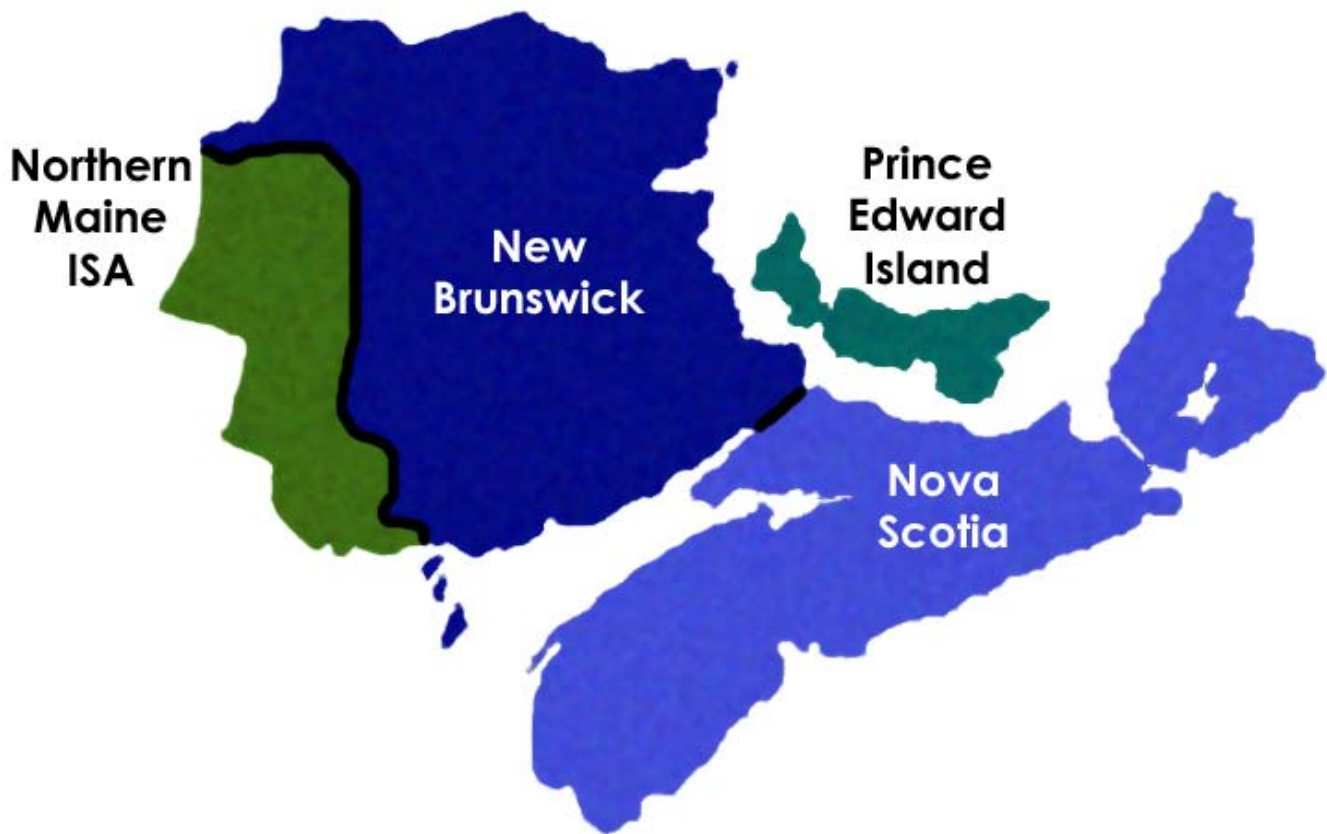


**NPCC
2009 MARITIMES AREA
INTERIM REVIEW OF RESOURCE
ADEQUACY**



**NEW BRUNSWICK SYSTEM OPERATOR
NOVA SCOTIA POWER INCORPORATED
MARITIME ELECTRIC COMPANY LIMITED
NORTHERN MAINE ISA, INC.**

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1.0 EXECUTIVE SUMMARY

The 2009 Maritimes Area Interim Review of Resource Adequacy, covering the period of January 2010 through December 2012, has been prepared to satisfy the Reliability Assessment Program as established by the Northeast Power Coordinating Council (NPCC). This review follows the resource adequacy review guidelines as specified in the NPCC Document B-8 entitled "[Guidelines for Area Review of Resource Adequacy](#)" (Revised: November 29, 2005).

Results of this review show that the Maritimes Area will comply with the NPCC resource adequacy criterion that requires a loss of load expectation (LOLE) value of no more than 0.1 days/year for all years from 2010 to 2012. A summary of the Maritimes Area LOLE values for 2010 to 2012 is shown in Table 1 below.

Table 1 – Maritimes Area LOLE Values for 2010 to 2012

Year	2009 Interim Review (days/year)	2007 Comprehensive Review (days/year)
2010	0.042	0.015
2011	0.087	0.003
2012	0.003	0.001

All of the LOLE results for this review are higher versus the 2007 Comprehensive Review. The most significant assumption changes that have contributed to these higher LOLE values are:

- The ongoing refurbishment of the 658 MW Point Lepreau Nuclear Station is now 16-months behind schedule. Its return to service date has moved from October 1, 2009 in the 2007 Comprehensive Review to February 1, 2011 in this review.
- This review includes an announced closure of the 299 MW oil-fired Dalhousie Generation Station by July 1, 2010.

LOLE calculations in this report are conservative given the following assumptions:

- LOLE analysis in this review, as well as the 2007 Comprehensive Review, was performed without the assumption of tie benefits to the Maritimes Area.
- While it is anticipated that there may winter capacity purchases from Québec to New Brunswick in 2011 and 2012, they were not modeled for this review because the amount and duration of those purchases are uncertain at this time.
- The announced closure of the Dalhousie Generation Station is being evaluated with respect to local area reliability as well as capacity needs for the 2010/11 winter season. However, possible extension of the Dalhousie plant closure date was not modeled due to its uncertainty.

On October 29, 2009 the Government of New Brunswick and Government of Québec (the “Parties”) signed a Memorandum of Understanding (MOU) whereby Hydro Québec would acquire substantially all of the assets of NB Power. On January 20, 2010 the Parties announced an energy agreement (the “Agreement”) that included some changes from the MOU, including that NB Power will retain its ownership of the transmission and distribution assets, and the New Brunswick System Operator will continue to operate as an arm’s length agency.

The scheduled closing date for the transaction is on or about March 31, 2010. Details of the MOU and a summary of the Agreement are available at:

<http://www.lowerratesnb.ca>

The MOU and the Agreement are accounted for in this Interim Review as follows:

- The closure of generation assets in New Brunswick deemed as surplus is included in the LOLE calculations.
- Although there is increased likelihood of future capacity and energy transactions between Québec and New Brunswick, only transactions with existing contracts have been included in the LOLE calculations. This representation of transactions between New Brunswick and Québec is consistent with the 2009 Québec Interim Review of Resource Adequacy.

2.0 INTRODUCTION

This 2009 Interim Review is the second update of the 2007 Maritimes Area Comprehensive Review of Resource Adequacy approved in March 2008. The Maritimes Area is a winter peaking area that includes the New Brunswick System Operator (NBSO), Nova Scotia Power Inc. (NSPI), Maritime Electric Company Ltd. (MECL), and the Northern Maine Independent System Administrator, Inc (NMISA). MECL supplies the province of Prince Edward Island.

3.0 ASSUMPTION CHANGES

3.1 Demand Forecast

The Maritimes Area peak demand is forecast to occur during the month of February each year. Table 2 shows the year by year comparison of the annual peak loads used in this review versus the 2007 Comprehensive Review.

Table 2 – Maritimes Area Peak Demand Forecast for 2010 to 2012

Year	2009 Interim Review (MW)	2007 Comprehensive Review (MW)	Difference (MW)
2010	5,323	5,685	-362
2011	5,251	5,709	-458
2012	5,260	5,722	-462
Compound Annual Growth Rate			
Growth Rate	-0.59%	0.32%	

The demand forecast for this review is lower in all years, and the compound annual growth rate is lower and negative. Contributing significantly to this reduced demand are announced mill closures in the pulp-and-paper and wood processing sectors, along with limited growth expectations in these sectors.

3.2 Resources Forecast

Significant assumption changes regarding resources for this review include the following:

- The ongoing refurbishment of the 658 MW Point Lepreau Nuclear Station is now 16-months behind schedule. Its return to service date has changed from October 1, 2009 to February 1, 2011.
- This review includes a planned closure of the 299 MW oil-fired Dalhousie Generation Station by July 1, 2010.
- New capacity purchases for this review include the following:
 - 200 MW from Hydro Québec to New Brunswick (January - March 2010).

- 80 MW from Nalcor Energy (Labrador via Québec) to New Brunswick (January – February 2010)
- 100 MW from Nalcor Energy to New Brunswick (March 2010).
- A conversion at NSPI’s Tufts Cove plant is presently under construction and will result in an additional 49 MW of conventional generation capacity. This new generation will be in-service for the 2010/11 winter peak in this review instead of the 2009/10 winter peak in the 2007 Comprehensive Review.
- Projected wind project capacity (derated) has been adjusted for each year of this review due to greater certainty of wind project development versus the 2007 Comprehensive Review.

Table 3 shows the year by year generation resources forecast for this review compared to the 2007 Comprehensive Review. All values in Table 3 are for the month of February.

Table 3 – Maritimes Area Resources Forecast for 2010 to 2012

Year	2009 Interim Review (MW)			2007 Comprehensive Review (MW)			Difference (MW)
	Conventional	Wind	Total	Conventional	Wind	Total	Total
2010	6,264	200	6,464	6,764	160	6,924	-460
2011	6,374*	249	6,623	6,712	301	7,013	-390
2012	6,572	249	6,821	6,915	330	7,245	-424

* Conventional resources in January 2011 are lower by 658 MW due to the final month of the Point Lepreau refurbishment.

Wind project capacity in Table 3 represents derated MW values (approx. 40% of nominal capacity) equal to the three-year rolling average of actual winter capacity factor (combined with the forecasted capacity factor if in service less than three years). This deration of wind capacity in the Maritimes Area is consistent with results from the 2005 NBSO Maritimes Wind Integration Study. <http://www.nbso.ca/Public/private/2005%20Maritime%20Wind%20Integration%20Study%20Final.pdf>. The 2005 study showed that the effective capacity from wind projects, and their contribution to LOLE, was equal to or better than their seasonal capacity factors. Coincidence of high winter wind generation with the peak winter loads results in the Maritimes Area receiving a higher capacity benefit from wind projects versus a summer peaking area. The effective wind capacity calculation also assumes a good geographic dispersion of the wind projects in order to mitigate the occurrences of having zero wind production.

3.3 Comparison of Forecast and Required Reserve

The Maritimes Area uses a 20% reserve criterion for planning purposes. Table 4 shows a year by year comparison of the forecast reserve versus the required

reserve. In each year of this review, the forecast reserve exceeds the 20% reserve criterion. All values in Table 4 are for the month of February.

Table 4 – Comparison of Planned and Required Reserve for 2010 to 2012

Year	Generation Resources (MW)	Forecast Coincident Peak (MW)	Interruptible Load (MW)	Forecast Reserve		Required Reserve	
				MW	%	MW	%
2010	6,464	5,323	408	1,549	32%	983	20%
2011	6,623	5,251	428	1,800	37%	965	20%
2012	6,821	5,260	411	1,972	41%	970	20%

In January 2011, the generation resources are 658 MW less due to the final month of the Point Lepreau refurbishment. However, forecast reserve for the January 2011 month will still exceed the 20% reserve criterion.

Updates on the Point Lepreau refurbishment are publicly available at <http://poweringthefuture.nbpower.com/en/default.aspx>.

3.4 Interface Limits

All interface limits for this review are the same as the 2007 Comprehensive Review, except that the import capability from Québec to New Brunswick has been reduced from 1100 MW to 1000 MW. This reduction reflects a mill closure in northern New Brunswick reducing the radial load that can be supplied by Québec.

The reduced import capability from Québec to New Brunswick has no impact on the LOLE analysis of this review. LOLE analysis in this review, as well as the 2007 Comprehensive Review, was performed without the assumption of tie benefits to the Maritimes Area.

3.5 Major Changes to Market Rules

On October 29, 2009 the Government of New Brunswick and Government of Québec (the “Parties”) signed a Memorandum of Understanding (MOU) whereby Hydro Québec would acquire substantially all of the assets of NB Power. On January 20, 2010 the Parties announced an energy agreement (the “Agreement”) that included some changes from the MOU, including that NB Power will retain its ownership of the transmission and distribution assets, and the New Brunswick System Operator will continue to operate as an arm’s length agency.

The scheduled closing date for the transaction is on or about March 31, 2010. Details of the MOU and a summary of the Agreement are available at:

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The MOU and the Agreement are accounted for in this Interim Review as follows:

- The closure of generation assets in New Brunswick deemed as surplus is included in the LOLE calculations.
- Although there is increased likelihood of future capacity and energy transactions between Québec and New Brunswick, only transactions with existing contracts have been included in the LOLE calculations. This representation of transactions between New Brunswick and Québec is consistent with the 2009 Québec Interim Review of Resource Adequacy.

4.0 LOLE RESULTS

A summary of the Maritimes Area LOLE values for 2010 to 2012 is shown in Table 5 below. All LOLE values for this review meet the NPCC resource adequacy criterion, and are higher versus the 2007 Comprehensive Review.

Table 5 – Maritimes Area LOLE Values for 2010 to 2012

Year	2009 Interim Review (days/year)	2007 Comprehensive Review (days/year)
2010	0.042	0.015
2011	0.087	0.003
2012	0.003	0.001

LOLE calculations in this report are conservative given the following assumptions:

- LOLE analysis in this review, as well as the 2007 Comprehensive Review, was performed without the assumption of tie benefits to the Maritimes Area.
- While it is anticipated that there may be winter capacity purchases from Québec to New Brunswick in 2011 and 2012, they were not modeled for this review because the amount and duration of those purchases are uncertain at this time.
- The announced closure of the Dalhousie Generation Station is being evaluated with respect to local area reliability as well as capacity needs for the 2010/11 winter season. However, possible extension of the Dalhousie plant closure date was not modeled due to its uncertainty.

5.0 CONCLUSIONS

Results of this review show that the Maritimes Area will comply with the NPCC resource adequacy criterion that requires a loss of load expectation (LOLE) value of no more than 0.1 days/year for all years from 2010 to 2012.