Q. **Reference: 2018 Cost of Service Methodology Review Report, p. 7 (18 pdf), note 16**

Citation:

> When Hydro filed its cost of service methodology report in 2016, Hydro believed that transmission line TL-248 from Deer Lake to Massey Drive would need to change in functionalization from a generator lead to a common transmission asset. However, because TL-248 is not a portion of a 230 kV loop, the transmission tariff does not consider TL-248 a common transmission asset.

Please explain what has changed since 2016 leading to the change in point of view described in the citation.

A. Newfoundland and Labrador Hydro's ("Hydro") "2016 Cost of Service Methodology Review Report," recommended a change in the functionalization of TL 248 from generation to transmission.[1] At the time, Hydro viewed that TL 248 could help complete a 138 / 230 kV transmission network, connecting the Stoney Brook Terminal Station through the Deer Lake Terminal Station[2] and on to the Massey Drive Terminal Station[3,4]. Upon further review of the circumstances surrounding the original construction, Hydro reevaluated that recommendation as follows.

Prior to the construction of the Hinds Lake and Cat Arm Generating Stations,[5] the 138 kV transmission line TL 245 connected the Deer Lake Power Generating Station to Hydro's Deer Lake Terminal Station.[6] TL 245 continued to the Howley Terminal Station.[7] From

[1] See Newfoundland and Labrador Hydro's "Cost of Service Methodology Review Report," filed on March 31, 2016, p. 7.
[2] using TL 222, TL 223, TL 224, and TL 245.
[3] "Massey Drive".
[4] using TL 248.
[5] "Hinds Lake" and "Cat Arm".
[6] A 66 kV transmission line (TL 225) also connects Deer Lake Power, Newfoundland Power's Deer Lake Substation and Hydro's Deer Lake Terminal Station.
[7] "Howley".

Howley, the 138 kV transmission lines TL 224, TL 223, and TL 222 connected Indian River, Springdale, South Brook, and Stony Brook Terminal Stations, completing a 138 kV transmission path between central and western Newfoundland. Deer Lake is also used to supply the Great Northern Peninsula.

Hinds Lake (75 MW) was connected to the 138 kV transmission path at Howley. However, Cat Arm (127 MW) was too large for connection to the 138 kV system. The appropriate transmission interconnection for Cat Arm was deemed to be 230 kV at Massey Drive (i.e. TL 247 and TL 248).

A 230/138 kV, 45/60/75 MVA transformer, T2, was added at Deer Lake to permit generation for Hinds Lake that exceeded the combined demand of the Great Northern Peninsula and the underlying 138 kV system to flow to the main 230 kV transmission system. A loss of TL 222, TL 223, or TL 224 would result in a significant flow on both TL 225 and TL 245 to Deer Lake Power resulting in overload of Deer Lake Power's 66 kV transmission lines L1 and L2 to Corner Brook. To remove this potential for overload, the 138 kV, TL 245 connection at Deer Lake Power was permanently removed; ensuring Hinds Lake generation would flow on TL 248 to Massey Drive.

From a cost of service perspective, Hydro submitted that 230 kV lines TL 247 and TL 248 be functionalized as common hydraulic generation as they connect the remotely located Cat Arm and Hinds Lake generation to the main transmission system. The Board of Commissioners of Public Utilities has accepted that position since the 1992 Cost of Service hearing.

While a review of a single line diagram does not identify TL 248 as a "generator lead", Hydro is of the opinion that, based upon the historical information provided, the functionalization of TL 248 as hydraulic generation is the appropriate functionalization for this asset.