

1 **Q. In reference to Schedule “B”, page 9 of 82 – Hydro Plant’s Facility Rehabilitation –**
2 **with a project cost of \$2,345,000, please provide any studies or engineering reports**
3 **which led to the determination that replacement/rehabilitation work is required**
4 **now at 17 of the companies 23 hydro-electric plants. Please provide the names of**
5 **the authors of these studies or engineering reports.**

6
7 A. Newfoundland Power’s hydroelectric facilities range in age from 4 years up to 102 years,
8 with the vast majority of the generating capacity installed before 1960. This budget
9 category includes numerous individual projects aimed at rehabilitating these plants and
10 ensuring their safe and reliable operation. The category includes 11 separate
11 items/projects as identified on page 9 of Schedule B of the Company’s 2003 Capital
12 Budget Application.

13
14 *Item 1: Dam Rehabilitation - Seal Cove, Blackwoods & Whirl Pond*

15 Please refer to Newfoundland Power’s response to Request for Information PUB 1.2,
16 specifically Attachments A through N.

17
18 *Item 2: Generator, governor & PLC replacement at various plants*

19 Newfoundland Power is proposing replacement of the governor systems at Tors Cove and
20 retrofit of the governor at Topsail in 2003. Justification for this project, including
21 statistics on plant outages resulting from governor problems, is provided in Attachment
22 A. Additional justification for this project is provided in the *Water Management Study*
23 prepared for Newfoundland Power by Acres International Limited and submitted to the
24 Public Utilities Board in December 2000, which states that the “age and condition of
25 control equipment” is one of the most significant impediments Newfoundland Power
26 operators face in operating these plants efficiently. Attachment B is a copy of the *Water*
27 *Management Study*. A consultant is presently carrying out a review of protection and
28 control systems and a report is due by December 2002. This review will aid in
29 determining future priorities and in confirming the choice of these locations for governor
30 rehabilitation in 2003.

31
32 *Item 3: Communication cable & remote terminal unit (RTU) replacement - Morris*

33 Recent measurement of induced voltage on the cables has necessitated that the telephone
34 service be removed from the cable to ensure employee safety. The high frequency of
35 faults on the cable has caused Newfoundland Power to defer replacing the old RTU with
36 current technology which provides superior operational information and plant control.
37 Replacing the existing copper cable with fibre optics will allow Newfoundland Power to
38 upgrade the remote control at the plant to current standards.

39
40 *Item 4: Building rehabilitation - Petty Harbour*

41 The Petty Harbour building was constructed in 1900 and upgraded and extended in 1926.
42 The original construction of 2-foot thick stone masonry walls with wooden windows and
43 doors is still intact and useful; however, restoration work is required to maintain the
44 structure in a serviceable condition. Deterioration of the walls and roof will accelerate if
45 moisture is allowed to penetrate.

1 *Item 5: Bridge replacement - Cape Pond*

2 Newfoundland Power employees and the general public use these bridges for access to
3 this area. Both of these bridges are required to maintain access to various dams and
4 control structures necessary for the operation of the Tors Cove/Rocky Pond hydroelectric
5 development.

6
7 *Item 6: Canal rehabilitation - Lockston*

8 This project was included in the overall assessment of the Lockston Development
9 submitted in response to Request for Information CA-15. Rehabilitation of the canal wall
10 is required to ensure its structural integrity is restored to an appropriate level, and to
11 minimize the potential risk of failure and the associated financial and environmental
12 consequences. The canal rehabilitation project will ensure the continued operation of the
13 hydro plant in a safe and reliable manner.

14
15 *Item 7: Fisheries habitat - various plants*

16 Please refer to Newfoundland Power's response to Request for Information PUB 1.5.

17
18 *Item 8: Cooling coil, controls and filter replacement - various plants*

19 2003 is the fifth year of a six-year program to replace all cooling coils / heat exchangers
20 and upgrade the controls for the cooling water flow for the Company's hydro units. The
21 replacement of these inexpensive items will reduce the possibility of a much larger
22 expenditure to repair or replace damaged equipment due to a bearing failure.

23
24 *Item 9: Ventilation louver and heating replacement - various plants*

25 Failure of a set of louvers could cause the generating unit to overheat and result in a
26 prolonged outage of the generating unit and lost hydroelectric production. Louvers will
27 be replaced at the Cape Broyle, Rocky Pond and Tors Cove hydro plants.

28
29 *Item 10: Dam spillway rehabilitation - various plants*

30 These eight structures at various locations are showing signs of excessive deterioration.
31 The project is justified based on the need to rehabilitate the dams and spillways to safely
32 operate these hydro plants.

33
34 *Item 11: Various projects < \$50,000*

35 This item includes 26 projects ranging in cost from \$1,800 to \$43,000.