

1 **Q. ENERGY SUPPLY**

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3 **PUB 3.0 (RE: p. 14, 15 & 16 of 73) Rattling Brook – Hydro Plant Refurbishment**  
4 **(\$350,000)**

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6 **PUB 3.2**

7 **In the evaluation of the replacement of the woodstave penstock and the**  
8 **rehabilitation of the steel surge tank, how is the risk to employee and public safety**  
9 **determined?**

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

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

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