Q. **Project C-35: Construct 230 kv Transmission Line-Soldiers Pond to Hardwoods**

When did Hydro become aware of the requirement for increased transmission capacity in the SOP-HWD corridor following the completion of the lower Churchill Project and the Post-Isolated Island System?

A. Hydro became aware of the requirement for increased transmission capacity in the SOP-HWD corridor as a result of system studies performed in 2008. At this time, "DC1020 – HVdc System Integration Study" was completed by Hatch. This study included load flow, short circuit, and stability analyses and identified required island system upgrades.

Required upgrades to 230 kV transmission lines identified in the study included:

- Thermal upgrading of TL202 and TL206 between Bay d'Espoir and Pipers Hole[1] and between Pipers Hole and Sunnyside to 75 degrees C
- Rebuild of TL203 from Sunnyside to Western Avalon and TL201 from Western Avalon to Soldiers Pond and Soldiers Pond to Hardwoods

It is noted that this integration study included a new large refinery load (175 MW, 85 MVAR). As this load did not materialize, many of the thermal upgrades were not required.

This was confirmed by SNC Lavalin Inc. in their "Load Flow and Short Circuit Studies", which were completed in 2012. The results of these analyses identified

[1] Pipers Hole Terminal Station was the proposed location of a new oil refinery.

thermal overloads for the 230 kV transmission system and indicated that TL201E[2] would be overloaded under contingency in peak winter load conditions[3].

[2] TL201E refers to the eastern section of TL201, between Soldiers Pond and Hardwoods. This line section is to be tagged as TL266.

[3] Other thermal overloads of 230 kV transmission line were identified in this study. However, all other thermal overloads could be mitigated through the re-dispatch of generation or the curtailment of export over the Maritime Link.