

July 25, 2014

The Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road, P.O. Box 21040
St. John's, Newfoundland & Labrador
A1A 5B2

Attention: Ms. Cheryl Blundon
Director Corporate Services & Board Secretary

Dear Ms. Blundon:

**Re: The Board's Investigation and Hearing into Supply Issues and Power Outages
on the Island Interconnection System**

In accordance with the Board's Interim Report dated May 15, 2014 with respect to the above noted matter please find enclosed the original plus 12 copies of Hydro's:

- Updated Integrated Action Plan;
- 100 MW Combustion Turbine Status Briefing; and
- SSD T1 Replacement Status Briefing.

Hydro's Integrated Action Plan (IAP) has been streamlined in an effort to improve our tracking of related items in the IAP, while at the same time making our reporting format as meaningful as possible for the Board. The following modifications have been made with these objectives in mind:

- a) Actions which are the same as, or highly related to, another action in the IAP have been consolidated into a single action statement. This will not only eliminate unnecessary duplication within the IAP, but will also improve both Hydro's and the Board's line of sight to the key underlying actions. All IAP actions have been accounted for in this consolidation, except for two items which were deleted because they did not state substantive actions (AM4 and AM6).
- b) All action item descriptions have been reviewed and revised as necessary, without changing the intent of any action item, to ensure that the required deliverable(s) is clear.
- c) Actions which have previously referenced the submission of reports and plans to the Board (e.g., by June 15th) have been re-stated in reference to the specific actions contained in the reports and plans submitted to the Board on June 2 and June 16, 2014.

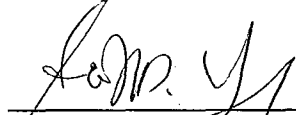
- d) The IAP actions which correspond with the Key Priority Actions indicated in the Board's Interim Report (Section 8.1) are highlighted for easy reference at the beginning of each section of the IAP.

We hope to make further refinements to our reporting to the Board prior to the next IAP update, for example, by indicating progress relative to plan in relation to critical 2014 activities.

Should you have any questions, please contact the undersigned.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO



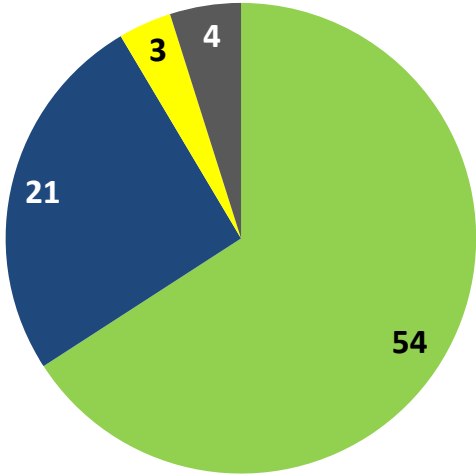
Geoffrey P. Young
Senior Legal Counsel

GPY/cp

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Sheryl Nisenbaum – Praxair Canada Inc.
ecc: Roberta Frampton Benefiel – Grand Riverkeeper Labrador

Thomas Johnson – Consumer Advocate
Thomas O' Reilly – Cox & Palmer
Danny Dumaresque

NL Hydro's Integrated Action Plan - Status Report - July 23, 2014



Data Table
Number of Actions per Status Group

Status				
In Progress and On Track	Completed On Schedule	Caution Recovery Plan in Place	Not Yet Started 2015 Activity	Total
54	21	3	4	82

NL HYDRO INTEGRATED ACTION PLAN - 2014 SUPPLY DISRUPTIONS AND POWER OUTAGES



Ref	Action/Activity	Pty	IAP Reference(s)	Interim Report Ref(s)	Accountable Title	Due Date	Status	Notes / Comments
LOAD FORECASTING								
1	Implement enhancements to the short term 7 day forecasting model to ensure a better correlation in extreme cold weather conditions.	A	P2LF1, LF2, Liberty 1		VP System Operations and Planning	15-Nov-2014		In progress. Database and software additions to improve forecast accuracy have been identified and changes are being implemented. Working with Ventyx to arrange training for Senior Hydrotechnical Engineer and others.
2	Refine the equations used for estimating major end-use of electric heat on the system through continued surveying of the customer base in terms of average energy use and saturation of electric heating	A	LF3		VP System Operations and Planning	15-Nov-2014		In progress. Some improvements already completed in NLH's long term load forecast model. Timing and budgets for customer surveys need to be established.
GENERATION AND RESERVE PLANNING								
3	Incorporate any significant load changes, from system losses or otherwise, resulting from different system configurations in the short term load forecasting process.	A	Liberty 2	PUB 1	VP System Operations and Planning	1-Dec-2014		In progress. Review of winter 2013/14 losses completed and will be included in next Operating Load Forecasts.
4	Include sensitivity analysis for extreme weather, unit Equivalent Forced Outage Rate (EFOR) ranges, alternate scenarios and other factors in load forecasting processes.	A	P1GP1, LF1, GRP3, GRP5, Liberty 3 and 4	PUB 2	VP System Operations and Planning	1-Sep-2014		In progress. Completed weather sensitivity for input to CT proposal. Weather sensitivity analysis to be included in the Hydro 2014 Planning Load Forecast (PLF) and 2014 Generation Expansion Plan analysis. Hydro's PLF process will include sensitivity analysis with respect to weather and consider other key load variables.
5	Continue with the generation planning criterion of 2.8 LOLH, refine the forecasting model as necessary with increased sensitivity assumptions related to extreme cold weather and forced outage rates.	A	GRP1, Liberty 8		VP System Operations and Planning	30-May-2014		Completed. Hydro is expanding its analysis to include additional sensitivities to address concerns raised in the Liberty review.
6	Revisit the generation reserve planning criterion and the manner in which external markets are modeled after interconnection in 2017.	B	GRP2		VP System Operations and Planning	15-Nov-2015		Not yet started. To be initiated in 2015.
7	Complete a break-even EFOR for each class of Hydro's generation to determine the point at which a generator's EFOR results in the system exceeding the LOLH criterion of 2.8 hours/year.	A	GRP4		VP System Operations and Planning	1-Dec-2014		In progress. Documentation will be completed as part of the full review of the planning process
8	Complete an evaluation of the instances where actual peak load exceeded the forecasted peak during the winter of 2014 and determine what common factors, if any, were responsible, and any implications for the forecasting process.	A	Liberty 5		VP System Operations and Planning	15-Nov-2014		In progress. NL Power monthly winter peak assessed. Need to complete detailed review of winter 2013/14 weather, utility loads vs weather vs 1 year ago, and industrial loads.
9	Determine any opportunities for re-constructing the peak load when peaks have been significantly affected by artificial means such as those employed by the generation shortage protocol, and consider any improvements in the review of 2014 peak deviations.	A	Liberty 6		VP System Operations and Planning	1-Sep-2014		In progress. Being addressed as part of the Load Forecasting Review.
10	Use the Island Interconnected System as the reference point in future analyses of system reliability rather than just the Hydro interconnected system.	A	Liberty 7		VP System Operations and Planning	1-Nov-2014		In Progress. This initiative is in planning stages and is on track for implementation by due date.
11	Evaluate a new supply reliability criterion for the longer term, with a logically associated level of reserves, based on stakeholder input.	B	Liberty 9		VP System Operations and Planning	2014/2015		Not Yet Started. To be initiated in 2015, subject to any review/discussion of this issue during the Province's overall review of the provincial electricity system.

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GENERATION AVAILABILITY								
12	Implement a 2014 winter preparation and availability improvement program for all generating assets and a related maintenance program for the HTGS.	A	Liberty 10, 11, 12 and 13; AM5; GA2	PUB-8 ²	Chief Operating Officer, General Manager, GT and Diesel	30-Nov-2014		In progress. Winter readiness self-assessments are near completion. Severe weather preparedness protocol drafted and now in use. Availability Improvements being undertaken and are on schedule for the Holyrood Thermal Generating Station Maintenance program for HRD and the CTs: IWP - Integrated Work Plan - has been prepared and is being tracked. See June 16 Report to the PUB.
12a	- Availability improvement: Hardwoods and Stephenville	A	P1GA2(a), (b), (c), (d), and (e); GA1, GA3, GA4, GA5, GA6, GA7		General Manager, GT and Diesel	30-Nov-2014		In progress. P1GA2 a) Review of GT maintenance practices is complete and required changes are being finalized. b) Assessing the effects of test starts prior to severe weather is ongoing to optimize the number of starts with GT availability. c) Repeat failure events have been identified and OEMs consulted to assist in root cause analysis and identifying solutions. d) Identification of additional plant and equipment refurbishment not already completed is being finalized. e) Fuel storage process and procedures have been reviewed. Draft fuel management procedure is being prepared.
12b	- Availability improvement: Holyrood Start-Up Time	A	GA8		Chief Operating Officer	7-Nov-2014		In progress. Balancing calculations and planned actions have been completed and will be implemented as part of Holyrood Unit 1's annual maintenance outage scheduled later in 2014.
12c	- Availability improvement: Hydro Generation / Granite Canal Availability	A	GA11		Chief Operating Officer	30-Sep-2014		In progress. Investigating Granite Canal turbine vibration issues during annual inspection during the summer and mitigation plans to be developed.
13	Develop a critical spares plan for HTGS and the Hardwoods and Stephenville gas turbines.		Liberty 14, P1AM4, AM3, GA2, GA9	PUB-9 ²	Chief Operating Officer, General Manager, GT and Diesel	30-Nov-2014		In progress. HRD Critical Spares Plan in place and progressing on schedule. A dedicated initiative, apart from the overall critical spares review, is ongoing to procure spare 4 kV motors in light of the recent failure of the forced draft fan motor on unit 3 on Dec. 26, 2013. Discussions have been initiated with manufacturers and are ongoing with respect to cost, schedule, new vs used, fitment and performance. Asset criticality workshop for GTs is complete as are consultant site visits. See June 16 Report to the PUB.
14	Secure economically available interruptible loads.	A	Liberty 16	PUB-10 ²	VP NL Hydro	30-Nov-2014		In progress. Discussions underway with Large Industrial Users. See June 16 Report to the PUB.
15	Install and commission a new Combustion Turbine at Holyrood.	A	Liberty 15		VP Project Execution and Technical Services	7-Dec-2014		In progress. Project progressing on schedule in accordance with the PETS Incremental Work Project Plan (IWPP). Separate progress report to be submitted to the PUB.
16	Create a senior position reporting to the VP with accountability for CTs and diesels	A	P1GA2		VP NL Hydro	14-Apr-2014		Completed. General Manager Gas Turbines and Diesels established and filled.
17	Document the Exploits Generation operational response to the severe frazil ice build-up for future reference as a best practice.	A	GA12		Chief Operating Officer	30-May-2014		Completed. Exploits Generation has developed a written procedure for dealing with frazil ice production and movement for the Grand Falls and Bishop's Falls generating facilities.

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TRANSMISSION AVAILABILITY								
Transformers and Terminal Stations								
18	Execute a 2014 plan for testing transformers with questionable levels of combustible gases.	A	Liberty 17	PUB-16 ¹	General Manager, TRO	31-Aug-2014	In Progress	Plan submitted to the PUB on June 2, 2014.
19	Execute a 2014 plan for completing overdue testing and maintenance on critical transformers.	A	Liberty 18	PUB-17 ¹	General Manager, TRO	30-Nov-2014	In Progress	A plan to complete overdue testing and maintenance was submitted to the PUB on June 2, 2014. Two of 8 critical transformers have been tested by the end of June.
20	Develop a plan for completing overdue testing and maintenance on remaining transformers.	A	Liberty 18	PUB-18 ¹	General Manager, TRO	15-Jun-2014	Completed	Plan submitted to the PUB on June 2, 2014.
21	Complete system studies in relation to the <u>relocation</u> of the repaired T5 transformer from Western Avalon to Sunnyside, including a plan to address potential further failures.	A	Liberty 19	PUB-19 ²	VP System Operations and Planning	15-Jun-2014	Completed	System study completed on June 13th. See IAP 24 and June 16th Report to the PUB.
22	Complete a study in relation to the availability and necessity of a <u>replacement</u> transformer for T5 at Western Avalon, addressing schedule, estimated costs, the resources required, and how these requirements will be met.	A	Liberty 19	PUB-20 ²	VP System Operations and Planning	15-Jun-2014	Completed	System study completed on June 13th. See IAP 25 and June 16th Report to the PUB.
23	Complete a study to determine if abnormal system disturbances may have caused the T5 failure at Western Avalon.	A	Liberty 29, RC5	PUB-21 ²	VP System Operations and Planning	31-Aug-2014	In Progress	Trans Grid Solutions has been engaged to complete an analysis/simulation of the January 4 event to determine if harmonics or system resonance may have been a contributing factor to either SSD T1 failure or WAV T5 OLTC failure. This work is ongoing.
24	Install a replacement for T1 transformer at Sunnyside.	A	Liberty 19		VP Project Execution and Technical Services	21-Nov-2014	In Progress	Project progressing on schedule in accordance with the PETS IWPP. Separate progress report to be submitted to the PUB.
25	Complete refurbishment of T5 transformer at Western Avalon.	A	Liberty 30		VP Project Execution and Technical Services	5-Oct-2014	In Progress	Project progressing on schedule in accordance with the PETS IWPP. Separate progress report to be submitted to the PUB.
26	Review the system disruptions in January, 2014 in terms of the performance of facilities, equipment and resources; document unexpected outcomes and lessons learned; implement changes to improve future performance; and communicate these changes to the entire Hydro organization.	A	TA2, TA7		Chief Operating Officer	1-Dec-2014	In progress	Review has been completed and documented in Hydro's Integrated Action Plan. Key lessons and priority actions will be implemented and communicated by Dec 1, 2014.
27	Complete a risk/reward review of the option of installing on-line continuous gas monitors on all GSU transformers not currently equipped with this equipment.	A	RC1		Chief Operating Officer	30-May-2014	Completed	An overall plan has been developed to install on-line continuous gas monitors on all 22 GSU transformers. Seven transformers will receive this upgrade in 2015, and the remaining GSUs as well as other 230 kV critical units will be upgraded in subsequent years. This has been added to the 2015 Capital Budget Proposal.
28	Complete a risk/reward review of the option of requiring that all 230 kV terminal station transformers are equipped with their own 230 kV breakers.	B	RC7		VP System Operations and Planning	14-Nov-2015	Not yet started	The risk/reward review will begin in 2015. However, the Sunnyside replacement transformer will be installed with the enhanced 230 kv breaker configuration.

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29	Complete a formal life assessment of Hydro's power transformers and revise the long term plan for transformer upgrades and replacements as appropriate.	A	RC14		Chief Operating Officer	31-Oct-2014	In progress	In progress. Purchase Order issued on May 23, 2014 to ABB and a NLH engineer assigned to work with them to gather data.
30	Complete a risk/reward review of the option of requiring additional station service redundancy at all 230 kV terminal stations, and to install back-up service supply in locations recommended by Hydro's Internal Review.	B	RC25, ERR4		Chief Operating Officer	30-Mar-2015	In progress	In progress. Asset Specialist assigned to work on this for Q4 2014 with an expected completion date of the review by March 30, 2015. Back up station service supplies will be identified for future year capital budget proposals if required.
31	Specify in a Terminals Engineering Standard that the location of the station service transfer switch shall be the control building in stations that have a control building remote to the transformers.	A	RC29		Chief Operating Officer	30-May-2014	Completed	Completed. Standard added.
32	Review the current location of the station service transfer switches at terminal stations that do not have a control building to ensure their locations are optimal.	B	RC30		Chief Operating Officer	Q4 2015	Not yet started	Not yet started. To be initiated in 2015 as a joint task with PETS and TRO Operations.
Air Blast Breakers								
33	Execute the annual 2014 plan for exercising air blast (AB) circuit breakers.	A	Liberty 20	PUB-24 ¹	General Manager, TRO	30-Nov-2014	In progress	In progress. Plan submitted to the PUB on June 2, 2014. Thirty of 63 AB circuit breakers were exercised as of the end of June.
34	Execute a 2014 plan for completing overdue testing and maintenance on critical AB circuit breakers.	A	Liberty 21, RC15	PUB-26 ¹	General Manager, TRO	30-Nov-2014	In progress	In Progress. Plan submitted to the PUB on June 2, 2014. We have completed 3 of the 9 critical recovery AB circuit breakers as of the end of June.
35	Develop a plan for completing overdue testing and maintenance on remaining AB circuit breakers.	A		PUB-27 ¹	General Manager, TRO	15-Jun-2014	Completed	Completed. Plan submitted to the PUB on June 2, 2014.
36	Develop a plan for periodically operating AB circuit breakers from protective relays.	A	Liberty 23	PUB-28 ¹	General Manager, TRO	30-Nov-2014	In progress	In Progress. Plan submitted to the PUB on June 2, 2014.
37	Complete an analysis of the DC system for B1L03 to determine the existence of any high impedance paths that may affect its operation.	A	RC2	PUB-29 ¹	General Manager, TRO	30-Sep-2014	In progress	In progress. A complete checkout for the DC circuit for breaker B1L03 at Sunnyside will be completed in July or when system conditions allow.
38	Complete a review of the annual air system leak check PM to ensure adequacy.	A	RC20	PUB-30 ¹	General Manager, TRO	30-Sep-2014	In progress	In progress. The plan is to review in July/ August and create an implementation schedule of any required changes by Sept 30, 2014.
39	Complete a review of the current approach to AB circuit breaker re-lubrication, which addresses why the DOW 55 grease was not removed during the 2007 re-lubrication.	A	RC22, RC23	PUB-31 ¹	General Manager, TRO	30-Sep-2014	In progress	In progress. The plan is to review in July/ August and create an implementation schedule of any required changes by Sept 30, 2014.
40	Develop a plan for implementing an accelerated/shortened PM cycle for AB circuit breakers.	A	Liberty 22, P1TA3(b)	PUB-32 ³	Manager LT Asset Planning	15-Jun-2014	Completed	Completed. Breaker PMs will be updated at the end of 2014 to reflect a reduction of the PM cycle to four years. With the accelerated replacement plan currently contemplated, only 21 of the 63 breakers will require their frequency changed from 6 to 4 years.
41	Develop a program for the accelerated replacement of AB circuit breakers, with a priority on identifying the activities and areas to be completed during the 2014 maintenance season.	A	P1TA3(a), TA1, AM1, RC24	PUB-33 ³	Manager LT Asset Planning	1-Aug-2014	In progress	In progress. A review has been completed and overhauls and replacements of AB circuit breakers will continue as planned, including the replacement of seven of 63 AB circuit breakers in 2014.
42	Review and implement changes to internal procedures related to: a) the application of protective coatings to circuit breakers; b) ensuring that false indications of the open/close state cannot occur in any failure mode; and c) establishing a specific pass/fail criterion related to circuit breaker timing tests.	A	Liberty 33; P1TA3(c), RC10, 11, 13, and 21.	PUB-34 ³	General Manager, TRO	31-Oct-2014	In progress	In progress. The review of the internal procedures for applying protective coatings to circuit breakers, preventing false indications of the open/close state, and establishing a pass/fail criterion for timing tests are currently being worked. Changes will be implemented and included in a report to the PUB on August 1.

NL HYDRO INTEGRATED ACTION PLAN - 2014 SUPPLY DISRUPTIONS AND POWER OUTAGES



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Alarms and Recording Devices								
43	Develop a plan for updating event and data recording devices, systems and procedures to identify the key set of priority alarms, to provide for the monitoring of alarms, and to address staff training and equipment repair.	A	Liberty 27, 28, TA3, TA4, TA5, TA6	PUB-43 ³	General Manager, TRO	30-Nov-2014		In progress. This item will be addressed in a Report to the PUB on August 1, 2014.
44	Complete an analysis of the implementation of a program to install modern digital relays for all major equipment such as 230 kV transformers.	A		PUB-44 ³	General Manager, TRO	TBD		In Progress. The plan for completing an analysis will be presented to the PUB on August 1. Implementation will follow in future years from this analysis.
ASSET MANAGEMENT & MAINTENANCE								
45	Implement process improvements related to the planning, scheduling and execution of work.	A	P2AM3, AM2, RC12		Chief Operating Officer, General Manager, GT and Diesel	30-Nov-2014		In progress. A committee with representation from PETS and the STWPS Council has established a standardized approach to planning, scheduling and executing the annual work plans, and the metrics used to track performance. A process to integrate resources into the completion of the plan is in place. Active management of execution is in place.
PROTECTION AND CONTROL SYSTEMS								
46	Execute a 2014 plan to eliminate slow trip coils.	A	Liberty 32; P&C 1	PUB-39 ²	Manager Eng, P&C and Communications	30-Nov-2014		In progress. The plan and schedule to eliminate the slow trip coil risk has been submitted to the PUB on June 16. The execution of the plan includes engineering design, P&C verification and installation. See the June 16 Report to PUB.
47	Develop a plan to: a) redesign existing breaker failure relay protection schemes to provide that breaker failure will be activated with either a 138kV or 230 kV breaker malfunction after a transformer failure; and b) install breaker failure relay protection for transformers in terminal stations where breaker failure relay protection is not in place.	A	Liberty 24 and 25; RC3, RC6, RC8; P&C 6	PUB-36 ² , PUB-37 ²	Manager Eng, P&C and Communications	30-Nov-2014		In progress. An internal P&C resource has been assigned to this task and the plan will be complete by November 30, 2014. See the June 16 Report to the PUB.
48	Develop a plan to include experienced P&C Technologists with response teams, where appropriate, starting in 2014.	A	Liberty 31, RC4, RC 19, P&C5	PUB-38 ²	General Manager, TRO	30-Sep-2014		In progress. An interim plan has been circulated for internal review and a final plan will be in place by October 1, 2014, to ensure improved winter readiness. See the June 16 Report to the PUB.
49	Implement all other P&C and related Root Cause Analysis recommendations identified in Hydro's Integrated Action Plan.	A	Liberty 27; P2P&C4; P&C 2, 3, 4, and 7; TA8; RC9, 27 and 28.	PUB-36, 37, 42 ²	Manager Eng, P&C and Communications	15-Dec-2014		In progress. Internal P&C resources assigned to coordinate the implementation of these 60 recommendations. Of these, 17 are complete, and another 36 (total 53) will be completed by Dec 15, 2014. The remaining 7 recommendations will be completed by Dec 15, 2015.
50	Execute a 2014 plan to repair and update terminal station relay cards.	A	RC16, RC17, RC18	PUB-40 ²	Manager LT Asset Planning	30-Nov-2014		In progress. Plan submitted to the PUB on June 16, 2014, implementation to occur in Q3 2014. See the June 16 Report to the PUB.
51	Document a protection philosophy and P&C engineering standard in 2014.	A	RC26; P&C 8	PUB-41 ²	Manager Eng, P&C and Communications	15-Dec-2014		In progress. A plan was submitted to the PUB on June 16, 2014 addressing the following elements: (a) establish the process for creating, reviewing, approving and managing the standards across time; (b) develop a prioritized list of protection philosophy standards to be developed; (c) two standards to be prepared by November 30, 2014 - breaker fail and transformer protection; and (d) develop a plan by December 15, 2014 for completing all other standards at a later time.

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52	Develop a plan for meeting the Company's substation and protection and control system resource requirements beginning in 2014.	A	Liberty 34, 35	PUB-48 ²	General Manager, TRO	31-Jul-2014	In Progress.	A longer-term P&C resourcing plan to ensure base needs are met is being developed. See the June 16 Report to the PUB.
53	Implement all outstanding recommendations from the 2010/11 P&C studies.	A	P&C3	PUB-27 ¹	General Manager, TRO	15-Dec-2014	In progress.	All actions have been resourced, scheduled and are being tracked as part of the PETS IWPP. See the June 16 Report to the PUB.
54	Implement all outstanding P&C recommendations from the 2013 winter events study.	A	P&C3	PUB-27 ¹	General Manager, TRO	31-Dec-2014	In progress.	All actions have been resourced, scheduled and are being tracked as part of the PETS IWPP. See the June 16 Report to the PUB.
TECHNOLOGY & COMMUNICATIONS INFRASTRUCTURE								
55	Complete all outstanding work in relation to the Hydro Place emergency generation system, and report to the PUB outlining availability risks and revised maintenance procedures.	A	Liberty 26, P2TCI6, TCI1, TCI2, TCI3, TCI4, TCI5	PUB-46 ²	General Manager Finance (NLH)	31-Aug-2014	In progress.	NL Power now has Hydro Place on priority feed not to be dropped, and if interrupted, HP is considered a priority for reconnection. All Hydro Place emergency generation system components are fully operational. Replacement of the lower control system is complete, including design redundancy. Review of PM program for Diesel Generation System is complete. A second contractor has been added to specialize in the generator section, and engine maintenance checks have been adjusted from once to twice per year, regardless of hours. A critical spares list for all components is being developed. The PM program, including critical spares, is to be reviewed by PETS upon completion.
56	Execute a 2014 plan for ensuring there is adequate emergency lighting in Hydro Place.	A	TCI6	PUB-47 ²	General Manager Finance (NLH)	30-Jun-2014	Completed.	Emergency lighting has been installed May 26 in Hydro Place stairwells, as well as improvements implemented to the Hydro Place generator room emergency lighting.
57	Ensure that documents related to system restoration, including cold start procedures, are readily available in the IS office and in the Hydro Place ECC in hard copy format.	A	TCI7		General Manager Finance (NLH)	15-Apr-2014	Completed.	Work completed by IS personnel in April, 2014.
58	Implement a process for the monitoring of critical alarms from the Hydro Place UPS on a real-time 24/7 basis.	A	TCI8		General Manager Finance (NLH)	30-Jun-2014	Completed.	Critical alarms are now monitored, and appropriate personnel notified.
COORDINATION & COMMUNICATION WITH CUSTOMERS								
59	Implement a formal protocol for notifying customers, users and the general public in relation to pending supply issues and conservation requests.	A	P2CC5, CCC9, Liberty 42		VP Corporate Relations	30-Sep-2014	In Progress.	Hydro and NF Power have developed a terms of reference and action plan for the development of a process for advanced notification.
60	Review the process used in January, 2014 for planning and coordinating rotating outages, both internally and with Newfoundland Power, and implement any changes necessary to improve and streamline this joint process.	A	CCC1		VP System Operations and Planning	14-Sep-2014	In Progress.	A meeting with NL Power to conduct a lessons-learned exercise was held. TRO, Customer Service and Sys Ops working to develop a list of feeders with associated customer service priority.
61	Review the protocol for Hydro's use of NLP's hydroelectric and standby generation resources; and address NLP's request for real-time data related to the status of the island interconnected system.	A	CCC2 (a) and (b)		VP System Operations and Planning	30-Sep-2014	In Progress.	(a) Protocol has been discussed and agreed between the two utilities. Formal documentation to be completed by July 31; (b) The real-time data list is finalized.
62	Revise Hydro's Outage Communication Protocol to add a Daily Communications Summary coordinated with NLP, and to ensure the mutual sharing of notices and advisories prior to public release.	A	CCC3		VP Corporate Relations	30-Sep-2014	In Progress.	Revised outage protocol process flow has been drafted and training sessions have been held with TRO staff. Full process, including addition of daily comms summary, being added to revised outage protocol overview document.

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63	Develop templates that will be available in advance of potential supply/outage events to enable the preparation of public advisories and to ensure rapid response to public inquiries.	A	CCC4		VP Corporate Relations	30-Apr-2014		Completed. Advisory templates completed April 1 for conservation requests, outage advisories, and storm advisories.
64	Document and streamline the internal processes used for sharing and distributing information between System Operations and Corporate Relations in a potential supply disruption/outage situation.	A	CCC5		VP Corporate Relations	30-Sep-2014		Completed. System Operations Manager participated in an Issues Analysis exercise with internal stakeholders to develop a streamlined process associated with communications during outages. TRO, CCC and ECC staff trained on new protocol. Completed in May.
65	Develop a list of key customers and power outage stakeholders.	A	CCC6		VP Corporate Relations	15-May-2014		Caution. Key customer lists received from Regions. Customer Service Techs identifying customers and feeders and formatting for consistency. This is 95% complete, need to confirm customers with correct feeders for Labrador West, expect to be complete by August 15.
66	Investigate alternatives for managing customer calls in a supply disruption/outage situation, including overflow call options and IVR programming at high volume levels, and implement changes to ensure customer calls are answered in a more timely manner.	A	CCC7		VP Corporate Relations	30-Apr-2014		Caution. An alternative has been identified with a plan to be in-service in advance of the coming winter season. Necessary changes will be implemented by November 15th.
67	Update Hydro's list of priority feeders in its service territory, determine which feeders cover sensitive customers, and develop a feeder rotation list.	A	CCC8		Chief Operating Officer	30-May-2014		Completed. Priority feeders and sensitive customers are identified and single point of accountability assigned in TRO to work with Customer Services and System Operations to develop the feeder rotation standard.
68	Develop protocol for advising internal and external stakeholders when Hydro's system reserves are within the threshold of the loss of the largest generating unit, and when an energy conservation call is required	A	CCC9		VP Corporate Relations	30-Apr-2014		Completed. Instruction developed by System Operations and revised with NL Power. It is being implemented starting on the first week of June, 2014.
69	Develop with NLP a joint Outage Communications Strategy to guide near and longer-term improvements to customer contact technologies and telephony, including multi-channel communication options such as SMS text messaging or other broadcasting options.	A	Liberty 37 and 41		VP Corporate Relations	15-Jun-2014		Completed. Terms of reference, activities and action plan have been defined. NL Power and Hydro are collaborating to identify synergies and plan near and longer term strategies for customer contact and outage technologies. Hydro and NL Power will be assessing technical details in September.
70	Complete joint customer research with NLP to better understand customer outage-related informational needs and expectations, including requests for conservation.	A	Liberty 38		VP Corporate Relations	31-Aug-2014		In Progress. Joint research is in progress and expected to be complete by the end of August.
71	Ensure that pre-winter season stress testing of any enhancements to customer-facing outage support systems is incorporated into the implementation process.	A	Liberty 39		VP Corporate Relations	30-Sep-2014		In Progress. Significant enhancements to customer-facing outage support systems may be minimal in 2014 given NL Hydro's intention to replace these systems within 12-24 months. Any stress-testing requirements for 2013 will be determined by the end of Q3.
72	With respect to the Hydro Place building and its facilities, review Hydro's business continuity plans and contingencies and update as necessary to ensure continued operations and the availability of critical outage response support systems in the event of a supply disruption to the Hydro Place building.	A	Liberty 40		General Manager Finance (NLH)	31-Aug-2014		In progress. Several actions have been completed to ensure continued operations and the availability of critical outage response support systems in the event of a supply disruption. See IAP 55, 56, 57, and 58 for details. NL Hydro has also engaged a consultant to complete a business impacts analysis related to the loss of Hydro Place services or facilities, and any recommendations related to this action will be implemented as appropriate.

NL HYDRO INTEGRATED ACTION PLAN - 2014 SUPPLY DISRUPTIONS AND POWER OUTAGES



Ref	Action/Activity	Pty	IAP Reference(s)	Interim	Accountable			Notes / Comments
				Report Ref(s)	Title	Due Date	Status	
73	Develop a coordinated and robust Storm/Outage Communication Plan with NLP which documents protocols, plans and templates to guide communications during major events.	A	Liberty 44		VP Corporate Relations	15-Jun-2014	In Progress	In Progress. Hydro and NL Power have completed the terms of reference and action plan. A draft plan joint storm and outage communications plan is now complete.
74	Complete a joint "lessons learned" exercise with NLP.	A	Liberty 45		VP Corporate Relations	15-Jun-2014	Complete	Complete. Joint lessons learned conducted on May 20th.
75	Commit to a formal effort, sponsored by the senior executives of both Hydro and NL Power, to work together jointly in formulating goals, protocols, programs, and other activities that will improve operational and customer information and communications coordination, leading to the development of identified membership on joint teams, operating under senior executive direction and according to clear objectives, plans, and schedules.	A	Liberty 46		VP NL Hydro	15-Jun-2014	Complete	Complete. NL Power and Hydro executives have met in May, June and July 2014 and will be meeting monthly to oversee the actions and improvements being undertaken by both utilities to enhance customer service and inter-utility coordination.
EMERGENCY RESPONSE AND RESTORATION								
76	Update Hydro's Severe Weather Preparedness Protocol and checklist to incorporate lessons learned from the 2013 and 2014 outages as well as best practices from other utilities.	A	ERR1		Chief Operating Officer	15-May-2014	In Progress	In Progress. Hydro has implemented a draft Severe Weather Protocol Preparedness Protocol, incorporating best practices from other utilities, which will be finalized by October 1, 2014.
77	Update the TRO emergency response plans to reflect lessons learned from the January, 2014 transformer failures, including specified methods for dealing with transformer fires.	A	ERR2		Chief Operating Officer	30-Sep-2014	Complete	Completed. Section 4.19 of the emergency response plan for fires in terminal stations has been revised.
78	Ensure that records indicating the PCB contents of all oil-filled transformers and equipment are available in hard copy both locally and at an alternate location.	A	ERR3		Chief Operating Officer	30-Sep-2014	In Progress	In Progress. To be implemented by TRO's Safety, Health and Environment department.
79	Complete a lighting improvement plan at the Holyrood plant in 2014.	A	ERR5		Chief Operating Officer	1-Sep-2014	Caution	Caution. Design completed and equipment being procured. On schedule for installation by September 30, 2014

NOTE: Color-Shaded References refer to Key Priority Actions in the PUB Interim Report dated May 15, 2014, page 57.

FOOTNOTES:

- 1 Plan outlined in a Report to the PUB on June 2nd
- 2 Plan outlined in a Report to the PUB on June 16th
- 3 Plan to be outlined in a Report to the PUB on August 1st