

# **ATCO Electric**

**YUKON**

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April 15, 2015

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

Dear Ms. Lemke:

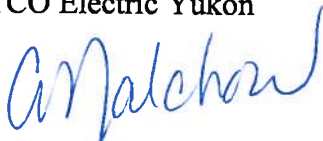
Re: Key Performance Indicators

ATCO Electric Yukon is pleased to submit its Revised 2014 Key Performance Indicators Report.

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

Yours sincerely,

ATCO Electric Yukon



*for* Dwight Redden,  
General Manager

DR:cm  
Encl.

n\kpi2014



Report to the Yukon Utilities Board

2014

Key Performance Indicators

April 15 2015

# 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

**ATCO Electric Yukon  
Generation Performance**

Plant	2013	CUL Number	Date Installed	Unit Size (kW)	Engine Hours	Actual Generation (kWh)	Total Available	Unit Availability	Capacity Factor	Operating Factor
							Generation (kWh)			
Beaver Creek	Unit # 1	CUL303	Feb-89	250	1,293	245,750	323,250	84.10%	43.19%	14.76%
	Unit #2 Old	CUL378	Out May-14	300	1,261	244,204	378,300	89.86%	24.05%	14.39%
	Unit # 2 New	CUL	Jul-14	365	2,710	596,886	989,150	61.17%	60.34%	30.93%
	Unit # 3	CUL354	Sep-91	400	3,757	772,467	1,502,800	96.13%	22.93%	42.88%
Carmacks	Unit # 1	CUL310	Dec-91	1,600	121	58,000	193,600	99.73%	0.41%	1.38%
Dest. Bay	Unit # 1	CUL 467	Dec-15	400	1,042	298,281	416,800	99.06%	8.59%	11.89%
	Unit # 2	CUL372	Dec-92	300	4,795	1,065,338	1,438,500	98.52%	41.15%	54.74%
	Unit # 3 Old	CUL230	Out Sept-2	220	2,932	497,059	645,040	99.35%	42.66%	33.47%
	Unit # 3 New	CUL584	Nov-14	315	24	1,270	7,560	8.49%	16.80%	0.27%
Haines Jtn.	Unit # 1	CUL416	Jun-97	1,750	25	19,617	43,750	100.00%	0.13%	0.28%
Old Crow	Unit # 1	CUL414	Jul-98	600	3,106	868,430	1,863,600	91.51%	18.06%	35.46%
	Unit # 2	CUL355	Jun-12	400	5,716	1,142,557	2,286,400	96.72%	33.71%	65.25%
	Unit # 3	CUL384	Sep-94	170	1,666	195,783	283,220	99.68%	13.19%	19.02%
Pelly	Unit # 1	CUL375	Apr-93	275	21	3,320	5,775	100.00%	0.14%	0.24%
	Unit # 2	CUL470	Aug-11	600	79	22,040	47,400	98.90%	0.42%	0.90%
	Unit # 3	CUL405	Jun-97	300	287	24,790	86,100	100.00%	0.94%	3.28%
Ross River	Unit # 1	CUL265	Nov-89	1,000	98	29,126	98,000	100.00%	0.33%	1.12%
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	Mar-82	150	45	1,665	6,750	66.57%	0.19%	0.56%
Teslin	Unit # 1	CUL378	Feb-93	1,500	49	18,585	73,500	99.44%	0.14%	0.56%
Watson Lake	Unit # 1	CUL422		800	2087	1,314,000	1,669,600	99.33%	18.75%	23.82%
	Unit # 2	CUL257		800	1236	718,800	988,800	99.73%	10.26%	14.11%
	Unit # 3	CUL352		1,000	3111	2,460,000	3,111,000	97.69%	28.08%	35.51%
	Unit # 4	CUL545		1,200	5657	5,500,800	6,788,400	95.49%	52.33%	64.58%
	Unit # 5	CUL466		600	4128	1,909,200	2,476,800	80.82%	36.32%	47.12%
	Unit # 6	CUL423		800	5275	3,382,800	4,220,000	99.38%	48.27%	60.22%
Swift River	Unit # 1	CUL460		80	7,014	187,718	561,120	88.91%	26.79%	80.07%
	Unit # 2	CUL544		80	1,737	51,000	138,960	97.44%	7.28%	19.83%
Fish Lake	Unit # 1	CUL109	Jan-15	815	8,258	6,315,025	6,730,270	100.00%	92.42%	98.50%
	Unit # 2	CUL108		600	8,467	3,932,040	5,080,350	99.14%	74.81%	96.66%

**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.

**ATCO Electric Yukon**  
**Summary of Customers, Energy Sales and Revenue**

Line No.	Description	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014
1	<b>Residential</b>						
2	Customers (average during year)	12,925	13,169	13,482	13,857	14,194	14,409
3	Sales in MWh	131,620	131,265	141,696	150,350	148,780	147,133
4	MWh sales per customer	10.2	10.0	10.5	10.9	10.5	10.2
5	Revenue (\$000s)	16,350	16,802	18,928	21,611	21,642	22,199
6	Cents per KWh	12.42	12.80	13.36	14.37	14.55	15.09
7	<b>Commercial</b>						
8	Customers (average during year)	2,627	2,692	2,774	2,841	2,918	2,938
9	Sales in MWh	141,025	145,769	150,591	159,562	159,322	154,825
10	MWh sales per customer	53.7	54.1	54.3	56.2	54.6	52.7
11	Revenue (\$000s)	20,278	21,653	23,374	26,583	27,328	27,453
12	Cents per KWh	14.38	14.85	15.52	16.66	17.15	17.73
13	<b>Street lights</b>						
14	Sales in MWh	3,477	3,647	3,598	3,771	3,719	3,770
15	Revenue (\$000s)	763	849	881	976	995	1,028
16	Cents per KWh	21.94	23.28	24.47	25.87	26.75	27.28
17	<b>Sentinel lights</b>						
18	Sales in MWh	592	594	581	560	551	544
19	Revenue (\$000s)	131	139	144	149	150	151
20	Cents per KWh	22.13	23.40	24.73	26.54	27.22	27.76
21	<b>Total Company - Retail - Primary</b>						
22	Customers	15,552	15,861	16,256	16,698	17,112	17,347
23	Sales in MWh	276,714	281,275	296,466	314,243	312,372	306,272
24	Revenue (\$000s)	37,522	39,443	43,327	49,319	50,115	50,831
25	Cents/KWh	13.56	14.02	14.62	15.52	16.04	16.60
26	<b>Secondary Sales</b>						
27	Customers (average during year)	21	21	15	15	1	2
28	Sales in MWh	16,843	10,153	552	1,993	3,959	5,415
29	MWh sales per customer	802.0	483.5	36.8	132.9	3,959.0	2,707.5
30	Revenue (\$000s)	1,092.0	665.0	41.0	164.0	336	474
31	Cents per KWh	6.48	6.55	7.43	8.23	8.49	8.76
32	<b>Wholesale Sales</b>						
33	Customers (average during year)	1	1	2	2	2	2
34	Sales in MWh	360	364	427	338	356	495
35	MWh sales per customer	360.0	364.0	213.5	169.0	178.0	247.5
36	Revenue (\$000s)	37	37	38	28	30	41
37	Cents per KWh	10.28	10.16	8.80	8.30	8.43	8.30
38	<b>Total Company</b>						
39	Customers	15,574	15,883	16,273	16,715	17,115	17,351
40	Sales in MWh	293,917	291,792	297,445	316,574	316,687	312,182
41	Revenue (\$000s)	38,651	40,145	43,406	49,511	50,481	51,346
42	Cents/KWh	13.15	13.76	14.59	15.47	15.94	16.45
43	Retail Revenues	38,651	40,145	43,406	49,511	50,481	51,346
44	<b>YEC Revenue Shortfall (Rider J + Rider R1)</b>	4,026	4,353	2,479	1,437	5,829	5,264
45	<b>TOTAL REVENUES</b>	42,677	44,498	45,885	50,948	56,310	56,610

**ATCO Electric Yukon**  
**Schedule of Energy Balances and Losses**

(MW.h )

Line No.	Description	Actual 2009	Actual 2010	Actual 2011	Actual 2012	Actual 2013	Actual 2014
1	<b>Sales and Losses</b>						
2	Total energy sales - MWh	293,917	291,792	297,445	316,574	316,687	312,182
3	Losses and company used - MWh	18,215	17,932	18,219	20,380	20,191	19,880
4	Losses -%	6.2%	6.1%	6.1%	6.4%	6.4%	6.4%
5	Total generation and purchases (MWh)	<u>312,133</u>	<u>309,725</u>	<u>315,664</u>	<u>336,954</u>	<u>336,878</u>	<u>332,062</u>
6	<b>Sources - MWh</b>						
7	Hydro generation	8,094	3,388	3,638	3,388	3,687	10,247
8	Hydro grid standby diesel generation	213	72	446	25	3	66
9	Diesel generation	19,753	19,767	20,487	21,285	21,302	21,050
10	Purchases	<u>284,073</u>	<u>286,498</u>	<u>291,094</u>	<u>312,256</u>	<u>311,886</u>	<u>300,699</u>
11		<u>312,133</u>	<u>309,725</u>	<u>315,665</u>	<u>336,954</u>	<u>336,878</u>	<u>332,062</u>
12	<b>Sources - %</b>						
13	Hydro generation	2.6%	1.1%	1.2%	1.0%	1.1%	3.1%
14	Diesel generation	6.4%	6.4%	6.6%	6.3%	6.3%	6.3%
15	Purchases	<u>91.0%</u>	<u>92.5%</u>	<u>92.5%</u>	<u>92.7%</u>	<u>92.6%</u>	<u>90.6%</u>
		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Reliability Performance

ATCO Electrical Yukon 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.

ATCO Electric Yukon's 2014 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	4.47	2.70
SAIDI	5.51	3.90
CAIDI	1.23	0.32
IOR	99.937%	99.960%

## Health, Safety and Environment Performance

ATCO Electric Yukon's 2014 Health, Safety, and Environment Performance Measures are as follows:

Worker lost time frequency	1.5
Worker lost time severity	3.1
Contractor lost time incidents	0
Preventable vehicle incident frequency	7
Number of reportable releases	1



## Financial Performance

The table below notes a number of highlights from ATCO Electric Yukon's 2014 Approved 2013-2015 Compliance Filing as well as a number of other 2014 Financial Performance indicators.

Regulated Return on Equity (ROE)	7.86%
Net Rate Base (\$000's)	\$83,022
Average Inventory (\$000's)	\$2,141
Capital Additions (\$000's)	\$17,154
Customers per Employee	271
Sales (MW.h) per Employee	4,878
Total labour dollars per Customer	\$346
Ave. Consumption per Res. Customer (MW.h)	10.21
Ave. Consumption per Comm. Customer (MW.h)	52.70