a modified investment (pro-ratio) based on an evaluation of a
23 customer's service life and load expectations that are expected to substantially deviate
24 from the norm. Northland will not invest in temporary services that are expected to be in
25 service less than 1 year.

26
27 Northland Utilities (NWT) does not offer investment and non-investment rates to
28 customers. For street lighting the investment options corresponds with the Franchise
29 agreement.

30
31 The Companies are not familiar enough with the rate and investment details pertaining
32 to BC Hydro and NTPC's practices to provide a response.

33
34 **(c)**

35
36 Electric utilities earn a return on their investment in facilities through rate base, thus
37 rates with non-investment options are not normally offered as a matter of course. Rates
38 are derived on an average basis. Some customer facilities receive full investment and

1 others receive some part thereof (as described in the response to Part (b)). The derived
2 rates reflect these investments on an average basis. In some circumstances, in
3 particular, for lighting customers, the utilities work with the customer's (municipalities)
4 needs and offer both investment and non-investment options. If there is enough interest
5 and a sufficient number of customers to warrant offering non- investment options, utilities
6 would then work with the customers through the rate application process to develop
7 these options.

ISSUE: Need to Include a Customer Bill of Rights in the ESR

REFERENCE: Application, Section 7, page 7-8, Item 25

PREAMBLE:

No.	Intervenor	Submission Date	Issue	Response
25	Utilities Consumer Group (UCG) (Roger Rondeau)	8-Dec-09	Need to include a Consumer Bill of Rights in the ESR. A code of ethics identifying a step-by-step procedure a customer or the utility must comply when have a dispute.	Please refer to the proposed ESR, (commonly called Terms and Conditions of Service). The ESRs, or terms and conditions, set out the rights and responsibilities of customer and utility with regard to the provision of service. Discussions with concerned stakeholders on this issue are being undertaken but have not been completed at time of filing.

QUESTION:

- a) Do the Utilities believe there is a need for a customer bill of rights?
- b) What is the status of discussions with the concerned stakeholders? Are they ongoing or complete?
- c) Please provide a detailed summary of discussions with concerned stakeholders.
- d) Will there be any alterations to the ESRs as a result of these discussions?

1 e) Did the discussions result in mutual agreement or are there still outstanding
2 differences?
3

4 **ANSWER:**
5

6 **(a)**
7

8 No, the Companies do not believe there is a need for a customer bill of rights. The
9 Terms and Conditions of Service, which are approved by the Board, already provide
10 detailed information regarding the rights and obligations of both the customer and utility.
11

12 **(b)**
13

14 The Companies met with the concerned stakeholders on February 23, 2010. There have
15 been no meetings since then.
16

17 **(c)**
18

19 The Companies addressed the issues of concern raised by UCG in the meeting and
20 identified where the answer to the matters raised could be found in the current ESRs or
21 how they were dealt with in current policies and practices. Please refer to attachment
22 CW-YEC/YECL-1-28(c) Attachment 1.
23

24 **(d)**
25

26 The proposed Terms and Conditions are intended to reflect the positions of YECL/YEC
27 regarding all customer issues.
28

29 **(e)**
30

31 The Companies were of the understanding that at the conclusion of the meeting, UCG
32 was satisfied with the responses provided and that there were no outstanding issues to
33 be dealt with.

CUSTOMER BILL OF RIGHTS COMMENTS

Customer Bill of Rights

Meeting Held February 23, 2010

Attendees: Roger Rondeau, UCG
Wendy Scramstad, YECL
Craig Steinbach, YECL
Ed Mollard, YEC

1. You have the right to service if you are a qualified applicant.

Service is never refused however in some instances a customer's eligibility may be qualified. **Articles 4.1 & 4.2 of Electric Service Regulations** identify general requirements to received service. All applicants are assumed to have a good credit rating unless proven otherwise. Eligibility may be based on payment of outstanding arrears on other accounts or payment of a security deposit. The Electric Service Regulations for collecting a security deposit and collection of outstanding arrears are covered in **Article 4.9 of Electric Service Regulations** as well as the **Security Deposit Collection and Refund Policy** which provides further details and guidelines. It is also addressed in the **Collection of Delinquent Accounts Policy**

2. You have the right to challenge what you consider is an unreasonably high deposit as a condition of service or what you consider unreasonable payments on past due.

Deposits are calculated by the billing system and are based on approved **Article 4.9 of Electric Service Regulations** and the **Security Deposit Collection and Refund Policy**.

A security deposit is based on three months expected consumption due to the delay in billing a customer combined with the delay in taking collection action. A customer will owe for 90 days of service at the time the service may be disconnected for nonpayment.

This article ensures all customers are treated equitably and negotiation on the deposit amount isn't required with every customer. The companies may waive the deposit requirement if extenuating circumstances exist. It is important to note that this practice mitigates the risk to all ratepayers by collecting a security deposit that is designed to cover the amount outstanding if a customer is disconnected for nonpayment.

3. You have the right to budget billing.

The Budget Plan has been in place for over 30 years and all residential customers are eligible to participate. The two guiding principles are:

CUSTOMER BILL OF RIGHTS COMMENTS

- The customer must be willing to pay an average monthly amount designed to cover the estimated bills in 12 months.
 - The customer must also be willing to make a regular payment each month.
4. You have the right to negotiate payment arrangement for delinquent accounts based on
- Reasonableness of the amount paid compared to amount owed
 - Past history of honoring commitments.

Payment arrangements are made daily with customers and there is no limit on the number of arrangements a customer may make in any year. The **Collection of Delinquent Accounts Policy** provides guidelines. The arrangement amounts and term must be reasonable based on the amount of the arrears and past history must evidence that the commitment to pay is honored by the customer. If it is a first time arrangement, it is assumed the customer will honor the commitment. **Extenuating circumstances in the customer's life are always considered.**

5. You have the right to have any complaint against you utility handled promptly by that utility.

This is the mandate of the Yukon Utility Board to ensure the utilities address all customer concerns that are not perceived as handled promptly or efficiently.

6. You have the right to call upon the YUB to investigate your utility complaints and inquiries. Upon conclusion of the investigation any charges found to be in error for inaccurate will be credited or refunded to the customer.

This is one of the guiding principles in the **Collection of Delinquent Accounts Policy**. This would be considered extenuating circumstances and would be dealt with on a case by case basis.

7. If you suspect your meter is not working properly, you have the right to ask the utility to verify the accuracy. If this does not satisfy your complaint, you have the right to have your meter tested by an independent testing agency at the applicable approved fee.

Meter check and verification is addressed in **Article 6.3 of Electric Service Regulations**. There is a nominal fee charged. This fee is in place to discourage abuse of the process and does not cover the company's incurred costs. There are strict guidelines in place by **Measurement Canada** that dictate testing of meters and acceptable pass and failure rates.

8. You have the right to written notice of termination mailed to the address provided by the customer, 14 days prior to the disconnection of service.

CUSTOMER BILL OF RIGHTS COMMENTS

Article 11.3 of Electric Service Regulations identifies general terms for disconnection other than for safety reasons. The **Collection of Delinquent Accounts Policy** details specific principles, practices and procedures. The due date of each statement is approximately 19 calendar days from the date it is issued. A notice of pending disconnection is sent to a customer 8 calendar days after the 2nd month statement is issued if no payment has been received for the 1st statement. Disconnection for nonpayment usually occurs at least 2 days after the due date of the 2nd statement. Customers with a fair to excellent credit history are sent a reminder notice before the notice of pending disconnection which may result in a later disconnection time than those with a less satisfactory credit history. For the purposes of this process, if a notice is not returned by Canada Post it is deemed to have been received.

As a final step, an attempt to reach the customer by phone is also made just prior to the order to disconnect service being issued. One of the guiding principles in the **Collection of Delinquent Accounts Policy** is that customers will be disconnected only as a last resort.

9. Residential service may only be shut off after proper notice, Monday through Thursday 8:00am to 4:00 pm. A utility may not shut off residential service on Friday, Saturday, or Sunday, a holiday, the day before a holiday, or if known critical care equipment is installed in the premise.

Yukon Electrical's practice is to disconnect service as a last resort Monday through Thursday before 12 noon. This is covered as a procedure in the **Collection of Delinquent Accounts Policy**. Non-staffed outlying communities may require other parameters. In the event a disconnect is done in the community, every effort is made to collect and reconnect service before staff leaves.

The customer must communicate with the utility if there is a medical emergency in the household or critical care equipment exists. Extenuating circumstances such as a medical emergency are always a consideration when deciding a course of action as covered in the guiding principles and practices in the **Collection of Delinquent Accounts Policy**.

10. Winter Termination Program – If you are an elderly, in medical need or low-income customer having financial problems paying your bill, you should request the utility to enroll you in a budget plan in accordance with your ability to pay. You are required to make good faith payments of all reasonable bills for service.

All residential customers are eligible to enroll in the budget plan every year in May. This start date allows for even monthly payments over a 12 month term. Some discretion is used when determining enrollment during a later month if the customer doesn't have electric heat and is willing to make larger payments over a

CUSTOMER BILL OF RIGHTS COMMENTS

shorter term... This is a guiding principle in the **Collection of Delinquent Accounts Policy**.

Current limiters are installed as an alternative to disconnecting service between October 15 and April 15 as covered in procedures in the **Collection of Delinquent Accounts Policy**. This practice reduces hardship to the customer and mitigates the chance of property damage to the landlord.

11. If you live in a multi-family dwelling, you have the right to receive posted notice of any impending shut-off sent individually to occupants.

The utility may not be aware that a premise is a multi-family dwelling if it is served by a single meter. It is also very difficult to balance the right to privacy of the account holder with the tenancy rights of other occupants. In instances when a tenant who is not the account holder contacts the utility regarding disconnection of service they are advised to contact their landlord or the other occupant.

12. You have the right to a “diversion of service” investigation if you suspect that the level of usage reflected in your utility bill is unexplainable high.

This type of investigation is on the customer side of the meter and is beyond the scope of the utility. As well, it is very rare that this type of issue would be related to 3rd party diversion. However, the utility will aid and support the customer in attempting to determine the various causes for high consumption.

13. Services shall not be shut off for non-payment of repair charges, penalties or merchandise charges, nor shall notice threatening such shut off be given.

Article 7.6 of Electric Service Regulations state that any outstanding charges due and owing to the company may be added to the customer’s bill. The utility always attempts collection of any non electrical charges such as a construction contribution or miscellaneous accounts receivable amount separately from the monthly electrical bill. The option to add it to the electrical bill may be used as a last resort when all other avenues for collection have failed.

14. After six months, you have the option of having a deposit refund applied to your account or having the deposit refunded by a separate check.

Article 4.9 of Electric Service Regulations as well as the **Security Deposit Collection and Refund Policy** provides guidelines for application or refund of security deposits. Deposits are held on the customer’s account for 12 months or until a satisfactory credit rating is established as outlined in the policy.

15. Meter reading shall not be estimated more than one month in a row, without reasonable effort by the utility.

CUSTOMER BILL OF RIGHTS COMMENTS

Article 7.1 of Electric Service Regulations provides for alternate reading methods however, Yukon Electrical makes reasonable efforts to read every meter every month. From time to time meters cannot be read and customers will be issued a statement using either a computer calculated or manual estimate. If the estimate is found to be inaccurate, an adjustment may be made to reflect the customer's usage.

16. Contact information for the Yukon Utility Board:

PO Box 31728
Whitehorse, Yukon
Y1A6L3
Attn: Shay Smart

YUB@yukonutilitiesboard.ca

Phone: 667-5058

Fax: 667-5059

1 **ISSUE:** **DSM**

3 **REFERENCE:** **Decision 2009-8, page 9, paragraph 40**

5 **PREAMBLE:**

7 YEC was directed by the Board in its General Rate Application for 2008-2009 as follows:

9 Furthermore, the Board finds DSM to be a critical issue for all electric rate payers in
10 Yukon. The Board directs YEC in conjunction with YECL to consult with stakeholders
11 and develop a policy paper with respect to DSM initiatives. YEC and YECL are to jointly
12 lead this process and submit a policy paper (Plan) in their next GRA. Further the utilities
13 are to be cognizant of and work with ESC where necessary so as not to duplicate efforts
14 (emphasis added).

16 **QUESTION:**

- 18 a) Does YEC believe that DSM is a critically important issue for rate payers in the
19 Yukon? Please explain fully.
- 21 b) If yes, notwithstanding the Board's comments on the timing of the
22 implementation, what are YEC's reasons for waiting for another GRA until it
23 proposes DSM programs for Board approval?
- 25 c) Does YECL believe that DSM is a critically important issue for rate payers in the
26 Yukon? Please explain fully.
- 28 d) If yes, notwithstanding the Board's comments on the timing of the
29 implementation, what are YECL's reasons for waiting for another GRA until it
30 proposes DSM programs for Board approval?
- 32 e) What collaboration with customers have YEC and YECL undertaken to date with
33 respect to a policy paper on DSM measures?
- 35 f) If no collaboration has taken place, please explain why not, given the Board's
36 conclusion that DSM is a critical issue for all electric rate payers in Yukon.

1 g) Please comment on the principle that rate restructuring and DSM should be
2 implemented simultaneously so that the two programs can work in tandem and
3 support and enhance the conservation efforts of the other.
4

5 **ANSWER:**
6

7 **(a)**
8

9 YEC believes that DSM is one of a number of important issues for ratepayers in Yukon
10 at this time. Since the Faro mine shutdown in 1998 there has been a surplus of
11 renewable energy on the Yukon two hydro grids. During the period from 1998 to present
12 there was little value for rate payers from DSM programming (and in fact a perverse
13 economic condition for a DSM program as the Board pointed out in paragraph 37 of its
14 2009-8 Board Order).
15

16 Moving into the future and the load conditions now expected to prevail on the system, a
17 DSM program can be an integral part of a long term supply plan for Yukon. The timing
18 for delivery of such a program is in the near future. Appropriate and cost-effective DSM
19 initiatives are part of an overall balanced and lowest cost supply plan, primarily by
20 reducing the need for new generation and the need for higher cost diesel generation.
21

22 **(b)**
23

24 Yukon Energy is not waiting until a next GRA to advance DSM. In particular, YEC has
25 been working with YECL over the past year to collect DSM program information from
26 other jurisdictions and information on the performance of the Yukon's existing DSM
27 programs currently being delivered primarily by the Yukon Government's Energy
28 Solutions Center. This is being done in order to develop a suite of Yukon-specific DSM
29 initiatives for discussion with customers and stakeholder groups this fall. It is important to
30 approach DSM with the appropriate research which includes an assessment of what has
31 been done, which current programs are demonstrating positive results, the findings from
32 Yukon based pilot projects to be launched in the near future, etc.

1 As per the YUB's Board Orders 2009-2 and 2009-8, YEC and YECL intend to begin
2 formally engaging stakeholders/intervenors this fall. This will likely include the
3 presentation of a draft policy paper, individual stakeholder group meetings and a public
4 workshop. YEC will also be including a DSM program in a 5-year update of its Resource
5 Plan in 2011.

6
7 It remains YEC's intention to comply with the Board's directives in Order 2009-8.

8
9 **(c)**

10
11 YECL's understanding of DSM is a mechanism that provides a range of technical and
12 behavioral solutions to cut or reduce electricity consumption and demand. YECL
13 believes that one approach to facilitate this process is to provide a reasonable signal
14 through the base rates. YECL has proposed a rate design option that it believes
15 provides a reasonable price signal for customers to reduce energy consumption.
16 However, YECL is uncertain whether customers are willing to take action. To the extent
17 that current OIC's (1995/90) directs rate design principles in Yukon to promote economy
18 and efficiency, YECL believes that DSM is an important issue for rate payers.

19
20 **(d)**

21
22 DSM can extend to mean many things including the use of high efficiency equipment,
23 efficient use of electricity through good operating practices, and the use of metering
24 technology to help provide additional pricing signals to customers. Programs of this
25 nature could require significant investment for the utility and/or the customer. It is also
26 important to consider the practical nature of any DSM program and whether the
27 technology is readily available and economical to use. YECL does not believe it is
28 prudent to design DSM programs without adequate consultation with interested parties
29 and clear direction from both the Government and the Board. The Government has
30 clearly stated it will take a lead role in the development of the policies related to DSM as
31 they implement the *Energy Strategy for Yukon*. At this time, YECL and other
32 stakeholders are evaluating DSM related initiatives with the Yukon Government and
33 Yukon Energy. Further consultation is planned for fall 2010.

1 **(e) and (f)**

2
3 **YEC Response**

4 Please see response to (b) above.

5
6 **YECL Response**

7 The attached letter from the Yukon Government regarding the *Energy Strategy for*
8 *Yukon* written to the Yukon Utilities Board in 2009 clearly demonstrates that the Yukon
9 Government has taken the lead role in developing a DSM policy . Both Yukon Electrical
10 and Yukon Energy have provided input to the government on Net Metering, Independent
11 Power Production guidelines and DSM. It is the understanding of both YECL and YEC
12 that the government will be initiating a broad public review of all three of these draft
13 policies this fall. Once the Government of the Yukon has established policies in these
14 areas the utilities will be need to work on an implementation plan and determine the
15 impact on revenue requirements and rates. In the meantime the utilities continue to
16 provide information and education for customers on energy conservation strategies and
17 programs as requested.

18
19 **(g)**

20
21 Rates and DSM initiatives can be designed to complement each other, and ideally
22 should not be designed to be in conflict with each other. However, in designing rates
23 other considerations must also apply than simply driving conservation behavior, such as
24 fairly sharing the benefits of past “heritage” resources, the type of principles set out by
25 Bonbright and discussed at CW-YEC/YECL-1-14 and of course the requirement to
26 comply with Yukon government policy including OIC 1995/90.



July 7, 2009

Ms. Wendy Shanks
Chair
Yukon Utilities Board
#19 – 1114 1st Avenue
Whitehorse, Yukon Y1A 1A3

Dear Ms. Shanks:

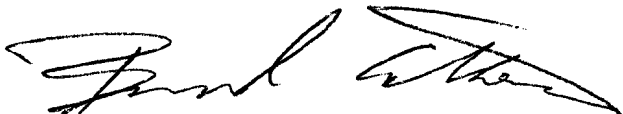
Re: Development of New Energy Policies

I would like to take this opportunity to provide some information for the Yukon Utilities Board regarding key energy policy initiatives to be undertaken by the Yukon government.

Government will be implementing the *Energy Strategy for Yukon* released earlier this year, with a particular focus on priority actions including the development of policies for independent power producer (IPP) interconnections, demand side management (DSM) initiatives, and net metering. Government will take a lead role in the development of those policies, and has been in contact with both utilities to involve them in this initiative. We are anticipating holding public consultations on these policies later this year.

Government is committed to working with stakeholders to develop policies and programs that maximize the benefits Yukon citizens receive from their electrical utilities, and create new opportunities for citizens and ratepayers.

Sincerely,

A handwritten signature in black ink, appearing to read "Brad Cathers".

Brad Cathers
Minister of Energy, Mines and Resources



1 **ISSUE:** Collaborative Process

3 **REFERENCE:** Order 2009-8, page 27; Application, page 7-12, issue 61

5 **PREAMBLE:**

7 The Board stated:

9 The Board directs YEC and YECL as agreed to file a joint Phase II application containing
10 an up-to-date cost of service study (with electronic models attached) within 60 days of
11 the issuance of the decision on the compliance filing by YEC as directed in this Board
12 Order. The Phase II application is to provide accurate revenue to cost ratios for all rate
13 classes, provide rate design recommendations that comply with previous Board
14 directions and comply with current OICs, provide updated terms and conditions of
15 service, and contain a review on investment levels. As supported by both utilities, the
16 Board expects the application to contain stakeholder input (emphasis added).

18 **QUESTION:**

- 20 a) What features of the Application, as filed, are the result of, and are shaped by,
21 stakeholder input?
- 23 b) Have the Utilities sought or received any additional stakeholder input following
24 the January 15, 2010 stakeholder submissions?
- 26 c) If the answer to (b) is yes, then please identify this input and indicate how, if at
27 all, the Utilities incorporated this stakeholder input into the Application?
- 29 d) At what point in the YUB process does YEC/YECL propose reviewing
30 outstanding issues with stakeholders? Please make reference to the process
31 schedule set out in Order 2010-6.
- 33 e) What issues do the Utilities still seek stakeholder input for resolution?

1 **ANSWER:**

2
3 **(a)**

4
5 Generally, the concerns and views raised by stakeholders informed the Companies'
6 discussions on cost of service, rate design issues and options, and terms and conditions
7 of service prior to filing the application February 19, 2010. This included key discussions
8 concerning the need for conservation signals and runoff block rate design, and blocking
9 options for retail rates (specifically a 700 kWh first block for residential customers was
10 considered arising from discussions at the December 2009 workshop).

11
12 A detailed summary of issues/comments raised by stakeholders and the Companies'
13 response is provided in Tab 7, Table 7-2 (page 7-4). This table notes where in the
14 application issues raised are addressed, or why they have not been addressed in
15 application.

16
17 **(b) and (c)**

18
19 Please refer to CW-YEC/YECL-1-28(b), (c) and (e).

20
21 **(d) and (e)**

22
23 The YUB process for the review of this application is as provided in Order 2010-6 as
24 revised by Order 2010-7 and 2010-8. The current Board process provides for intervenor
25 evidence to be filed August 6 and an oral hearing October 5-7. These would be the only
26 other processes provided for in the Board's schedule for intervenor input.

1 **ISSUE:** Collaborative Process

3 **REFERENCE:** Application, page 7-1

5 **PREAMBLE:**

7 The Utilities state:

9 Briefing with Yukon Government - The Companies met and presented background
10 information related to its application to representatives of Yukon Government (Energy,
11 Mines and Resources and the Energy Solutions Center) on November 4, 2009. Copies
12 of the presentations provided to the Yukon Government by YEC and YECL are provided
13 in Appendix 7.1 Attachment A

15 **QUESTION:**

- 17 a) Was the Yukon Government informed of the residential rate restructuring
18 proposed in YEC's original application and denied in Board Order 2008-16?
19
- 20 b) Where does the information respecting the rate restructuring appear in Appendix
21 7.1 Attachment A?
22
- 23 c) Please outline any concerns presented by the Yukon Government in relation to
24 the presentation materials in Appendix 7.1, Attachment A.
25
- 26 d) What input from the Yukon Government have the Utilities incorporated into the
27 Application? Please provide appropriate references to the Application.
28

29 **ANSWER:**

31 **(a)**

33 Yes, the application and subsequent Board Order were public documents.

1 **(b)**

2
3 Consultation and briefing materials relative to the 2009 Phase II Rate Application are
4 provided in Appendix 7.1. The focus was on issues that inform the development of the
5 current Application; however, no “rate restructuring” proposal was reviewed as the current
6 proposals had not yet been designed by that point in time.

7
8 **(c) and (d)**

9
10 Yukon Government representatives were briefed as to the Phase II Rate Application
11 process and related issues. No official response was provided subsequent to that
12 meeting. Representatives of the Yukon Government also attended the stakeholder
13 meeting on December 15, 2009 and no comments were provided subsequent to that
14 meeting.

1 **ISSUE: Procedure**

3 **REFERENCE: Cover Letter of March 1, 2010**

5 **PREAMBLE:**

7 The Utilities state:

9 The Companies have provided herein two rate design discussions (Tab 4YEC and Tab
10 4YECL). Each Company will be prepared to speak to their discussion as part of this
11 proceeding. The City wishes to understand how the Utilities will speak to and defend the
12 respective rate designs options, and the procedure envisioned in so doing.

14 **QUESTION:**

16 a) Will utility witnesses who speak to the two rate design options sit on the same
17 panel or will they sit separately?

19 b) Will the Utilities provide one panel to speak to all the issues on which they agree,
20 such as the rate design described as YEC's Option B?

22 c) Will there be a separate YEC panel to speak to the Option A rate design and
23 other issues with which YEC may not agree with YECL?

25 d) Will there be a separate YECL panel to speak YECL's proposed rate design and
26 any issues with which YECL may not agree with YEC, such as YEC's Option A?

28 **ANSWER:**

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

32 The Companies have not yet decided on the composition of the Panel(s). As the
33 Companies have done in the past they will identify the Panel(s) once the evidentiary/IR
34 process is complete.