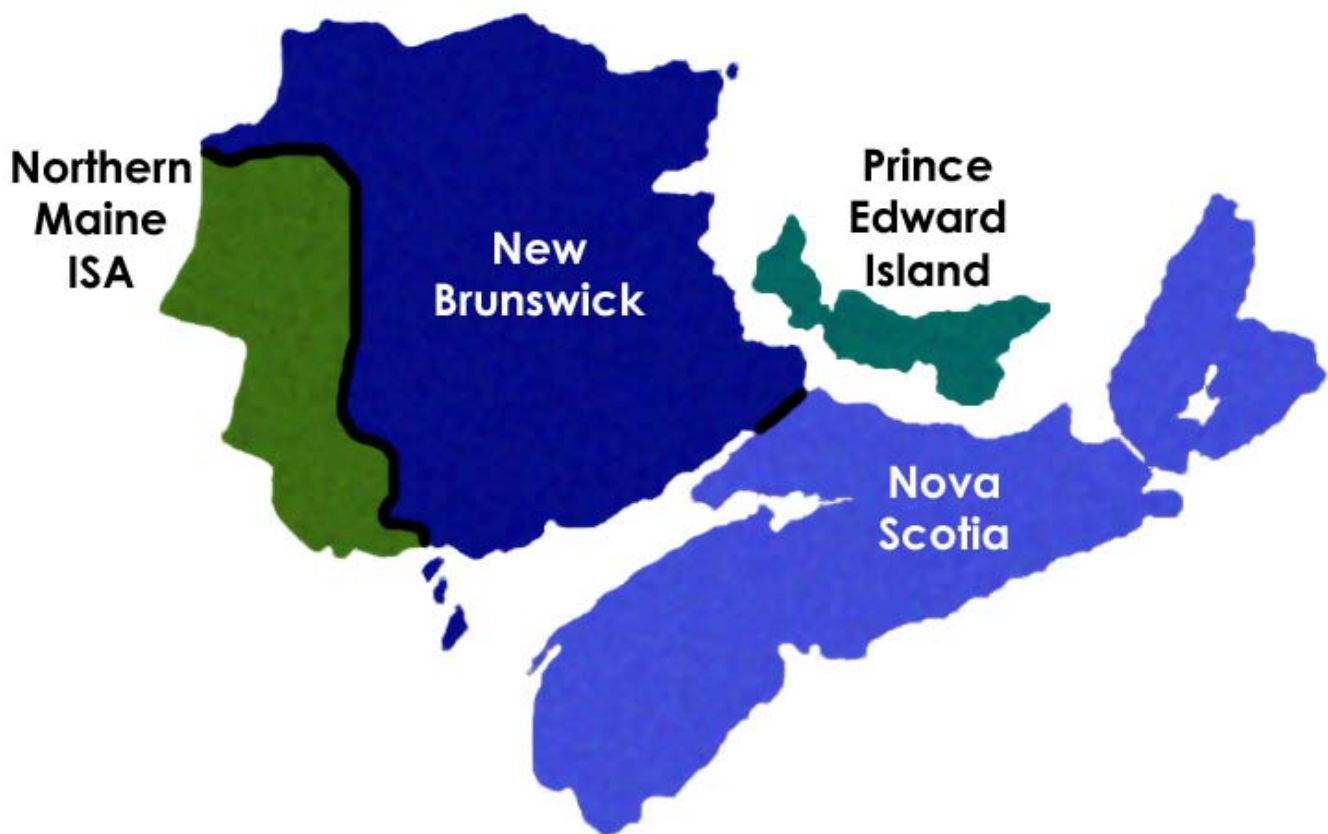


**NPCC  
2008 MARITIMES AREA  
INTERIM REVIEW OF RESOURCE  
ADEQUACY**



**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 2008 Maritimes Area Interim Review of Resource Adequacy, covering the period of January 2009 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 less than 0.1 days/year for all years from 2009 to 2012. A summary of the Maritimes Area LOLE values for 2009 to 2012 is shown in Table 1 below.

**Table 1 – Maritimes Area LOLE Values for 2009 to 2012**

Year	2008 Interim Review (days/year)	2007 Comprehensive Review (days/year)
2009	0.012	0.086
2010	0.003	0.015
2011	0.002	0.003
2012	0.001	0.001

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

- This review includes a three-month firm capacity purchase from Hydro Québec to New Brunswick from January 2009 to March 2009. The monthly MW values for this contract are 200 MW (January and February) and 100 MW (March).
- This review has a lower demand forecast for each year versus the 2007 Comprehensive Review. This lower demand is primarily due to announced mill closures in the pulp-and-paper and wood processing sectors, along with limited growth expectations in these sectors.

LOLE analysis in this review, as well as the 2007 Comprehensive Review, was performed without the assumption of tie benefits to the Maritimes Area.

## 2.0 INTRODUCTION

This 2008 Interim Review is the first 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 2009 to 2012**

Year	2008 Interim Review (MW)	2007 Comprehensive Review (MW)	Difference (MW)
2009	5465	5585	-120
2010	5496	5685	-189
2011	5514	5709	-195
2012	5544	5722	-178
Compound Annual Growth Rate			
Growth Rate	0.48%	0.81%	

The demand forecast for this review is lower in all years, and the compound annual growth rate is also lower. 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:

- This review includes a three-month firm capacity purchase from Hydro Québec to New Brunswick from January 2009 to March 2009. The monthly MW values for this contract are 200 MW (January and February) and 100 MW (March).
- A planned conversion at NSPI's Tufts Cove plant, resulting in an additional 52 MW of conventional generation capacity, is now delayed until 2011 in this review instead of being targeted for 2010 in the 2007 Comprehensive Review.
- An additional 116 MW of wind project capacity (derated) is now advanced to 2010 in this review instead of 2011 in the 2007 Comprehensive Review.

Table 3 shows the year by year generation resources forecast for this review compared to the 2007 Comprehensive Review.

**Table 3 – Maritimes Area Resources Forecast for 2009 to 2012**

Year	2008 Interim Review (MW)			2007 Comprehensive Review (MW)			Difference (MW)
	Conventional	Wind	Total	Conventional	Wind	Total	Total
2009	6239	135	6374	6039	132	6171	203
2010	6711	276	6987	6764	160	6924	63
2011	6711	294	7005	6712	301	7013	-8
2012	6914	294	7208	6915	330	7245	-37

All capacity values in Table 3 reflect resource totals available during the peak demand month of February for each year.

Wind project capacity in Table 3 represents derated MW values (approx. 40% of nominal capacity) equal to the demonstrated or projected average output of wind projects in the Maritimes Area during the winter period. This deration of wind capacity in the Maritimes Area is based upon results from the Sept. 21, 2005 NBSO report “Maritimes Wind Integration Study”. (<http://www.nbso.ca/Public/private/2005%20Maritime%20Wind%20Integration%20Study%20Final.pdf>) This wind 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 Planned and Required Reserve

The Maritimes Area uses a 20% reserve criterion for planning purposes. Table 4 shows a year by year comparison of the planned reserve versus the required reserve. In each year of this review, the planned reserve exceeds the 20% reserve criterion.

**Table 4 – Comparison of Planned and Required Reserve for 2009 to 2012**

Year	Generation Resources (MW)	Forecast Coincident Peak (MW)	Interruptible Load (MW)	Planned Reserve		Required Reserve	
				MW	%	MW	%
2009	6374	5465	477	1386	28%	998	20%
2010	6987	5496	477	1968	39%	1004	20%
2011	7005	5514	473	1964	39%	1008	20%
2012	7208	5544	467	2131	42%	1015	20%

Table 4 shows generation resources increasing substantially from 2009 to 2010, and this is primarily due to the return to service of the 658 MW Point Lepreau nuclear station in New Brunswick, scheduled for October 1, 2009. While the Point Lepreau refurbishment project remains on schedule for its 2009 return date, the 2010 reserve surplus of 964 MW from Table 4 is more than adequate to accommodate a delayed return to service of this station.

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.

## 4.0 LOLE RESULTS

A summary of the Maritimes Area LOLE values for 2009 to 2012 is shown in Table 5 below. All LOLE values for this review meet the NPCC resource adequacy criterion, and are lower versus the 2007 Comprehensive Review.

**Table 5 – Maritimes Area LOLE Values for 2009 to 2012**

Year	2008 Interim Review (days/year)	2007 Comprehensive Review (days/year)
2009	0.012	0.086
2010	0.003	0.015
2011	0.002	0.003
2012	0.001	0.001

## 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 less than 0.1 days/year for all years from 2009 to 2012.