



Newfoundland Power Inc.

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DELIVERED BY HAND

March 27, 2015

Board of Commissioners
Of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: G. Cheryl Blundon
Director of Corporate Services
and Board Secretary

Ladies and Gentlemen:

Re: Power Outage - March 4, 2015 – Request for Timeline

In its letter of March 19, 2015, the Board requested that Newfoundland Power and Newfoundland and Labrador Hydro jointly develop and file an agreed timeline of all significant events leading up to and to the conclusion of the March 4, 2015 outage.

Please find enclosed the original and 12 copies of the requested timeline, which is submitted by Newfoundland Power on behalf of both utilities.

We trust that the enclosed is found to be in order.

If you have any questions please feel free to contact the undersigned at 737-5609 or Mr. Geoffrey Young for Hydro at 737-1277.

Yours very truly,

Gerard M. Hayes
Senior Counsel

Enclosures

c. Geoffrey Young
Newfoundland and Labrador Hydro



**Newfoundland Power &
Newfoundland and Labrador Hydro**

March 4th, 2015 Power Outage Timeline

March 27th, 2015



**Newfoundland Power &
Newfoundland and Labrador Hydro
March 4th, 2015 Timeline**

Time	Event
February 27th, 2015	Hydro's Holyrood 170 MW Unit 1 taken out of service until March 3 rd , 2015 at 2000 hours.
Time	Event
March 3rd, 2015	Hydro's Holyrood 170 MW Unit 1 not returned to service as planned.
Time	Event
March 4th, 2015	
5:23 AM	Hydro's ECC requests NP's SCC to maximize all available hydro production.
6:10 AM	Stephenville CT (50 MW) online.
6:12 AM	Holyrood CT initial unsuccessful start.
6:17 AM	Hardwoods CT (25 MW) online.
6:19 – 6:30 AM	Additional unsuccessful start attempts on Holyrood CT.
6:28 AM	Hydro's ECC requests NP's SCC to operate Greenhill and Wesleyville gas turbines.
6:30 AM	Voltage at Come by Chance 223.1 kV (97%); at Oxen Pond 67.3 kV (102%).
6:30 AM	Available Island reserves 301 MW.
6:32 AM	Between 6:32 and 7:00 AM Greenhill gas turbine started twice from NP's SCC but unit would not synchronize to system and shut down.
6:36 AM	Hydro requested 20 MW block from Corner Brook Pulp & Paper Capacity Assistance.
6:37 AM	Voltage at Western Avalon 218 kV (95%).
6:45 AM	Voltage at Come by Chance 221.4 kV (96%); at Oxen Pond 66.5 kV (101%).

**Newfoundland Power &
Newfoundland and Labrador Hydro
March 4th, 2015 Timeline
(Cont'd)**

Time	Event
6:45 AM	Available Island reserves 259 MW.
6:48 AM	Holyrood Units 2 and 3 at maximum voltage support.
6:50 AM	Voltage at Come by Chance 220.4 kV (96%); at Oxen Pond 65.7 kV (100%).
6:50 AM	Available Island reserves 253 MW.
6:51 AM	Hydro's ECC advises NP's SCC that the Holyrood CT would not start and 230 kV system voltage was down to 216 kV.
7:00 AM	Vale Capacity Assistance requested (10 MW).
7:01 AM	NP's Director of Operations advised by Hydro's Manager System Operations that Holyrood Unit 1 did not get back in service, unable to start 123 MW Holyrood CT and system spinning reserves were dropping and currently around 70 MW.
7:04 AM	Hydro's ECC advises NP's SCC that St. John's 66 kV infeed voltages down to 64.6 kV (98%) and soon will have to start shedding load.
7:04 AM	Hardwoods CT at maximum voltage support.
7:08 AM	Corner Brook Pulp & Paper Capacity Assistance increased to 60 MW.
7:09 AM	Rocky Pond hydro plant tripped due to low voltage.
7:10 AM	Voltage at Come by Chance 209.6 kV (91%); at Oxen Pond 62.5 kV (95%).
7:10 AM	Available Island reserves 230 MW.
7:14 AM	Voltage at Come by Chance 199.8 kV (87%); at Oxen Pond 61.9 kV (94%).

**Newfoundland Power &
Newfoundland and Labrador Hydro
March 4th, 2015 Timeline
(Cont'd)**

Time	Event
7:14 AM	Hydro's capacitor banks (4) at Come by Chance tripped, removing voltage support.
7:14 AM	All NP hydro plants on the Avalon and Bonavista Peninsulas tripped off line.
7:14 AM	Between 7:14 and 7:15 AM, NP's transmission lines trip on under voltage protection and 35 substations lost power. Areas affected include Clarenville area and Bonavista Peninsula, Gander Bay and Bonavista North areas, Placentia Bay and St. Mary's Bay areas, Conception Bay North area, Southern Shore and parts of west end St. John's. 57,000 customers without power.
7:15 AM	Holyrood Unit 3, Hardwoods CT, Stephenville GT and Star Lake generation tripped.
7:15 AM	Transmission Line TL208 supplying Vale tripped. North Atlantic Refining at partial load.
7:17 AM	Hydro's ECC advises NP's SCC that Unit 3 tripped at Holyrood, and requested NP to shed additional load as the 66 kV system voltages were down to 52.9 kV.
7:19 AM	NP's SCC asks Hydro's ECC how much more load to shed. Hydro's ECC advises voltages still down to 52 kV and to shed additional load. NP's SCC load sheds a total of 31 feeders in the St. John's area by 7:23 AM (total of 83,000 customers without power).
7:23 AM	Hawke's Bay diesels started.
7:25 AM	Holyrood CT started.
7:27 – 7:41 AM	NP's SCC restores power to 16 feeders in St. John's (approx. 20,000 customers).
7:29 AM	NP's Director Operations confirms with Hydro's Manager System Operations a significant loss of supply outage will remain until Holyrood Unit 3 returned to service. Advises NP's Corporate Communications staff to get message to customers to conserve energy and prepare for rotating power outages.
7:31 – 7:32 AM	Come by Chance Capacitor Banks 2 and 3 back in service.

**Newfoundland Power &
Newfoundland and Labrador Hydro
March 4th, 2015 Timeline
(Cont'd)**

Time	Event
7:36 AM	NP starts restoring power to customers off the Avalon as there is generation available off the Avalon.
7:37 – 7:39 AM	Come by Chance Capacitor Banks 1 and 4 back in service.
7:40 AM	Stephenville GT re-started.
7:44 AM	TL208 (Vale restored).
7:47 AM	NP's Greenhill gas turbine switched to manual voltage control and placed on line.
7:52 AM – 10:05 AM	Fermeuse Wind and NP Southern Shore hydro generation re-started.
8:04 AM	St. Anthony diesels started.
8:05 – 10:30 AM	NP starts rotating outages in the St. John's area. Rotated 17 feeders at an average of 41 minutes power off time.
8:07 AM	Power restored to Clarenville, Bonavista Peninsula, Gander Bay and Bonavista North areas (25,000 customers).
8:44 AM	Vale Capacitors placed in-service.
8:44 – 9:16 AM	Vale generation on line.
8:54 AM	Power restored to Southern Shore.
9:13 AM	Holyrood Black Start diesels started.
9:13 AM	NP Wesleyville started.
9:27 AM	Hardwoods CT re-started.

**Newfoundland Power &
Newfoundland and Labrador Hydro
March 4th, 2015 Timeline
(Cont'd)**

Time	Event
10:14 AM	Holyrood Unit 3 re-started.
10:16 AM	All power restored to customers in St. John's area.
10:30 AM	All power restored to Placentia Bay and St. Mary's Bay areas.
12:32 PM	All power restored to Conception Bay North area.
3:17 PM	Star Lake re-started.
4:00 PM	Holyrood Unit 1 – back in service.