

1 Q. Labrador City Terminal Stations: Please explain why Hydro, by the end of 2011, was
2 not able to more accurately revise the total budget for this project to near the
3 actual final cost of \$16,844,000 (rather than the amount of \$12,650,000).

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6 A. The cost estimate of \$12,650,000 was based upon a review of the project's budget
7 in June of 2011. Several issues contributed to unknown costs at the time the budget
8 of \$12,650,000 was created.

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10 An inadvertent omission of 2010 civil contract work dealing with foundations from
11 the project budget resulted in approximately \$1,100,000 being excluded from the
12 2011 revised project budget.

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14 Further, at the time of the budget's review in 2011, there was no recent internal
15 history to use as a benchmark to estimate the effort and costs required for the
16 commissioning of the two new large terminal stations. The original budget for this
17 portion of the work was approximately \$120,000. As construction was nearing
18 completion in 2012, commissioning plans and schedules were developed. More
19 time from internal resources was required in commissioning the two stations than
20 had originally been planned. The actual cost of internal labour for commissioning
21 was underestimated by approximately \$796,000.

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23 In addition, it was determined that the contract related costs to complete the
24 project had been understated. As the project activity was taking place concurrently
25 with a continued "boom" in the Labrador West region, contract labour costs
26 increased. In addition, internal commitments resulted in a need to outsource more
27 of the work. The commissioning process required a "Commissioning Coordinator"

1 to assist in completion of commissioning work, a position that was contracted out
2 and which was not allowed for in the 2011 budget estimate. It was also necessary,
3 due to the unforeseen loss of an internal telecontrol engineering resource, to
4 obtain a new contracted resource for the remaining telecontrol work. Further,
5 engineering labour costs associated with completing the project, contract
6 supervision and support, commissioning support, and project closeout was
7 underestimated by approximately \$370,000 from the 2011 project budget.

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9 In 2012, the project completion date was extended from December 2012, to May
10 2013 to allow for the completion of the commissioning of the Vanier station (which
11 was delayed due to delays in delivery and construction of the building). The AFUDC
12 (Allowance for Funds Used during Construction) for the project was not
13 recalculated as a result, which resulted in an underestimation of \$166,000. The
14 commissioning work commenced in October 2012. The Quartzite station was
15 placed in service first in order to convert the load being provided by the Harrie Lake
16 station. The Harrie Lake station had only one transformer, which was overloaded
17 due to load growth in a new subdivision area within Labrador City. The focus on the
18 Quartzite station allowed a portion of the distribution system near Harrie Lake to be
19 successfully converted to 25 kV, which alleviated low voltage issues and the
20 overloading of the old power transformer in the Harrie Lake station. The Project
21 was successfully completed in 2013 with the completion of the commissioning on
22 the Vanier station in May 2013.

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24 The table below shows the variances between the budget approved by the Board
25 pursuant to Order No. P.U. 2(2012) and the final costs of the project.

Item	Budget as Approved by Order No. P.U. 2(2012)	Final Project Costs (Actual)	Variance 2012 Board Approved Budget to Final
Material	\$6,920,000.00	\$4,831,896.00	(\$2,088,104.00)
Labour	\$1,019,530.00	\$2,192,981.00	\$1,173,451.00
Consultant	\$0	\$117,800.00	\$117,800.00
Contract	\$2,974,170.00	\$7,732,680.00	\$4,758,510.00
Other	\$192,200.00	\$501,529.00	\$309,329.00
Overheads	\$1,301,500.00	\$1,467,049.00	\$165,549.00
Contingency	\$242,600.00	\$0	(\$242,600.00)
TOTAL	\$12,650,000.00	\$16,843,935.00	\$4,193,935.00

In the report entitled *Labrador City Voltage Conversion Terminals and Transmission Reconfiguration*, filed as part of the 2009 Capital Budget Application, the original justification of the project was as follows:

Continued operation with the status quo is not technically viable for the long-term operation of this system. The existing system was designed to supply a peak load of 52 MW. The system load is forecasted to exceed 52 MW in 2009 and continue growing to 55-60 MW. The distribution system is now at its operational limit. Continuing with the status quo will result in low voltages to customers, lower system reliability, and could compromise the ability to protect people and equipment when faults on the system occur.

The two stations as constructed meet the requirements of the Labrador Interconnected System and have assisted in resolving the voltage and increasing load issues, which were the main justifications for the project in 2008. In addition, the Quartzite and Vanier terminal stations have allowed for load growth within the Labrador City distribution system.

1 The new Quartzite and Vanier stations have also increased reliability in the area,
2 allowing for reductions in restoration time and possible elimination of outages that
3 would have otherwise been required for maintenance purposes. The Hydro Energy
4 Control Centre is able to operate these stations remotely through the real time
5 SCADA system, which assists in switching, placing of hold-off tags and reclosing
6 on/off operation. Asset management has also improved, as data is now available
7 from protection relays, transformers, breakers and recloser. The new equipment
8 installed at the two terminal stations will allow closer monitoring and metering of
9 the system as well as condition monitoring of assets included within the stations.
10 Both terminal stations provide SCADA information on conditions and actual feeder
11 loading, voltage and current flow, leading to improved protection and control
12 operation.

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14 As a result of this and a concurrent project (Labrador City Voltage Conversion
15 Project), the protection of the distribution system in this area has been brought up
16 to current standards, which will increase the speed with which faults are identified
17 and cleared and thus decrease the likelihood of widespread outages or damage to
18 equipment. Increased costs for this project are justified in light of the necessity to
19 complete this project required to meet the growing electricity needs of customers
20 in Labrador City and to ensure that a quality, safe, least-cost and reliable electrical
21 service is delivered to Hydro customers in that area.