Q. Please show how and how many MWs of power has been lost in the past 3 years because of the loads experienced in the existing line.

A. Figures 1, 2 and 3 provide the estimated hourly MW losses[1] on the 230 kV transmission system east of Bay d'Espoir for the years 2011, 2012 and 2013 respectively. Based upon the hourly data, the annual energy losses associated with 230 kV transmission system are estimated to be 157 GWh, 169 GWh and 176 GWh for the years 2011, 2012 and 2013 respectively.

As stated in the response to DD-NLH-005, the new 230 kV transmission line between Bay d'Espoir and Western Avalon is required to ensure Island Interconnected System stability after the Labrador – Island HVdc Link is commissioned. The transmission line losses provided below are not necessarily reflective of system conditions after commissioning of the HVdc link.

[1] The MW losses are estimated from hourly data collected by Hydro's Energy Management System (EMS) through SCADA and not from revenue metering.

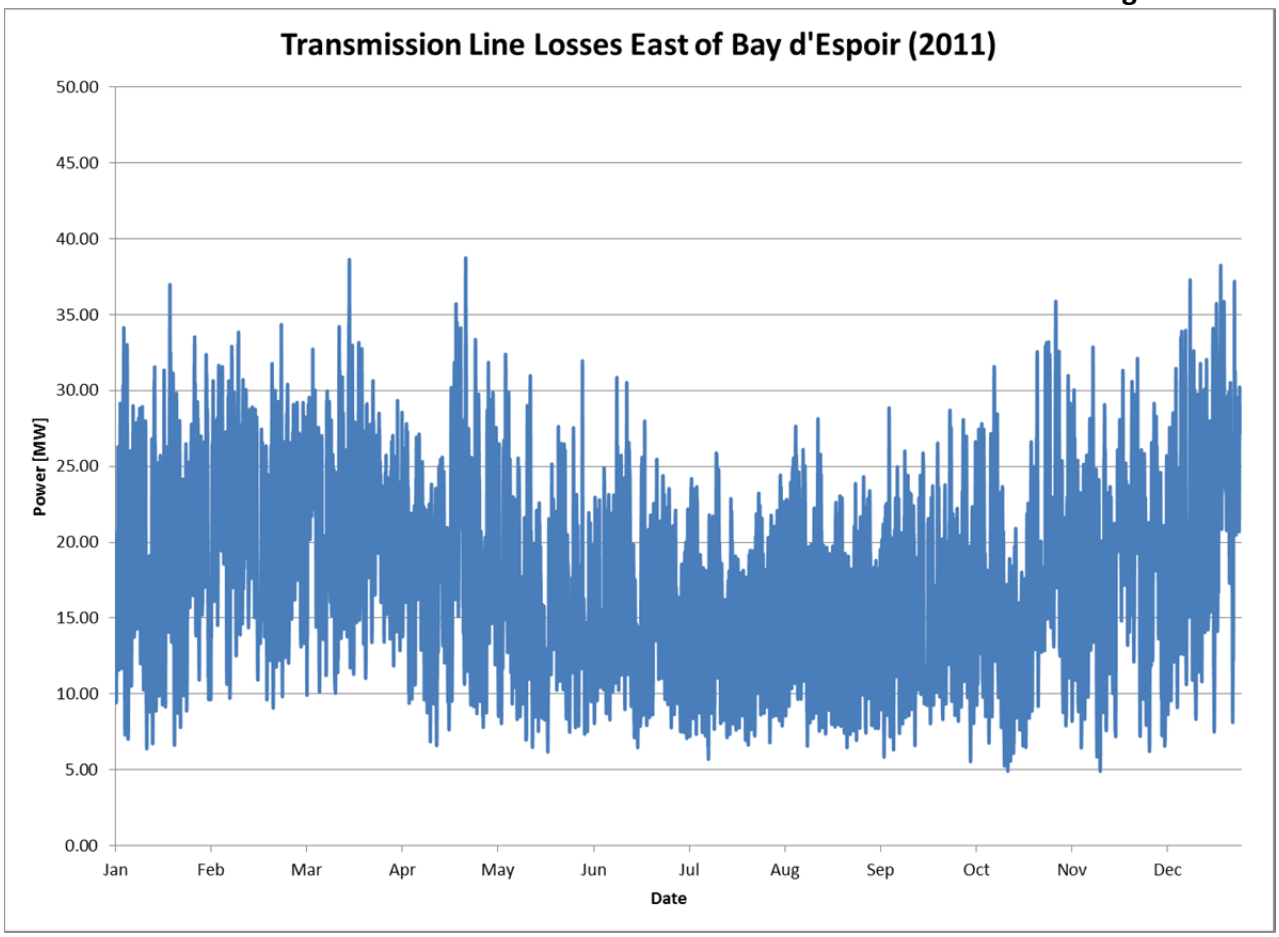

Figure 1 – Transmission Line Losses East of Bay d'Espoir (2011)

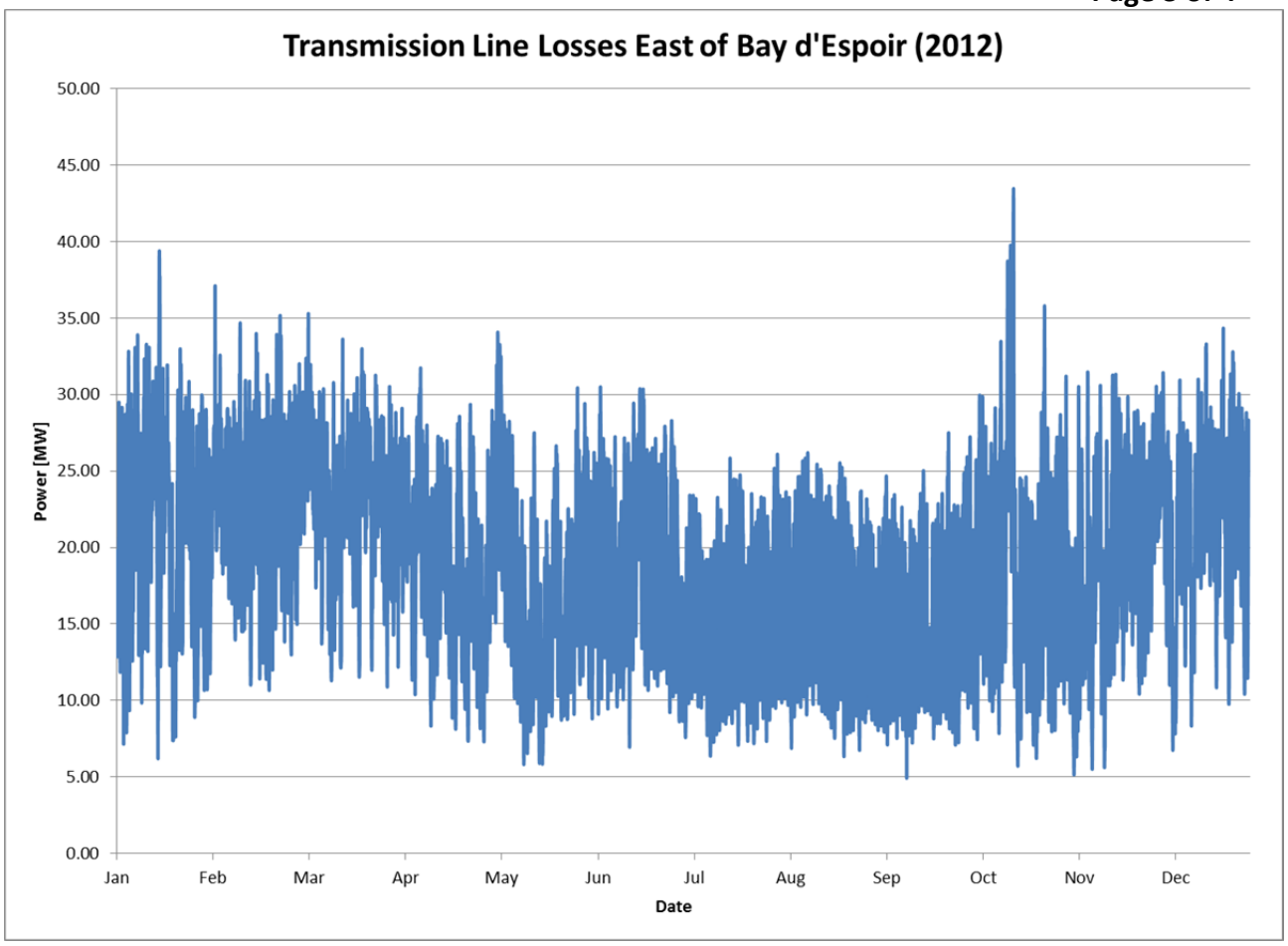

Figure 2 – Transmission Line Losses East of Bay d'Espoir (2012)[2]

[2] The pronounced peak line losses in 2012 occurred in October 15. The higher loss values were recorded before the first unit at Holyrood was brought online in response to increased load associated with colder fall temperatures when compared to the 2011 and 2013 losses.

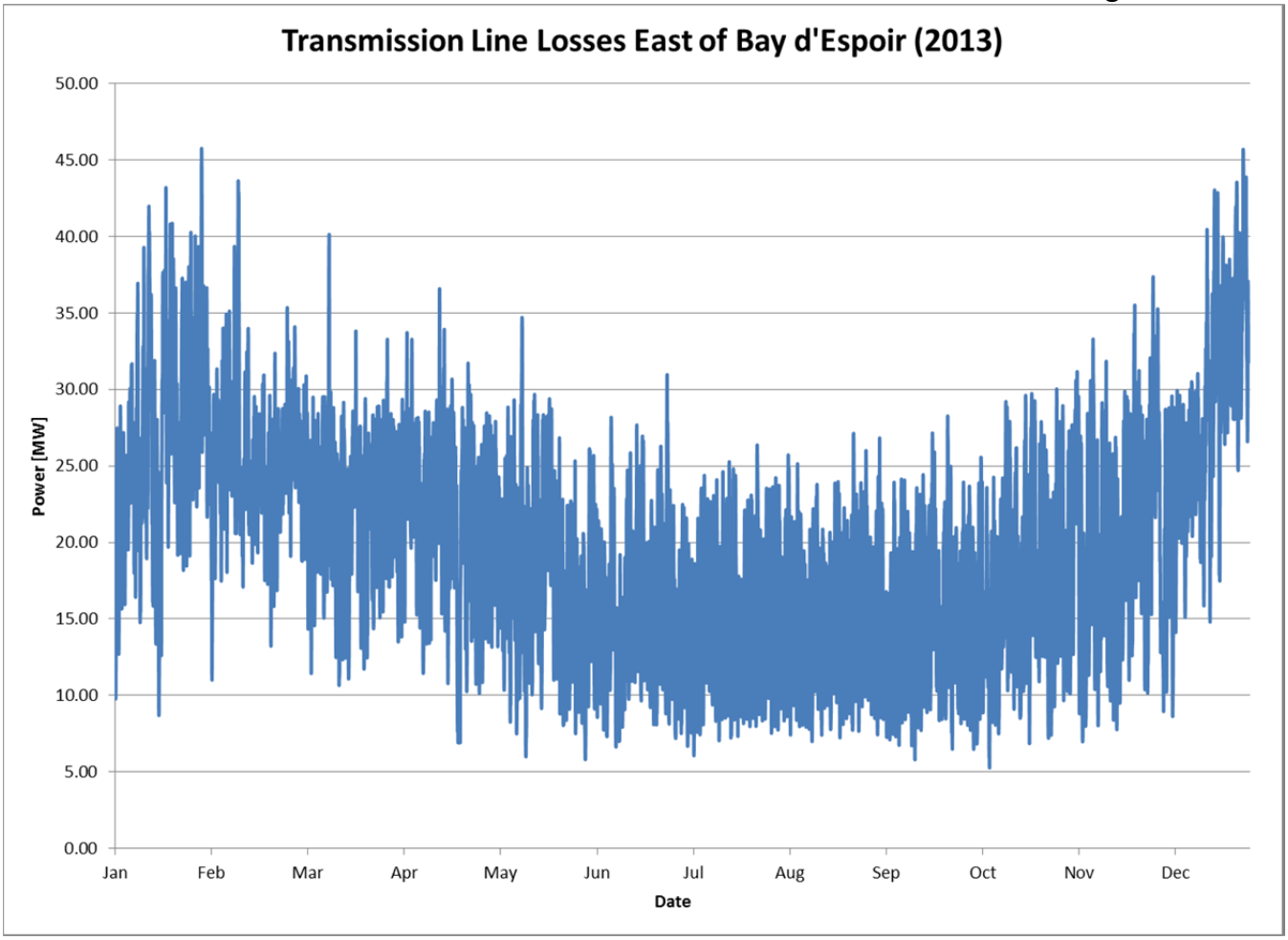

Figure 3 – Transmission Line Losses East of Bay d'Espoir (2013)