Q. With reference to the Project **D-2, Install Cold-Reheat Condensate Drains Unit 3 – Holyrood**, Hydro identifies at page D-6 that this project will require an increased budget because it will be completed in 2014, and that costs of performing this work have been increasing annually.

(a) Why can this Project not be completed in 2013?

(b) Identify, in detail, the cost components of this Project that have resulted in an increased budget, as compared to the Actual Expenditures for the Unit 1 and Unit 2 work (Table 2, page D-6), and as compared to completion of the Project in 2013.

(c) Table 2, page D-6 indicates substantial cost overruns for both the Unit 1 and Unit 2 work, when the Capital Budget figure is compared to the Actual Expenditures. What cost components of the Unit 1 and Unit 2 work resulted in these cost overruns? What measures does Hydro propose to take to avoid or minimize cost overruns in respect of the Unit 3 Project?

A. (a) This project cannot be completed in 2013 due to scheduling issues associated with Unit 3. During April, after the winter operating season, Unit 3 is taken offline and is converted to a synchronous condenser enabling it to provide voltage support to the Island Interconnected grid. Immediately following the conversion in April, the annual maintenance is performed on Unit 3 in May and June on non-synchronous condenser equipment. The construction requirements for this project must be completed during the annual Unit 3 maintenance outage. There will be insufficient lead time to complete the engineering and procurement for construction in 2013, therefore it has been proposed to

complete the engineering and procurement for this project in 2013 and the construction during the annual Unit 3 maintenance outage in 2014.

(b) The cost components of this project are presented in Table 1 below for comparison to the actual expenditures for the work completed on Units 1 and 2 in 2009 and 2010 respectively. The increased budget for the project is primarily due to an increase in the cost of material, internal labor, consulting services, construction contract, project overheads, and contingency. The project overheads have increased because the project will be completed over two years as compared to the work that was completed on Units 1 and 2 in one year periods. In addition, the contingency has increased because it was calculated using 20 percent as compared to ten percent when the budgets were estimated for the Units 1 and 2 work.

Table 1:

Cost Type	**Unit 1 CRH Actual Cost In 2009 ($)**	**Unit 2 CRH Actual Cost In 2010 ($)**	**Unit 3 CRH Est. Cost In 2014 ($)**
Material	31,791	41,915	45,000
Internal Labor	65,747	92,544	132,900
Consultant Services	46,581	14,369	17,500
Construction Contract	110,794	160,624	180,000
Interest and Escalation	13,866	17,192	47,000
Contingency	15,200	18,900	75,200
Totals	**283,979**	**345,544**	**497,600**

(c) The Unit 1 and 2 approved budgets and actual costs for the years 2009 and 2010 are presented in Table 2 below for comparison. The components of the Units 1 and 2 work that resulted in significant cost overruns included materials, internal labor, consulting services, and construction contract. The actual cost of materials in 2009 was more than three times the approved budget and in 2010 was nearly double the approved budget for 2010. The actual internal labor cost was approximately 8 percent greater than the approved budget in 2009 and 47 percent greater than the approved budget in 2010. The actual construction contract cost was 160 percent greater than the approved budget in 2009 and 86 percent greater than the approved budget in 2010.

Table 2:

Cost Type	**Unit 1 CRH Approved Budget Cost In 2009 ($)**	**Unit 1 CRH Actual Cost In 2009 ($)**	**Unit 2 CRH Approved Budget Cost In 2010 ($)**	**Unit 2 CRH Actual Cost In 2010 ($)**
Material	9,000	31,791	22,500	41,915
Internal Labor	60,800	65,747	62,900	92,544
Consultant Services	30,000	46,581	20,000	14,369
Construction Contract	60,500	157,375	86,600	160,624
Interest and Escalation	16,100	13,866	20,500	17,192
Contingency	15,200	15,200	18,900	18,900
Totals	**191,600**	**283,979**	**231,400**	**345,544**

Hydro proposes to minimize cost overruns with respect to the Unit 3 project by submitting for approval a budget that aligns with the actual cost incurred on the Units 1 and 2 projects with appropriate escalation and contingency incorporated. In addition, completing the project over two years will enable Hydro to minimize the potential for overruns by allowing more time to perform more detailed design work in an effort to reduce the potential for incurring unforeseen extra work.