

1 **Q. Reference: “2020 Capital Budget Application,” Newfoundland Power, July 5, 2019,**  
 2 **Report 1.4 “Topsail Hydro Plant Penstock Replacement,” sec. 3.0, at p. 3.**

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 4 **Overall, the 38-year-old penstock is in poor condition. Issues have been noted with**  
 5 **all components of the woodstave penstock including cradles, steel bands, wooden**  
 6 **staves, site drainage and buried sections of penstock.**

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 8 **Please provide a table that shows the details of the annual maintenance and repair**  
 9 **activities and related annual maintenance and repair costs for this penstock over the**  
 10 **past 10 years.**

11  
 12 A. Current maintenance activities include regular inspection of the penstock and repairing  
 13 small leaks by installing wooden plugs or sheet metal and rubber between the bands and  
 14 the woodstaves.<sup>1</sup> The costs associated with this regular maintenance is captured under  
 15 the general operating expenses for the Topsail Hydro Plant and cannot be isolated.  
 16 However, since 2012 major repair and refurbishment activities for Topsail Hydro Plant  
 17 penstock have been tracked separately.

18  
 19 Table 1 provides details of the major repair and refurbishment activities for the Topsail  
 20 Hydro Plant penstock since 2012.

**Table 1**  
**Topsail Hydro Plant Penstock**  
**Major Repair and Refurbishment Activities**

<b>Year</b>	<b>Description</b>	<b>Amount</b>
2012	Woodstave blowout in the low-pressure section and penstock drainage improvements	\$84,746
2014	Wrap of high-pressure section with sheet metal and rubber to address excessive leakage	\$206,802
2015	Repairs due to leaks and woodstave blowouts	\$30,109
2016	Repairs due to leaks and woodstave blowouts	\$47,894
2017	Steel band replacements due to excessive rust	\$77,712
2019	Woodstave blowout under Topsail Road bridge <sup>2</sup>	\$150,000
	<b>Total</b>	<b>\$597,263</b>

<sup>1</sup> As stated on Report 1.4 *Topsail Hydro Plant Penstock Replacement*, page 4, the application of creosote preservative to the wooden staves and asphalt coating to the steel bands has been discontinued due to health and environmental concerns.

<sup>2</sup> On July 8, 2019, a major blowout occurred with the penstock at the point where it crosses under Topsail Road. The penstock is currently de-watered and a contractor is being sought to make the necessary repairs to the wooden staves. The repairs are estimated to cost \$150,000. The actual cost of the repairs will not be known until the contract is in place and the work is completed.