ATCO Electric YUKON

September 28, 2023 AEY-JM-001

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-001

Reference: Cover letter to 2023-2024 Application

Page 1 of 4, Proposed rate changes

Requests:

(a) Please clarify whether AEY is proposing to absorb the 2023 cost difference between the 2017 YUB approved price for diesel fuel and the actual price paid by AEY.

(b) If AEY is not proposing to absorb the cost difference referred to in (a) above, please confirm that this cost will be passed on to ratepayers in the 2023-2024 GRA period.

(c) If the diesel fuel cost difference referenced above is to be passed on to ratepayers, please confirm that the rate increase required for AEY to recover its proposed 2023 expenses is 3.3% as shown in Table 1.

Response:

(a) AEY is not proposing to absorb the 2023 fuel cost variance.

(b) Consistent with the methodology approved in Board Orders 2016-02 and 2017-01, AEY intends to combine the fuel variances with its Rate Adjustment Rider R in its Compliance Filing, at which time Rider F will be reset to reflect this transfer.

(c) The proposed overall 2023 rate increase (including the fuel cost variance), over primary retail revenue on existing rates, is 3.3 percent. However, the actual impact to customers is a net reduction, when final rates are calculated and Rider F is updated for fuel prices. Customers are currently paying a Rider F Fuel Adjustment Rider for differentials in actual and previous fuel prices embedded in Rider R. Once

the fuel price embedded in Rider R is updated, Rider F will be reduced. The table below shows that while the rate increase, before adjusting for Rider F, is 3.3 percent (Line 6, Column C), the net rate adjustment is a decrease of -1.6 percent, excluding the Rider F fuel adjustment (Line 5, Column B) or including the Rider F fuel adjustment (Line 5, Column C).

Table 1: ATCO Electric Yukon
2023 Rate Changes Including and Excluding Fuel Adjustments
($000)

Line	Description	Reference	A Current	B Interim (Excl Fuel)	C Final (Incl Fuel)
1	AEY + YEC Revenue	S.2, L59	74,585	74,585	74,585
2	Rider F Fuel Adjustment	S.2, L53	0	0	(3,698)
3	Rider R Rate Adjust	S.2, L50		(1,211)	2,487
4	Total Revenue		74,585	73,374	73,374
5	AEY % Rate Change from Current	=B/A & C/A		**-1.6%**	**-1.6%**
6	AEY Final Rider R Adjustment	=C3/A4			**3.3%**

ATCO Electric YUKON

September 28, 2023 AEY-JM-002

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-002

Reference: Cover letter to 2023-2024 Application

Application page 2 of 4 Terms and Conditions of Service

Requests:

(a) Statistics Canada website (accessed August 14, 2023) states that the January 2011 monthly consumer price index for all items for Whitehorse Yukon was 115.9 and for June 2023 was 156.4. This represents an increase of about 34.94%. Would AEY object to the YUB raising the maximum company investment levels in Schedule B parts (a) and (b) by this percentage effective immediately? This would not prevent AEY and YEC from having discussions on the more complicated and substantive portions of the Terms and Conditions of Service and bringing a comprehensive proposal to the YUB in 2024.

Response:

(a) While AEY is not opposed to the YUB raising the maximum investment levels based on inflation, AEY notes that these changes would result in increased revenue requirement. In addition, AEY's normal practice is to complete a study to determine what the company's investment levels should be; this study has not been completed; however, AEY can commit to working with YEC to complete a study following this Proceeding.

ATCO Electric YUKON

September 28, 2023 AEY-JM-003(1)

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-003(1)

Reference: AEY letter responding to comments on AEY's request for interim rates

AEY letter page 4 of 8: "AEY submits that all parties have sufficient opportunity on a regular basis to review and assess AEY's operations through the annual filing process and as demonstrated through the Rate Relief Application, material issues and items that arise can be addressed in a limited scope between fulsome applications as needed."

Requests:

(a) Is it AEY's view that the Yukon Utilities Board has the legal authority to require AEY to come before it with either a limited scope application or a full GRA? Please explain.

(b) Regardless of the answer to (a) above, if the Yukon Utilities Board requested AEY to come forward with either a limited scope application or a full GRA in a non-test year, would AEY comply with the request?

(c) Is it AEY's view that the Yukon Utilities Board is either required to or has the responsibility to review AEY's annual and other filings submitted to the Board? Please explain.

(d) Can the Yukon Government require AEY to come before the Yukon Utilities Board with either a limited scope application or a full GRA? Please explain.

Response:

(a-d) AEY notes that, pursuant to the YUB Rules of Practice, parties may submit Information Requests in an effort to clarify another party's evidence, to simplify issues, to permit a fulsome understanding of matters to be considered in the proceeding, or to expedite the proceeding (Rules 13(1) and 13(2)(e)). Respectfully, requests regarding a legal interpretation of the Board's or the Yukon Government's authority to compel rate proceedings or the Board's review of annual filings are outside of the scope of this proceeding and are not aimed at clarifying AEY's evidence and furthering the Intervener's understanding of the Application. Accordingly, AEY declines to respond pursuant to Rule 14(4) of the Rules of Practice.

ATCO Electric YUKON

September 28, 2023 AEY-JM-003(2)

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-003(2)

Reference: Application Section 1 Introduction

Page 1-2 Table 1.1 inflation rates:

Requests:

(a) Please provide the corresponding inflation rates for the period 2008 to 2017 inclusive.

Response:

(a) Please refer to the table below for the Whitehorse CPI inflation rates for the period 2008 to 2017.

Inflation Rate by Year

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Inflation Rate	3.6	0.4	0.8	3.0	2.3	1.7	1.3	(0.2)	1.0	1.7

ATCO Electric YUKON

September 28, 2023 AEY-JM-004

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-004

Reference: Application Section 1 Introduction

Page1.4 Table 1.2

Requests:

(a) AEY retail revenues of $62.203 million and $64.152 million for 2023 and 2024 respectively appear to exclude the portion of the cost for fuel presently collected through Rider F. Is it a correct reading of Schedule 2.1 that the requested rate changes including the cost of fuel would result in AEY retail revenue requirements of $64.690 million and $71.736 million for 2023 and 2024 respectively?

(b) Please provide the equivalent AEY retail revenue numbers presented in Table 2.1 for each of the years 2016 to 2022.

(c) Please also provide the AEY retail revenue numbers including the fuel cost for each of the years 2016 to 2022.

(d) In Schedule 2.1 why is there no YEC Revenue shortfall rider included in line 51 for the years 2023 and 2024?

Response:

(a) Correct. Consistent with previous GRAs, AEY does not include fuel cost changes in the applied for rate changes and includes all required true-ups at the time of setting AEY's final rates, in conjunction with updates to Rider F.

(b) Please refer to AEY-JM-004(b) Attachment 1 for a copy of Schedule 2.1 from AEY's 2016-2017 GRA, which includes the equivalent AEY retail revenue numbers for 2016 and 2017 on Line 52. As the years 2018 to 2022 were not Test Years

before the YUB, there are no equivalent retail numbers available for this time-period.

(c) AEY's retail revenue (including fuel costs)[1] and fuel costs[2] for the years 2016 to 2022 can be found in AEY's 2023-2024 GRA Regulatory Schedules.

(d) The YEC revenue shortfall does not factor into AEY's revenue on existing rates or revenue requirement since it pertains to YEC and is a flow through from AEY to YEC. As such, YEC's revenue shortfall amounts for 2023 and 2024 are not included in Line 51 of Schedule 2.1.

[1] Schedule 2.1, line 52.
[2] Schedule 4.1, line 4.

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

2016 - 2017 General Rate Application Compliance Filing
Summary of Customers, Energy Sales and Revenue

Line No.	Description	Cross Ref.	Actual 2013	Approved 2013	Actual 2014	Approved 2014	Actual 2015	Approved 2015	Test Period 2016 Existing	Test Period 2016 Proposed	Test Period 2017 Existing	Test Period 2017 Proposed
1	**Residential**											
2	Customers (average during year)		14,194	14,192	14,409	14,401	14,631	14,647	14,851		15,039	
3	Sales in MWh		148,780	148,010	147,253	154,384	148,605	157,032	148,444		155,827	
4	MWh sales per customer		10.48	10.43	10.22	10.72	10.16	10.72	10.00		10.36	
5	Revenue ($000s)		21,070	20,765	20,629	21,657	20,839	22,029	21,012		21,969	
6	Cents per kWh		14.16	14.03	14.01	14.03	14.02	14.03	14.15		14.10	
7	**Commercial**											
8	Customers (average during year)		2,918	2,922	2,938	2,903	2,988	2,948	2,998		3,039	
9	Sales in MWh		159,322	157,606	154,709	165,106	155,346	168,853	156,283		162,350	
10	MWh sales per customer		54.60	53.94	52.66	56.87	51.99	57.28	52.13		53.43	
11	Revenue ($000s)		26,305	25,753	25,509	27,016	25,534	27,652	25,601		26,519	
12	Cents per kWh		16.51	16.34	16.49	16.36	16.44	16.38	16.38		16.33	
13	**Industrial**											
14	Customers (average during year)		-	-	-	-	-	-	-		-	
15	Sales in MWh		-	-	-	-	-	-	-		-	
16	MWh sales per customer											
17	Revenue ($000s)		-	-	-	-	-	-	-		-	
18	Cents per kWh								-		-	
19	**Street Lights**											
20	Sales in MWh		3,719	3,725	3,765	3,789	3,886	3,854	3,944		4,008	
21	Revenue ($000s)		961	951	962	966	992	981	1,002		1,020	
22	Cents per kWh		25.84	25.54	25.54	25.49	25.52	25.45	25.41		25.46	
23	**Private Lights**											
24	Sales in MWh		551	554	544	544	519	534	493		472	
25	Revenue ($000s)		145	145	142	143	138	141	132		128	
26	Cents per kWh		26.33	26.23	26.05	26.27	26.58	26.31	26.87		27.06	
27	**Total Company - Retail - Primary**											
28	Customers		17,112	17,114	17,347	17,304	17,619	17,595	17,849		18,077	
29	Sales in MWh		312,372	309,894	306,272	323,823	308,356	330,274	309,164		322,656	
30	Revenue ($000s)		48,481	47,614	47,241	49,783	47,503	50,802	47,747		49,636	
31	Cents per kWh		15.52	15.36	15.42	15.37	15.41	15.38	15.44		15.38	
32	**Secondary Sales**											
33	Customers (average during year)		2	-	2	-	3	-	3		3	
34	Sales in MWh		3,959	-	5,415	-	7,030	-	9,429		9,429	
35	MWh sales per customer		1,980	-	2,708	-	2,812	-	3,429		3,143	
36	Revenue ($000s)		336	-	474	-	532	-	519		519	
37	**Cents per kWh**		8.49	-	8.75	-	7.57	-	5.50		5.50	
38	**Wholesale Sales**											
39	Customers (average during year)		2	2	2	2	2	2	2		2	
40	Sales in MWh		361	338	494	338	430	338	427		427	
41	MWh sales per customer		180.71	169.12	246.99	169.12	215.00	169.12	213.63		213.63	
42	Revenue ($000s)		30	28	41	28	36	28	35		35	
43	Cents per kWh		8.30	8.30	8.30	8.30	8.30	8.30	8.30		8.30	
44	**Total Company**											
45	Customers		17,116	17,116	17,351	17,306	17,624	17,597	17,854		18,082	
46	Sales in MWh	S.3.2 L.2	316,692	310,232	312,181	324,162	315,816	330,612	319,020		332,513	
47	Revenue ($000s)		48,847	47,642	47,756	49,811	48,071	50,830	48,301		50,190	
48	Cents per kWh		15.42	15.36	15.30	15.37	15.22	15.37	15.14		15.09	
49	Base Retail Revenues		48,847	47,642	47,756	49,811	48,071	50,830	48,301		50,190	
50	**RIDER R (RATE INCREASE @ CURRENT RATES)**		1,634	1,099	3,672	2,576	4,139	3,267	4,052	1,059	4,049	1,972
51	YEC Revenue Shortfall (Rider J)		5,829		6,259		5,266					
52	**Total Retail Revenue**		56,310	48,741	57,687	52,387	57,476	54,097	52,354	53,413	54,239	56,211
53	Fuel Variance Rider (Rider F)	Note 1		1,071		1,086		1,087		(1,342)		(1,351)
54	**NET REVENUES**	S.1.1 L.2	56,310	49,812	57,687	53,473	57,476	55,183	52,354	52,071	54,239	54,859
55	**% Rate Increase over Existing Rates**											
56	AEY Primary Retail Revenue	L.30		47,614		49,783		50,802	47,747		49,636	
57	YEC Firm Revenue			10,429		12,169		12,304	8,537		6,598	
58	Total YEC/AEY Retail Revenue Primary Rates ($000s)	L.56 + L.57		58,043		61,952		63,106	56,284		56,234	
59	**% Rate Increase Over Existing Rates**	L.50 / L.58		1.9%		4.2%		5.2%		1.9%		3.5%
60	**% Rate Increase - Net Customer Impact**	Note 2		3.7%		5.9%		6.9%		-0.5%		1.1%

61 Note 1 - 2016-2017 Rider F calculated based on average 2015 diesel price
62 Note 2 - Net impact of higher revenue requirement and fuel price variance to be flowed through to customers.

ATCO Electric YUKON

September 28, 2023 AEY-JM-005

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-005

Reference: Application Section 1 Introduction

Page 1.7 Staff positions.

Requests:

(a) Please provide a listing of each of the number of residential, commercial, and other customers (at year end or other convenient measurement point) by year from 2016 through 2022.

(b) What are AEY's forecast numbers for each of these groups of customers for 2023 and 2024?

(c) Which of these positions are primarily working on capital projects and what portion of their time is allocated to O&M costs vs. capital costs?

Response:

(a) Please refer to Schedule 2.1 for the breakdown of customer numbers by year.

(b) Please refer to Schedule 2.1 for the forecast number of customers in 2023 and 2024.

(c) Please refer to the table below for the Capital and O&M percentages by position.

Table 1: Capital and O&M Split by Position
(%)

Position	Capital	O&M
Program Manager, Renewables & Grid Modernization	90	10
Engineering Technologist, Renewables & Grid Modernization	90	10
Electrical Engineer 1	70	30
Electrical Engineer 2	60	40
Mechanical Engineer	25	75
Team Lead, Plant	0	100
Field Services Representative	0	100
Supervisor, Business Support Services	0	100
VP and VP Support Services	0	100
Head Office Personnel	0	100

ATCO Electric YUKON

September 28, 2023 AEY-JM-006

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-006

Reference: Section 1B Energy Transition

Page 1B-1 Increased electrification.

Requests:

(a) What forecast increases in use per customer (UPC) has AEY included in the sales forecast of this GRA?

(b) Regarding "conflicts" and changes in "customer demands", what demand side management programs has AEY included in this GRA to deal with undesirable effects on the grid, for example managing water heaters and other electrical loads, encouraging behind-the-meter energy storage by customers, etc., to overcome problems?

(c) Does the "dramatic impact" not include a significant increase in retail sales by AEY thereby also increasing revenues?

Response:

(a) AEY has applied the approved forecasting methodology for UPC.[1] The forecast results in an increase in residential and commercial UPC for 2024, as shown in the Application, Schedule 2.1, Lines 4 and 10, respectively.

(b) AEY has not included any demand side management programs as part of its 2023-2024 GRA.

[1] Board Order 2017-01, para. 40.

(c) Reference to “dramatic impact” is with respect to the changes in the sources of energy and the costs of transitioning to a lower emission electrical grid, not with respect to the change in retail sales due to customer behavior.

ATCO Electric YUKON

September 28, 2023 AEY-JM-007

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-007

Reference: Section 1B Energy Transition

Page 1B-2 Grid modernization.

Requests:

(a) AMI will prove to be a helpful tool in future for demand management and is a good thing to do, but why is it presented here within a list of complaints? Does AEY expect this project to be disallowed or challenged when it has been previously supported?

Response:

(a) AEY expects AMI to be an essential part of Grid Modernization. Section 1B.2 is part of Section 01 – Introduction, which is not in any way presented as a 'list of complaints'. The purpose of the section is to provide an overview of AEY's business, highlight various challenges and AEY's approach to addressing these challenges. AMI will be able to provide electricity use and demand data on a more granular level than has been possible in the Yukon to date. There is the ability for the AMI system to communicate and control devices on the customer's side of the meter, which further prepares AEY for the two-way flow and communication of electricity. AEY does not expect this project to be disallowed.

ATCO Electric YUKON

September 28, 2023 AEY-JM-008

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-008

Reference: Section 1B Energy Transition

Page 1B-3 EV charger network.

Requests:

(a) If an expansion of the EV charging network is paid for by the YG and federal governments, isn't the only risk to AEY that of increased sales?

Response:

(a) No, increased sales are not the only risk. EVs and EV charging networks are rapidly evolving technology with new and unique challenges for regulated utilities. There are risks associated with increased EV adoption and expansion of an EV charging network in the Yukon, which include:

- Sales risk: price signals to EV owners can lead to lower than forecast sales, or at least lead to forecasting challenges, which can make overall sales more volatile.
- Political and regulatory risk: As mentioned, EVs are a new and evolving technology. Changes in government leadership or policies can affect the adoption rate of EVs. Various jurisdictions approach EVs in different ways, which might impact consumer uptake and AEY's operations. The Federal Government's *2030 Emissions Reduction Plan (ERP)* is introducing mandates for rapid uptake of EVs, which may put new capacity strains on the grid that may need to be addressed with system upgrades. The desire for rapid EV adoption must also be balanced with any affordability and supply chain concerns.
- Technical and operational risk: Fast-charging equipment can put different strains on the electrical system depending on its size and location. For example, off-grid communities may have different capacity availabilities

than on-grid communities which would require different EV charging systems. With the large electrical load of fast charges, various substations, feeders and distribution lines may reach their capacity sooner than expected under normal load growth. If EV chargers are able to operate without centralized control, there can be large loads that appear intermittently on the system that can make energy supply more difficult.

ATCO Electric YUKON

September 28, 2023 AEY-JM-009

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-009

Reference: Section 1B Energy Transition

Page 1B-4 Microgeneration program.

Requests:

(a) Does a rapidly increasing population not mean rapidly increasing sales for AEY ?

(b) Does AEY expect that the microgeneration uptake by the new customers will mean an oversupply of electricity for these customers?

(c) Does new microgeneration supply not decrease line losses?

(d) Since YG pays for electricity fed back into the grid and which AEY re-sells at retail rates to other customers, without having to purchase it, is there not a net benefit to AEY?

Response:

(a) Generally, yes, sales increases are aligned with population growth and have been factored in to AEY's sales forecast as described in Section 2 of the Application.

(b) Generally, AEY will provide safe and reliable service to all customers and is unaware of any customers being over supplied. Sales could be lower if a significant proportion of new customers install micro-generation.

(c) The effect of micro generation on system line losses is not clear. For example, on review of total system losses, Schedule 3.2, Line 4, the total MWh of micro-generation production increased between 2018 and 2020; however, the percentage of losses also increased in the same time frame. As there are multiple

sources of generation on the YIS, that are not directly aligned with system load, the effect on losses of micro-generators spread across the system is not quantifiable at this time. When considering the annual MWh generated on the YIS, the contribution of micro-generation is minimal (less than 1 percent of total MWh).

(d) No, there is not a net benefit to AEY. As shown in Schedule 3.2, forecast micro-generation is an offset to power purchases. This offset lowers AEY's revenue requirement, which benefits ratepayers at current forecasts. However, AEY currently has the forecast risk for micro-generation production; if there is less (or more) micro-generation than forecast, AEY would have to purchase more (or less) power from YEC. This risk is affected depending on how the Yukon Government program is administered, which AEY does not control.

ATCO Electric YUKON

September 28, 2023 AEY-JM-010

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-010

Reference: Section 2 Sales and Revenue

Page 2-1 Table 2.1

Requests:

(a) Please provide the annual average primary retail sales growth for the period 2016 to 2022.

Response:

(a) The annual average primary retail sales growth for the period 2016 to 2022 was 2.4 percent.

ATCO Electric YUKON

September 28, 2023 AEY-JM-011

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-011

Reference: Section 2 Sales and Revenue

Page 2-2 near top "…the 2023 forecast anticipates UPCs returning to pre-pandemic levels for both Residential and Commercial customers."

Requests:

(a) Why does AEY believe that there will be a complete return to pre-pandemic UPCs when it appears that there will be some permanent changes such as increased working from home?

(b) Do the increasing number of new residential and commercial customers almost all of which use electric space heat, and a steady trickle of older customers in older homes and businesses switching away from fossil fuel heating to electric systems (e.g. ETS and heat pumps) not tend to increase the UPCs? Please explain.

Response:

(a) AEY submits that while there is an increase in full-time/hybrid work from home compared to pre-pandemic, the pre-pandemic environment is more indicative of the future for forecasting purposes, than the time during the pandemic when government mandated restrictions were in place. Students are attending school full-time, businesses don't have restrictions, travel has resumed, and the habits of the general public are more indicative of pre-pandemic times.

(b) The introduction of new homes and the retrofit of old homes with electric space heat should increase UPC, assuming other usage habits remain unchanged. The increase in load is due to the changes in space heat and other changes in usage habits, are included in AEY's data and forecast sales.

ATCO Electric YUKON

September 28, 2023 AEY-JM-012

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-012

Reference: Section 3 Purchase Power

Schedule 3.2

Requests:

(a) What is the average revenue per kWh that AEY realized in 2022 from the resale of micro-generation energy exported to AEY?

Response:

(a) AEY does not receive revenue for micro-generation. The micro-generation energy exported to AEY reduces the Wholesale purchases, which carries a charge of 0.0830 per kwh, as shown on Schedule 3.1, Line 7.

ATCO Electric YUKON

September 28, 2023 AEY-JM-013

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-013

Reference: Section 3 Purchase Power

Section 3.4 IPPs

Requests:

(a) Please provide two comprehensive sets of lists of all study and capital costs that each of the IPP and AEY incurs in developing an IPP project one for projects under the standing offer program and one for projects in small communities not eligible under the standing offer program (Old Crow, Burwash landing / Destruction Bay, and Beaver Creek).

(b) Please provide similar lists for operating and maintenance expenses.

(c) Please outline the cost savings realized by AEY on a per kWh basis when purchasing IPP generated power and describe if or how these benefit each of AEY and / or the ratepayers.

Response:

(a) The summary of the cost breakdown is as follows for the only completed off-grid (non-standing offer program IPP):

Table 1: Old Crow Capital Cost Summary
($000)

Costs	**Total**
Project Management & Design	40
Equipment & Installation	3,425
Capital Cost	**3,465**
Contribution	(3,465)
Net Cost	**-**

For capital costs of Standing Offer Program (SOP) projects on the YIS, please refer to S.9.2 L.175–177. The capital costs for the NOMAD IPP project was $144,000 and the SOLVEST IPP project was $37,000.[1] YEC is the Buyer for these SOP projects on the YIS, AEY's role is to interconnect the site to the distribution system as would happen for any New Extension project.

In the small communities, AEY is the responsible utility for all aspects of the IPP facility's integration. This includes distribution interconnection, generation adaptation and Buyer of the renewable energy. AEY has identified the system costs for these community IPP projects in S.9.2 L.133–136.

AEY does not report or have access to the IPPs costs for development of their project.

(b) Old Crow is the only IPP currently in operation in AEY's small communities. The following cost estimate is for the full year (i.e., post-commissioning) of operating costs related to this IPP facility. As the renewable project, and all ancillary equipment, is in-service, operating expenses are being incurred as they would for any electrical infrastructure operating in AEY's grid. AEY does not report or have access to the IPPs costs for operations and maintenance of their project.

[1] These costs are included in New Services Overhead and Underground in AEY 2023-2024 GRA Schedule 9-2 Line 42 (2020-2022). These costs will be reclassed into the IPP line in the Compliance Filing.

Table 2: Old Crow O&M Costs Summary

Description	2022	2023	2024
BESS & MGC service contract; preventative maintenance, warranty, firmware updates	$45,000	$45,000	$50,000
Remote technical support (MGC modifications, troubleshooting, HMI revision, libraries update)		$35,000	$15,000
Unscheduled Site Support		$20,000	
Repair (module and card, boiler fan motor)		$55,000	
Technical and Operational Training		$40,000	
Travel (and per diems)	$5,000	$10,000	$5,000
Inspection (battery fire suppression, boiler burner test)	$5,000	$5,000	$5,000
Total	**$55,000**	**$210,000**	**$75,000**

(c) As noted on page 1B-3, the IPP Policy was adopted by the Yukon Government in 2015. AEY, as a regulated utility, was required to respond to IPP proponents to integrate their respective renewable electricity projects into the isolated grids. The purpose of these renewable energy projects is to decrease the environmental footprint of producing electricity in isolated communities. This has been achieved through a reduction of diesel-powered electricity production and corresponding GHG emissions, a reduction in diesel fuel being transported to the community and the associated fuel release risk, and noise pollution reduction when the diesel power plant is in standby mode. This is done while ensuring a safe, reliable, and affordable supply of electricity to the community.

The intent is to pay the IPP for renewable energy at a similar rate to the cost of producing the same amount of energy with diesel generation. As the rate is similar to the existing rates, there is no benefit or cost savings to AEY. As defined in section 3(1) of the Order in Council (2019/25), the price for energy purchased from the IPP reflects the five-year weighted average price of avoided fuel cost, reduction of operation and maintenance costs, and deferred capital expenses as a result of the thermal generation displaced by the IPP.

ATCO Electric YUKON

September 28, 2023 AEY-JM-014

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-014

Reference: Section 4 Fuel Costs

Schedule 4.2 Isolated diesel-served communities

Requests:

(a) What are AEY's projected IPP power purchases in each of these communities for 2023 and 2024?

(b) What are AEY's projected micro-generation contributions (export plus behind-the-meter consumption) to each of these community microgrids?

(c) There are widely fluctuating heat rates in these communities in 2021 and 2022, are these real or a function of unusual adjustments? Please explain.

Response:

(a) AEY forecast 587 MWh and 649 MWh IPP power purchases in Old Crow in 2023 and 2024, respectively, as set out in Schedule 3.2 line 11.

(b) AEY's micro-generation energy export forecast is set out in the table below:

Table 1: Export Forecast

Rate Zone	2023	2024
Hydro	3,234	3,745
Old Crow	7	7
Destruction Bay	21	21
Beaver Creek	16	20
Total	**3,278**	**3,793**

AEY does not track behind the meter generation or consumption as it is not currently feasible to do so. AEY only has visibility of export energy for micro-generation customers.

(c) Beaver Creek and Destruction Bay heat rate are unusually high in 2021 possibly due to these plants receiving two major overhauls each.

The Old Crow heat rate is unusually high in 2022 mainly due to timing of production due to metering (i.e., kWh) issue in 2021. Production from 2021 is captured in 2022 when new meters were installed.

Standby Units: The standby heat rate is unusually low in 2021, because there was a metering (i.e., kWh) issue that did not accurately capture production in Pelly Crossing and Stewart Crossing, but then gets corrected in 2022.

ATCO Electric YUKON

September 28, 2023 AEY-JM-015

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-015

Reference: Section 5 Operations and Maintenance Expenses

Table 5.1 page 5.3 O&M expenses

Requests:

(a) During the 9-year period from 2012 through 2020 AEY's actual O&M expenses were relatively stable between $11 million and $12 million per year. [The 2012 data is from the YECL (AEY) 2013-2015 GRA Application Schedule 1.1 PDF page 19 of 1881; and the 2013 to 2015 data is from the AEY 2016-2017 GRA Application Schedule 1.1 PDF page 12 of 292.] Please describe the factors that maintained that stability and the factors that drove overall O&M costs up by $2 million in 2021 and a further $1 million in 2022.

Response:

(a) The following is a list of factors that enabled AEY to maintain stability in O&M costs during the referenced period:

- Continuous improvement: encourage a culture of continuous improvement among employees. Regularly review processes and workflows to identify and eliminate inefficiencies.
- Budgeting and cost control: develop a detailed O&M budget and closely monitor expenses against it on monthly basis.
- Regular Maintenance and Inspections: implemented a proactive maintenance schedule to prevent costly breakdowns and repairs.
- Asset testing – Poles, underground cables, street light davits, meters, breakers, and substation transformers.

The following table provides a breakdown of the overall O&M cost increase in 2021:

Table 1: 2020 vs. 2021 Overall O&M Cost Variances ($000)

	2020	2021	Variance	
Production	1,882	2,569	687	Note 1
Distribution	3,254	4,250	997	Note 2
General	281	429	148	Note 3
Other	6,549	6,565	16	
Total	**11,966**	**13,814**	**1,848**	

Note 1: Incremental costs for diesel generator top end overhaul maintenance, and diesel tank certified inspections (5 yr). AEY observed supply chain inflation and delays post-COVID.

Note 2: Incremental Brushing costs mainly due to optimal weather conditions and contractor availability allowing for above average kms of line to be covered annually in addition to higher contractor rates when the COVID restrictions lifted.

Note 3: Incremental Warehousing maintenance costs to address deficiencies due to aging of the building.

O&M costs increased in 2022 mainly due to inflation and the incremental costs noted in the following table:

Table 2: 2021 vs. 2022 Overall O&M Cost Variances ($000)

	2021	2022	Variance	
Production	2,569	3,107	538	Note 1
Distribution	4,250	4,481	231	Note 2
General	429	520	91	Note 3
Customer Accounting	1,964	2,168	204	Note 4
Other	4,601	4,517	(84)	
Total	**13,814**	**14,794**	**980**	

Note 1: Incremental Maintenance costs for diesel generator top end maintenance and overhaul costs.

Note 2: Incremental Brushing costs mainly due to optimal weather conditions and contractor availability allowing for above average kms of line to be

covered annually in addition to higher contractor rates when the COVID restrictions lifted.

Note 3: Incremental Warehousing maintenance costs to address deficiencies due to aging of the building.

Note 4: Incremental contractor services costs to integrate weather stations into Old Crow Control system.

ATCO Electric YUKON

September 28, 2023 AEY-JM-016

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-016

Reference: Section 5 Operations and Maintenance Expenses

Table 5.2 page 5-4 Labour Costs by function

Requests:

(a) Please explain the 22% increase requested for 2023 over 2022 for actual production labour cost.

(b) Please justify the request for the substantial increase requested for public information following a four-year period (2018-2021) with very modest costs.

Response:

(a) Please refer to the response to AEY-UCG-033(b).

(b) S5.2 Public Information costs is not considered to be a substantial increase. The labour costs were lower during the referenced four-year period mainly due to a vacancy for the Senior Communication Advisor. However, AEY has been charged for Head Office Marketing services during the referenced period. Please refer to the total costs for public information in the table below showing that the average costs per year, including the head office marketing costs, are $ 0.139 million, which is close to the approved amount in 2016.

September 28, 2023 AEY-JM-016

Table 1: Breakdown of Public Information
Labour and Other
($000)

	2018	2019	2020	2021	2023	2016
	Actuals				Test Year	Approved
70100 - Public Information Administration						
Labour	10	15	16	13	15	
Other	11	9	15	63	15	
Total	**21**	**24**	**31**	**76**	**30**	**14**
70200 - General Public Information						
Labour	11	-	-	12	79	
Other	26	50	53	68	70	
Total	**37**	**50**	**53**	**80**	**149**	**120**
Head Office Marketing						
S.5.3 L.13	25	52	52	57	-	-
Total	**83**	**126**	**136**	**213**	**179**	**134**
Average for 2018 - 2021	**139**					

Additional Marketing Costs required in 2023 are mainly for the following items:

- communication material and video costs for 'understanding your bill campaign' ($25,000);
- communication costs for graphic design and mailing for new billing system notification ($10,000); and
- graphic design and photography costs for all images on AEY website ($15,000).

ATCO Electric YUKON

September 28, 2023 AEY-JM-017

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-017

Reference: Section 5 Operations and Maintenance Expenses

Table 5.4 page 5-6 Distribution Costs

Requests:

(a) The maintenance and repair costs ranged from $0.597 in 2018 to $0.712 million in 2021. Please justify the 50% increase over 2021 for 2023 (and more for 2024).

(b) "... distribution maintenance costs have increased by $0.3 million for incremental right-of-way clearing and pole testing, due to additional maintenance requirements to support a larger asset base resulting from system growth in recent years." Please explain why recently built distribution lines require right-of-way clearing and pole testing. Were these new distribution line rights-of-way not properly brushed to begin with and build with salvaged poles? Please explain.

Response

(a) The maintenance and repair costs increased over 2021 for 2023 mainly due to the following reasons:

- Inflation impact: higher costs for materials and contractors due to inflation increase.
- Asset growth: the maintenance costs have increased to support a larger assets base resulting from system growth in recent years.
- Aging infrastructure: older infrastructure is more prone to frequent maintenance and repair services.

(b) AEY constructs new power lines to current standards. All ROWs are brushed to proper clearances and new materials are used to construct the line. AEY follows a five-year brushing plan. All areas are inspected and assessed. To keep up with the

brushing maintenance, it is more economical to mow ROWs before the growth requires slashing. Pole testing will follow an 8-10-year cycle. Even newly installed poles can be susceptible to various issues, including environmental factors, insects, and human interference. Depending on the year and visual inspection of the pole, a bore test may not be required.

ATCO Electric YUKON

September 28, 2023 AEY-JM-018

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-018

Reference: Section 5 Operations and Maintenance Expenses

Table 5.7 page 5-8 Customer Accounting Costs

Requests:

(a) Non-labour costs in 2016 to 2022 ranged from $0.467 million to $0.664 million per year. Please provide the details of the increases of 25% in 2023 and 73% in 2024 over the highest of the previous 7 years.

Response:

(a) Non-labour cost increases in 2023 and 2024 are mainly due to incremental O&M expenditure for the CCS program. The CCS program will require an increase in O&M expenditures to operate the cloud-based system. This is primarily driven by the annual subscription fees. Please refer to the breakdown below illustrating the operating cost changes in 2023 and 2024:

Table 1: CCS Program Operating and Maintenance Costs ($000)

	2023[1]	2024
Operating Costs	400	700

[1] The dollars in 2023 are prorated as CIS will not be in service for the entirety of 2023.

ATCO Electric YUKON

September 28, 2023 AEY-JM-019

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-019

Reference: Section 5 Operations and Maintenance Expenses

Page 5-8 Customer Accounting

Preamble: "… The primary driver for the increase in costs is the annual subscription fees required to operate the new Oracle Customer Cloud Service Solution (CCS) billing software … the annual subscription fee cannot be capitalized."

Requests:

(a) What are the annual AEY CCS subscription fees?

(b) Do these fees also cover the billing of Yukon Energy's customers?

(c) If the previous billing system was capitalized, what is the corresponding decrease in depreciation costs as a result of its discontinuance?

Response:

(a) The new billing software is a Cloud-based system which has subscription fees that incorporate licensing costs, cloud-based services, and systems support. These amount to $700,000 per year.

(b) Yes.

(c) Please refer to the response to AEY-JM-033(c).

ATCO Electric YUKON

September 28, 2023 AEY-JM-020

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-020

Reference: Section 5 Operations and Maintenance Expenses

DSM programs

Preamble: AEY DSM programs are conspicuous by their absence from O&M costs, yet Concentric Energy Advisors say in their report (in the Application on PDF page 144) that AEY has DSM programs delivered through Yukon Energy.

Requests:

(a) Does AEY have at present any active demand side management programs for residential and commercial customers, if so please describe them.

(b) Does AEY have any plans to expand its DSM programming? Please explain why or why not.

Response:

(a) No, AEY does not have any active programs available to Residential or Commercial customers.

(b) As part of the Grid Modernization initiative, AEY is exploring options to use the AMI communication network to manage various devices on the grid (including loads) during power quality and outage events. AEY is a member of the DSM Working Group along with Yukon Government and YEC to align our efforts and direction for the future of DSM in Yukon.

ATCO Electric YUKON

September 28, 2023 AEY-JM-021

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-021

Reference: Section 7 Depreciation

Tables 7.2 and 7.3 pages 7-1 and 7-2, and Schedule 7.1

Requests:

(a) For certainty in how the figures in these tables and schedule should be read, please explain if the correct interpretation of figures without brackets is that these are costs to ratepayers and figures in brackets are credits due to or held on behalf of ratepayers. If not correct, please provide the correct interpretation.

(b) Please explain the meaning of the term “salvage depreciation” and explain why these numbers are in brackets.

Response:

(a-b) Correct, in Table 7.2, the costs in brackets represent a reduction in revenue requirement. However, in Table 7.3 reflects the negative net salvage explained in the depreciation study which would be an increase in revenue requirement. Please also refer to the response to AEY-UCG-041(a).

ATCO Electric YUKON

September 28, 2023 AEY-JM-022

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-022

Reference: Section 8 Return on Rate Base

Page 8-3 paragraphs 11 and 12

Preamble other quotes from this GRA:

Page 1-2 "Since the last GRA the Yukon has experienced population and GDP growth rates amongst the highest in Canada…"

Page 1-9 "The volume of work has increased due to rapid system growth …"

Page 1B-1 "AEY has seen rapid population growth and new Government energy transition policies and legislation aimed at increased electrification …"

Requests:

(a) These quotes from earlier portions of this GRA application are at odds with the characterization of AEY's operating environment in the referenced paragraphs 11 and 12. Please explain.

(b) Please provide actual examples of realized risk in impact on sales and ROE since the last GRA was filed in 2016.

Response:

(a) AEY disagrees that the quotes identified are at odds with paragraphs 11 and 12. The Yukon has experienced rapid population growth which has led to risks and concerns with the load requirements of the area based on the current infrastructure. Even with this rapid population growth, AEY is still a small utility, when compared to most other utilities in other regions such as British Columbia

and Alberta. Being a relatively small utility, AEY carries additional risks when compared to larger utilities.

(b) AEY responds to risk on a continuous, ongoing basis through its day to day operations. It is neither efficient nor practical for AEY to track the impacts of every circumstance, or differentiate between multiple circumstances, that were not planned or required alternative and/or unplanned responses since 2016. As a rule of thumb, unplanned, unrecoverable expenses of $100,000 reduce AEY's return by approximately 20 basis points based on the 2023 Test Year capital structure.

Examples of specific circumstances AEY has faced and responsive actions and/or outcomes are as follows:

COVID 19 Pandemic: AEY, like many other utilities, responded to the implications of the global pandemic in the time-frame since 2016. AEY incurred additional costs to ensure that proper protective equipment was available and sanitization protocols were upheld. In addition, AEY adjusted practices with regards to vehicle usage and office space in accordance with officials' guidelines regarding social distancing. This resulted in increased vehicle charges as larger crews required more vehicles.

AEY also experienced implications with customer usage, in that time-frame, as work from home orders were issued, residential energy usage per customer increased, and commercial energy usage per customer declined. Downstream impacts of the financial strain on commercial customers, as a result of the pandemic, also had implications for AEY's customer numbers and usage. For example, while residential energy use per customer (UPC) increased during the pandemic, commercial UPC was lower.

The pandemic also had significant implications on the job market. Vaccine requirements saw reductions in staffing and increased costs for severance.

Unprecedented labour phenomena within the market, such as "the mass resignation" and "quiet quitting," were experienced through several industries, including the utility industry as people who worked through the pandemic shifted their perspectives on work life balance and the expectations of how their jobs are performed post-pandemic. It is generally accepted that the costs of retaining staff are less significant than costs associated with attaining and training external resources. As such, in response to these phenomena, market compensation rose in efforts to retain talented staff and AEY responded accordingly to ensure it attracts and retains the staffing resources required to provide safe and reliable service.

Industrial Factors: AEY forecast an increase in industrial sales as part of its 2016-2017 Application using forecast methods found to be reasonable in Board Order 2017-01. AEY has historically cited sales forecast risks associated with industrial customers, which were not accepted in Board Order 2014-06. AEY realized these risks following the 2016-2017 Test Period, albeit to AEY's benefit, which resulted in higher than forecast Rider R revenues from industrial customers creating unplanned variability in AEY's ROE.

The uptick in mining activities also has downstream implications for AEY and its sales forecast. Upticks and downturns in the mining industry have impacts on residential customers as people migrate to and from the Territory. With the uptick in mining activities in 2017-2019, AEY experienced increasing load on the system, which AEY has realized, requiring increasing maintenance costs and capital investment to ensure safe and reliable services. In this time-period, there were other factors contributing to population growth in the Yukon, such as growth within government operations.

Economic Conditions: Since 2016, AEY has responded to the economic impacts of the various conditions, including rising interest costs, material inflationary

pressures, and stagnation through the pandemic. AEY undertakes rigorous cash management and cost reviews throughout the various circumstances in which it operates to ensure that it is operating as effectively and prudently as possible. Closely monitoring the capital markets, to ensure lowest possible debt costs, and potentially deferring debt issuances to future periods when markets are expected to be more favourable to borrowers is one-way AEY can respond to these conditions. However, system needs cannot always be deferred and may result in higher costs than anticipated.

Commodity pricing also has implications to AEY's sales. As commodity prices fluctuate, consumer behavior responds accordingly. In the Yukon, consumers have choices with respect to the commodities used to heat their homes. Propane, wood pellet and heating oil prices implicate the degree to which consumers utilize electric heating options, creating peaks and valleys in AEY's load which, in addition to associated sales and revenue impacts, also has implications for system capacity requirements and reliability.

Supply Chain Risks: Global and economic factors contributed to significant supply issues, impeding AEY's ability to procure what is needed to complete required capital and maintenance. This has, and continues to, present challenges to complete its planned capital programs on time and on budget as the situation in Russia and Ukraine persists. Unavailability of materials and rising prices are outcomes of the global conditions and AEY has to respond accordingly through temporary solutions or paying premium prices to complete necessary work.

Political & Legislative Risks: The Yukon Government has been introducing policies geared towards transitioning the energy industry through increased electrification and reducing carbon emissions, as seen with the "Our Clean Future" initiative. The impact of these legislative changes, as outlined in Section 1B and the Concentric Report included in the Application, include impacts related to Grid

Modernization, Independent Power Production (IPP) legislation, the expansion of the Electric Vehicle (EV) Charger Network and Micro-Generation. These programs impact AEY either through a variance related to capacity demands or the cost of service. Further information on these programs can be found in AEY-YUB-002(f).

Federal policies regarding the energy transition also impact AEY's operations. In 2022, the Government of Canada published the *2030 Emissions Reduction Plan (ERP).* The ERP seeks to reduce national GHG emissions by 40 to 45 percent below 2005 levels by 2030 and achieve net-zero GHG emissions by 2050. The plan called for mandates requiring 100 percent of new passenger vehicles sold in Canada to be zero emission by 2035, with interim targets of 20 percent by 2026 and at 60 percent by 2030. Vehicle manufacturers have made significant commitments to introduce EV lineups. The new EV mandates will create new capacity demands on the system which may require significant investment to address. The recent draft *Clean Electricity Regulations (CER)* is another example of a federal regulation that is expected to significantly alter the utility industry.[1]

Operating Risks: AEY continues to respond to mechanical failures, inclement and/or unpredictable weather, environmental events such as wildfires and floods, and human interference (i.e., hit lines) to provide safe and reliable service. These risks are inherent to AEY's day to day operations and result in incremental, unplanned costs, such as, but not limited to:

- unplanned travel and accommodations into remote communities;
- operation of standby and/or mobile diesel generation units;
- unplanned maintenance costs and overtime expenses;
- higher purchased power expenses; and
- unplanned capital projects.

[1] AEY notes that the current draft of the *CER* would not currently affect its facilities in the Yukon as it targets generation units over 25 MW.

Unpredictable weather continues to also implicate sales and revenues as air conditioning and/or electric heating loads are directly correlated to weather. Periods of extreme cold temperatures increase load while warmer winters decrease load and vice versa in the summer months. In addition to the implications to AEY's sales and revenues, the unpredictable weather also impacts AEY's system capacity and reliability and requires AEY's response to provide safe and reliable service.

ATCO Electric YUKON

September 28, 2023 AEY-JM-023

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-023

Reference: Section 8 Return on Rate Base

Page 8-4 paragraph 16

Requests:

(a) What risk premium above the BCUC GCOC benchmark did the Yukon Utilities Board decide was appropriate in AEY's last GRA?

Response:

(a) In Board Decision 2017-01, the Board approved a risk premium of 25 basis points above the BCUC GCOC benchmark.

ATCO Electric YUKON

September 28, 2023 AEY-JM-024

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-024

Reference: Section 8 Return on Rate Base

Pages 8.6 and 8.7 Table 8.4 and 8.5

Requests:

(a) Please provide a table for the years 2016 through 2022 and projected into 2023 and 2024 of the actual capital expenditures less the actual contributions in aid of construction towards these actual capital expenditures.

Response:

Table 1: Net Capital Expenditures
($000)

	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Capital Expenditures	14,784	10,476	9,491	13,529	13,001	15,147	18,914	31,234	25,073
Contribution in Aid of Construction	(1,241)	(2,204)	(3,212)	(5,969)	(4,220)	(5,251)	(8,362)	(16,538)	(6,405)
Net Capital Expenditures	**13,543**	**8,272**	**6,280**	**7,560**	**8,781**	**9,896**	**10,552**	**14,696**	**18,668**

ATCO Electric YUKON

September 28, 2023 AEY-JM-025

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-025

Reference: Section 8 Return on Rate Base

Application PDF pages 136 to 171, Concentric Energy Advisors report

Requests:

(a) PDF page 141 Figure 1: for each of the Canadian electric and gas utilities listed, including FortisBC Energy Inc., please provide a table showing the allowed and actual ROE earned over the past 10 years.

(b) Which of these companies have been able to operate 5 years between GRAs while still exceeding their allowed ROE?

(c) PDF page 144: Please list all of the referenced DSM programs that AEY presently supports which are available to residential and / or commercial customers.

(d) PDF Page 167 line 13: Does AEY pay the capital costs for the battery and the interconnection?

(e) PDF Page 167 line 14: Please provide the data that confirms that IPP projects generally reduce AEY sales.

(f) PDF Page 167 lines 22 and 23: Does the comment that because wind and solar are intermittent they are less reliable mean that they are not dispatchable as a diesel generator would be? If something different please explain.

(g) Is it not true that once a wind or solar project is built the cost of energy is far more stable than that of diesel fuel?

Response:

(a) Please refer to Attachment AEY-JM-025(a) Attachment 1 for authorized ROEs for the companies in Figure 1 for the years 2016-2023. Earned return data is generally

not publicly available for many of these companies as they are not required to file their results on the public record. While it may be possible to calculate an earned ROE from accounting data, Concentric has found that such calculations are fraught with peril because it is also necessary to make certain adjustments to the earned ROE for items such as goodwill on the balance sheet and regulatory accounts and mechanisms that affect the earned ROE of a utility. In our experience, many utilities in Canada earn close to their authorized ROE, while some earn above the authorized return. However, that is not uniformly true, especially for smaller companies.

(b) Please refer to the table below for the GRA's filed in the last 10-years. Note not all utilities file GRA's under the framework with which they are regulated.

Table 1: Filed GRAs

Canadian Gas & Electric Utilities	GRAs Filed
FortisBC Energy	n/a
FortisBC Electric	n/a
Ontario Electric Distributors	n/a
Newfoundland Power	2012, 2015, 2018, 2021
Maritime Electric Company Ltd	2010, 2015, 2018, 2022
ATCO Electric Distribution	n/a
Pacific Northern Gas-West	n/a

(c) As grid modernization and technologies associated with it develop, AEY is always assessing what can be used or leveraged for the betterment of its customers. Although AEY does not currently have any DSM programs for residential or commercial customers, the Company previously did. Concentric's risk assessment of AEY relative to the comparator group did not depend on whether AEY currently has any DSM programs. In addition, AEY is currently part of a working group to look at how DSM programs can be implemented. The AMI program is an example of a new technology AEY is implementing that could impact DSM programs.

Please refer to the response to AEY-YUB-065 for more information on the AMI project.

(d) No. The IPP is responsible for all costs including the battery and interconnection facilities on both the Generation and Distribution systems.

(e) The referenced excerpt from the Concentric Report refers to the demand for energy supplied by AEY, not AEY's sales to end use customers.

(f) Yes, the comment is that wind and solar are intermittent sources of power, or not available all the time, which means that AEY cannot always depend on these resources to supply electricity when needed. Diesel generation can be called upon at all times, regardless of wind or sun conditions.

(g) AEY cannot agree with this statement as it is difficult to compare fuels for energy that have completely different characteristics. Wind and solar fuel have stable costs, if available when needed. Unfortunately, there is no control over the availability for those energy fuels. Diesel fuel cost fluctuates but it is readily available and provides energy storage inherently.

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Return of Equity (ROE)
2016-2022

Line No.	Authorized ROE (%)	2016	2017	2018	2019	2020	2021	2022	2023
1	ATCO Electric Yukon	8.75	9.00	9.00	9.00	9.00	9.00	9.00	9.00
2									
3	**Canadian Electric & Gas Utilities**								
4	FortisBC Energy	8.75	8.75	8.75	8.75	8.75	8.75	8.75	9.65
5	FortisBC Electric	9.15	9.15	9.15	9.15	9.15	9.15	9.15	9.65
6	Ontario Electric Distributors	9.19	8.78	9.00	8.98	8.52	8.34	8.66	9.36
7	Newfoundland Power	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50
8	Maritime Electric Company Ltd	9.35	9.35	9.35	9.35	9.35	9.35	9.35	9.35
9	ATCO Electric Distribution	8.30	8.50	8.50	8.50	8.50	8.50	8.50	8.50
10	Pacific Northern Gas-West	9.50	9.50	9.50	9.50	9.50	9.50	9.50	9.50
11									
12									
13									
14	**Earned ROE (%)**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	
15	ATCO Electric Yukon	10.44	12.73	12.64	13.01	13.19	12.09	11.94	
16									
17	**Canadian Electric & Gas Utilities**								
18	FortisBC Energy	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
19	FortisBC Electric	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
20	Ontario Electric Distributors	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
21	Newfoundland Power	8.90	8.93	8.76	8.79	8.93	n/a	n/a	
22	Maritime Electric Company Ltd	n/a	n/a	n/a	n/a	9.30	9.35	9.35	
23	ATCO Electric Distribution	13.03	13.21	8.34	11.15	9.82	12.85	14.52	
24	Pacific Northern Gas-West	n/a	n/a	n/a	n/a	n/a	n/a	n/a	

ATCO Electric YUKON

September 28, 2023 AEY-JM-026

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-026

Reference: Section 9 Capital additions

Page 9-1 New CIS project at $8.4 million:

Requests:

(a) On page 5.8 we are told that the new CCS system (is this also the CIS system?) would be a subscription cost based system, yet here we are told that there is a capital cost of $8.4 million. Please clarify this project with respect to capital and / or operating costs.

Response:

(a) As outlined in the ATCO CIS Replacement Business Case #22, the ATCO Computer Information System (CIS) is being replaced with Oracle Customer Cloud Service (CCS). The replacement is required to mitigate risks associated with the current (end-of-life) system and to provide AEY with the right tools to perform Customer Care and Billing (CC&B) in an accurate, reliable and efficient manner.[1] The CIS Replacement Project includes both capital and operational spend. The $8.4 million in capital spend is outlined in paragraph 8 of the Business Case, and is related to configuration, data migration, and testing. The operating costs for the Test Period are outlined in paragraph 9 of the Business Case and are the ongoing costs required to operate the cloud-based system.

[1] 2023-2024 AEY GRA, ATCO CIS Replacement, 2023-2024 Business Case #22.

ATCO Electric YUKON

September 28, 2023 AEY-JM-027

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-027

Reference: Section 9 Capital additions

Section 9, Schedule 9.1,

Preamble: YECL 2013-2015 GRA Schedule 9.1 (2013-2015 GRA Application PDF page 495 of 1881), AEY 2016-2017 GRA Schedule 9.1 (AEY 2016-2017 GRA Application PDF page 171 of 292), and the present AEY 2023-2024 GRA Schedule 9.1 all show that AEY has been unable to complete the approved capital expenditures (which were all less than requested in the GRA).

Requests:

(a) Given this track record it appears unrealistic on AEY's part to (1) get YUB approval for the very large capital expenditures requested in this GRA, and (2) to expect to be able to deliver what is approved. Please explain.

(b) In Table 9.4 AEY is shown to be proposing distribution improvements in the range of 2 to 3 times the annual expenditures of the previous 5 years, all of which were lower than 2016 and 2017 expenditures. Please explain why these very large expenditures are necessary now, and why a number of these expenditures were not undertaken in the previous 5 years when AEY clearly had the financial resources to do so.

Response:

(a) Please refer to AEY's response to AEY-YUB-042.

(b) AEY has a mandate to provide safe and reliable service and has undertaken capital projects to ensure this is met. With the recent population growth in Yukon, there is additional load causing strain on the distribution network, which increases the risk to the reliability of the network. As a result, there are additional large capital

builds required, such new substations, to address this issue. Please refer to AEY's response to AEY-UCG-058(a) and (b) for details on population growth and AEY-JM-027(b) Attachment 1 for details on the load growth estimates in Whitehorse.

Summary

Less than 20% capacity remaining
Less than 10% capacity remaining

* All Values are in kVA

Arkell							
	Actual	Forecasted					
Percent Increase 2.72%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S8615 Normalized Load	3428	4380	4500	4622	4748		
S8619 Normalized Load	3068	3017	3099	3184	3270		
Transformer 1 Normalized Load	6266	7398	7599	7806	8018		
Regulator 1 Remaining Capacity	11055	9923	9721	9515	9302	Regulator Rating (400A)	17321
Transformer 1 Remaining Capacity	3734	2602	2401	2194	1982	Transformer Rating	10000

Laberge							
	Actual	Forecasted					
Percent Increase 2.06%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S3600 Normalized Load	5600	5715	5833	5953	6075		
S8306 Normalized Load	1975	2016	2057	2099	2143		
Transformer 1 Normalized Load	7287	7730	7890	8052	8218		
Regulator 1 Remaining Capacity	10034	9590	9431	9268	9102	Regulator Rating (400A)	17321
Transformer 1 Remaining Capacity	2713	2270	2110	1948	1782	Transformer Rating	10000

Lewes							
	Actual	Forecasted					
Percent Increase 0.58%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S6817 Normalized Load	2830	2807	2823	2839	2856		
S6822 Normalized Load	2139	2250	2263	2276	2289		
Transformer 1 Normalized Load	4851	5056	5086	5115	5145		
Regulator 1 Remaining Capacity	3809	3604	3575	3545	3515	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	2649	2444	2414	2385	2355	Transformer Rating	7500

Logan							
	Actual	Forecasted					
Percent Increase 2.69%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S9877 Normalized Load	1950	2122	2179	2237	2297		
S9878 Normalized Load	2677	2789	2864	2941	3020		
Transformer 1 Normalized Load	4447	4911	5043	5178	5318		
Regulator 1 Remaining Capacity	12874	12410	12278	12142	12003	Regulator Rating (400A)	17321
Transformer 1 Remaining Capacity	5553	5089	4957	4822	4682	Transformer Rating	10000

Macrae							
	Actual	Forecasted					
Percent Increase 1.76%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S5953 Normalized Load	1861	1893	1927	1961	1995		
S9833 Normalized Load	4416	4494	4573	4654	4736		
Transformer 1 Normalized Load	6082	6387	6500	6614	6731		
Regulator 1 Remaining Capacity	2578	2273	2160	2046	1930	Regulator Rating (200A)	8660
Transformer 1 Remaining Capacity	3918	3613	3500	3386	3269	Transformer Rating	10000

Mountain View							
	Actual	Forecasted					
Percent Increase 2.52%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S8354 Normalized Load	1091	1118	1147	1176	1205		
S8358 Normalized Load	5630	5771	5917	6066	6219		
S8471 Normalized Load	1059	1086	1113	1141	1170		
Transformer 1 Normalized Load	7780	7976	8177	8383	8594		
Regulator 1 Remaining Capacity	1091	685	484	278	66	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	2431	2024	1823	1617	1406	Transformer Rating	10000

Porter Creek							
	Actual	Forecasted					
Percent Increase 2.12%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S9402 Normalized Load	2867	3101	3166	3233	3302		
S9403 Normalized Load	4189	4278	4369	4461	4556		
Transformer 1 Normalized Load	6772	7379	7535	7695	7858		
Regulator 1 Remaining Capacity	1888	1282	1125	966	802	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	3228	2621	2465	2305	2142	Transformer Rating	10000

Riverdale							
	Actual	Forecasted					
Percent Increase 1.9%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S9400 Normalized Load	2197	2386	2431	2477	2524		
S9401 Normalized Load	933	962	980	999	1018		
Transformer 1 Normalized Load	2985	3348	3412	3476	3543		
Regulator 1 Remaining Capacity	5675	5312	5249	5184	5118	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	4515	4152	4088	4024	3957	Transformer Rating	7500

Selkirk							
	Actual	Forecasted					
Percent Increase 2.72%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S9977 Normalized Load	4675	4803	4934	5068	5207		
Transformer 1 Normalized Load	4675	4803	4934	5068	5207		
Regulator 1 Remaining Capacity	3985	3858	3727	3592	3454	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	5325	5197	5066	4932	4793	Transformer Rating	10000

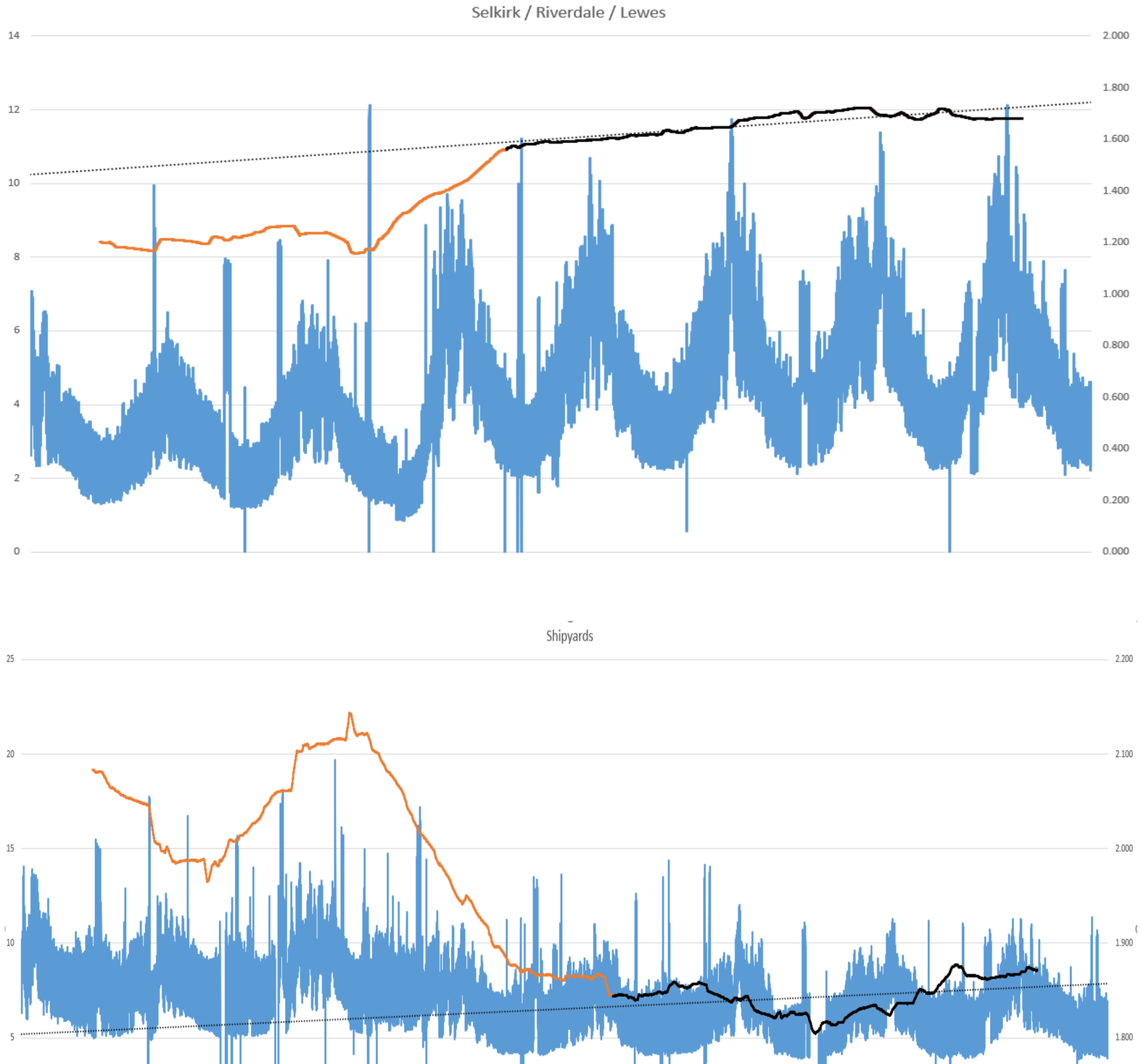
Services							
	Actual	Forecasted					
Percent Increase 0%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S7191 Normalized Load	3676	3676	3676	3676	3676		
Transformer 1 Normalized Load	3676	3676	3676	3676	5207		
Regulator 1 Remaining Capacity	5144	4984	4984	4984	4984	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	3984	3824	3824	3824	3824	Transformer Rating	7500
S7192 Normalized Load	3268	3268	3268	3268	3268		
S7193 Normalized Load	1374	1374	1374	1374	1374		
Transformer 2 Normalized Load	4520	4642	4642	4642	4642		
Regulator 2 Remaining Capacity	4140	4019	4019	4019	4019	Regulator Rating (400A)	8660
Transformer 2 Remaining Capacity	2980	2859	2859	2859	2859	Transformer Rating	7500

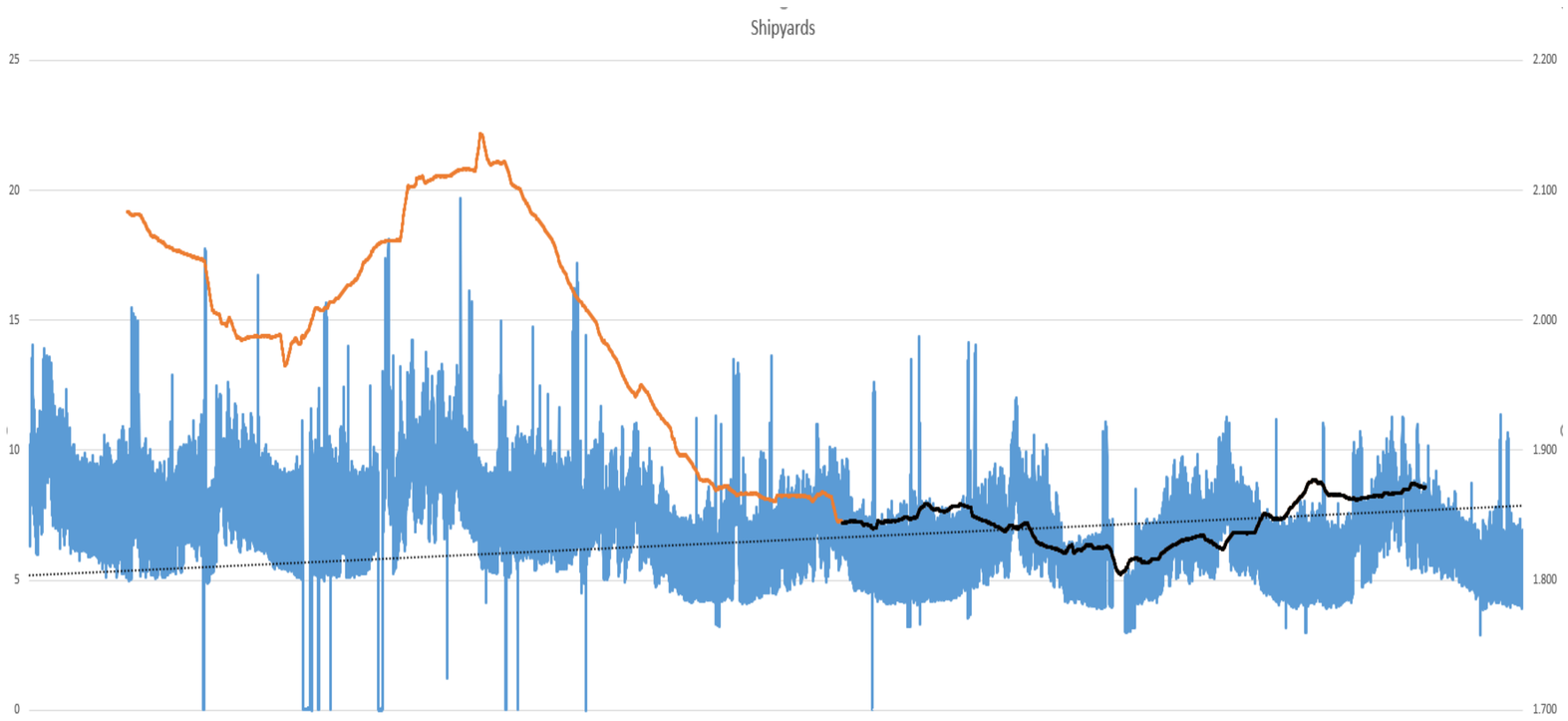
Shipyards							
	Actual	Forecasted					
Percent Increase 0.99%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S1020 Normalized Load	3720	3757	3794	3832	3870		
S1023 Normalized Load	3607	3643	3679	3715	3752		
Transformer 1 Normalized Load	6879	7400	7473	7547	7622		
Regulator 1 Remaining Capacity	1781	1260	1187	1113	1038	Regulator Rating (400A)	8660
Transformer 1 Remaining Capacity	3121	2600	2527	2453	2378	Transformer Rating	10000
S1011 Normalized Load	3550	3585	3620	3656	3692		
S1016 Normalized Load	1731	1748	1765	1782	1800		
Transformer 2 Normalized Load	4863	5333	5385	5439	5493		
Regulator 2 Remaining Capacity	3797	3328	3275	3222	3168	Regulator Rating (400A)	8660
Transformer 2 Remaining Capacity	5137	4667	4615	4561	4507	Transformer Rating	10000

Whistlebend							
	Actual	Forecasted					
Percent Increase 11.26%	**2022/2023**	**2023/2024**	**2024/2025**	**2025/2026**	**2026/2027**		
S3431 Normalized Load	593	660	735	817	909		
S3432 Normalized Load	2518	2802	3117	3468	3858		
Transformer 1 Normalized Load	3088	3462	3852	4285	4768		
Regulator 1 Remaining Capacity	14233	13859	13469	13035	12553	Regulator Rating (400A)	17321
Transformer 1 Remaining Capacity	6912	6538	6148	5715	5232	Transformer Rating	10000
S3433 Normalized Load	5785	6436	7161	7967	8864		
S3434 Normalized Load	127	142	158	175	195		
Transformer 2 Normalized Load	5674	6578	7318	8142	9059		
Regulator 2 Remaining Capacity	11647	10743	10002	9178	8261	Regulator Rating (400A)	17321
Transformer 2 Remaining Capacity	4326	3422	2682	1858	941	Transformer Rating	10000

Substation	1yr moving avg	1yr moving avg with peak factor	Notes
Arkell	1.94%	2.72%	S150 SCADA (2015-2022) for the Arkell feeder supllied by YEC. This substation is servicing a mature residential subdivision, as well as some commercial along Range Road. No major development so moderate growth is expected
Laberge	1.47%	2.06%	This substation is servicing a large mature residential and industiral area that includes Hot Springs Road, the Alaska Hwy, and Kulan industrial. Therefore, a moderate yearly growth is to be expected. YEC SCADA data used
Lewes	0.42%	0.58%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Logan	1.92%	2.69%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Macrae	1.25%	1.76%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Mountain View	1.80%	2.52%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Porter Creek	1.52%	2.12%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Riverdale	1.35%	1.90%	This substation is servicing a mature residential subdivision. Therefore, low to moderate yearly growth is to be expected. Substation SCADA data used
Selkirk	1.95%	2.73%	Load from Services and Shipyards was shifted to Selkirk, this can be seen in the graph below. Data provided by YEC for S150 was used for the feeder that supplies Selkirk, Lewes, and Riverdale. The growth rate for Selkirk was calculated by taking the slope of the S150 feeder regression, minus the slope of the Riverdale regression, minus the slope of the Lewes regression. The remaining value is the slope of what would be the Selkirk regression.
Services	0.00%	0.00%	Both ATCO and YEC SCADA data show a steady decrease in load over the last four years (-5.19% and -3.56% respectively). There's uncertainty around why the decrease is occuring. Temporary load shifting within the data between Services, Arkell, Mountain View, and Porter Creek can all be accounted for.
Shipyards	0.71%	0.99%	Load from Shipyards was shifted to Selkirk. As seen in the graph below, the trendline was taken for the period of time after the load shift and once the 1 year moving average had stabalized.
Whistlebend	8.04%	11.26%	Growth at this substation is rapid due to on going development. Since ATCO has first hand knowledge of expected growth from the number of houses that are built each year, one of two approaches can be taken: Use the yearly growth percentage found from the moving average or apply a set load increase based on total number of homes built in a given year multiplied by average load per home. YEC SCADA data was used.

*Note regarding Laberge and Whistlebend - The growth percentage found from ATCO SCADA data subjectly high, whereas the growth seen from the YEC SCADA data for the feeder supllying Laberge and Whistlebend looked to be closer to what would be expected. To break up the YEC feeder data into its respective substations, the weight of growth percentages for each substation from ATCO SCADA was applied to the YEC data.


Selkirk / Riverdale / Lewes
14
12
10
8
6
4
2
0
2.000
1.800
1.600
1.400
1.200
1.000
0.800
0.600
0.400
0.200
0.000


Shipyards
25
20
15
10
5
0
2.200
2.100
2.000
1.900
1.800
1.700

ATCO Electric YUKON

September 28, 2023 AEY-JM-028

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-028

Reference: Business Cases

Business case No. 5

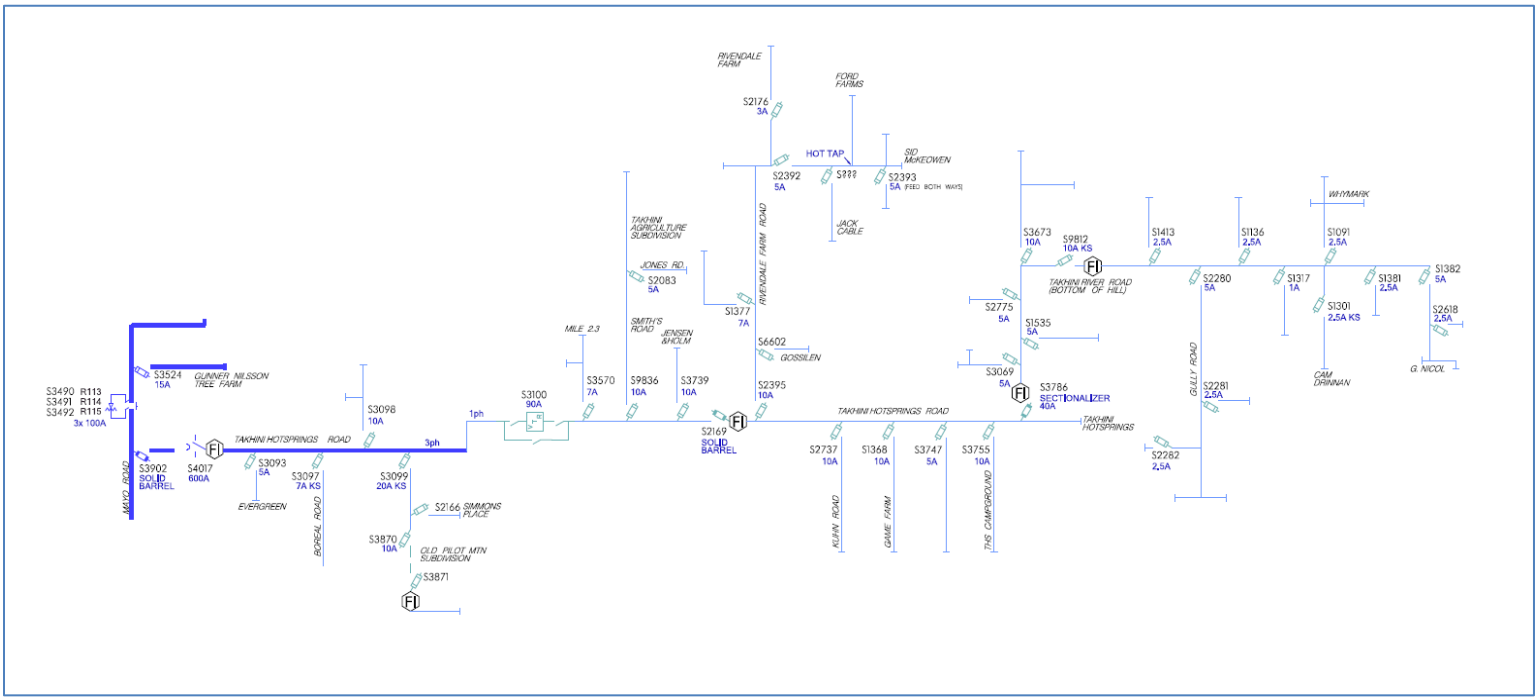
Requests:

(a) Please provide a readable (higher resolution) version of the single line diagram in this business plan.

Response:

(a)

Business Case No. 5 - Single Line Diagram



ATCO Electric YUKON

September 28, 2023 AEY-JM-029

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-029

Reference: Business Cases

Business case No. 6

Requests:

(a) What is the ampacity rating of new #1/0 conductor compared to #6 and #4 conductor?

(b) Did AEY consider going to the next larger conductor from #1/0? Please explain.

Response:

(a) Using the primary voltage of 24.9 kV, the summer ampacity of #6 is 108 A, #4 is 145 A and 1/0 is 261 A, and the winter ampacity of #6 is 144 A, #4 is 193 A and 1/0 is 351 A.

(b) AEY did not consider installing 2/0 ACSR, as modelling for load protection showed 1/0 ACSR ampacity to be sufficient for projected load growth on the system.

September 28, 2023 AEY-JM-030

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-030

Reference: Business Cases

Business case No. 12

Requests:

(a) In new construction are the ROWs brushed to the wider widths at the outset?

Response:

(a) AEY requires that all newly constructed ROWs are brushed to AEY standards at the time of new construction. Newly cleared ROWs as a result, will not require brushing to wider widths. Please refer to AEY-JM-030(a) Attachments 1-4 for copies of AEY brushing standards.

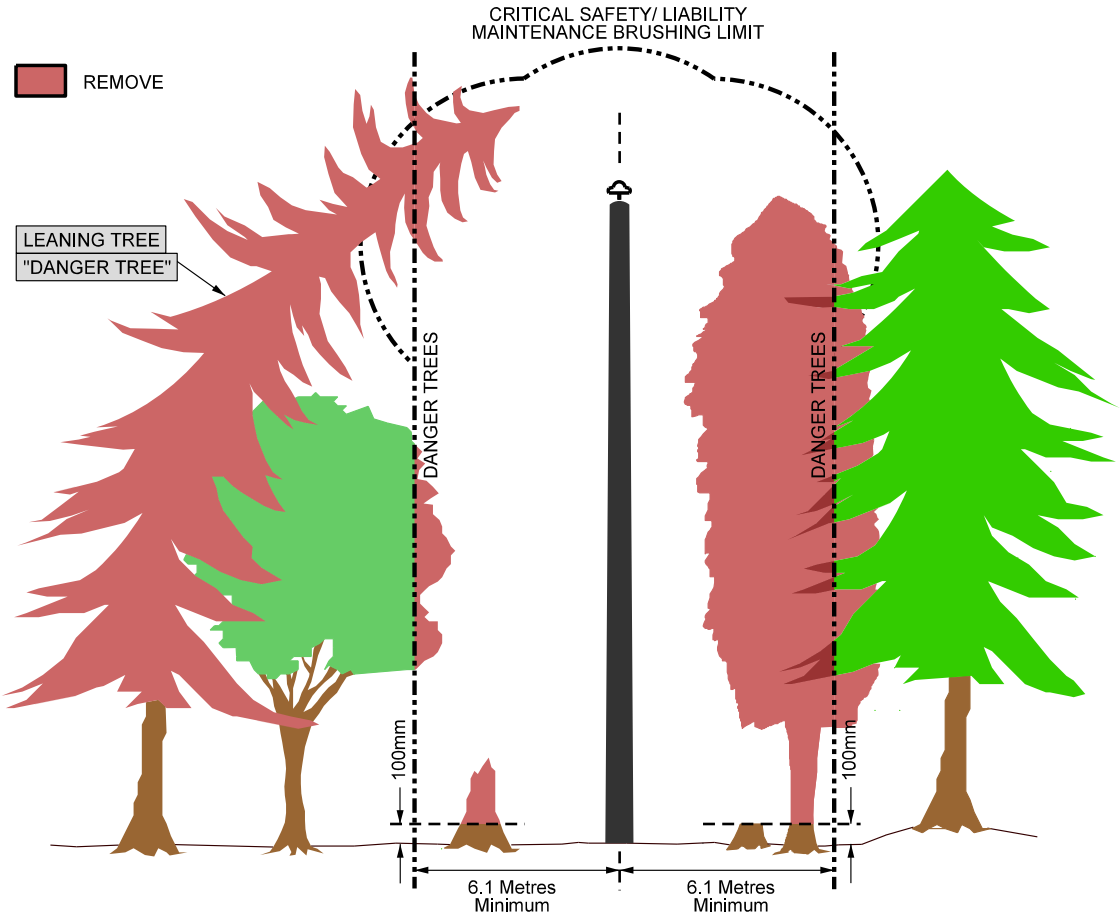
ATCO Electric YUKON

RIGHT OF WAY MAINTENANCE BRUSHING REQUIREMENT FOR SINGLE PHASE HIGH VOLTAGE LINES UP TO 14.4kV

- SINGLE PHASE PRIMARY -

LEGEND / NOTES

*ATCO Electric Yukon Qualified Brush Removal identified by Pink & Black striped flagging.



RIGHT OF WAY SITE NOTES

Trees or brush that have been flagged by "DANGER TREE" flagging are a threat to fall into an existing live powerline and the CUSTOMER IS NOT TO CUT DOWN.

ATCO Electric Yukon will arrange for the Powerline Crew to cut down at time of construction or send out a Qualified Utility Brusher to cut down.

VOLTAGE	RIGHT-OF-WAY WIDTH	TREE TO CONDUCTOR CLEARANCE
2400 V	-	3m
4160 V	-	3m
7200 V	12.2m (6.1m EACH SIDE)	5m
14000 V	12.2m (6.1m EACH SIDE)	5m
24940Y/14000 V	15.0m (7.5m EACH SIDE)	5m

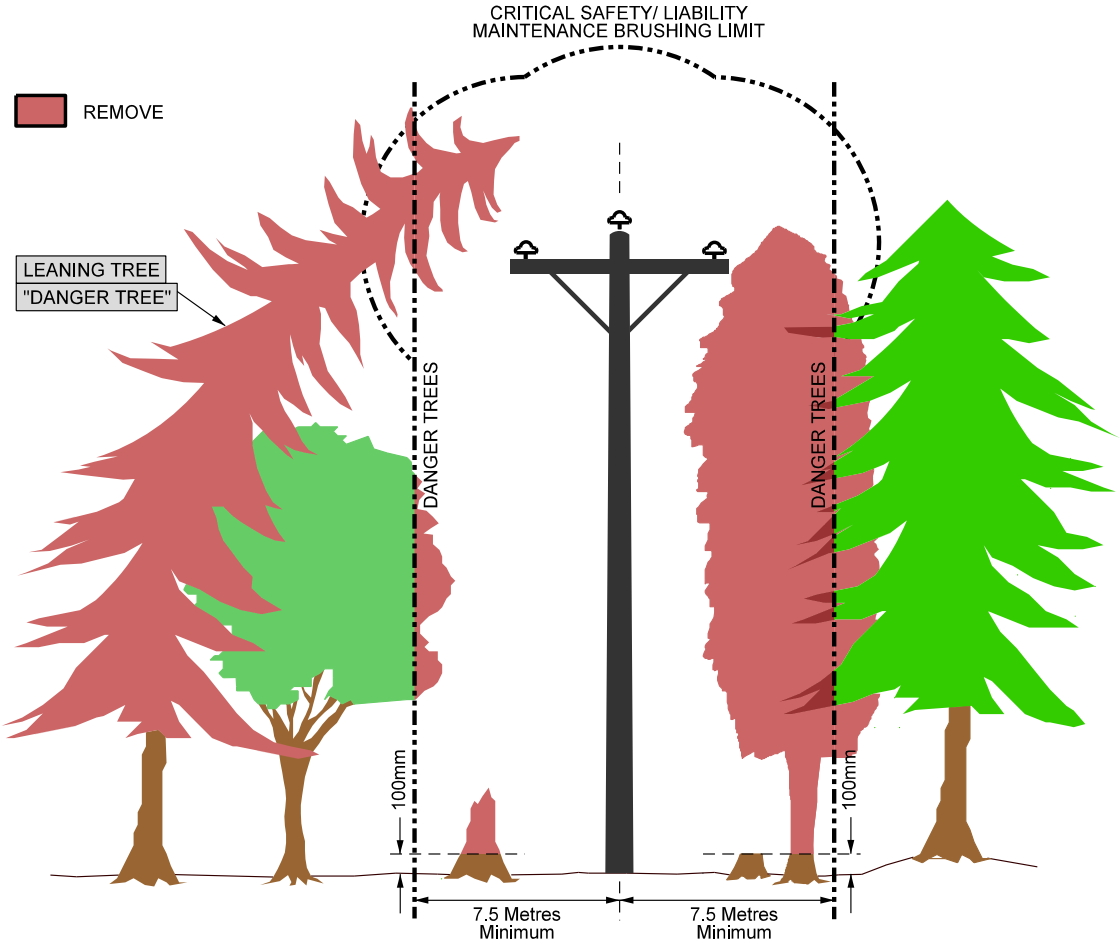
ATCO Electric YUKON

RIGHT OF WAY MAINTENANCE
BRUSHING REQUIREMENT FOR
THREE PHASE HIGH VOLTAGE LINES
UP TO 34kV

- THREE PHASE PRIMARY -

LEGEND / NOTES

*ATCO Electric Yukon Qualified Brush Removal identified by Pink & Black striped flagging.



RIGHT OF WAY SITE NOTES

Trees or brush that have been flagged by "DANGER TREE" flagging are a threat to fall into an existing live powerline and the CUSTOMER IS NOT TO CUT DOWN.

ATCO Electric Yukon will arrange for the Powerline Crew to cut down at time of construction or send out a Qualified Utility Brusher to cut down.

VOLTAGE	RIGHT-OF-WAY WIDTH	TREE TO CONDUCTOR CLEARANCE
2400 V	-	3m
4160 V	-	3m
7200 V	12.2m (6.1m EACH SIDE)	5m
14000 V	12.2m (6.1m EACH SIDE)	5m
24940Y/14000 V	15.0m (7.5m EACH SIDE)	5m

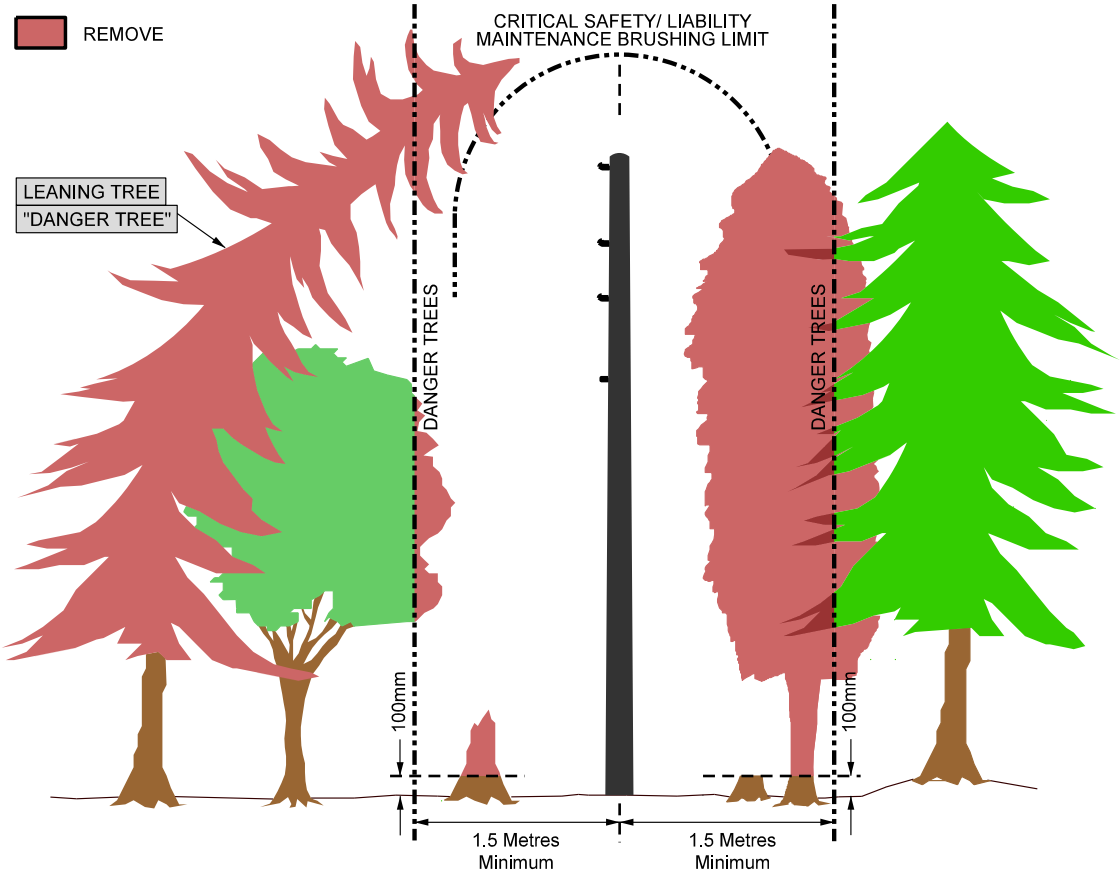
ATCO Electric YUKON

RIGHT OF WAY MAINTENANCE
BRUSHING REQUIREMENT FOR
ALL LOW VOLTAGE LINES UP TO 750 VOLTS

- MULTI SERVICE OPEN WIRE -

LEGEND / NOTES

*ATCO Electric Yukon Qualified Brush Removal identified by Pink & Black striped flagging.



RIGHT OF WAY SITE NOTES

Trees or brush that have been flagged by "DANGER TREE" flagging are a threat to fall into an existing live powerline and the CUSTOMER IS NOT TO CUT DOWN.

ATCO Electric Yukon will arrange for the Powerline Crew to cut down at time of construction or send out a Qualified Utility Brusher to cut down. It will be the customer's responsibility to clean up after the tree has been cut down.

VOLTAGE	RIGHT-OF-WAY WIDTH	TREE TO CONDUCTOR CLEARANCE
2400 V	-	3m
4160 V	-	3m
7200 V	12.2m (6.1m EACH SIDE)	5m
14000 V	12.2m (6.1m EACH SIDE)	5m
24940Y/14000 V	15.0m (7.5m EACH SIDE)	5m

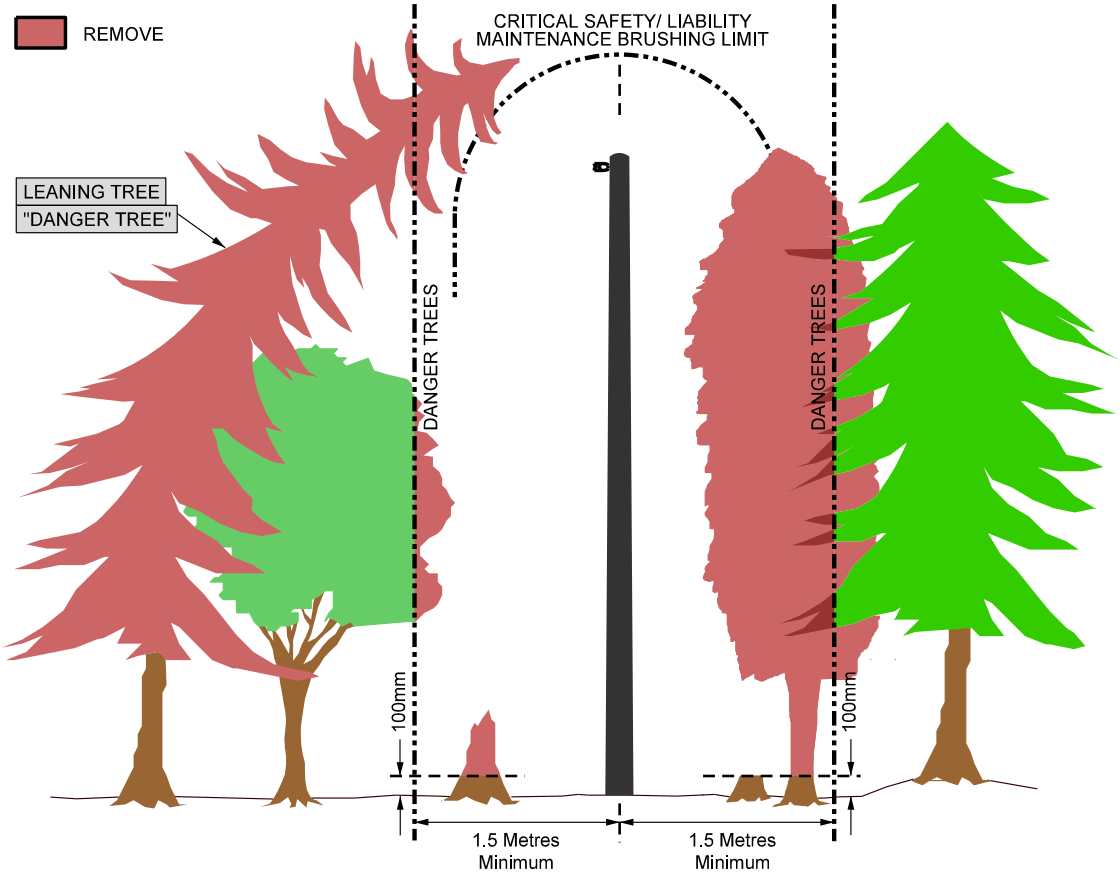
ATCO Electric YUKON

RIGHT OF WAY MAINTENANCE
BRUSHING REQUIREMENT FOR
ALL LOW VOLTAGE LINES UP TO 750 VOLTS

- SECONDARY LINES -

LEGEND / NOTES

*ATCO Electric Yukon Qualified Brush Removal identified by Pink & Black striped flagging.



RIGHT OF WAY SITE NOTES

Trees or brush that have been flagged by "DANGER TREE" flagging are a threat to fall into an existing live powerline and the CUSTOMER IS NOT TO CUT DOWN.

ATCO Electric Yukon will arrange for the Powerline Crew to cut down at time of construction or send out a Qualified Utility Brusher to cut down. It will be the customer's responsibility to clean up after the tree has been cut down.

VOLTAGE	RIGHT-OF-WAY WIDTH	TREE TO CONDUCTOR CLEARANCE
2400 V	-	3m
4160 V	-	3m
7200 V	12.2m (6.1m EACH SIDE)	5m
14000 V	12.2m (6.1m EACH SIDE)	5m
24940Y/14000 V	15.0m (7.5m EACH SIDE)	5m

September 28, 2023 AEY-JM-031

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-031

Reference: Business Cases

Business case No. 17

Requests:

(a) Has this project been completed?

(b) If so, when was it completed and what was the actual cost?

Response:

(a) Yes.

(b) The in-service date was December 9, 2020, and as stated in the business case it cost $196,387.

ATCO Electric YUKON

September 28, 2023 AEY-JM-032

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-032

Reference: Business Cases

Business case No. 21

Requests:

(a) A life of 30,000 hours for a diesel generator seems very short, please explain why a longer life unit would not make more sense.

Response:

(a) Swift River sizing criteria is for each prime duty unit to satisfy peak loading and operate within recommended loading parameters. This is the N-1 capacity that AEY uses for reliability risk management in Swift River. In addition, a mobile unit is stationed at the site to provide emergency manual restoration if both installed generators are unavailable. As a result of the sizing requirements, suppliers propose smaller units that operate at 1800 RPM. There are no interval maintenance guidelines for overhauls from manufacturers, and AEY's operational experience is that a normal lifespan is 30,000 hours. At this point, unplanned downtime becomes more regular, and units are at risk of failure and reactive replacement.

ATCO Electric YUKON

September 28, 2023 AEY-JM-033

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-033

Reference: Business Cases

Business Case No. 22

Requests:

(a) Is this project now complete? If not yet, when will it be operational?

(b) Over what period of time will the capital costs be depreciated?

(c) What is the annual saving in depreciation on the outgoing CIS?

(d) When does AEY propose to implement measures that this new system enables to generate savings for ratepayers, e.g. time of use rates to reduce peak demands so as to reduce YEC diesel generator rentals?

Response:

(a) AEY went live with the Oracle Customer Cloud Service (CCS) on August 1, 2023. While the new system is operational, the stabilization period continues until September 30, 2023, at which time it will fully transition to operations and be considered complete.

(b) The capital costs will be depreciated over a 10-year period.

(c) Including enhancements, the cost of the outgoing CIS system was $1.7 million. At a 10-year average service life, this equates to $170,000 per year in depreciation.

(d) Please refer to the response to AEY-YUB-067(e). Built on the foundation of the Oracle Utilities CC&B and Oracle Utilities MDM, the CCS delivers a cloud-optimized customer platform that keeps the technology current, and it is an

essential platform that AEY will rely on to support the business in finding new flexible products and services to the benefit of customers. AEY will continue to monitor the growing changes in the industry and will assess and implement any adjustments to the new billing system to meet new regulatory and customer requirements. AEY will actively participate in any coordinated pursuit to provide stable and cost-effective rates to Yukoners, including the development of time-of-use rates. Time-of-use rates are typically implemented to the benefit of the system Generator, which is YEC on the YIS.

ATCO Electric YUKON

September 28, 2023 AEY-JM-034

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-034

Reference: Business Case No. 24

Requests:

(a) Given the very high capital costs projected over 2023 and 2024, deferral of completion should be considered. Please explain if there would be any effects of completion deferral for 2 or 3 years.

Response:

(a) It is AEY's view that this project should be initiated as planned for several reasons. First, deferral would result in AEY facing additional integrated assets (i.e. during test years) along with existing, without the development of strategies and tools that other utility peers have incorporated to manage their assets more effectively. Second, due to multiple aging assets reaching end of life and requiring larger capital investment in the near term, there is an urgent need for a data-driven and risk-based approach to lifecycle costing and capital allocation, and the development of more robust project governance procedures. Finally, AEY believes the increasing capital trend may exist beyond the test years (as highlighted by projects forecast in Business Cases 39-41), along with the same operating pressures articulated within this GRA; customer growth, aging infrastructure, and grid modernization. Many of the initial elements in the Asset Management roadmap (i.e. within test years) are foundational, strategic, and structural developments that are necessary to move into more organizational, process, and tactical improvements in future years and be able to realize the performance and cost benefits that are articulated within the Asset Management

Assessment prepared by METSCO Energy Solutions Inc.. AEY intends to manage the ongoing execution of the Asset Management roadmap in reasonable and practical step wise organization changes, over a 5-8 year horizon, in concert with the capital program. We believe this program will result in AEY being able to better quantify and document business objectives and financial plans with performance data and risk management principles, for the benefit of ratepayers and the Board, within future applications.

ATCO Electric YUKON

September 28, 2023 AEY-JM-035

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-035

Reference: Business Case No. 25

Requests:

(a) Given the slow delivery of electrical equipment like transformers, it seems unrealistic to expect that this project could be completed by the end of 2024. Please explain.

(b) In light of the regulators installed in 2020 (Business Case No. 9) and very high capital and depreciation costs over the Test Years, please explain why this project could not be stretched out by a year or more even if it could be complete by the end of 2024?

Response:

(a) Please refer to the response to AEY-YUB-059.

(b) During Contingency Scenario 3, within Table 2 of Business Case No. 25, Laberge Substation does not have the capacity to provide full back up to the North 25 kV system. AEY needs additional capacity within the North 25 kV system to ensure outages can be fully restored in an efficient manner. Contingency Scenario 1 falls outside the scope of the Business Case as it evaluates the system upstream of the North 25 kV system. Contingency Scenarios 2 and 4 are currently adequately met by existing capacity. Therefore, AEY will be unable to efficiently resolve Contingency Scenario 3 and project timelines cannot be stretched.

ATCO Electric YUKON

September 28, 2023 AEY-JM-036

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-036

Reference: Business Case No. 26

Requests:

(a) Given the very high capital and depreciation costs in 2023 and 2024 is there any good reason not to defer this work for at least two years?

(b) Why was there not more ROW widening done on the years 2016 through 2022 when AEY had the financial resources?

Response:

(a) There are several good reasons not to defer this work for any period. AEY maintains an extensive overhead power system in Yukon. Continuing to be proactive in efforts to widen ROWs and remove danger trees reduces outages and improves public safety. Recent years have shown how devastating wildfires can be to public safety and property. Maintaining a robust ROW widening program is key to preventing fires and outages caused by trees contacting powerlines.

(b) The ROW widening program through 2016 to 2022 averaged $475,000 of completed work and continued to target all identified areas of the overhead system in terms of reliability and safety. During this time there were many capital projects underway that required brushing as well. AEY balanced a brushing budget while maintaining widening of existing ROWs and brushing for new customer connects.

ATCO Electric YUKON

September 28, 2023 AEY-JM-037

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-037

Reference: Business Case No. 27

Requests:

(a) Have these vehicles been purchased already?

(b) If not, would there be any impact of deferring the purchase of a few of them for a year?

(c) Why were some of these vehicles not purchased in 2022 when AEY had the financial resources to do so?

Response:

(a) The following table shows vehicles purchased. Please note that the unit numbers have been corrected in red to match fleet logs.

Table 1: Vehicles Purchased

Unit	Description	Year Purchased	Purchase Cost ($)
YT160 YT175 (Replaces YT116)	LD Service Body	2023	110,000
YT161 YT178 (Fleet Add)	Technologist Truck	2023	160,000
YT162 YT180 (Fleet Add)	Generation Truck	2023	160,000
YT163 YT176 (Replaces YT117)	LD Service Body	2023	110,000
YT164 YT177 (Replaces YT099)	LD Service Body	2023	110,000
Units under $100,000	Various[1]	2023	47,000
Total			**697,000**

[1] Category includes items such as trailers, snowmobiles, and all-terrain vehicles. These units are evaluated for replacement using the lifecycle criteria evaluation after seven-years of service or 200,000 km.

(b) Deferral of purchasing the remaining three units risk the following adverse business impacts:

- Units YT161 and YT162 are to be purchased for the generation department. These employees are required to travel to various AEY service locations and will each require their own separate units to carry out their trade functions. Deferral of purchasing these units would greatly reduce the effectiveness of their role by having them share resources with other positions within the work group.

- Unit YT164 is to be purchased for use by a power line technician. The position requires a unit to work independently for construction / service functions as well as assigned on call duties. Deferral of purchasing this unit would greatly reduce the effectiveness of their role by having them share resources with other positions within the work group as unit 099 has been decommissioned and sold.

- There has been an increasing trend in cost and decreased availability when purchasing new equipment. Deferral could risk increased cost and longer lead times when acquiring these units.

(c) Units are purchased / budgeted for as business needs require or as they reach the end of a typical life cycle.

ATCO Electric YUKON

September 28, 2023 AEY-JM-038

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-038

Reference: Business Case No. 28

Requests:

(a) If not, would there be any impact of deferring the purchase of a few of them for a year or two?

Response:

(a) Deferral of purchasing any of the units in Table 2: Fleet Purchased Fleet 2024 risk the following adverse business impacts:

- There has been an increasing trend in cost and decreased availability when purchasing new equipment. Deferral could risk increased cost and longer lead times when acquiring these units.
- Reduced reliability.
- Costs incurred from vehicle down time during repairs / maintenance. These costs may include vehicle rentals and contracting third parties.
- Reduction of electrical service.
- Less vehicles available for service and construction activities.

ATCO Electric YUKON

September 28, 2023 AEY-JM-039

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-039

Reference: Business Case No. 29

Requests:

(a) In light of the fact that the undervoltage was know on or before 2021, why were these improvements not made in 2022 or earlier while AEY had the financial resources to do so?

(b) Can the reconductoring proposed be deferred by a year or two? If not, why not?

Response:

(a) Delays in regulator procurement prevented the project from being completed in 2022.

(b) Reconductoring can be deferred on line 3L406, as noted in paragraph 8. "Rebalancing this line alone will leave 15 percent room for load growth which will allow for reconductoring to be delayed for a few years." Also noted in the recommended Alternative 4 in paragraph 11. "It is not imperative that the reconductor be done if the load balancing is optimized, but it will need to be done eventually."

Reconductoring cannot be deferred on line 3L405, as noted in paragraph 12. "Rebalancing the load alone will not fix the existing voltage issue down this branch." This is why Alternative 6 is the recommended alternative to address voltage issues on 3L405 East.

ATCO Electric YUKON

September 28, 2023 AEY-JM-040

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-040

Reference: Business Case No. 30

Requests:

(a) In light of the fact that the undervoltage under certain conditions must have been known (from work related to the Atlin project) why were these improvements not made in 2022 or earlier while AEY had the financial resources to do so?

(b) Would the upgrading of portions of this line to accommodate the Atlin project have solved these problems?

(c) Why would AEY not consider the partial line reconductoring contemplated for the Atlin project to solve the problem and facilitate the Atlin project both?

Response:

(a) The undervoltage issues were not fully known until the completion of the study which was finalized on April 4, 2023.

(b) No, upgrading portions of the line by reconductoring them would not be sufficient. Addressing the conductor size alone does not solve the problem.

(c) Long distances of conductor upgrades are considerably more expensive than regulator additions, and conductor upgrades alone do not solve the problem.

September 28, 2023 AEY-JM-041

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-041

Reference: Business Case No. 31

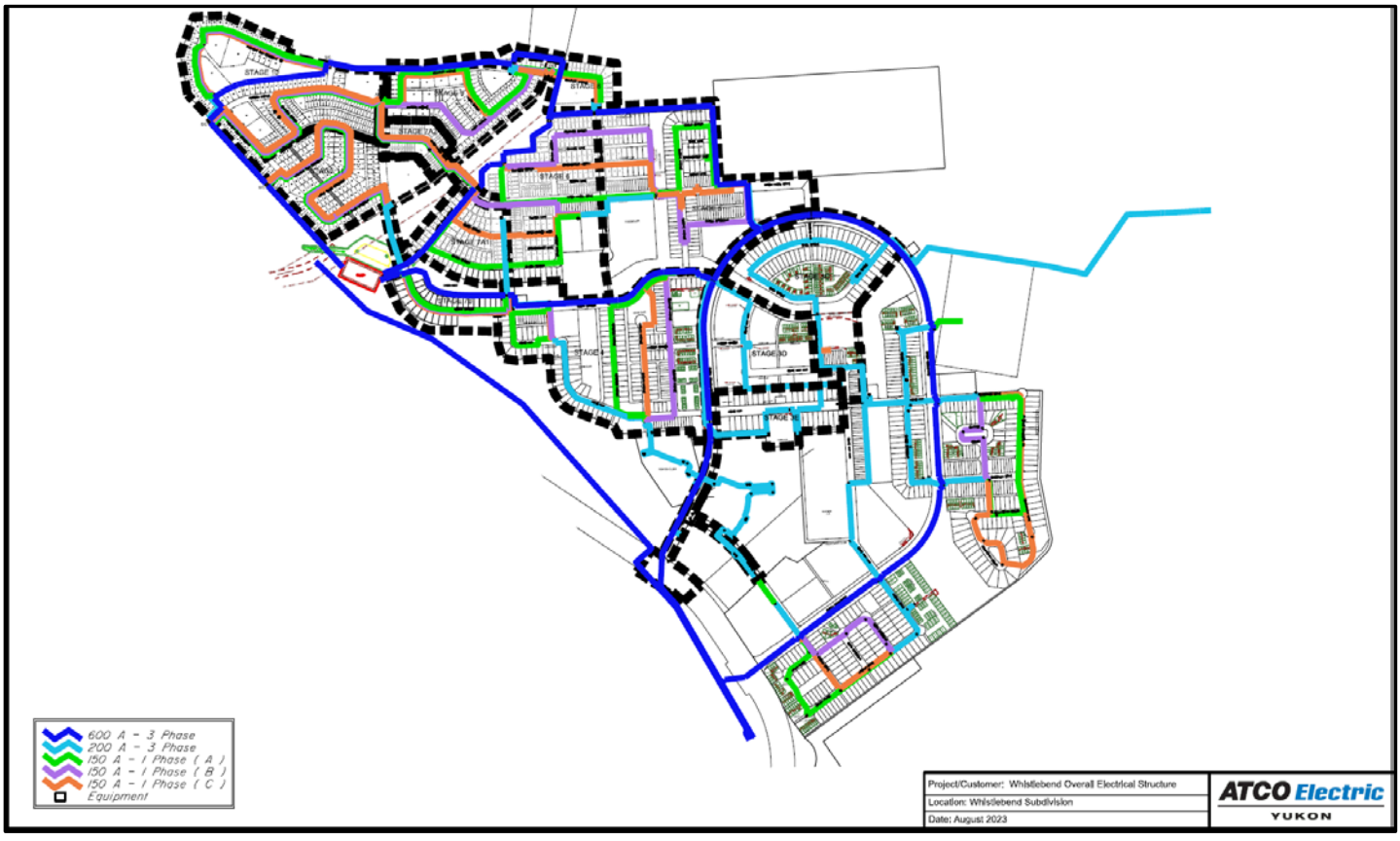
Requests:

(a) Please provide a readable (higher resolution) copy of Appendix A.

Response:

(a)

Business Case No 31 – Appendix A



ATCO Electric YUKON

September 28, 2023 AEY-JM-042

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-042

Reference: Business Case No. 33

Requests:

(a) Is it realistic to expect this project to be designed and constructed in one year?

Response:

(a) Yes.

ATCO Electric YUKON

September 28, 2023 AEY-JM-043

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-043

Reference: Business Case No. 40

Requests:

(a) Why were some of these condition assessments not done in previous years when AEY had the financial resources to do so?

Response:

(a) The focus at these sites has been on lifecycle extension and ongoing reliability since the last GRA. However, with upcoming IPP integrations in Beaver Creek and Destruction Bay, it has become obvious these sites need to be comprehensively evaluated in the short-term to ensure ongoing grid stability and quality of service into the future. AEY is proposing to prepare the lifecycle rehabilitation options, and progress design on prioritized assets (according to health and the strategic asset management plan to be developed) in a sequenced manner, in order to level the capital spend and workload.

ATCO Electric YUKON

September 28, 2023 AEY-JM-044

ATCO Electric Yukon (AEY)
2023-2024 General Rate Application (GRA)

Information Responses Round 1 to:
John Maissan (JM)
Received: September 6, 2023

AEY-JM-044

Reference: Business Case No. 41

Requests:

(a) Given the very high capital and depreciation costs in 2023 and 2024 is there any good reason not to defer this work for at least one year?

Response:

(a) The Old Crow Plant Design project was completed in December 2022. There is no anticipated work on the new facility in 2023 or 2024.