Q. Reference PUB-NLH-505: Please provide an estimate of the cost of a study to evaluate the impact on the HVDC OHL tower of replacing the current electrode line conductors with new conductors capable of meeting the 1.5 pu over current requirement during period of high loads on the LIL, i.e. during winter peaks and also provide the cost of actually replacing the electrode line conductors with larger conductors, if this was decided.

A. Given that all components of HVdc overhead line have been designed and manufactured, and construction of the line is currently under way, replacement of the grounding conductors is not considered to be a feasible activity, as the components of the HVdc overhead line, including anchors, towers, foundations, and structures, are incapable of handling the increased loads from a larger or stronger wire without reducing the currently designed level of reliability of the line.

A technically feasible alternative would be to string a new grounding conductor on a separate transmission line parallel to the existing HVdc overhead line. A preliminary estimate of the cost of such a line is as follows:

Camps and infrastructure	$20. Million	
Clearing	$5. Million	
Materials and line construction	$140. Million	(400 km @ $350 / km)
Engineering and project management	$25. Million	(15% of direct cost)
Contingency	$38. Million	(20%)
Total	$228. Million	

Unit costs were drawn from similar work undertaken for the HVdc overhead line.