

1 Q. **Reference: Application, Capital Programs and Projects, L23/24 Steel-Tower Transmission Line**  
2 **Renewal (2026–2029)**

3 a) What is the height of the towers and what is the spacing between the L23 and L24  
4 transmission lines? Is there fall-free spacing between L23 and L24 along the full length  
5 of the right-of-way?

6 b) What criteria are used by Hydro for planning and operating the Labrador transmission  
7 system? For example, does Hydro consider the loss of either L23 or L24, or does Hydro  
8 consider the loss of both L23 and L24 in its planning and operating studies?

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11 A. a) The L23 and L24 transmission line towers predominately range from 18.3m (60ft) to 24.4m  
12 (80ft) in height, with some taller structures at unique locations ranging as high as 33.5m  
13 (110ft). The centerline to centerline spacing between lines is approximately 26m (85ft).  
14 Lateral failures are not typically observed in steel transmission structures, as they are  
15 designed to withstand both longitudinal and transverse loading scenarios. Conductors also  
16 typically restrict a tower from falling completely laterally. Additionally, the majority of  
17 towers on L23 and L24 are self-supporting, consisting of four legs with individual  
18 foundations. Self-supporting towers typically fail at the waist location, and thereby would  
19 not usually impact parallel lines in the result of a tower failure. CSA 22.3 No. 1 sets  
20 clearances, separations and safety distances for conductors and structures and all these  
21 aspects are considered.

22 b) The transmission system in western Labrador is considered a local network and consists of  
23 two 230 kV transmission lines, L23 and L24, that connect Churchill Falls Terminal Station  
24 No. 1 to the Wabush Terminal Station. This network also includes three synchronous  
25 condensers ("SC") at the Wabush Terminal Station (SC1, SC2, and SC3).<sup>1</sup>

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<sup>1</sup> SC3 is owned by Iron Ore Company.

1 As discussed in the 2025 Newfoundland and Labrador System Operator's ("NLSO") Annual  
2 Assessment,<sup>2</sup> criteria for this local network were defined as part of Newfoundland and Labrador  
3 Hydro's Labrador Interconnected System Transmission Expansion Study that was completed in  
4 2018.<sup>3</sup> Criteria were defined to ensure that there shall be no customer interruption for the loss  
5 of a SC, a capacitor bank, or a power transformer. The criteria does allow for loss of load for a  
6 transmission line outage.

7 For the purposes of the Newfoundland and Labrador System Operator's ("NLSO") Annual  
8 Assessment, analysis is performed to assess the impact of a loss of a transformer, a SC, or a  
9 capacitor bank. The power transfer capacity to Labrador West is currently set at 385 MW, which  
10 is defined based on voltage violations following the loss of a SC.

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<sup>2</sup> "Newfoundland and Labrador System Operator Annual Assessments," Newfoundland and Labrador Hydro, May 21, 2025, sec. 5.2.1, pp. 5-6.

<sup>3</sup> "Labrador Interconnected System Transmission Expansion Study," Newfoundland Labrador Hydro, rev. April 3, 2019 (originally filed October 31, 2018).