NORTHERN MAINE INDEPENDENT SYSTEM ADMINISTRATOR

SEVEN-YEAR OUTLOOK:

AN ASSESSMENT OF THE ADEQUACY OF

GENERATION AND TRANSMISSION FACILITIES

ON THE NORTHERN MAINE

TRANSMISSION SYSTEM

March 30, 2007

INTRODUCTION

The Northern Maine Independent System Administrator ("NMISA") was created in 1999 in response to the mandate of the legislature of the State of Maine that effective retail electric competition is available to all of Maine's electricity consumers by March 1, 2000.[1] The NMISA's size, scope, purpose and electricity market were designed to facilitate the development and implementation of retail electric competition and foster regional reliability efforts in the electrically isolated area of the state in portions of Aroostook, Washington and Penobscot Counties. Northern Maine is characterized by low population density and a very low electric demand in comparison with other electricity markets.

The dominant characteristics of the Northern Maine Market are its electrical isolation, large geographic size, small electric demand, and modest population. The electric system in Northern Maine is not directly interconnected with the rest of New England, including any other Maine utility or any other domestic electric system. NMISA participants, therefore, are not participants in the New England Regional Transmission Organization ("RTO") and are not subject to the control of ISO New England ("ISO-NE"), the entity which operates the New England RTO. The region's only access to the electric system that serves the remainder of Maine and the rest of New England is through the transmission facilities of New Brunswick Power ("NB Power").[2] The New Brunswick System Operator ("NBSO") is the Balancing Authority and Reliability Coordinator ("RC") for the Control Area that includes the Northern Maine and Maritimes regions.

The maximum peak demand for the NMISA region in 2006 was 139 MW, with a projected annual peak load growth of less than 2%. The 2006 energy consumed was 823,009 MWh. There are approximately 90,000 residents and approximately 42,000 electricity consumers in Northern Maine.

The NMISA is a Federal Energy Regulatory Commission ("FERC")-approved independent system administrator and regional transmission group that encompass the transmission systems of all FERC-jurisdictional and non-jurisdictional utilities in Northern Maine. The NMISA operates as an independent, objective and non-discriminatory administrator of transmission access, transmission information access, and related functions, and monitors and operates the electricity markets in Northern Maine for energy, ancillary, and other services. The NMISA is governed by a seven member stakeholder Board of Directors comprising representatives of MPS and Eastern Maine Electric Cooperative ("EMEC"), municipal utilities (Houlton Water Company ("HWC") and Van Buren Light & Power District ("VBL&P")), large customers, generators, Competitive Electricity Providers ("CEPs"), and the Maine Public Advocate as representative of all other retail electric consumers.

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1 P.L. 1997ch.316, 35-A M.R.S.A. §§ 3201, *et seq.*

2 The NB Power transmission system connects to a 345 kV transmission line owned and operated by Maine Electric Power Company ("MEPCO"). MEPCO is jointly owned by Central Maine Power Company ("CMP"), Bangor Hydro Electric Company ("BHE"), and Maine Public Service Company ("MPS").

A Tariff and the Northern Maine Market Rules ("NMMRs") govern the NMISA. On May 1, 2006 the NMMRs were amended, adding NMMRs 8 and 9. NMMR 9, System Planning, sets forth provisions relating to the responsibilities for the NMISA, the Transmission Owners ("TOs"), the Demand-Side Management ("DSM") program operators/providers, and the Generators in relation to the adequacy and reliability of the Northern Maine Transmission System ("NMTS"). NMMR 9.2, Long-Term System Planning, states that the NMISA will prepare a Base Case for the planned development of the NMTS for the following seven years, beginning April 1 of each year. Although the NMISA is not required to publish the Base Case for the period 2007 to 2014 until March 31, 2007, this preliminary report is to satisfy a Maine Public Utility Commission ("MPUC") Order for MPS in which the Commission ordered MPS to do a reliability report. The Base Case comprises four sections: Load Forecast, Generation Resources, Resource Adequacy, and Transmission Planning. Because the NMISA is a nested control area connected radial to the NBSO, the Base Case is modeled after their *Ten-Year Outlook: An Assessment of the Adequacy of Generation and Transmission Facilities in New Brunswick, 2006 – 2015*.

LOAD FORECAST

The load forecast for the region includes the combined loads of MPS, EMEC, HWC, and VBP&L. The average annual load growth for energy (MWh) from 2001 to 2006 was 0.77%. The peak demand (MW) annual load growth for same period was 1.15%. Both exclude the Perth Andover load in New Brunswick that is fed from the NMTS. Perth Andover was part of the NMISA system until January 1, 2005 when the NBSO assumed responsibility. In 2008, HWC is expecting an additional 5 MW of load from an expansion at Louisiana Pacific. There is a small probability that EMEC will experience an additional 10 MW from the construction of an LNG terminal within its service area.

The forecast used in the Base Case includes 5 MW from the projected expansion of the Louisiana Pacific load, but does not include any potential LNG load. The annual load (MWh) for 2007 was determined by inflating the annual 2006 sales by 1%. For 2008, 1% was added, plus the 5 MW load with a 16-hour per day, 7 days a week operation, resulting in 2008 projected energy load of 868,753 MWh. The remainder of the period was simply escalated by 1% per year, consistent with the growth for the past six years. The peak load for each year was calculated using the six-year average load factor of 66.80%.

Table 1 reflects the seven-year load forecast.

Table 1
NMISA 7-Year Load Forecast

Year	MWh	Peak
2007	831,240	142
2008	868,753	148
2009	877,440	150
2010	886,214	151
2011	895,077	153
2012	904,027	154

Table 1
NMISA 7-Year Load Forecast

Year	MWh	Peak
2013	913,068	156

GENERATION RESOURCES

Table 2 (below) lists the generation resources located on the NMTS. Northern Maine is unique in that it receives most of its generation from renewable resources. The majority of the generation consists of three biomass plants and several hydropower facilities. However, for one of the biomass plants, Boralex Sherman, the PURPA contract with MPS terminated 12/31/2006, and thus, as discussed later, it is not considered a resource after that date.

Currently, the only new capacity coming on-line in the region is the UPC Wind Project at Mars Hill, rated at 42 MW at full output and credited with 13 MW of firm capacity. The facility became partially operational in December 2006, and is expected to be fully operational during the 1st quarter of 2007. Two other proposed projects under study through MPS's Large Generation Interconnect Procedure are Aroostook Wind Energy (500 MW with 3 phases of 100, 150, and 250 MW) and Loring Bio-Energy Gas Turbine (55 MW summer, 70 MW winter). Both projects are designated as Network Resources. For more information see the following link:
http://www.mainepublicservice.com/corporate/transmission/genintreq.asp

In the EMEC region there is a 74 MW wind project being considered. Currently, it is unclear whether the project will interconnect with the NMTS or follow an existing right of way to the Bangor Hydro non-PTF transmission system.

Table 2: NMISA Generation Resources

Plant	Capacity (MW)	Type	Notes
Tinker Station			
Hydro #1	4.00	Hydro	
Hydro #2	1.80	Hydro	
Hydro #3	1.80	Hydro	
Hydro #4	4.00	Hydro	
Hydro #5	23.00	Hydro	
Diesel	1.00	Diesel	
Flo's Inn			
Diesel #1	1.40	Diesel	
Diesel #2	1.40	Diesel	
Diesel #3	1.40	Diesel	
Caribou Station			
Steam #1	9.00	Oil	
Steam #2	14.00	Oil	
Diesel #2	2.50	Diesel	
Diesel #3	2.50	Diesel	

Table 2: NMISA Generation Resources

Plant	Capacity (MW)	Type	Notes
Diesel #4	1.00	Diesel	
Diesel #5	1.00	Diesel	
Hydro #1	0.45	Hydro	
Hydro #2	0.45	Hydro	
Loring			
Diesel #1	1.00	Diesel	
Diesel #2	1.00	Diesel	
Diesel #3	1.00	Diesel	
Diesel #5	2.10	Diesel	
Squa Pan Hydro	1.40	Hydro	
Other Resources			
Boralex - Fort Fairfield	33.00	Biomass	
Boralex - Ashland	37.00	Biomass	
Evergreen Wind (Mars Hill)	42.00	Wind	In Service Early 2007
Boralex - Sherman	19.00	Biomass	Retired
Total Capacity	208.2		

RESOURCE ADEQUACY

The calculation by which the NMISA ensures resource adequacy is based upon the Northeast Power Coordinating Council's ("NPCC's") Document C-13, "18-month Load and Capacity Assessment". The C-13 process determines Gross Margin and Net Margins weekly for the 18-month period. The analysis is conducted twice a year, in the spring and fall, for the coming capability periods. Essentially, the analysis compares the load forecast to net resources plus operating reserve. Net resources are the installed capacity adjusted for firm sales, DSM, forced and unplanned outages, and unit deratings. Weekly, the information from the C-13 for the coming week is updated with current information and provided to the NBSO, RC for the Control Area, in preparation for the NPCC-wide conference call. The C-13 is published in the Documents section of the NMISA web site.

The NMISA is part of NPCC's Maritimes Control Area, with NBSO acting as the Balancing Authority as well as the RC. NMISA's Operating Reserve requirement is its proportionate share of the Maritimes Area Operating Reserve requirement. The NBSO calculates the Operating Reserve requirement for the region by maintaining adequate Operating Reserve capacity to cover 100% of the single largest contingency plus 50% of the second largest contingency. The NMISA's responsibility is based upon its monthly non-coincident peak share of the total Maritimes Area load. The average annual Operating Reserve responsibility is 24 MW.

For the Base Case, a 20% planning reserve criterion was used. The difference between planning reserve and Operating Reserve is that planning reserve projects over a long-term horizon while Operating Reserve plans for actual requirements in the near term to operate the

system. The NBSO also determines the planning reserve. The amount is based upon NPCC generation reliability criterion that a loss of load expectation shall be, on average, no more than 0.1 days per year. NMISA also participates in the NBSO's *Maritimes Area Triennial Review of Resource Adequacy*. In the latest study, 2004, it was determined that the 20% planning reserve margin is adequate for the Maritimes Area.

The Load and Resources Review attempts to determine if adequate resources will be available over the long run to meet the projected annual peak plus a planning reserve of 20%. The resources are the sum of the installed capacity plus firm purchases less firm sales. A positive number indicates resources are adequate and a negative indicates a deficiency. Also, transfer capacity is included to show the system's capability to import resources to relieve any deficits. Similarly, the projected surplus or deficit from the NBSO's 10-Year Outlook for 2006-2015 is included in Table 3 below to show the potential availability of excess capacity from that system.

In all years, the Base Case for the NMISA system shows a deficit. Based upon the expiration of Boralex Sherman's long-term contract with MPS effective December 31, 2006, this unit is shown in the Base Case as providing zero capacity during the planning period. However, the unit operated until February 28th, 2007 on a short-term contract. In addition, as discussed earlier, additional generation projects are at early stages of development and may become available during the planning period. Given the uncertainty of the ultimate construction of such early stage projects or the execution by Boralex Sherman of a new long-term power supply contract, none of these are included in this analysis. Table 3 reflects the NMISA's Load and Resources Review from 2007 to 2013.

Table 3
Load and Resources Review (MW)

Year	2007	2008	2009	2010	2011	2012	2013
Projected Peak	147.0	148.5	149.9	151.4	153.0	154.5	156.0
+Reserve at 20%	176.4	178.2	179.9	181.7	183.5	185.4	187.2
Capacity							
Boralex Ashland	37	37	37	37	37	37	37
Boralex Fort Fairfield	33	33	33	33	33	33	33
Wheelabrator Sherman	0	0	0	0	0	0	0
Tinker Hydro	35	35	35	35	35	35	35
Caribou Steam	23	23	23	23	23	23	23
Diesel	17	17	17	17	17	17	17
Mars Hill Wind	13	13	13	13	13	13	13
Firm Purchases	5.0	5.1	5.1	5.2	5.2	5.3	5.3
Firm Sales	-9	-9	-9	-9	-9	-9	-9
Total Capacity	153.9	154.0	154.1	154.1	154.2	154.2	154.2
Deficiency – Base Case(+/-)	-22.5	-24.2	-25.9	-27.7	-29.4	-31.2	-33
Transfer Capacity	105	105	105	105	105	105	105
NBP[3] surplus/deficiency	352	299	-222	225	97	220	143

Historically, the NMISA peak has occurred in December.

[3] New Brunswick Power or NB Power.

The purpose of the Base Case is to provide information to Market Participants and potential Market Participants of any forecasted long-term deficiency.

DEMAND SIDE MANAGEMENT

There are no major DSM projects on the NMTS. Most DSM projects are on the local level through the Efficiency Maine program that each utility supports. For more information, the website can be found at the following link: http://www.efficiencymaine.com/.

TRANSMISSION PLANNING

Transmission System

The NMTS consists of two independent transmission systems, MPS in Aroostook County and EMEC in portions of Washington County and Penobscot County. The two systems are interconnected only through the NB Power transmission system.

A summary description of the MPS transmission system prepared by MPS's Engineering Department in October 2006 is attached hereto as Exhibit 1 and is incorporated herein by reference.

The MPS system is interconnected with New Brunswick via 3 transmission lines, a 100 MVA import rated interconnection from Flo's Inn to Beechwood, a 64 MVA import rated interconnection at Tinker Station, and a 56 MVA import rated interconnection from Iroquois to Madawaska. The Total Transfer Capability ("TTC") between the NB Power system and the MPS system is 90 MW for imports to Northern Maine and 105 MW for exports to New Brunswick. The TTC calculation for the MPS-New Brunswick interface assumes a single contingency loss of the Flo's Inn to Beechwood transmission line.

The EMEC transmission system consists of a radial 69 kV transmission line that originates at Oak Bay, NB substation and terminates at Topsfield, ME substation and is approximately 40 miles long. There are 5 load substations that are connected by this line, including Domtar Paper Company, which is also a generator. Other than at Oak Bay, there is one transmission circuit breaker (CM-1) located in St Stephen, NB, before the line crosses the border to Maine. There are three sectionalizing switches (air break) in the line headed to Topsfield. The majority of the line is 266.8 ACSR Partridge conductor, and there is a 5-mile section of 1/0 AAAC between Woodland and Princeton. The EMEC system has a TTC of 15 MW for both imports from and exports to New Brunswick.

Potential Transmission Upgrades

As with generation resources, the purpose of the Base Case is to provide information to Market Participants, including the TOs, and potential Market Participants of any forecasted deficiencies to allow such Market Participants to bring forward proposals to address potential deficiencies. In addition, pursuant to NMMR 9.3.5, where the Base Case identifies that action is

or will be required to alleviate an existing or emerging transmission constraint, the NMISA is directed to take the actions described in NMMR 9.4.1 when, in the NMISA's independent judgment, no adequate proposal exists to address the problem. Pursuant to NMMR 9.3.7, a transmission constraint is considered "emerging" if the NMISA identifies it to be likely to occur within one to five years, and it is considered "potential" if the NMISA identifies it to be likely to occur within six to seven years.

As of the date of this Report, the only transmission projects currently planned for the NMTS are a series of capitalized maintenance projects planned by MPS. A summary of these projects is included in a letter from MPS to NMISA dated September 18, 2006, which is attached hereto as Exhibit 2, and incorporated by reference. The effect of such capitalized maintenance projects is expected to be the reduction in transmission Operations and Maintenance ("O&M") expenses, reduced probability of outages along these segments, and the extension of the useful lives of these facilities. These projects are not expected to increase the TTC of the system.

Pursuant to NMMR 9.3.2, NMISA is required to analyze whether any potential investments in the transmission system are necessary to maintain reliability in accordance with NMISA Reliability Standards (see NMMR 8), which include NPCC Reliability Standards, improve the performance of the Northern Maine Market, or reduce the cost of congestion constraints. In general, no facts have been identified that demonstrate the likelihood of an inability of the NMTS to meet NPCC Reliability Standards during the seven-year period covered by this report. There is no existing or emerging shortage of transmission capacity. Similarly, NMISA has identified no significant existing, emerging or potential constraints, including any that would result in congestion costs. The NMISA is not aware of any planned deactivation, disconnection or retirement of any existing transmission facilities.

With respect to interconnections with non-NMTS systems, various opportunities for enhancement have been studied over the past few years. In 2004, MPS proposed the construction of a fourth transmission interconnection between the NMTS and the NB Power system. By order dated October 21, 2005, the MPUC declined to grant MPS a certificate of public convenience and necessity to construct that proposed line. As part of that investigation, an upgrade to the transformation equipment at Tinker Station was explored as an alternative manner in which to increase transfer capability between the MPS and NB Power systems. Finally, the Northern Maine Transmission Working Group is currently engaged in a study of a potential interconnection between the NMTS and the ISO-New England system through the construction of a new transmission line from Houlton, Maine to the MEPCO line at Haynesville, Maine. The Transmission Working Group's report, dated March 1, 2007, is attached hereto as Exhibit 3 and is incorporated herein by reference. An interconnection for the EMEC system would be through Topsfield. It should be noted that the cost of these interconnection couldn't be sustained through load only.

In general, the construction of additional transfer capability with neighboring systems may become necessary upon the construction of new generating facilities in Northern Maine requiring additional transfer capability for their output to be exported, or such additional transfer capability may be required if the total generating capacity located in Northern Maine is reduced

to a level where a single contingency loss of an existing transmission interconnection would result in the unavailability of sufficient generating capacity to serve Northern Maine's load.

In the event that additional generation comes on-line, the owners of such generation would be required under the MPS and EMEC Open Access Transmission Tariffs ("OATTs") to pay for the cost of system upgrades necessary to accommodate such generation. Therefore, the NMISA does not address this possibility in this report.

With respect to generation unit retirements, however, neither the deactivated Boralex Sherman unit nor the two operating Boralex units have contracts that extend through the seven-year period covered by this report. In the event that all of these biomass units were mothballed or retired, and new generation capacity added to the system failed to provide an offsetting increase in firm capacity, additional transmission upgrades, such as that previously proposed by MPS in the 2004/5 MPUC proceeding, or that currently under review in by the NMISA Transmission Working Group, could become necessary to ensure compliance with NPCC reliability standards. Since the NMISA understands that Boralex is currently committed to maintaining its units on-line, none of the potential transmission projects appear necessary at this time to ensure compliance with NPCC Reliability Criteria. However, NMISA will continue to monitor the status of these operating units, as well as the status of the Boralex Sherman plant and proposed new generating units, with respect to the potential impact on transmission expansion requirements. The NMISA notes that the time for a major transmission project to proceed from its conception to its in-service date is likely to be approximately four years. Therefore, any major change in the status of existing or proposed generating units would need to be addressed swiftly.

In addition to the impact that transmission upgrades may have on compliance with NPCC Reliability Criteria, such projects also have the potential to increase competition in the Northern Maine market. As part of this report, NMISA has not attempted to quantify the potential impact of transmission upgrades on market performance. The NMISA notes that, in general, retail energy prices in Northern Maine have been below those of the ISO-New England market, suggesting that any transmission constraints are not adversely affecting the Northern Maine Market. Further, the NMISA would further note that enhancing the transfer capability between two transmission systems is generally expected to cause energy clearing prices in the two systems to equalize. On the other hand, the Northern Maine Market is extremely small and is characterized by a small number of generators and marketers among its Market Participants. Enhancing transmission interconnections with other systems will increase the opportunity of potential Market Participants to serve load in Northern Maine, thereby increasing competition.

The NMISA finds that no transmission constraints are more likely than not to occur over the next one to five years, or within six to seven years. Therefore, it is unnecessary at this time to undertake the actions described in NMMR 9.4.1.

SUMMARY OF RESULTS

Load Forecast

- The load forecast for Northern Maine projects an average growth rate of 1% per year over the seven-year planning period covered in the Base Case for both energy and demand.
- The anticipated peak hourly demand for Northern Maine is expected to increase from 142 MW in 2007 to 156 MW in 2013, the final year covered in the Base Case.

Generation Resources

- NMISA projects that it is more likely than not that the 19 MW Boralex Sherman facility will not be available during the period covered by the Base Case, but that the 37 MW Boralex-Ashland and 33 MW Boralex-Fort Fairfield units will remain in service.
- NMISA further projects that it is more likely than not that the Mars Hill (Evergreen Wind) project will be available and will provide 13 MW of capacity to the system.
- NMISA projects that, based upon committed generation resources, the system will be deficient by 22.5 MW in 2007 and that this deficiency will grow to 33 MW by 2013.
- Based upon the NBSO's 10-Year Outlook for the period 2006-2015, the New Brunswick system is likely to be surplus in all years except 2009, when it will be deficient by 222 MW during a refurbishment of the Point Lepreau nuclear power facility.
- NMISA believes that the projected deficiency in Northern Maine can be satisfied from off system purchases or from the construction or reactivation of generation resources not included in the Base Case.

Transmission Planning

- NMISA finds that no transmission constraints are more likely than not to occur during the period 2007 to 2013.
- The system currently complies with NPCC Reliability Criteria and is projected to do so through the planning period.
- The only significant capital projects that are currently projected for the planning period are a series of capitalized maintenance projects by MPS that will not increase transmission capacity compared to current levels, but should generally increase system reliability and decrease transmission O&M expenses.
- In the event that on-system generation were to decrease substantially from current projected levels, for instance if the 70 MW of Boralex units were retired, it may become necessary to quickly enhance interconnections with neighboring systems.

- NMISA's Transmission Working Group continues to evaluate the potential economic and reliability benefits of enhancing interconnections with neighboring systems.

EXHIBIT 1

Maine Public Service
Values at Work

Summary of MPS Transmission Lines
Engineering Department October, 2006

MPS has 377.76 circuit miles and 376.47 pole miles of transmission lines. The difference is a small double circuit section on 6903 and 6908 lines. We serve an area of approximately 3,600 square miles and 36,500 retail customers through transmission and distribution level systems. A breakdown of transmission mileage is as follows:

Voltage	Circuit Miles	Pole Miles
34,500	11.98	11.98
44,000	46.80	46.80
69,000	307.09	305.80
138,000	11.89	11.89

The main trunk portion of Line 3470 has been classified as transmission by FERC. Most of this line mileage is for subtransmission lines, i.e. it serves our 28 distribution substations. Two lines, 6904 and 3855 are true transmission lines that do not serve any distribution stations.

A detailed description of each line follows:

3470 This line was first constructed in 1941 and has been upgraded many times over the years in various sections. It originates in Ashland at Ashland Substation and runs south along Route #11 to Masardis and east to Squa Pan Hydro and consists of 10.48 miles of transmission single pole construction with 3/0 ACSR and 3#6 copper wire. Additional 3470 mileage is classified as distribution line.

4407 This line was rebuilt in sections from 1997 to 2002. It originates in Houlton at the Mullen substation and runs west along the Ludlow Road, then south along Route #2 to Island Falls 27.38 miles. From Island Falls to the Wheelabrator/ Sherman plant in Stacyville 4407 is interrupted by Line 4425 From Stacyville to Sherman sub in Sherman is a short 0.59 mile piece of 4407. The line is constructed mostly of 336.4 ACSR conductors on single pole transmission structures.

4425 This line was built in 1985 and 1986 to serve the Wheelabrator/ Sherman plant in Stacyville. It has since replaced an older section of 4407 and is located in the middle of that line. It starts in Island Falls near the substation of the same name and extends west parallel to Route 159 to Patten, then south parallel to Route #11 to the Wheelabrator/ Sherman plant in Stacyville for 16.39 miles. This line was constructed cross-country with 795 ACSR conductors on two pole “H” frame structures.

6901 This line was built in 1964. It starts at the eastern Canadian border near the Fort Fairfield / Limestone town line and extends south along the border to just south of the Aroostook River then turns southwest to Presque Isle where it terminates at Flo’s Inn

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substation. Total US line mileage is 11.53 miles. The 1.72 mile eastern end of the line is owned by WPS PDI-Canada Company and begins at their Tinker substation in Aroostook Falls, New Brunswick and extends to the US border. The line is constructed of single and two pole transmission structures with 336.4 ACSR conductors.

6903 This line was constructed in 1961. It starts at the Limestone substation in Limestone and extends westerly along Route #89 then crosses the Aroostook River twice until it terminates in the Caribou Substation in Caribou. This line, through a tap, feeds the former Loring AF Base. The main line is 11.91 miles long and is constructed mostly of single pole transmission conductors with 336.4 ACSR conductors. A short section of the line is two pole "H" frame, double circuit line with 6908, and 2/0 F Copperweld conductors.

6904 This line was built in 1964. It starts at the eastern Canadian border near the Fort Fairfield / Limestone town line and extends north along the border, then turns west to Route #1A in Limestone where it terminates at Limestone substation. Total US line mileage is 9.14 miles. The 1.44 mile eastern end of the line is owned by WPS PDI-Canada Company and begins at their Tinker substation in Aroostook Falls, New Brunswick and extends to the US border. The line is constructed of two pole "H" frame transmission structures with 336.4 ACSR conductors.

6905 This line was constructed in sections from 1964 to 1966. It starts at the northern US border in Madawaska and then east along Route #1A and turns south near the Eastern border with Canada in Hamlin and runs near Route #1A south to Limestone Substation in Limestone. The 1.88 mile northern end of the line is owned by NB Power and begins at their Iroquois substation in Edmundston, New Brunswick and extends south to the US border. The US portion of the line is 41.41 miles of mostly two pole "H" frame structures, with some single pole structure roadside along Route #1A. The line has mostly 336.4 ACSR conductors with a short piece of 3/0 ACSR conductors between Van Buren and Grand Isle. This line feeds the Van Buren municipal load.

6908 This line was constructed from 1950 to 1951. Since there are no line breakers at Fish River sub, this line is really the southern end of Line 6909 which runs all the way down from Madawaska. Line 6908 originates at the Fish River substation in Fort Kent and runs southerly near Route #161 to Caribou where it terminates at the Caribou substation. It is constructed of two pole "H" frame structures with 2/0F Copperweld conductors.

6909 This line was constructed in sections in 1961, 1966, and 1968. It starts at the northern US border in Madawaska and then westerly, cross country, south of Route #1, and to Fish River Substation in Fort Kent where it connects with line 6908. The 1.88 mile northern end of the line is owned by NB Power and begins at their Iroquois substation in Edmundston, New Brunswick and extends south to the US border. The US portion of the line is 17.7 miles of two pole "H" frame structures with 336.4 ACSR conductors.

6910 This line was built in 1952 and 1953. It begins at Flo's Inn Sub in Presque Isle then runs southerly, cross country, along a parallel path to Route #1 to Mullen sub in Houlton, crossing over Route #1 several times. It was constructed of 2/0F Copperweld conductors on two pole "H" frame structures.

6911 This radial line was built in two parts as a tap off line 6912. The original piece fed a processing plant in 1959. An extension was constructed in 1985 to serve a new West Caribou distribution sub. It begins at the Caribou transmission sub and extends westerly 1.67 miles to West Caribou distribution sub. It was constructed of mostly 3/0 ACSR conductors on single pole structures. It was modified in 2005 to feed from either the Caribou transmission bus directly for improved reliability or as a tap off Line 6912.

6912 This line was originally constructed in 1955 with half upgraded in 2005. Half of this line was formerly Line 6906 (recently rebuilt), and the original half replaced by 6906 was reclassified as Line 6930 and is now associated with that line. This causes some confusion with the age and former designation of these lines. Line 6912 begins at Flo's Inn in Presque Isle and extends northerly on both sides of the Aroostook River until it terminates at the Caribou sub in Caribou. It is 10.47 miles long and consists of 477 ACSR conductors on single pole transmission structures.

6914 This line was constructed in sections in 1963, and 1965. Portions were rebuilt in 1985, 1987, and 1989. This line extends from Flo's Inn sub in Presque Isle south along Route 167 and State Street, then westerly to Presque Isle switching, where it can be tied to Line 6915, and continues on or parallel to Route #163 to Ashland sub in Ashland. The line is 24.28 miles with 477, 336.4 and 3/0 ACSR conductors supported by various single pole transmission structures.

6915 This line was constructed in sections in 1960, and 1963. This line extends from Flo's Inn sub in Presque Isle west across the Aroostook River and skirts along the west side of urban Presque Isle to Presque Isle Switching Station, where it can be tied to Line 6914. The line is 5.64 miles with 336.4 ACSR conductors supported by various single and two pole "H" frame transmission structures.

6916 This line was constructed in 2006 to serve the Evergreen wind farm project. This line extends from the Mars Hill Switching Station, on the north side of the Mars Hill urban area, east 3.75 miles to the Evergreen Collector sub also in Mars Hill. The line consists of 336.4 ACSR conductors on single pole transmission structures.

6917 This line was constructed in 1966. It is a radial line from Limestone Switching Station south along Route #1A to Pond Substation, 1.12 miles, all in Limestone. 6917 can be fed from either 6903 or 6905 by operating switches at Limestone Switching Station. It consists of 3/0 ACSR conductors on single pole structures.

6920 This line was constructed in sections in 1965, from 1967 to 1969, and in 1976. This line runs parallel to, and in close proximity to line 6910. See line 6910 for a route description. This line is constructed of 336.4 ACSR conductors on two pole "H" frame transmission structures. The Evergreen wind farm will be tied to this line near Mars Hill.

6928 This line was constructed in 1992 to feed the Boralex Ashland plant. It feeds from the Ashland substation in Ashland west 2.69 miles to the Ashland Industrial Park just off the Realty Road. The line is constructed of 795 ACSR conductors supported by single pole transmission structures. This is a radial feed.

6930 This line was constructed in 1955, 1969, and from 1974 to 1975. The Caribou end of this line was formerly 6912. This line runs from Caribou Substation in Caribou, south along

the Aroostook River, then west cross country to Ashland sub in Ashland. This line consists of 477 and 336.4 ACSR conductors on single and two pole “H” frame transmission structures.

3855 This line was constructed in 1957. It was upgraded from a 69 kV to a 138 kV transmission line. It starts at the eastern Canadian border near the Easton / Mars Hill town line and extends northwest cross country to Presque Isle where it terminates at Flo’s Inn substation. Total US line mileage is 11.89 miles. The 8.2 mile eastern end of the line is owned by NB Power and begins at their Beechwood substation in New Brunswick and extends to the US border. The line is constructed of two pole “H” frame transmission structures with 266.8, 336.4, and 556.5 ACSR conductors.

EXHIBIT 2

Maine Public Service
Values at Work

Ken Belcher
NMISA
77 Exchange Street
Suite 402
Bangor, ME 04401

Daniel T. Lee, P.E.
Manager of Engineering

Dear Ken:

This is in response to the NMISA request for a Seven-Year Outlook transmission plan. The basis for this Seven-Year Outlook is the Twenty-Year MPS Transmission Asset Management and Capital Expenditure Plan from 2003. This letter will discuss the highlights of the plan and the preliminary schedule of work to accomplish the goals of the plan. This Seven-Year Outlook represents the implementation of our present planning goals and a capital budget summary.

There were three main components of the 2003 Planning study. First, MPS desires to maintain and improve its periodic asset management inspections. The results of these inspections provide valuable condition information which allows engineering to determine whether spot, or wholesale replacement, of structures is more appropriate. Second, MPS desires to replace transmission lines and equipment as they reach their end of life. This can be line or substation equipment. Third, MPS desires to have in place an expansion plan for use as new customers require service, to improve the efficiency of the system for transfer of energy, and to provide for a highly reliable and secure system.

The following bulleted list is our present schedule for capital improvements over the next Seven-Year Outlook period:

- 2007 – MPS will rebuild line 6910 from Flo's Inn to Mars Hill Switching Station (MHSS) approximately 14 miles. MPS will install two additional breakers at MHSS for a 5 breaker ring bus. This work will accommodate a load increase at Mullen Sub and improve security on the south end of the MPS system.
- 2008 – MPS will finish rebuilding 5 miles of line 6912 from Caribou to Flo's Inn. The first half was completed in 2005.
- 2009 – MPS will rebuild 8 miles of line 6908 from Caribou to New Sweden substation. A new tap to New Sweden sub will be constructed.
- 2010 – MPS will construct a new 3 mile, 69 kV line, from Fish River substation to Clair N.B. at NB Power's request. MPS may abandon 31 miles of line from Fish River to New Sweden if further study shows it is no longer needed. In addition, Fish River sub will be retrofitted with line breakers. MPS will rebuild 4 miles of line 6910 from MHSS to Blaine.
- 2011 – MPS will rebuild 8 miles of line 6910 from Blaine to Bridgewater.
- 2012 – MPS will rebuild 8 miles of 6910 from Bridgewater to Monticello,
- 2013 – MPS will rebuild 8 miles of line 6910 from Monticello to Mullen.

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This schedule is subject to change for financial reasons, customer additions, new generator integration, or system reliability and stability issues. MPS expects there will be ongoing annual transmission improvements for every year into the foreseeable future.

Other projects such as breaker replacements and protection and control upgrades will be completed as necessary.

Sincerely,

Daniel T. Lee, P.E., MIEEE

EXHIBIT 3

Exhibit 3

MPUC Docket 2006-513

Stakeholder Process to Evaluate
Future Development of Northern Maine Power Market

Report of Northern Maine Transmission Working Group

March 12, 2007

Presented at the March 13, 2007 Stakeholder Group Meeting

I. MPS Interconnection to MEPCO

A. The northern Maine transmission working group (NMTWG) consisted of representatives from:

1. Independent operators/administrators – ISO-NE, NBSO, and NMISA
2. Utilities – BHE, CMP, EMEC, HWC, MPS, NBP, and VBLP
3. Generators – AWE, Boralex, Evergreen, Peregrine, and WPS

B. Progress to date

1. Three working group meetings were held; a teleconference on 1/22/07, a meeting at the NMISA offices on 1/30/07 and a teleconference on 3/9/07 to review the draft report.

2. Summary of Line Alternatives (with rough cost estimates):

		kV	mi	Thermal Limit MVA	Millions
a.	Houlton to Haynesville	138	25	150	$28
b.	Houlton to Haynesville	345	25	540	$48
c.	Flo's Inn to Haynesville	345	66	540	$97

d.	Flo's Inn to Chester	345	97	540	$125
e.	Flo's Inn to Orrington	345	128	540	$160
f.	Edmundston to Orrington	345	204	1080	$279
Note – a variation of alternative (f) would be St. Andre to Orrington.					

3. Alternatives to constructing new line:

    a. Maintain status quo.

    b. LSEs and exporters secure path through NB with reservations under the NBSO OATT. Present value cost of a 25-year reservation assuming 3% escalation of tariff rate is on the order of $0.5 million per MW (2007 dollars).
        i. With completion of the NRI/IPL, the NE to NB (s-to-n), firm transfer capability increases to 300 MW. Only technical limitation will be the 100 MW transfer capability at the MPS/NB interface.
        ii. Separate reservations for each direction (n-to-s and s-to-n) would be required.

    c. Long-term contracting proposal (a.k.a. The Northern Maine Energy Security Proposal). This proposal seeks to expand in-region generation

4. Analysis
    a. The attached cost analysis supports the data presented in Section I(B)(2) above and incorporates actual cost experience from the NRI project.

    b. MPS staff began development of the study model for preliminary load flow analysis in accordance with the attached study matrix, but as discussed below, the model files have been transferred to CMP.

C. MPS Outline for Feasibility Study Process – See Attachment A

Attached herein as Attachment A, MPS is submitting a separate report describing its plan for going forward pursuant to the MOU between MPS and CMP. In recognition of the developments that have taken place as a result of the MPS/CMP MOU, the NMTWG notes that the Commission may want to consider suggesting that the NMTWG be reconstituted as a stakeholder group that would continue to participate in the MPS/CMP transmission line evaluation and development process.

D. Funding of Study Costs

The MPS portion of the study costs may be funded through some combination of:

1. MPS load and exporting generators under the MPS OATT.
2. AWE pursuant to its generator interconnection requests.

E. Revenue Model for Financing Transmission Line

There are several options for funding the transmission line, which could be taken in any combination:

1. Revenue requirement backstopped by native load. The NMTWG does not believe that the cost of a new line could be supported solely by native load.
2. Socialization of revenue requirements through PTF roll-in.
3. Merchant based commitment agreements with generators.

II. EMEC Interconnection to MEPCO

A. Topsfield to Haynesville: 138 kV, ~37 miles, thermal limit of 100 MVA, $19.5M

B. Benefits:

1. Allows the EMEC system to have direct reliable access to ISO-NE markets which may be the best option to:
    a. Bring competition to the part of the Northern Maine market served by EMEC.
    b. Induce the development of new generation in the part of Northern Maine market served by EMEC.
2. Allow the part of the Northern Maine market served by EMEC to have the same level of a reliable interconnection with ISO-NE as proposed above for the rest of the Northern Maine market area.
3. Provides a loop feed for the EMEC transmission system.

C. Potential Revenue Models:

1. Revenue requirement backstopped by native load. The NMTWG does not believe that the cost of a new line could be supported by native load, whether native load includes the EMEC-only load or the entire NMISA load, therefore, we note that the cost implications identified here raise a policy issue with respect to EMEC, the resolution of which should not be allowed to impede the progress of the MPS interconnection process in (I) above.
2. To be included in the ISO-NE OATT.

3. Merchant based commitment agreements with generators.

D. Unique Characteristics of EMEC
    1. EMEC is a non FERC jurisdictional utility under the FPA.
    2. Access to capital from Rural Utilities Service (RUS) at favorable rates and from other cooperative lenders.
    3. EMEC's tax exempt status.

Attachment A

MPUC Docket 2006-513

Maine Public Service Company Outline for Feasibility Study Process

March 12, 2007

Presented at the March 13, 2007 Stakeholder Group Meeting

This outline sets forth the process for the next 4 to 6 month timeframe that MPS anticipates taking in conjunction with CMP and the northern Maine stakeholders.

A. Implications of the MPS/CMP MOU:

1. MPS and CMP have agreed to cooperate in a study of the feasibility of the interconnection options.
2. The study model files have been transferred to CMP along with primary responsibility for selecting the consultants for conducting the system impact studies. The process for completing the studies is described in section (B) below.
3. Approximately 50% of the study costs will be borne by CMP, thereby reducing MPS customer study cost burden.

B. By late summer, system studies should be completed and cost estimates refined so as to determine technical and economic feasibility of each alternative.

1. A study group has been assembled consisting of representatives from BHE, CMP, MPS, NBP, ISO-NE, NBSO, and NMISA. Note the study group is comprised of transmission planners and will be responsible for conducting the system studies. MPS will keep the interested stakeholders apprised of the progress of the study group.
2. The study will be conducted consistent with NPCC criteria, applicable NERC reliability standards, applicable Transmission Owner criteria, and ISO-NE planning procedures.
3. The study will consist of steady state voltage and thermal analyses, short-circuit analyses, and stability analyses.
4. The generator dispatch and load cases will include a NMISA-north winter peak load with minimal NMISA dispatch to analyze potential south to north transfer capability and a NMISA-north summer light load case with maximum dispatch to analyze potential north to south transfer capability.

C. MPS and CMP will continue interdependent discussions with:

1. ISO-NE and the NE TOs to develop the PTF roll-in model
2. AWE and the other NoME generators for commitment agreements to enter into long-term reservations.

Related to C(1) above, MPS must study the costs and non-cost implications of joining ISO-NE, since MPS participation may influence PTF roll-in acceptance and/or structure. This effort will be coordinated with the State's process in Docket No. 2006-364.