

1 Q. Re: Additions to Accommodate Load Growth – Distribution Systems, Tab 15:
2 What were the causes of the outages set out in Table 6 found at page 22?

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5 A. These projects are justified based on Hydro's distribution planning criteria and the
6 impending criteria violations forecast for the systems (Application, Volume II, Tab
7 15, pg. 6). These projects are not being justified on the basis of improvements in
8 reliability performance. However, it is prudent to review the reliability of the
9 respective distribution feeders to assess their performance and give consideration
10 to reliability improvements, if necessary, within the capital project.

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12 Table 1 presents the reliability statistics by cause for Farewell Head Feeder L5,
13 Farewell Head Feeder L6, St. Anthony Feeder L1, St. Anthony Feeder L6, and
14 Wabush Feeder L11. As is noted in the table, the leading contributor of poor
15 reliability performance is due to loss of supply. As these outages relate to issues on
16 the supply to the distribution feeder rather than the distribution feeder itself, these
17 projects will not reduce the incidence of these types of outages. The projects will,
18 however, have an effect on the other types of outage. The other leading causes of
19 outages on these distribution feeders are planned outages (which are required to
20 make emergency repairs and to replace deteriorated and/or defective equipment)
21 and forced outages caused by defective equipment. The relative impact of the
22 projects on feeder reliability is discussed in further detail in the project proposal
23 (Application, Volume II, Tab 15, pg. 22 and 23).

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Table 1: Five Year Average Outage Statistics (2007 to 2011)

SYSTEM	Reliability Indices	
	SAIFI	SAIDI
Central Interconnected	3.38	11.15
Farewell Head System	5.49	15.75
<u>Farewell Head Feeder L5</u>	6.56	18.00
Adverse Environment	0.00	0.00
Adverse Weather	0.20	0.41
Defective Equipment	1.27	4.35
Environment-Corrosion	0.05	0.05
Environment-Salt Spray	0.60	1.30
Foreign Int-Vehicle	0.00	0.00
Human Error	0.00	0.00
Lightning	0.00	0.01
Loss of Supply	2.20	4.68
Scheduled Outage-Planned	1.50	3.80
Unknown / Other	0.12	0.54
Weather-Gallop Conductor	0.66	2.88
<u>Farewell Head Feeder L6</u>	4.65	14.07
Adverse Environment	0.00	0.00
Adverse Weather	0.00	0.00
Defective Equipment	0.67	2.92
Environment-Corrosion	0.25	0.67
Environment-Salt Spray	0.60	1.30
Human Error	0.19	0.12
Lightning	0.02	0.22
Loss of Supply	1.60	2.44
Scheduled Outage-Planned	0.87	5.13
Tree Contacts	0.00	0.00
Unknown / Other	0.01	0.01
Weather-Gallop Conductor	0.43	1.26
Northern Interconnected	4.43	9.86
St. Anthony System	5.55	13.72
<u>St. Anthony Feeder L1</u>	5.36	12.53
Adverse Environment	0.00	0.00
Adverse Weather	0.05	2.89
Defective Equipment	1.67	3.27
Environment-Corrosion	0.01	0.03
Foreign Interference-Object	0.20	1.46

SYSTEM	Reliability Indices	
	SAIFI	SAIDI
Foreign Interference-Vehicle	0.01	0.00
Human Error	0.00	0.00
Lightning	0.00	0.03
Loss of Supply	2.80	2.99
Scheduled Outage-Planned	0.49	2.15
Tree Contacts	0.02	0.12
Unknown / Other	0.33	0.47
Weather-Gallop Conductor	0.02	0.02
<u>St. Anthony Feeder L6</u>	6.37	19.48
Adverse Environment	0.00	0.00
Adverse Weather	0.02	1.36
Defective Equipment	1.52	7.80
Environment-Corrosion	0.02	0.01
Environment-Salt Spray	0.00	0.00
Foreign Interference-Object	0.40	2.49
Human Error	0.20	0.18
Lightning	0.00	0.01
Loss of Supply	2.60	2.70
Scheduled Outage-Planned	1.44	3.40
Unknown / Other	0.21	2.19
Weather-Gallop Conductor	0.15	0.19
Labrador Interconnected	7.69	11.83
Wabush System	9.99	22.65
<u>Wabush Feeder L11</u>	11.83	27.01
Adverse Weather	0.29	0.57
Defective Equipment	2.40	2.29
Foreign Interference-Object	0.20	0.07
Foreign Interference-Vehicle	0.65	1.12
Human Error	0.39	0.12
Lightning	0.40	0.40
Loss of Supply	3.60	10.37
Scheduled Outage-Planned	2.23	8.53
Unknown / Other	1.67	1.66
Weather-Gallop Conductor	0.20	1.88
Hydro Corporate	5.37	10.84
CEA Region 2 (2006-2010)	2.66	7.79