

ATCO Electric

YUKON

May 4, 2016

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 2015 Key Performance Indicators Report.

Please contact me at 633-7080, if you require any additional information or clarification.

Yours sincerely,

ATCO Electric Yukon



Jay Massie,
Manager

JM:cm
Encl.

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Report to the Yukon Utilities Board

2015

Key Performance Indicators

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**ATCO Electric Yukon
2015 Generation Performance**

Plant	2015	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	1,936	370,925	484,000	99.63%	76.64%	22.10%
	New Unit # 2	CUL585	285	129	20,764	36,765	70.68%	56.48%	1.47%
	Old Unit # 2	CUL547	365	5,875	1,293,626	2,144,375	98.82%	60.33%	67.07%
	Unit # 3	CUL354	400	970	190,258	388,000	98.88%	49.04%	11.07%
Carmacks	Unit # 1	CUL310	1,600	188	32,862	300,800	99.62%	10.92%	2.15%
Dest. Bay	Unit # 1	CUL 467	400	1,389	311,459	555,600	99.85%	56.06%	15.86%
	Unit # 2	CUL372	300	5,185	1,066,773	1,555,500	98.26%	68.58%	59.19%
	Unit # 3	CUL584	315	2,482	394,854	781,830	98.94%	50.50%	28.33%
Haines Jtn.	Unit # 1	CUL416	1,750	57	41,745	99,750	99.52%	41.85%	0.65%
Old Crow	Unit # 1	CUL414	600	1,532	512,442	919,200	95.27%	55.75%	17.49%
	Unit # 2	CUL371	330	7,007	1,659,468	2,312,310	96.55%	71.77%	79.99%
	Unit # 3	CUL384	170	872	97,658	148,240	99.90%	65.88%	9.95%
Pelly	Unit # 1	CUL375	275	3	220	825	53.97%	26.67%	0.03%
	Unit # 2	CUL470	400	72	16,550	28,800	99.93%	57.47%	0.82%
	Unit # 3	CUL405	300	5	1,380	1,500	99.95%	92.00%	0.06%
Ross River	Unit # 1	CUL265	1,000	29	14,420	29,000	100.00%	49.72%	0.33%
Stewart	Unit # 3	CUL186	150	15	464	2,250	100.00%	20.62%	0.17%
Teslin	Unit # 1	CUL378	1,500	36	12,627	54,000	99.57%	23.38%	0.41%
Watson Lake	Unit # 1	CUL422	800	5,137	3,198,000	4,109,600	78.13%	77.82%	58.64%
	Unit # 2	CUL257	800	413	249,600	330,400	82.51%	75.54%	4.71%
	Unit # 3	CUL352	1,000	4,713	3,823,200	4,713,000	93.78%	81.12%	53.80%
	Unit # 4	CUL545	1,200	3,863	3,902,400	4,635,600	98.52%	84.18%	44.10%
	Unit # 5	CUL 466	600	3,150	1,424,400	1,890,000	90.39%	75.37%	35.96%
	Unit # 6	CUL423	800	3,586	2,281,200	2,868,800	99.21%	79.52%	40.94%
Swift River	Unit #1	CUL460	80	1,558	74,476	124,640	99.66%	59.75%	17.79%
	Unit #2	CUL413	80	6,458	149,000	516,640	99.04%	28.84%	73.72%
Fish Lake	Unit #1	H CUL542	815	7,621	5,692,834	6,211,115	88.90%	91.66%	87.00%
	Unit #2	H CUL108	600	7,890	3,486,840	4,734,000	91.94%	73.66%	90.07%

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	Actual 2015
1	Residential							
2	Customers (average during year)	12,925	13,169	13,482	13,857	14,194	14,409	14,631
3	Sales in MWh	131,620	131,265	141,696	150,350	148,780	147,133	148,605
4	MWh sales per customer	10.2	10.0	10.5	10.9	10.5	10.2	10.2
5	Revenue (\$000s)	16,350	16,802	18,928	21,611	21,070	20,629	20,839
6	Cents per KWh	12.42	12.80	13.36	14.37	14.16	14.01	14.02
7	Commercial							
8	Customers (average during year)	2,627	2,692	2,774	2,841	2,918	2,938	2,988
9	Sales in MWh	141,025	145,769	150,591	159,562	159,322	154,709	155,346
10	MWh sales per customer	53.7	54.1	54.3	56.2	54.6	52.7	52.0
11	Revenue (\$000s)	20,278	21,653	23,374	26,583	27,305	25,509	25,534
12	Cents per KWh	14.38	14.85	15.52	16.66	16.51	16.49	16.44
13	Street lights							
14	Sales in MWh	3,477	3,647	3,598	3,771	3,719	3,765	3,886
15	Revenue (\$000s)	763	849	881	976	961	962	992
16	Cents per KWh	21.94	23.28	24.47	25.87	25.84	25.54	25.52
17	Sentinel lights							
18	Sales in MWh	592	594	581	560	551	544	519
19	Revenue (\$000s)	131	139	144	149	145	142	138
20	Cents per KWh	22.13	23.40	24.73	26.54	26.33	26.05	26.58
21	Total Company - Retail - Primary							
22	Customers	15,552	15,861	16,256	16,698	17,112	17,347	17,619
23	Sales in MWh	276,714	281,275	296,466	314,243	312,372	306,272	308,356
24	Revenue (\$000s)	37,522	39,443	43,327	49,319	48,481	47,241	47,503
25	Cents/KWh	13.56	14.02	14.62	15.52	15.52	15.42	15.41
26	Secondary Sales							
27	Customers (average during year)	21	21	15	15	1	2	3
28	Sales in MWh	16,843	10,153	552	1,993	3,959	5,415	7,030
29	MWh sales per customer	802.0	483.5	36.8	132.9	1,979.5	2,707.5	2,812.0
30	Revenue (\$000s)	1,092.0	665.0	41.0	164.0	336	474	532
31	Cents per KWh	6.48	6.55	7.43	8.23	8.49	8.75	7.57
32	Wholesale Sales							
33	Customers (average during year)	1	1	2	2	2	2	2
34	Sales in MWh	360	364	427	338	361	494	430
35	MWh sales per customer	360.0	364.0	213.5	169.0	180.7	247.0	215.0
36	Revenue (\$000s)	37	37	38	28	30	41	36
37	Cents per KWh	10.28	10.16	8.80	8.30	8.30	8.30	8.30
38	Total Company							
39	Customers	15,574	15,883	16,273	16,715	17,116	17,351	17,624
40	Sales in MWh	293,917	291,792	297,445	316,574	316,692	312,181	315,816
41	Revenue (\$000s)	38,651	40,145	43,406	49,511	48,847	47,756	48,071
42	Cents/KWh	13.15	13.76	14.59	15.47	15.42	15.30	15.22
43	Retail Revenues	38,651	40,145	43,406	49,511	48,847	47,756	48,071
44	YEC Revenue Shortfall (Rider J + Rider R1)	4,026	4,353	2,479	1,437	5,829	6,259	5,266
	Rider R					1,634	3,672	4,139
45	TOTAL REVENUES	42,677	44,498	45,885	50,948	56,310	57,687	57,476

**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	Actual 2015
1	Sales and Losses							
2	Total energy sales - MWh	293,917	291,792	297,445	316,574	316,687	312,182	315,816
3	Losses and company used - MWh	18,215	17,932	18,219	20,380	20,191	19,880	19,019
4	Losses -%	6.2%	6.1%	6.1%	6.4%	6.4%	6.4%	6.0%
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>	<u>334,835</u>
6	Sources - MWh							
7	Hydro generation	8,094	3,388	3,638	3,388	3,687	10,247	9,180
8	Hydro grid standby diesel generation	213	72	446	25	3	66	41
9	Diesel generation	19,753	19,767	20,487	21,285	21,302	21,050	20,623
10	Purchases	284,073	286,498	291,094	312,256	311,886	300,699	304,991
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>	<u>334,835</u>
12	Sources - %							
13	Hydro generation	2.6%	1.1%	1.2%	1.0%	1.1%	3.1%	2.7%
14	Diesel generation	6.4%	6.4%	6.6%	6.3%	6.3%	6.4%	6.2%
15	Purchases	91.0%	92.5%	92.5%	92.7%	92.6%	90.6%	91.1%
		<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.1%</u>	<u>99.9%</u>

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 2015 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	4.39	2.48
SAIDI	5.80	3.49
CAIDI	1.32	1.40
IOR	99.933%	99.960%

Health, Safety and Environment Performance

ATCO Electric Yukon's 2015 Health, Safety, and Environment Performance Measures are as follows:

Worker lost time frequency	0
Worker lost time severity	0
Contractor lost time incidents	0
Preventable vehicle incident frequency	10
Number of reportable releases	4

Financial Performance

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

Regulated Return on Equity (ROE)	6.28%
Net Rate Base (\$000's)	\$92,995
Average Inventory (\$000's)	\$2,147
Capital Additions (\$000's)	\$10,252
Customers per Employee	271
Sales (MW.h) per Employee	4,859
Total labour dollars per Customer	\$346
Ave. Consumption per Res. Customer (MW.h)	10.16
Ave. Consumption per Comm. Customer (MW.h)	51.99