

# ATCO Electric

## YUKON

---

March 2, 2018

Yukon Utilities Board  
P.O. Box 31728  
Whitehorse, Yukon Y1A 6L3

Attention: Deana Lemke, Yukon Utilities Board Executive Secretary

Dear Deana:

Re: Service Interruptions

In accordance with Board Decision 1989-5, attached is the summary of major unplanned outages for the months of Oct, Nov and Dec of 2017. A major outage has, for the purposes of these reports, been defined as an interruption of any length involving either a significant number of customers or a small community.

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

Yours Sincerely,

ATCO Electric Yukon



For Jay Massie,  
Manager

JM:cm  
Encl.

\\YUB\yubout17

**Outages**

Service Area 571 Whitehorse  
 Date Reported 2017-10-14  
 Outage Number AMI00237  
 Planned Unplanned  
 Sub Number 21 LaBerge  
 Line Number 5L645

Location Wh-North Klondike Hwy  
 CityTown Whitehorse  
 Time Reported 22:05  
 First Interruption 22:00  
 Last Restoration 23:55  
 Primary Cause 8 Equipment Failure  
 CEA Coding Defective Equipment

Customer-Hrs of Interruption 1069:30  
 Number of Customers Affected 558  
 Avg. Customer Outage Duration 1:55

**Explanations and Comments**  
 removed per Bill Cullen duplicate with DLM00099

Service Area 571 Whitehorse  
 Date Reported 2017-10-15  
 Outage Number AMI00238  
 Planned Unplanned  
 Sub Number S150 Whitehorse  
 Line Number 6L19

Location Marsh Lake  
 CityTown Judas Creek  
 Time Reported 11:30  
 First Interruption 11:25  
 Last Restoration 14:45  
 Primary Cause 2 Trees  
 CEA Coding Trees

Customer-Hrs of Interruption 166:40  
 Number of Customers Affected 50  
 Avg. Customer Outage Duration 3:20

**Explanations and Comments**  
 Tree on line caused fuse to blow at stepdown transformer. Isolated, removed tree and re-energized.

Service Area 571 Whitehorse  
 Date Reported 2017-10-13  
 Outage Number DLM00099  
 Planned Unplanned  
 Sub Number 21 LaBerge  
 Line Number 5L645

Location Wh-North Klondike Hwy  
 CityTown Mayo Hwy  
 Time Reported 22:00  
 First Interruption 21:50  
 Last Restoration 23:45  
 Primary Cause 8 Equipment Failure  
 CEA Coding Defective Equipment

Customer-Hrs of Interruption 1197:50  
 Number of Customers Affected 1328  
 Avg. Customer Outage Duration :54

**Explanations and Comments**  
 Brk S8686 open from software fault. brk would not close and a larger outage need to bypass brker from S3600.

Service Area 592 Marsh Lake  
 Date Reported 2017-12-31  
 Outage Number DLM00102  
 Planned Unplanned  
 Sub Number S150 Whitehorse  
 Line Number 6L19

Location Teslin  
 CityTown marsh lake to teslin  
 Time Reported 1:30  
 First Interruption 1:15  
 Last Restoration 5:18  
 Primary Cause 8 Equipment Failure  
 CEA Coding Defective Equipment

Customer-Hrs of Interruption 1579:30  
 Number of Customers Affected 390  
 Avg. Customer Outage Duration 4:03

**Explanations and Comments**  
 The internal controls failed causing breaker outage from Marsh Lake to Teslin. The town of Teslin came on with back up generation within 5min. customer from south of Marsh Lake to Teslin came back on line in stages from 5:18 to 6:10. S9567.

**Outages**

<b>Service Area</b>	575 Carmacks	<b>Location</b>	Carmacks	<b>Customer-Hrs of Interruption</b>	182:00
<b>Date Reported</b>	2017-10-29	<b>City/Town</b>	Carmacks	<b>Number of Customers Affected</b>	312
<b>Outage Number</b>	MWG00322	<b>Time Reported</b>	12:03	<b>Avg. Customer Outage Duration</b>	:35
<b>Planned</b>	Unplanned	<b>First Interruption</b>	12:03	<b>Explanations and Comments</b> Carmacks OSS opened due to over voltage on L170, caused by loss of load from YEC substation at Minto. Carmacks placed back on grid after system status confirmed back to normal.	
<b>Sub Number</b>	18 Carmacks	<b>Last Restoration</b>	12:38		
<b>Line Number</b>	5L606	<b>Primary Cause</b>	13 YEC U/F Load Shed		
		<b>CEA Coding</b>	Loss of Supply - Yukon Ener		

<b>Service Area</b>	576 Teslin	<b>Location</b>	Teslin	<b>Customer-Hrs of Interruption</b>	851:00
<b>Date Reported</b>	2017-12-22	<b>City/Town</b>	Teslin	<b>Number of Customers Affected</b>	370
<b>Outage Number</b>	MWG00330	<b>Time Reported</b>	3:32	<b>Avg. Customer Outage Duration</b>	2:18
<b>Planned</b>	Unplanned	<b>First Interruption</b>	3:32	<b>Explanations and Comments</b> Received a call from Atco After hours that NWTTEL was experiencing an outage at 4 stations along the south alaska hwy from Jakes Corners to Teslin. Confirmed with YEC that they saw a kw drop on S150 sub and proceeded to investigate the outage. Scada was down due to internet outage and had to drive to S9567 to manually close in the breaker. Patrolled found some frost on lines and concluded that snow/frost was the cause. Power was restored at 5:50 am to all customers.	
<b>Sub Number</b>	27 Teslin	<b>Last Restoration</b>	5:50		
<b>Line Number</b>	6L11	<b>Primary Cause</b>	4 Icing		
		<b>CEA Coding</b>	Adverse Weather		

<b>Service Area</b>	579 Old Crow	<b>Location</b>	Old Crow	<b>Customer-Hrs of Interruption</b>	13:16
<b>Date Reported</b>	2017-11-04	<b>City/Town</b>	Old Crow	<b>Number of Customers Affected</b>	199
<b>Outage Number</b>	RAF00108	<b>Time Reported</b>	11:16	<b>Avg. Customer Outage Duration</b>	:04
<b>Planned</b>	Unplanned	<b>First Interruption</b>	11:16	<b>Explanations and Comments</b> Old Crow #4 shutdown due to high charge air temperature. Failure in it's cooling system.	
<b>Sub Number</b>		<b>Last Restoration</b>	11:20		
<b>Line Number</b>		<b>Primary Cause</b>	8 Equipment Failure		
		<b>CEA Coding</b>	Defective Equipment		

**Outages**

<b>Service Area</b>	579 Old Crow	<b>Location</b>	Old Crow	<b>Customer-Hrs of Interruption</b>	13:16
<b>Date Reported</b>	2017-11-05	<b>City/Town</b>	Old Crow	<b>Number of Customers Affected</b>	199
<b>Outage Number</b>	RAF00109	<b>Time Reported</b>	16:11	<b>Avg. Customer Outage Duration</b>	:04
<b>Planned</b>	Unplanned	<b>First Interruption</b>	16:11	<b>Explanations and Comments</b> Old Crow #4 Shutdown on high charge air temperature. Failure in its cooling system.	
<b>Sub Number</b>		<b>Last Restoration</b>	16:15		
<b>Line Number</b>		<b>Primary Cause</b>	8 Equipment Failure		
		<b>CEA Coding</b>	Defective Equipment		

<b>Service Area</b>	579 Old Crow	<b>Location</b>	Old Crow	<b>Customer-Hrs of Interruption</b>	16:35
<b>Date Reported</b>	2017-11-27	<b>City/Town</b>	Old Crow	<b>Number of Customers Affected</b>	199
<b>Outage Number</b>	RAF00110	<b>Time Reported</b>	6:59	<b>Avg. Customer Outage Duration</b>	0:05
<b>Planned</b>	Unplanned	<b>First Interruption</b>	6:59	<b>Explanations and Comments</b> Old Crow #4 shutdown on overcurrent. Power has been restored but we still need to find the root cause of the problem.	
<b>Sub Number</b>		<b>Last Restoration</b>	7:04		
<b>Line Number</b>		<b>Primary Cause</b>	7 Overload		
		<b>CEA Coding</b>	Defective Equipment		

<b>Service Area</b>	579 Old Crow	<b>Location</b>	Old Crow	<b>Customer-Hrs of Interruption</b>	13:36
<b>Date Reported</b>	2017-12-19	<b>City/Town</b>	Old Crow	<b>Number of Customers Affected</b>	204
<b>Outage Number</b>	RAF00111	<b>Time Reported</b>	14:24	<b>Avg. Customer Outage Duration</b>	:04
<b>Planned</b>	Unplanned	<b>First Interruption</b>	14:24	<b>Explanations and Comments</b> Engine shutdown on Unit #1 caused brief outage to town. Unknown cause.	
<b>Sub Number</b>		<b>Last Restoration</b>	14:28		
<b>Line Number</b>		<b>Primary Cause</b>	14 Unknown		
		<b>CEA Coding</b>	Unknown/Other		

<b>Service Area</b>	577 Destruction Bay	<b>Location</b>	Destruction Bay	<b>Customer-Hrs of Interruption</b>	5:16
<b>Date Reported</b>	2017-12-21	<b>City/Town</b>	Destruction Bay	<b>Number of Customers Affected</b>	158
<b>Outage Number</b>	RAF00112	<b>Time Reported</b>	17:52	<b>Avg. Customer Outage Duration</b>	:02
<b>Planned</b>	Unplanned	<b>First Interruption</b>	17:52	<b>Explanations and Comments</b> Outage to town caused by an engine overload.	
<b>Sub Number</b>		<b>Last Restoration</b>	17:54		
<b>Line Number</b>		<b>Primary Cause</b>	14 Unknown		
		<b>CEA Coding</b>	Unknown/Other		

**Outages**

Service Area 571 Whitehorse  
 Date Reported 2017-10-30  
 Outage Number RJZ00528  
 Planned Unplanned  
 Sub Number 29 Arkell  
 Line Number 5L630

Location Wh-Lobird  
 City/Town Icy Lake, Loberd  
 Time Reported 15:00  
 First Interruption 14:55  
 Last Restoration 15:40  
 Primary Cause 9 Bird/Animal  
 CEA Coding Foreign Interference

Customer-Hrs of Interruption 60:00  
 Number of Customers Affected 80  
 Avg. Customer Outage Duration :45

**Explanations and Comments**  
 A raven crossed phases at a corner structure at Icy Lakes. Blew two fuses at S9529 causing outages and partial power to approx 80 customers.

Service Area 576 Teslin  
 Date Reported 2017-11-05  
 Outage Number RJZ00531  
 Planned Unplanned  
 Sub Number S150 Whitehorse  
 Line Number 6L11

Location Wh-Multiple Areas  
 City/Town Alaska Hwy south, Klondike  
 Time Reported 13:00  
 First Interruption 12:58  
 Last Restoration 13:49  
 Primary Cause 8 Equipment Failure  
 CEA Coding Defective Equipment

Customer-Hrs of Interruption 1433:21  
 Number of Customers Affected 1801  
 Avg. Customer Outage Duration :47

**Explanations and Comments**  
 Breakers S6840, and S6839 opened simultaneously at 12:58. There were no overcurrent trip events on either breaker. Think it is a logic and controller issue. Technologists to look into.

Service Area 571 Whitehorse  
 Date Reported 2017-10-18  
 Outage Number RSM00505  
 Planned Unplanned  
 Sub Number 5 Services  
 Line Number 4L316

Location Wh -Downtown  
 City/Town Whitehorse  
 Time Reported 12:25  
 First Interruption 12:25  
 Last Restoration 13:32  
 Primary Cause 14 Unknown  
 CEA Coding Unknown/Other

Customer-Hrs of Interruption 99:23  
 Number of Customers Affected 89  
 Avg. Customer Outage Duration 1:07

**Explanations and Comments**  
 Breaker S7193 opened on an A to C fault, no cause was found, system came up clean.

Service Area 571 Whitehorse  
 Date Reported 2017-10-30  
 Outage Number RSM00510  
 Planned Unplanned  
 Sub Number 17 McIntyre  
 Line Number 6L16

Location Wh-Porter Creek  
 City/Town Whitehorse  
 Time Reported 11:24  
 First Interruption 11:24  
 Last Restoration 11:51  
 Primary Cause 13 YEC U/F Load Shed  
 CEA Coding Loss of Supply - Yukon Ener

Customer-Hrs of Interruption 1089:54  
 Number of Customers Affected 2422  
 Avg. Customer Outage Duration :27

**Explanations and Comments**  
 YEC lost generation at their Ashihik plant causing an under frequency and as a result Stage 1 S6838 opened. Affected customers in Porter Creek and Takhini. Power was restored.

**Outages**

**Service Area** 571 Whitehorse  
**Date Reported** 2017-12-11  
**Outage Number** RSM00516  
**Planned** Unplanned  
**Sub Number** S150 Whitehorse  
**Line Number** 6L  
**Location** Wh-Multiple Areas  
**City/Town** Whitehorse  
**Time Reported** 11:23  
**First Interruption** 11:23  
**Last Restoration** 12:34  
**Primary Cause** 13 YEC U/F Load Shed  
**CEA Coding** Loss of Supply - Yukon Ener  
**Customer-Hrs of Interruption** 5270:15  
**Number of Customers Affected** 5132  
**Avg. Customer Outage Duration** 1:01  
**Explanations and Comments**  
 Loss of supply from YEC.

**Service Area** 576 Teslin  
**Date Reported** 2017-12-11  
**Outage Number** RSM00517  
**Planned** Unplanned  
**Sub Number** 27 Teslin  
**Line Number** 5L615  
**Location** Teslin  
**City/Town** Teslin  
**Time Reported** 11:23  
**First Interruption** 11:23  
**Last Restoration** 11:26  
**Primary Cause** 13 YEC U/F Load Shed  
**CEA Coding** Loss of Supply - Yukon Ener  
**Customer-Hrs of Interruption** 13:18  
**Number of Customers Affected** 266  
**Avg. Customer Outage Duration** 0:03  
**Explanations and Comments**  
 YEC lost supply, Teslin generator came on line 3 minutes after, 3 minute outage

**Service Area** 571 Whitehorse  
**Date Reported** 2017-12-11  
**Outage Number** RSM00518  
**Planned** Unplanned  
**Sub Number** S150 Whitehorse  
**Line Number** 6L11  
**Location** Wh-Multiple Areas  
**City/Town** Whitehorse  
**Time Reported** 11:23  
**First Interruption** 11:23  
**Last Restoration** 12:47  
**Primary Cause** 13 YEC U/F Load Shed  
**CEA Coding** Loss of Supply - Yukon Ener  
**Customer-Hrs of Interruption** 4955:04  
**Number of Customers Affected** 3751  
**Avg. Customer Outage Duration** 1:19  
**Explanations and Comments**  
 YEC lost supply to S150, restored system

**Service Area** 573 Watson Lake  
**Date Reported** 2017-10-31  
**Outage Number** TSM00013  
**Planned** Unplanned  
**Sub Number** 31 Watson Lake  
**Line Number**  
**Location** Watson Lake  
**City/Town** Watson Lake  
**Time Reported** 19:21  
**First Interruption** 19:21  
**Last Restoration** 19:25  
**Primary Cause** 21 YECL Plant Outage  
**CEA Coding** Loss of Supply - Yukon Elec  
**Customer-Hrs of Interruption** 64:40  
**Number of Customers Affected** 970  
**Avg. Customer Outage Duration** :04  
**Explanations and Comments**  
 Unit #4 experienced a high crankcase pressure alarm and shut down. This caused S7230, S7237, S7242 and feeder #1 control to open. Calvin and I arrived at site to find all three main breakers open and only the station service operating. We started up all available generation and closed the three breakers, restoring power to the town.

## Outages

<b>Service Area</b>	590 Lower Post	<b>Location</b>	Lower Post	<b>Customer-Hrs of Interruption</b>	6:00
<b>Date Reported</b>	2017-10-31	<b>City/Town</b>	Lower Post	<b>Number of Customers Affected</b>	90
<b>Outage Number</b>	TSM00014	<b>Time Reported</b>	19:21	<b>Avg. Customer Outage Duration</b>	:04
<b>Planned</b>	Unplanned	<b>First Interruption</b>	19:21	<div style="border: 1px solid black; padding: 5px;"> <p><b>Explanations and Comments</b></p> <p>Unit #4 experienced a high crankcase pressure alarm and shut down. This caused S7230, S7237, S7242 and feeder #1 control to open. Calvin and I arrived at site to find all three main breakers open and only the station service operating. We started up all available generation and closed the three breakers, restoring power to the town.</p> </div>	
<b>Sub Number</b>	31 Watson Lake	<b>Last Restoration</b>	19:25		
<b>Line Number</b>	5L619	<b>Primary Cause</b>	21 YECL Plant Outage		
		<b>CEA Coding</b>	Loss of Supply - Yukon Elec		
<b>Service Area</b>	591 Upper Liard	<b>Location</b>	Upper Liard	<b>Customer-Hrs of Interruption</b>	7:04
<b>Date Reported</b>	2017-10-31	<b>City/Town</b>	Upper Liard	<b>Number of Customers Affected</b>	106
<b>Outage Number</b>	TSM00015	<b>Time Reported</b>	19:21	<b>Avg. Customer Outage Duration</b>	:04
<b>Planned</b>	Unplanned	<b>First Interruption</b>	19:21	<div style="border: 1px solid black; padding: 5px;"> <p><b>Explanations and Comments</b></p> <p>Unit #4 experienced a high crankcase pressure alarm and shut down. This caused S7230, S7237, S7242 and feeder #1 control to open. Calvin and I arrived at site to find all three main breakers open and only the station service operating. We started up all available generation and closed the three breakers, restoring power to the town.</p> </div>	
<b>Sub Number</b>	31 Watson Lake	<b>Last Restoration</b>	19:25		
<b>Line Number</b>	5L620	<b>Primary Cause</b>	21 YECL Plant Outage		
		<b>CEA Coding</b>	Loss of Supply - Yukon Elec		
<b>Service Area</b>	573 Watson Lake	<b>Location</b>	Watson Lake	<b>Customer-Hrs of Interruption</b>	-34606:00
<b>Date Reported</b>	2017-11-23	<b>City/Town</b>	Watson Lake	<b>Number of Customers Affected</b>	970
<b>Outage Number</b>	TSM00018	<b>Time Reported</b>	19:22	<b>Avg. Customer Outage Duration</b>	-35:40
<b>Planned</b>	Unplanned	<b>First Interruption</b>	19:22	<div style="border: 1px solid black; padding: 5px;"> <p><b>Explanations and Comments</b></p> <p>Unit #4 experienced a high crankcase pressure shutdown, which caused the three feeder breakers to open due to under frequency. C. Kirkwood had started up the remaining units and was closing the feeder breakers. I reset unit #2 alarms and put it online.</p> </div>	
<b>Sub Number</b>	31 Watson Lake	<b>Last Restoration</b>	19:28		
<b>Line Number</b>		<b>Primary Cause</b>	8 Equipment Failure		
		<b>CEA Coding</b>	Defective Equipment		



**Outages**

**Service Area** 590 Lower Post  
**Date Reported** 2017-11-23  
**Outage Number** TSM00019  
**Planned** Unplanned  
**Sub Number** 31 Watson Lake  
**Line Number** 5L619

**Location** Lower Post  
**City/Town** Lower Post  
**Time Reported** 19:22  
**First Interruption** 19:22  
**Last Restoration** 19:28  
**Primary Cause** 8 Equipment Failure  
**CEA Coding** Defective Equipment

**Customer-Hrs of Interruption** 9:00  
**Number of Customers Affected** 90  
**Avg. Customer Outage Duration** :06

**Explanations and Comments**  
See TSM00018 for details

**Service Area** 591 Upper Liard  
**Date Reported** 2017-11-23  
**Outage Number** TSM00020  
**Planned** Unplanned  
**Sub Number** 31 Watson Lake  
**Line Number** 5L620

**Location** Upper Liard  
**City/Town** Upper Liard  
**Time Reported** 19:22  
**First Interruption** 19:22  
**Last Restoration** 19:28  
**Primary Cause** 8 Equipment Failure  
**CEA Coding** Defective Equipment

**Customer-Hrs of Interruption** 10:36  
**Number of Customers Affected** 106  
**Avg. Customer Outage Duration** :06

**Explanations and Comments**  
See TSM00018 for details