Q. **Reference: Supply Cost Deferrals 2015, 2016 and 2017 Application Evidence, Pages 11-13, Table 2: Selected Underfrequency Load Shed Events.**

Please calculate the average time to commence restoration and the average time to complete restoration for all underfrequency load shed events for each year from 2008 through 2017.

A. Table 1 outlines the average time to commence restoration and the average time to complete restoration for all underfrequency load shed events for each year from 2008 to 2017. Please refer to Hydro's response to NP-NLH-306 for further discussion on restoration of the system following underfrequency load shed events.

The average times noted in the table reflect the system changes that have occurred over recent years, namely increased system load and the performance of aging generation assets (particularly Holyrood), both of which increased stress on the system. This increased stress has been mitigated through gas turbine operation until interconnection occurs, at which time new options are presented. Due to the system changes previously noted, if gas turbines were not operated as part of Hydro's spinning reserve dispatch philosophy, the restoration times following underfrequency load shedding events noted in Table 1 could be materially higher. Further, as discussed in NP-NLH-306, additional blocks of customers could have been affected during such events.

Table 1 – Under Frequency Load Shedding Events from 2008 to 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Average time to commence restoration (mins)	3	3	4	6	8	7	7	4	3	4
Average time to complete restoration (mins)	10	10	4	6	17	32[1]	11	14	10	10

[1] On April 17, a bus lockout at Bay d'Espoir Generating Plant resulted in the loss of four generating units and transmission line TL202. The total restoration time for this event was two hours and 29 minutes. Refer to PUB Outage Advisory 2013-H-63-a for complete details.