

1 Q. **Reference: Volume II, Exhibit 13: 2013 Cost of Service Study**

2 Please identify each major Island Interconnected System change from 2007 Test
3 Year to 2013 Test Year identifying additional transmission lines, sources of energy
4 supply (i.e., including both generation and purchases), terminal stations, power
5 transformers, capacitor banks, etc. For each system change, indicate whether the
6 asset is designated as common or specifically assigned, or in the case of new energy
7 supply, whether the addition changed the designation of existing assets. (Volume
8 II, Exhibit 13)

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11 A. Please see below each major Island Interconnected System change from the 2007
12 Test Year to the 2013 Test Year.

13

14 **2007**

- 15 • The Corner Brook Frequency Converter 66/6.6 kV, 21/28 MVA, 50 Hz
16 transformer, T1, was replaced with a new unit. This unit is specifically assigned
17 to Corner Brook Pulp and Paper.

18 **2008**

- 19 • Began purchasing power from the St. Lawrence wind farm. Revenue metering
20 added to NP Laurentian Substation for this interconnection. The revenue
21 metering is assigned Common. There has been no change to existing asset
22 assignments due to this addition.

- 23 • The Hawke's Bay Terminal Station was modified including:

24 ○ new 66 kV and 12.5 kV bus work, and

25 ○ new 12.5 kV disconnect switches (B2T1-1, B3T2-1, B3T3-1, and
26 B2B3-1).

- At the Corner Brook Frequency Converter, 12 new 66 kV wall bushings were purchased, with six installed in 2008 (the remaining six were installed in 2012 through a contract paid by Corner Brook Pulp and Paper). In addition, both the 50 Hz and 60 Hz rotors were rewound. This equipment is specifically assigned to Corner Brook Pulp and Paper.
- The Wiltondale transformer failed and was replaced with a spare transformer purchased from Newfoundland Power. This equipment is specifically assigned to Hydro Rural.

2009

- The Cat Arm Unit 2 governor system was replaced. This equipment is assigned Common.
- Energy receipts commenced from the base generation former Abitibi-Consolidated generating facilities¹. The addition did not change the designation of existing assets.
- A spare 13.8/230 kV, 60/80/100 MVA generator unit transformer was purchased for use in multiple hydro-electric generating stations. It is located at Upper Salmon. This equipment is assigned Common.
- At the Corner Brook Frequency Converter, the automatic voltage regulators (AVR) and liquid rheostat were replaced. This equipment is specifically assigned to Corner Brook Pulp and Paper.
- At the Howley Terminal Station, the 69 kV circuit breaker L51T2 was replaced. This equipment is assigned Common.
- Began purchasing power from the Fermeuse wind farm. Revenue metering was added to NP Fermeuse Substation for this interconnection. The revenue

¹ This is the base generation at Grand Falls, Bishop's Falls and Buchans that was formerly used to supply Abitibi's paper mill operations in Grand Falls-Windsor.

metering is assigned Common. There has been no change in existing asset assignments due to this addition.

- At the Hawke's Bay Terminal Station, a 138 kV disconnect switch L41-1 was added to facilitate the installation of the mobile transformer substation P-235. This equipment is specifically assigned to Hydro Rural.

2010

- At the Bay d'Espoir Generating Station, Unit 2 stator was rewound. This equipment is assigned Common.
- At the Bottom Brook Terminal Station, the 138 kV circuit breaker B3L50 was replaced. This equipment is assigned Common.
- At the Daniel's Harbour Terminal Station, all seven 66 kV disconnect switches and both 66 kV ground switches were replaced. This equipment is specifically assigned to Hydro Rural.
- At the Cow Head Terminal Station, the 66 kV bus work, all five 66 kV disconnect switches and both 66 kV ground switches were replaced. This equipment is specifically assigned to Hydro Rural.

2011

- At the Oxen Pond Terminal Station, the 66 kV disconnect switch B2B5-2 was replaced. This equipment is assigned Common.
- The mobile transformer substation P-235 was upgraded, including new transformer bushings, cooling system, trailer, protection and control panel, breaker and disconnect switches. This equipment is assigned Common.
- At the Conne River Terminal Station, 69 kV disconnect switches L20T1 and T1 power fuses were replaced. This equipment is specifically assigned to Hydro Rural.
- At the English Harbour West Terminal Station, the 69 kV disconnect switch L20T1 was replaced. This equipment is specifically assigned to Hydro Rural.

- At the Hawke's Bay Terminal Station, the 66 kV disconnect switches, B1L21-1, B1L21-2 and B1L21-BP were replaced. This equipment is specifically assigned to Hydro Rural.
- At the St. Anthony Airport Terminal Station, 69 kV circuit breaker B1T1 was replaced. This equipment is specifically assigned to Hydro Rural.
- At the Come By Chance Terminal Station, four 38.35 MVar capacitor banks and associate equipment were installed and paid for by Nalcor Energy. Two were installed in December 2011 and two were installed in February 2012.

2012

- At the Bay d'Espoir Generating Station, Unit 4 stator was rewound. This equipment is assigned Common.
- The Long Harbour Terminal Station was removed from service and the Voisey's Bay Nickel (VBN) Terminal Station added. Transmission line TL208 was extended from Long Harbour to VBN. At the Western Avalon Terminal Station, the 230 kV disconnect switches B1L08-1 and B1L08-2, circuit breaker B1L08 and ground switch L08G have had their plant assignments changed from Common to specifically assigned to Vale. New 230 kV disconnect switches B1L08-1 and B1L08-2 and a new ground switch L08G replaced the original equipment at Western Avalon as part of the Vale interconnection. Transmission line TL208 has had its plant assignment changed from Common to specifically assigned to Vale. The Voisey's Bay Nickel Terminal Station assets are specifically assigned to Vale. All assets located at the Long Harbour Terminal Station have been removed from service and are no longer included in the cost of service.
- At the St. Anthony Airport Terminal Station, 69 kV circuit breaker B1L57 was replaced. This equipment is specifically assigned to Hydro Rural.
- At the Hinds Lake Generating Station, the excitation system was replaced. This equipment is assigned Common.

- At the Hawke's Bay Terminal Station, the 66 kV circuit breaker B1L21 and the 66 kV ground switch L21G were replaced. This equipment is specifically assigned to Hydro Rural.
- The Rocky Harbour Terminal Station was rebuilt, including 66 kV and 12.5 kV buses, 66 kV disconnect switch L26T1 and associated power fuses, control panels and cables, station grounding and station service transformer. The 66/12.5 kV power transformer was not replaced. This equipment is specifically assigned to Hydro Rural.
- At the Sunnyside Terminal Station, the 230 kV circuit breaker L03L06 was replaced. This equipment is assigned Common.
- At the Massey Drive Terminal Station, the 66 kV circuit breaker B2T2 was replaced. This equipment is assigned Common.
- At the Doyles Terminal Station, the 66 kV circuit breaker B1L15 was replaced. This equipment is specifically assigned to Newfoundland Power.
- At the Bottom Brook Terminal Station, the 138 kV circuit breaker B2L14 was replaced. This equipment is assigned Common.

2013

- At the Upper Salmon Generating Station, the generator excitation system was replaced. This equipment is assigned Common.
- At the Bay d'Espoir Generating Station, Unit 1 stator was rewound. This equipment is assigned Common.
- At the Springdale Terminal Station, the 138 kV circuit breaker B1L22 is scheduled to be replaced. This equipment is assigned Common.
- At the Holyrood Terminal Station, the 66 kV circuit breaker B7L38 is scheduled to be replaced. This equipment is assigned Common.
- At the Hardwoods Terminal Station, the 230 kV disconnect switch B1T2 was replaced. This equipment is assigned Common.