



**The Yukon Electrical Company Limited**  
An **ATCO** Company

---

March 31, 2011

Ms. Deana Lemke  
Executive Assistant  
Yukon Utilities Board  
P.O. Box 31728  
Whitehorse, Yukon Y1A 6L3

Dear Ms. Lemke:

Re: Key Performance Indicators

Yukon Electrical is pleased to submit its 2010 Key Performance Indicators Report.

Please contact me at 633-7003, if you require any additional information or clarification.

Yours sincerely,

**THE YUKON ELECTRICAL COMPANY LIMITED**  
An ATCO Company

Dwight Redden,  
General Manager

DR:cm  
Encl.

mkp2010



**THE YUKON ELECTRICAL COMPANY LIMITED**  
An *ATCO* Company

Report to the Yukon Utilities Board

2010

Key Performance Indicators

March 31, 2011

# TABLE OF CONTENTS

	Page
1. Operational Performance	
Generation Performance	1
Summary of Customers, Energy Sales & Revenue	2
Summary of Energy Balance and Losses	3
Reliability Performance	4
2. Health, Safety and Environment Performance	5
3. Financial Performance	6

**The Yukon Electrical Company Limited  
Generation Performance**

Plant	2010	CUL Number	Unit Size (kW)	Engine Hours	Actual Generation (kWh)	Total Available Generation (kWh)	Unit Availability	Capacity Factor	Operating Factor
Beaver Creek	Unit # 1	CUL303	250	5,186	974,301	1,296,500	99.54%	44.69%	59.20%
	Unit # 2	CUL378	300	3,341	744,277	1,002,300	96.87%	29.24%	38.14%
	Unit # 3	CUL354	400	1,056	233,781	422,400	99.91%	6.68%	12.05%
Carmacks	Unit # 1	CUL310	1,600	15	4,408	24,000	98.90%	0.03%	0.17%
	Unit # 1	CUL230	220	4,601	811,206	1,012,220	92.86%	45.33%	52.52%
	Unit # 2	CUL372	300	4,259	917,199	1,277,700	98.97%	35.26%	48.62%
Dest. Bay	Unit # 3	CUL397	170	381	39,122	64,770	99.95%	2.63%	4.35%
	Unit # 1	CUL416	1,750	62	44,014	108,500	100.00%	0.29%	0.71%
	Unit # 1	CUL414	600	2,274	636,000	1,364,400	97.98%	12.35%	25.96%
Old Crow	Unit # 2	CUL371	330	5,611	1,150,800	1,851,630	95.66%	41.61%	64.05%
	Unit # 3	CUL384	170	1,015	128,100	172,550	99.91%	8.61%	11.59%
	Unit # 1	CUL375	275	14	1,190	3,850	99.72%	0.05%	0.16%
Pelly	Unit # 2	CUL355	400	72	17,560	28,800	100.00%	0.50%	0.82%
	Unit # 3	CUL405	300	30	3,740	9,000	100.00%	0.14%	0.34%
	Unit # 1	CUL265	1,000	17	7,629	17,000	97.26%	0.09%	0.19%
Stewart	Unit # 1	CUL348	150	0	0	0	0.00%	0.00%	0.00%
	Unit # 2	CUL357	100	0	0	0	0.00%	0.00%	0.00%
	Unit # 3	CUL186	150	36	1,830	5,400	98.90%	0.14%	0.41%
Teslin	Unit # 1	CUL378	1,500	20	6,885	30,000	99.18%	0.05%	0.23%
	Unit # 1	CUL422	800	4589.0	2,902,800	3,671,200	99.00%	29.60%	52.39%
	Unit # 2	CUL257	800	4191.0	2,418,000	3,352,800	98.00%	4.00%	47.84%
Watson Lake	Unit # 3	CUL352	1,000	3098.0	2,368,800	3,098,000	86.00%	12.76%	35.37%
	Unit # 4	CUL258	1,500	2768.0	3,223,200	4,152,000	43.00%	68.60%	31.60%
	Unit # 5	CUL 466	600	124.0	51,600	74,400	3.60%	29.00%	1.42%
Swift River	Unit # 6	CUL423	800	5487.0	3,398,400	4,398,600	99.00%	38.80%	62.64%
	Unit # 1	CUL412	80	8,102	187,005	648,160	99.50%	39.60%	92.49%
	Unit # 2	CUL413	80	530	19,000	42,400	100.00%	0.00%	6.05%
Fish Lake	Unit # 1	CUL109	700			1,020,480			0.00%
	Unit # 2	CUL108	600			2,367,240			0.00%

**The following factors were measured**

- Unit Size:** This is the generator capacity in kW.
- Engine Hours:** This is the number of hours the generator was on-line.
- Actual Generation:** This is the amount of real power (energy) that the generating unit produced for the year in kW.h
- Total Available Generation:** This is the amount of real power (energy) that the generating unit could have produced based on the hours the generator was on-line during the year.
- Unit Availability:** This is defined as the number of hours the generator is available for production divided by the hours in the period. This factor is displayed in percentile and is useful in monitoring the overall reliability of the machine without regard to whether it was available when it was most needed.
- Capacity Factor:** This is defined as the actual energy produced divided by the amount of energy the unit had the potential to produce for the year. Displayed as a percentile, it is useful as an indication of the utilization of the generator especially in terms of providing energy (kW.h).
- Operating Factor:** This is defined as the hours the generator was on-line divided by the total hours in the year. Displayed as a percentile, this factor is useful in monitoring how much the machine was used without regard to its defined benefit such as energy production (kW.h) or capacity factor.

**Yukon Electrical Company Limited**  
**Summary of Customers, Energy Sales and Revenue**

Line No.	Description	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010
1	<b>Residential</b>					
2	Customers (average during year)	12,196	12,452	12,715	12,925	13,169
3	Sales in MWh	122,151	122,334	128,302	131,620	131,265
4	MWh sales per customer	10.0	9.8	10.1	10.2	10.0
5	Revenue (\$000s)	14,001	14,088	16,671	16,350	16,802
6	Cents per KWh	11.46	11.52	12.99	12.42	12.80
7	<b>Commercial</b>					
8	Customers (average during year)	2,515	2,570	2,600	2,627	2,692
9	Sales in MWh	137,080	141,351	141,704	141,025	145,769
10	MWh sales per customer	54.5	55.0	54.5	53.7	54.1
11	Revenue (\$000s)	17,999	18,729	20,818	20,278	21,653
12	Cents per KWh	13.13	13.25	14.69	14.38	14.85
13	<b>Street lights</b>					
14	Sales in MWh	3,263	3,374	3,545	3,477	3,647
15	Revenue (\$000s)	679	703	776	763	849
16	Cents per KWh	20.81	20.83	21.89	21.94	23.28
17	<b>Sentinel lights</b>					
18	Sales in MWh	644	639	631	592	594
19	Revenue (\$000s)	135	134	139	131	139
20	Cents per KWh	20.95	20.96	22.03	22.13	23.40
21	<b>Total Company - Retail - Primary</b>					
22	Customers	14,711	15,022	15,315	15,552	15,861
23	Sales in MWh	263,137	267,698	274,182	276,714	281,275
24	Revenue (\$000s)	32,814	33,654	38,404	37,522	39,443
25	Cents/KWh	12.47	12.57	14.01	13.56	14.02
26	<b>Secondary Sales</b>					
27	Customers (average during year)	22	22	23	21	21
28	Sales in MWh	21,555	23,566	18,053	16,843	10,153
29	MWh sales per customer	979.8	1,071.2	784.9	802.0	483.5
30	Revenue (\$000s)	1,367.0	1,453.0	1,389.0	1,092.0	665.0
31	Cents per KWh	6.34	6.17	7.69	6.48	6.55
32	<b>Wholesale Sales</b>					
33	Customers (average during year)	2	2	1	1	1
34	Sales in MWh	513	488	412	360	364
35	MWh sales per customer	256.5	244.0	412.0	360.0	364.0
36	Revenue (\$000s)	52	53	41	37	37
37	Cents per KWh	10.14	10.86	9.95	10.28	10.16
38	<b>Total Company</b>					
39	Customers	14,735	15,046	15,339	15,574	15,883
40	Sales in MWh	285,205	291,752	292,647	293,917	291,792
41	Revenue (\$000s)	34,233	35,160	39,834	38,651	40,145
42	Cents/KWh	12.00	12.05	13.61	13.15	13.76
43	Retail Revenues	34,233	35,160	39,834	38,651	40,145
44	<b>YEC Revenue Shortfall (Rider J)</b>	4,882	5,017	4,990	4,026	4,353
45	<b>TOTAL REVENUES</b>	39,115	40,177	44,824	42,677	44,498

**Yukon Electrical Company Limited**  
**Schedule of Energy Balances and Losses**

(MW.h )

Line No.	Description	Actual 2006	Actual 2007	Actual 2008	Actual 2009	Actual 2010
1	<b>Sales and Losses</b>					
2	Total energy sales - MWh	285,205	291,752	292,647	293,917	291,792
3	Losses and company used - MWh	18,591	18,087	18,001	18,215	17,932
4	Losses -%	6.5%	6.2%	6.2%	6.2%	6.1%
5	Total generation and purchases (MWh)	<u>303,796</u>	<u>309,839</u>	<u>310,648</u>	<u>312,133</u>	<u>309,725</u>
6	<b>Sources - MWh</b>					
7	Hydro generation	8,216	9,025	6,551	8,094	3,388
8	Hydro grid standby diesel generation	39	131	159	213	72
9	Diesel generation	22,125	22,203	22,065	19,753	19,767
10	Purchases	<u>273,416</u>	<u>278,480</u>	<u>281,873</u>	<u>284,073</u>	<u>286,498</u>
11		<u>303,796</u>	<u>309,839</u>	<u>310,648</u>	<u>312,133</u>	<u>309,725</u>
12	<b>Sources - %</b>					
13	Hydro generation	2.7%	2.9%	2.1%	2.6%	1.1%
14	Diesel generation	7.3%	7.2%	7.4%	6.4%	6.4%
15	Purchases	<u>90.0%</u>	<u>89.9%</u>	<u>90.5%</u>	<u>91.0%</u>	<u>92.5%</u>
		100.0%	100.0%	100.0%	100.0%	100.0%

## Reliability Performance

Yukon Electrical tracks the following reliability indices as defined below:

**SAIFI** refers to the System Average Interruption Frequency Index. This index is defined as the average number of interruptions per customer served per year. SAIFI is calculated by taking the total number of customers affected by interruptions divided by the total number of customers served.

**SAIDI** refers to the System Average Interruption Duration Index. This index is defined as the system average interruption duration for customers served per year. SAIDI is calculated by taking the total customer hours of interruptions divided by total customers served.

**CAIDI** refers to the Customer Average Interruption Duration Index. This index is defined as the customer average interruption duration for customers interrupted during the year. CAIDI is calculated by taking the total customer hours of interruptions divided by total customer interruptions.

**IOR** refers to the Index of Reliability which defines the annual customer-hours that service is available measured as a percentage.

Yukon Electrical's 2009 results (including and excluding loss of supply from Yukon Energy) are as follows:

	Including Loss of Supply From Yukon Energy	Excluding Loss of Supply From Yukon Energy
SAIFI	3.98	1.49
SAIDI	2.95	1.57
CAIDI	.74	1.06
IOR	99.9664%	99.9821%

## Health, Safety and Environment Performance

Yukon Electrical's 2010 Health, Safety, and Environment Performance Measures are as follows:

Worker lost time frequency	0.00
Worker lost time severity	0.00
Contractor lost time incidents	0
Preventable vehicle incident frequency	9
Number of reportable releases	2



## Financial Performance

The table below notes a number of highlights from our 2010 Annual Filing as well as a number of other 2010 Financial Performance indicators.

Regulated Return on Equity (ROE)	10.71%
Net Rate Base (\$000's)	\$49,993
Average Inventory (\$000's)	\$1,769
Capital Additions (\$000's)	\$6,849
Customers per Employee	294
Sales (MW.h) per Employee	5,404
Total labour dollars per Customer	\$375
Ave. Consumption per Res. Customer (MW.h)	9.97
Ave. Consumption per Comm. Customer (MW.h)	54.15