

1 **Q. Re: Rocky Pond Plant Refurbishment (p. 2 of 81, Schedule B) - Has NP considered**
2 **woodstave construction for the replacement penstock?**

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4 A. Woodstave construction for the replacement penstock at Rocky Pond is not considered a
5 viable alternative by Newfoundland Power.

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7 The cost of supply of a woodstave penstock is not materially different than the cost of
8 supply of a steel penstock. The expected life of a woodstave penstock is, however,
9 approximately 1/3 less than that of a steel penstock. Accordingly, lifecycle economics
10 favours steel penstock construction.

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12 Woodstave penstock construction also has greater environmental complication than steel
13 construction. The chemical treatments necessary for woodstave penstock construction
14 have become subject to more rigorous environmental regulation. Steel penstock
15 construction is relatively environmentally benign.

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17 Due primarily to these cost and environmental factors steel construction of small hydro
18 penstocks has been the most common hydro plant penstock installation over the past
19 decade.¹

¹ Over this period steel replacement penstocks have been installed at Newfoundland Power hydro plants located at Lockston, New Chelsea, Horsechops, Cape Broyle, Seal Cove, Petty Harbour and Rattling Brook. In addition, Newfoundland Power understands Corner Book Pulp & Paper Co. Ltd. has installed steel penstocks to replace woodstave penstocks at its Deer Lake hydro plant.