

1 Q. Restoration of Holyrood Unit 1: In the January 2013 Holyrood Unit I incident, the
2 restart of the secondary source of lube oil upon startup of the emergency diesel-
3 generator caused several local fires. Does Hydro have any procedures or training
4 that alerts operators to the danger of a restart when bearings have become
5 overheated? If so, please provide them.
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8 A. Hydro has emergency shutdown procedures, and training is provided to the
9 operators on these procedures. These do not include starting of lubrication pumps
10 because these pumps automatically start to maintain bearing lubrication oil flows.
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12 During the event of January 2013, the DC lube oil pump did not provide sufficient
13 pressure and so when the AC power was re-established the AC lube oil pump
14 started, as it should, automatically in an effort to provide proper oil pressure and
15 flow of lube oil to the bearings. The important thing is to make sure that both AC
16 and DC oil pumps start when called upon and that they provide sufficient oil
17 pressure and flow to the bearings at all times.
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19 Based on the failure event of January 2013, Hydro has improved testing procedures
20 to ensure that all lube oil pumps are always available to supply sufficient oil to the
21 bearings of operating units to prevent damage to the equipment and bearing
22 overheating.
23

24 Hydro's operators are aware of the automatic restarting and are able to respond in
25 real time if an issue arises.