

1 Q. Provide an explanation for the 74 GWh reduction (i.e., 10%) in average
2 annual energy forecast for the Cat Arm plant from the 2003 Hydro GRA to
3 the 2006 Hydro GRA. (NP-35 NLH)
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6 A. The 74 GWh reduction at Cat Arm is in part due to the change in length of
7 hydrologic record used in the 2003 GRA (30 year record) as compared to the
8 2006 GRA (full historic record). The return to the full historic record, and the
9 addition of 2003-2005 to the historic record combine to give an approximate
10 reduction of 26 GWh. The balance of the reduction is related to change in
11 the way that load limitations on the Island Interconnected system are
12 reflected in the average annual energy estimate as a result of the change in
13 methodology from the spreadsheet approach to simulation.
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15 The spreadsheet method reflected spill by applying historic average spill
16 experienced at each facility. No attempt was made to reflect changes in
17 either the non-dispatchable generation composition, or changes in firm load.
18 The simulation models both of these factors, and reflects the combined
19 impact of these influences on the overall system hydraulic production
20 capability.
21

22 The gradual increase in the Avalon load and its effects on system security
23 dispatch, the addition of more non-dispatchable generation, and the loss of
24 the Abitibi Stephenville load have resulted in decreased production ability in
25 the hydraulic system, primarily reflected as spill. The spill is a system spill in
26 that during wet periods there is simply nowhere for the spare hydraulic
27 production to be sent, resulting in spill. The simulation allocates the spill to
28 the preferred location, which is Cat Arm. This component of the Cat Arm

1 energy reduction (approximately 48 GWh) could equally be allocated to any
2 of the other facilities. In reality, Cat Arm tends to be the preferred spill
3 location, and hence sees the bulk of any load-limited spills.