Q. **Re: Project B-9 Replace Fuel Oil Heat Tracing**

Appendix B and C address only the failure of the existing system. In this regard, it is noteworthy that those failures appear to be attributable to decisions made by Hydro staff in lieu of outside, independent analysis. What documentary evidence can Hydro provide to confirm that it has complied with "Lessons Learned" 1, 2 and 3, as stated on page C6 of Appendix C, with respect to the proposed Project and with respect to the consideration of whether there are lesser cost alternatives which would conform with the necessary life of the fuel line(s) in light of the Labrador Infeed? What independent analysis has been made of the proposed Project and alternatives?

A. With regard to confirmation that Hydro has complied with "Lessons Learned" 1, 2 and 3, as stated on page C6 of Appendix C, with respect to the proposed Project, Hydro has established an Office of Asset Management. There are two councils being developed within this Office of Asset Management with relevance here. A Root Cause and Repeat Failure Analysis Council will be initiated in quarter 4 of 2011 to provide support and oversight across the business on the process of analyzing unexpected failures to identify root cause(s) and implement remedial actions to address them. This would apply to unexpected failures on critical assets that are not on a specific 'run to failure' maintenance strategy. There is also a Management of Change Council within the Office of Asset Management. This council provides support and oversight across the business on the process of identifying and managing significant changes to our physical assets, the basis of design, maintenance programs, etc. The basic phases are Initiation (identification that a change is occurring or requested), Screening (for significance and tracking), Analyzing (risks, benefits, action plan development), Acceptance (or rejection of

proposed change and action plan), Implementation (of action plan), and Closeout (status tracking and lessons learned). The Analyzing and Closeout phases will specifically address the situation being questioned here.

From a design perspective, considerable effort has been put forth to establish what a safe, efficient and reliable heat trace system entails for the Holyrood fuel oil lines. The necessity of such a system to the present and continued reliable operation of the Holyrood generating station is paramount, given the present criticality of Holyrood to the stability of the Island Interconnected System. The Labrador infeed may result in the full useful life of the heat trace system not being realized, but this doesn't change its criticality for continued reliable operation of the present Island Interconnected System.

Independent analysis of the issues with the 2002 - 2004 fuel oil heat tracing installation was performed by Tyco Thermal Controls, both to assist in establishing what the issues were with this installation, as well as to aide in ensuring that any new design would not experience similar issues.

A mechanical engineer at the Holyrood facility has been trained and is experienced in performing Root Cause Failure Analysis. He has in excess of 45 years of thermal plant experience and was not involved in the original heat trace upgrade project in 2002 – 2004. He was assigned to do this investigation due to both his overall experience, his familiarity with Root Cause Failure Analysis and his lack of involvement in the previous upgrade design work. From this perspective, even though he is a Hydro employee his investigation (aided by Tyco Thermal Controls) was performed independently of the original design group.