Q. GENERATION - HYDRO

Rattling Brook Hydro Plant Refurbishment (Clustered) - $18,242,000

PUB 3.0 NP

Can the replacement of the penstock reasonably be put off until 2008 or later? Why or Why not?

A. The replacement of the Rattling Brook woodstave penstock cannot reasonably be deferred until 2008 or later. The assessment of the penstock completed by SGE Acres in 2003 recommended that the penstock be replaced in the near future. Since that time, the condition of the penstock has continued to deteriorate. The penstock is beyond repair and must be replaced.

Deferring the replacement of the penstock beyond 2007 would increase the likelihood that significant leaking of the penstock could require plant outages. It is possible that the repair of a major leak could require the de-watering of a large portion of the penstock. This, in turn, could trigger a series of events that could result in the Rattling Brook plant being out of service for a lengthy period due to the inability to safely re-water the penstock.

In addition, the current limitations imposed on the operation of the plant as a result of the need to avoid de-watering the penstock, together with the leaking of the main valves, limit the Company's ability to maintain and service other equipment in the plant.

Finally, deferring the replacement of the penstock beyond 2007 would increase the risk to the safety of the public and employees. Attached as Attachment A is a response to a Request for Information submitted during the Company's 2005 Capital Budget Application that summarizes the Company's safety concerns regarding the penstock. Newfoundland Power considers the likelihood of catastrophic failure to be increasing over time.

Response to Request For Information Submitted During The Company's 2005 Capital Budget Application

Q. ENERGY SUPPLY

PUB 3.0 (RE: p. 14, 15 & 16 of 73) Rattling Brook – Hydro Plant Refurbishment ($350,000)

PUB 3.2
In the evaluation of the replacement of the woodstave penstock and the rehabilitation of the steel surge tank, how is the risk to employee and public safety determined?

A. The woodstave penstock runs parallel with the access road to the upstream reservoir in several areas and, at one point, crosses under the Trans-Canada Highway. The access road is used on a daily basis by the general public to reach upstream cabin areas, and by Newfoundland Power employees to access upstream storage structures. The penstock is in poor condition, with substantial leakage along the entire penstock. Engineering reports also indicate that the surge tank requires significant rehabilitation to address structural deficiencies. In such circumstances, the assessment of the safety risk is a matter of judgment.

Although the likelihood of a catastrophic failure of the penstock is remote, it has been our experience that a major leak could develop at any time with penstocks in similar condition. Should a major leak or blowout develop, washouts may occur affecting sections of the access road, the abutments of the highway bridge, areas surrounding the powerhouse and service building, and the bridge downstream of the powerhouse. Such events would present a risk to safety of employees or members of the public should they be travelling in the area at the time of the failure. Additionally, penstocks in this condition require that leaks be plugged on a regular basis. There is potential for serious injury to employees should a major blowout of the penstock occur while they are carrying out such repairs.

The likelihood of catastrophic failure of the surge tank is also remote; however, should a failure occur, washouts affecting the access road, the area surrounding the powerhouse and service building, and the bridge downstream of the powerhouse are likely. Should they be in the area at the time of the failure, employees and the public would be at risk from falling debris.