

- 1 Q. Further to response to Request for Information NP-NLH-003:  
2 Please complete the following table:  
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Hydro Reliability Measures			
Type	5 Year Average 2009-2013 (YTD)	NLH 2013 (YTD) Actual	% Difference (+ or -)
SAIFI (Tx)			
SAIDI (Tx)			
SAIFI (Dn)			
SAIDI (Dn)			
DAFOR			
UFLS			

**Notes:**

SAIFI = System Average Interruption Frequency Index

SAIDI = System Average Interruption Duration Index

DAFOR = Derating Adjusted Forced Outage Rate

UFLS = Underfrequency Load Shedding

Tx = Transmission

Dn = Distribution

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5  
6 A. Please refer to the completed table below.  
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Hydro Reliability Measures <sup>1</sup>			
Type	5 Year Average 2010-2014 (YTD)	NLH 2014 (YTD) Actual	% Difference (+ or -)
SAIFI (Tx)	3.12	3.48	+12%
SAIDI (Tx) (mins)	325.68	383.84	+18%
SAIFI (Dn)	5.07	5.84	+15%
SAIDI (Dn) (hours)	12.86	13.85	+8%
DAFOR <sup>2</sup>	5.62	8.97	+60%
UFLS	6.4	12	+88%

<sup>1</sup> The SAIFI and SAIDI results for transmission and distribution include forced and planned outages types. The results for 2014 are to the end of October.

<sup>2</sup> DAFOR reported as a weighted value.

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Hydro's transmission performance in 2014 was impacted by the events on January 4 and 5, 2014. The transformer failure at the Sunnyside Terminal Station and circuit breaker failures at Sunnyside Terminal Station and Holyrood Terminal Station along with transmission equipment problems affected all customers on the Avalon Peninsula.

Hydro's distribution performance in 2014 was impacted by winter storms in January which resulted in equipment damage in Happy Valley and Burgeo areas. Bottom Waters distribution system experienced outages in April caused by animal contact in the terminal station, in August due to a failure of a voltage regulator and in September due to trees coming in contact with the main feeders. Customers in Labrador City and Wabush experienced planned outages in June, July, August and September which greatly affected performance. These outages were to make upgrades at the Wabush Terminal Station and the distribution system.

Hydro's DAFOR performance in 2014 was affected by the failure of the rectifying transformer from February to August. Holyrood Unit 1 also affected performance due to vibration issues after the unit trip on January 5.

The under frequency load shedding performance in 2014 is the worst performance in the last ten years. The 2014 year to date performance is double the 2004 to 2013 average of 5.8 events per year. There are 12 events for 2014 up to November 23, eight of these events occurred at Holyrood Plant, three events at the Bay d'Espoir Plant, and one event was caused by a fault on transmission line TL201. Five of the events were caused by equipment failures and the other seven events were the result of inadvertent trips.