From: w.d.kloostra@HydroOne.com [mailto:w.d.kloostra@HydroOne.com]
Sent: April 18, 2007 12:46 PM
To: Robert Miller
Cc: w.d.kloostra@HydroOne.com
Subject: Wolf Island/Kingston Cable crossing>>>Hydro One cable and CHD proposed cable placement...

Robert,
Find attached a PDF of the original surveyed installation. I hope you find this helpful.
<<wolf island.pdf>>

The following conclusions have been reached concerning the placement of your 230 kV cables relative to our existing 8.4 kV installation

1. The new 230 kV cable should not cross our LV cable. Mechanical damage over time would be likely with the heavy 230 kV cable laid on top of the older LV cable. It is my understanding that the armour on our LV cable is bare, and that the coating of the 230 kV cable would eventually become conductive. If both armours were to become electrically connected, GPR from the 230 kV side could be transferred to the LV riser pole local ground. This could be a health and safety hazard for operation and public.. Furthermore, lifting the cable out of the water for repairs would be impossible in the future, and complete replacement would be the end result.
2. Assuming that the cables are paralleled, there should be no induction issues during normal operations or fault conditions since the 230 kV conductors are in trefoil configuration with sheaths and armour bonded and grounded at both ends.
3. As water ingress takes place through the armour coating of the 230 kV cable, there is the possibility of some conductively transferred GPR from a fault at the terminals of the 230 kV cable. It is difficult to model with any accuracy in determining the transferred GPR, and given the uncertainties of the condition the LV cable and/or the 230 kV cable over time, mineral content of the waters, etc. Therefore a distance of 20 m would be reasonable separation to mitigate this occurrence.

I trust this answers your questions concerning and provides you with something that you can move forward with.
Regards,

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