

1 Q. (page viii, report entitled Upgrade Transmission Line Corridor - Bay d'Espoir to
2 Western Avalon) It is stated "the construction of parallel lines reduces the overall
3 transmission corridor impedance and thereby "stiffens" the transmission network
4 so that it is less susceptible to instability. As well, it increases the real power
5 transfer limits and reduces losses". What is the firm transfer capacity into, and
6 within, the Avalon Peninsula pre- and post- upgrade of the Bay d-Espoir to Western
7 Avalon transmission line corridor?
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9

10 A. The transfer of power and energy into the Avalon Peninsula is determined by the
11 thermal ratings of transmission lines in the BDE-WAV corridor. Without the addition
12 of the new Bay d'Espoir to Western Avalon transmission line TL267, the total
13 transfer of power and energy would be equivalent to the combined thermal ratings
14 of TL202 and TL206 at the current ambient temperature (i.e., 398.6 MVA in the
15 summer, 595.4 MVA in the spring/fall, and 739 MVA during the winter peak).
16 However, the system is operated such that firm transfers are used so that in the
17 event of a loss of the parallel circuit, the transmission line in service does not
18 exceed its thermal rating. In this case, the firm transfer of power onto the Avalon
19 would be equivalent to the thermal rating of TL202 or TL206 which is 199.3 MVA in
20 the summer, 297.7 MVA in the spring/fall and 369.5 MVA during the winter peak.

- 1 During the winter peak, the firm transfer onto the Avalon Peninsula without the
 2 third circuit (TL267) installed would be 351.2 MW as shown in Figure 1.
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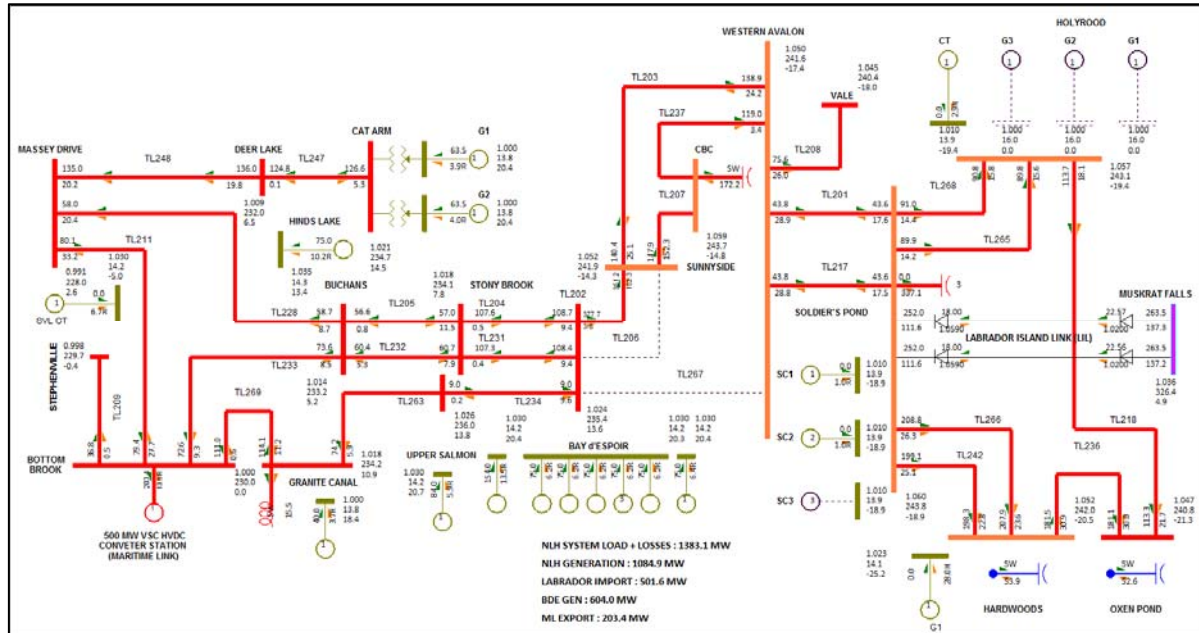


Figure 1: Winter Peak – TL267 Not in Service – Firm BDE-WAV Power Transfers

- 1 During the winter peak, the total transfer onto the Avalon Peninsula without the
 2 third circuit (TL267) installed would be 675.8 MW as shown in Figure 2.

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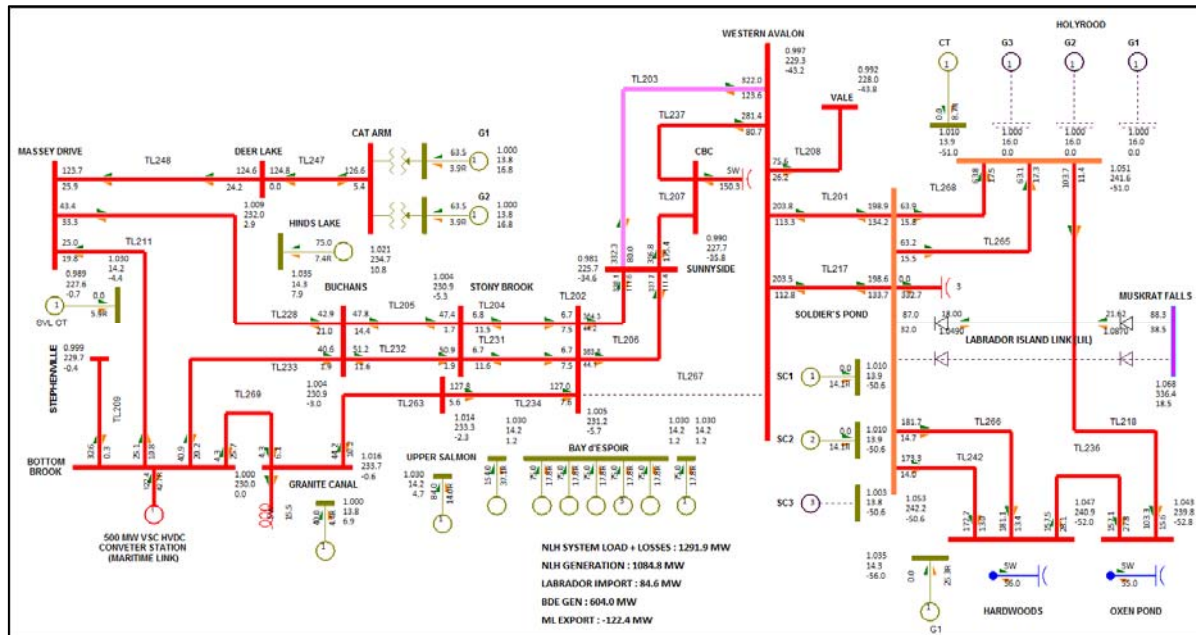


Figure 2: Winter Peak – TL267 Not in Service – Total BDE-WAV Power Transfers

- 1 The addition of a third transmission circuit will increase both the total and firm
- 2 transfer east of BDE. During the winter peak, the firm transfer onto the Avalon
- 3 Peninsula assuming the third circuit (TL267) is installed would be 675.8 MW as
- 4 shown in Figure 3.
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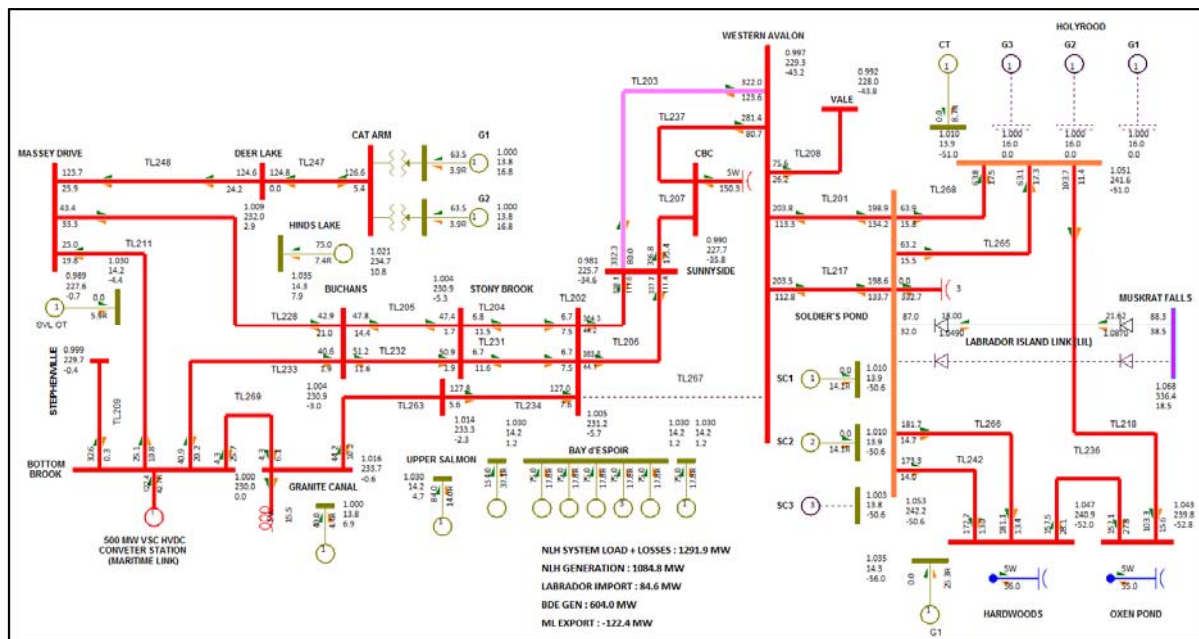


Figure 3: Winter Peak – TL267 Installed/but assumed Out of Service –
Firm BDE-WAV Power Transfers

- 1 During the winter peak, the total transfer onto the Avalon Peninsula assuming the
- 2 third circuit is in service would be 966.5 MW which is limited by the thermal rating
- 3 of TL201 as shown in Figure 4.
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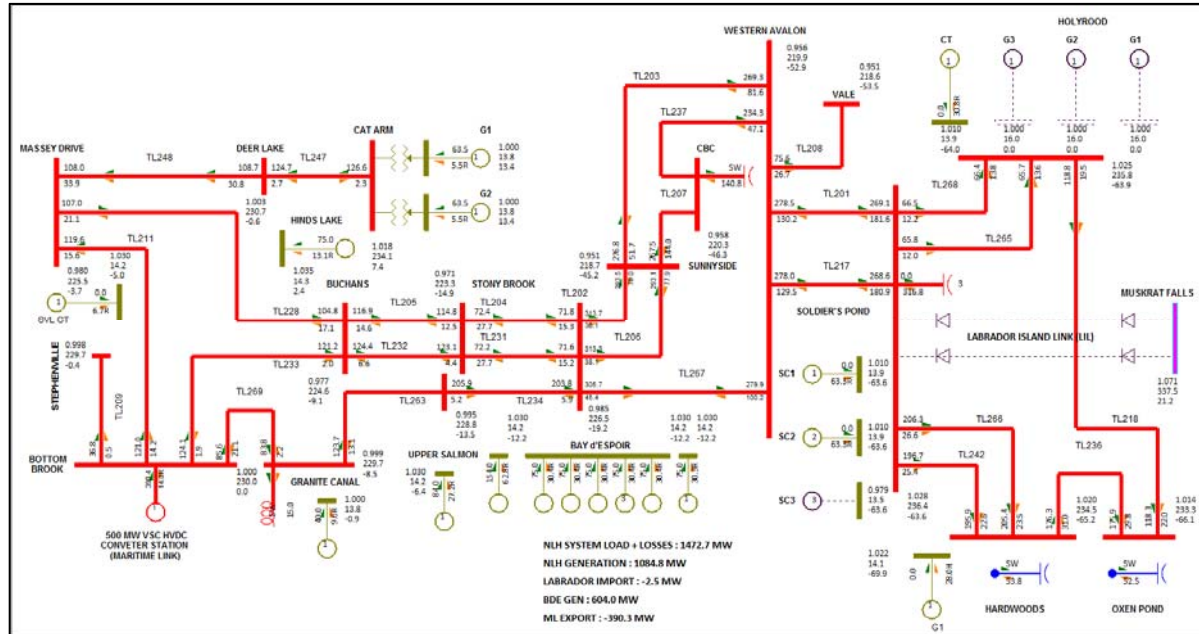


Figure 4: Winter Peak – TL267 in Service– Total BDE-WAV Power Transfers