

- 1 Q. With respect to the transmission supply to the Avalon Peninsula:
- 2 a) Please describe each transmission line that crosses the isthmus to the Avalon Peninsula
3 including line designation, end points, voltage level, transfer capacity, whether a single
4 of double circuit line (with both circuits sharing a tower), and the distance from the line
5 to the next closest line at the nearest point where it crosses the isthmus to the Avalon
6 Peninsula.
- 7 b) Please describe the transmission criteria used to assess the available capacity on the
8 Avalon Peninsula. For example, does Hydro use an n-1 criterion assuming i) the loss of a
9 single transmission line that crosses the isthmus to the Avalon Peninsula, ii) the loss of
10 all transmission lines crossing the isthmus to the Avalon Peninsula, or iii) something
11 else?
- 12 c) What types of events does Hydro plan for that might lead to the loss of transmission to
13 the Avalon Peninsula?
- 14
- 15
- 16 A. a) There are six transmission lines that cross the isthmus to the Avalon Peninsula as shown in
17 Figure 1. A summary of each transmission line is provided in Table 1.

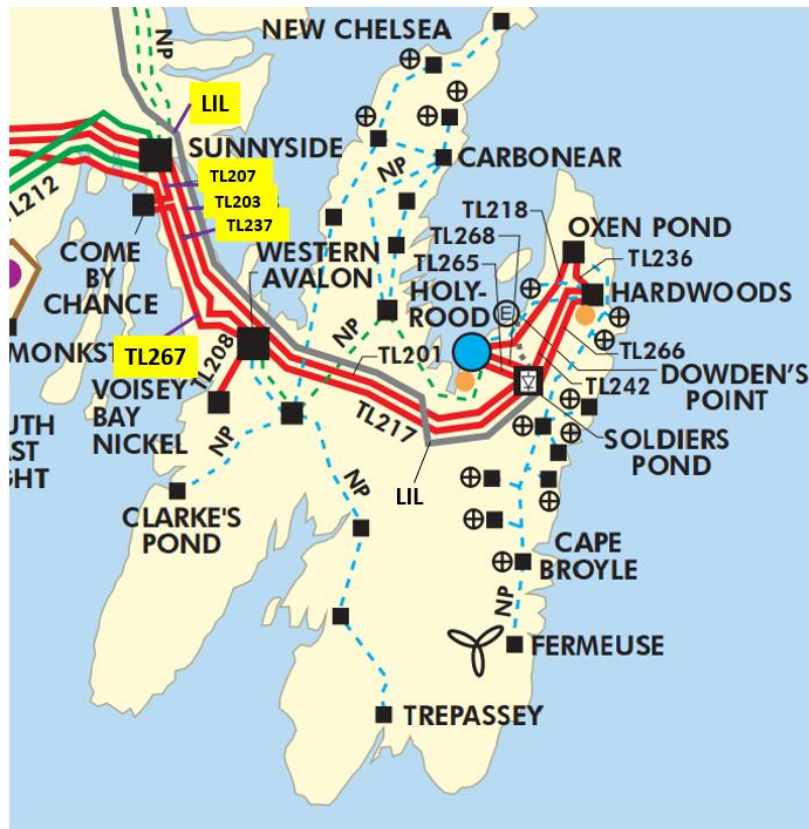


Figure 1: Island Interconnection System Map – Avalon Peninsula

Table 1: Transmission Lines (Isthmus to Avalon Peninsula)

Line Designation	From	To	Voltage Level	Circuit Type
TL203	SSD ¹	WAV ²	230 kV	Single
TL207	SSD	CBC ³	230 kV	Single
TL237	CBC	WAV	230 kV	Single
TL267	BDE ⁴	WAV	230 kV	Single
LIL ⁵ or L3501/L3502	MFA ⁶	SOP ⁷	350 kVdc	Double

- 1 The transfer capacity of each transmission line listed in Table 1 cannot be provided, as it is
- 2 Non-Public Transmission Function Information and publishing it in the public domain would

¹ Sunnyside ("SSD").
² Western Avalon ("WAV").
³ Come By Chance ("CBC").
⁴ Bay d'Espoir ("BDE").
⁵ Labrador-Island Link ("LIL").
⁶ Muskrat Falls ("MFA").
⁷ Soldiers Pond ("SOP").

1 be considered a violation of the Newfoundland and Labrador System Operator (“NLSO”)
2 Code of Conduct.

3 The distance from the line to the next closest line at the nearest point where it crosses the
4 isthmus to the Avalon Peninsula varies depending on the voltage class and terrain
5 conditions. This range is between 30 to 50 meters.

6 **b)** The NLSO Standard – Transmission Planning Criteria – TP-S-007 (“TP-S-007”) defines the
7 specific acceptable pre- and post-contingency response of the power system for all
8 elements 46 kV and above. TP-S-007 can be found on the NLSO OASIS site.⁸

9 As per the Transmission Planning Criteria defined in TP-S-007, the Island Interconnected
10 System shall be able to withstand the loss of any of the 230 kV lines outlined in Table 1 and
11 serve peak load. This would also apply to the loss of a single LIL pole. The loss of the LIL
12 bipole is considered a double or N-2 contingency, with customer impact mitigated in the
13 form of under frequency load shedding (“UFLS”). In this circumstance, in coordination with
14 other mitigations (such as Maritime Link runbacks), UFLS mitigates the risk of outage to the
15 full Island Interconnected System, and therefore UFLS is considered an acceptable
16 alternative.

17 **c)** Severe weather events would be the most likely cause of loss of transmission to the Avalon
18 Peninsula. This would include wind storms, freezing rain, and lightning strikes. There are
19 planned maintenance outages for these lines, but they are scheduled during the non-winter
20 period during the normal maintenance season and are carefully managed to minimize
21 customer impact in the event of a contingency.

⁸ “NLSO STANDARD – Transmission Planning Criteria – Doc #TP-S-007,” Newfoundland and Labrador Hydro, April 13, 2023.
<http://www.oasis.oati.com/woa/docs/NLSO/NLSOdocs/TP-S-007.pdf>.