

1 Q. Please provide a list of all capital projects undertaken on the Holyrood  
2 generating station in the last five years that have a potential to increase the  
3 efficiency of the station. Please provide any details and analysis on the  
4 amount of increased efficiency expected.

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7 A. There were three specific projects in the last five years that will contribute to  
8 a higher efficiency of the Holyrood plant over the status quo. These include:

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10 1) Holyrood Unit No. 3 Water lance installation;

11 2) Holyrood Unit No. 3 Reheater retubing; and

12 3) Continuous emissions monitoring system.

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14 Items 1) and 2) should be considered together. The water lance installation  
15 contributes to fire wall cleanliness and thus allows better heat transfer to the  
16 water/steam column. The re-tubing of the reheater section of No. 3 boiler  
17 was to allow better matching of the reheat and main steam temperature. A  
18 temperature differential on Unit No. 3 was prevalent since construction and  
19 better matching increases overall efficiency. It is estimated that these two  
20 projects will effect an approximate 1% boiler efficiency improvement for Unit  
21 No. 3. Assuming that Unit No. 3 produces a third of the plant production, this  
22 equates to a plant efficiency improvement of approximately 2 kWh/bbl.

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24 The Continuous Emissions Monitoring project will not be functional until the  
25 Holyrood units return to service in the fall of 2003. It is anticipated, however,  
26 that the net effect of this will be 0.5% increase in plant efficiency or 3  
27 kWh/bbl.

1        These projects contributed to Hydro proposing that 624 kWh/bbl is  
2        appropriate for average efficiency expectations at Holyrood.

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5        Please refer to NP-89.