

**STATE OF MAINE
PUBLIC UTILITIES COMMISSION**

PUBLIC UTILITIES COMMISSION
Investigation into Reliability of Electric
Service in Northern Maine

**LORING HOLDINGS, LLC
PROPOSED SOLUTION TO
RELIABILITY ISSUES IN
NORTHERN MAINE**

Docket No. 2012-00589

Date: January 17, 2014

1.0 Introduction

Loring Holdings, LLC (“Loring”) has been working for several years to develop certain assets and resources of the Loring Commerce Centre (formerly Loring Air Force Base) (“LCC”) for energy infrastructure and economic development in northern Maine. Loring is engaged in the development of: (1) a 65.8 MW Combined Heat and Power facility (“Loring CHP”) featuring two 32.9 MW GE LM2500Plus Combined Cycle Combustion Turbines to be located at the LCC; (2) a new 180-mile natural gas pipeline (“Pipeline”) to be located in the existing Searsport-Loring Corridor (“S-L ROW”) and (3) a long-term capacity agreement with Summit Natural Gas of Maine, Inc. (“Summit”) for the distribution of low-cost, clean-burning natural gas for the businesses and families of northern Maine.

Loring is engaged in the Maine Public Utilities Commission (“Commission”) Docket: 2012-00504, *Request for Proposals for Long-Term Contracts for Capacity, Associated Energy and/or renewable Energy Credits*. On January 10, 2014, the Commission issued “Order Deferring Consideration of Long-term Contract” in which the Commission stated, “Because the [Loring] project may have system reliability benefits within the northern Maine area, to allow for a careful analysis of any such benefits, it is necessary for the Commission to consider the [Loring] proposal as part of our overall consideration of all potential reliability solutions. Accordingly, we request that [Loring Holdings] submit its proposal in our northern Maine reliability proceeding (Docket No. 2012-00529).” [*sic*]

Additionally, in the September 24th, 2013 Procedural Order in Docket 2012-00589, the Commission stated, “Other interested persons may file proposals to address the reliability problems in northern Maine by [January 15, 2014].”

Therefore, Loring hereby submits its Proposal to the Commission for the execution of a long-term capacity and energy contract between Loring and Emera Maine (“Emera”) for the output of the Loring CHP to resolve the reliability concerns in northern Maine, improve system security, system stability and voltage support on the northern Maine electric grid and provide access to low-cost, clean-burning natural gas to the businesses and families of northern Maine. Background and detail of the proposal is presented below. Pricing, while at a competitive wholesale market rate, will be provided

under Protective Order No. 4 to the Commission, Office of the Public Advocate and Investor-Owned Transmission and Distribution Utilities.

2.0 Background

Loring Holdings, LLC (“Loring”) is a Maine Limited Liability Corporation with offices located at 154 Development Drive, Suite, G, Limestone, ME 04750. Its subsidiaries and affiliates include, but are not limited to, Loring BioEnergy, LLC (“LBE”), Anchor Power, LLC (“AP”) and Great Northern Transmission, LLC (“GNT”).

On July 27, 2004, Docket No. 2004-538, *Maine Public Service, Request to Construct Transmission Line of 100 Kilovolts or More from Limestone, Maine to Canadian Border near Hamlin, Maine*, Maine Public Service, now Emera Maine (“Emera”) asserted that its proposed transmission line was needed to ensure the reliability and integrity of the northern Maine transmission grid under scenarios of reduced on-system generation availability and peak load growth.

On November 24, 2004, Docket No. 2004-538, LBE a subsidiary of Loring, submitted *Motion for Commission Order Directing Execution of Power Purchase Agreement* for a proposed 55MW natural gas-fired Cogeneration facility to be located at the Loring Commerce Centre in Limestone, Maine to complement the Emera proposal and add long-term in-region generation, system security, stability, reliability, voltage support, and access to low-cost, clean-burning natural gas for industrial consumers in northern Maine.

On October 21, 2005, Docket No. 2004-538, the Commission determined that the current generation and transmission resources were “sufficient to meet projected system load in northern Maine in the near and immediate term and that there were several possible resource additions which may develop over the next several years to provide sufficient resources to meet northern Maine’s needs well into the future.” Additionally, the Commission requested an annual assessment of the reliability concerns and as a result the Planning Advisory Group was formed and the NMISA Seven-Year Outlook has been used for this purpose.

Since this time, indeed no new in-region generation resources have come online to serve the Emera/NMISA region. Instead, resources have either been retired or ordered into short-term, Reliability-Must-Run contracts to maintain system reliability. Since 2009, the NMISA Seven-Year Outlook has consistently indicated that there are impending reliability concerns in the Northern Maine area.

On October 24, 2012 the Commission opened Docket No. 2012-00504 *Request for Proposals for Long-Term Contracts for Capacity, Associated Energy and/or renewable Energy Credits*, which allowed for proposals to serve the NMISA territory. Loring again submitted a proposal for a 55MW natural gas-fired Cogeneration facility to be located at the Loring Commerce Centre to provide system security, stability, reliability, voltage support, and access to low-cost, clean-burning natural gas for residential, commercial and industrial customers in northern Maine.

Throughout the 2012-00504 proceeding, Loring has participated in the Planning Advisory Group and responded to the reliability concerns raised by the NMISA and Emera reports. Loring has modified the design of the Cogeneration facility proposal from one 55MW combustion turbine to two 32.9 MW combined cycle combustion turbines.

On December 18, 2012 the Commission opened Docket No. 2012-00589 *Investigation into Reliability of Electric Service in Northern Maine* (“This Proceeding”). Through the course of the investigation, Emera has been studying three possible solutions to the reliability concern:

- 1) Increased In-Region Generation
- 2) Increased Transmission Capacity from New Brunswick
- 3) Transmission Interconnection with ISO-NE

Additionally, the Northern Maine Independent System Administrator (“NMISA”) has proposed a fourth option:

- 4) Network Service

On September 24, 2013, Docket No. 2012-00589, the Commission issued a Procedural Order which Stated: “Accordingly, MPS is directed to make a filing, on or before January 15, 2014, in which it is to (1) identify its proposed solution(s) to the reliability problems in Northern Maine and (2) indicate whether this solution(s) requires a Certificate of Public Convenience and Necessity (CPCN) [(the “Draft Plan”)]. Other interested persons may file proposals to address the reliability problems in Northern Maine by that same date.”

Loring worked with MPS to ensure the Loring CHP was included as an in-region generation reliability solution in their Draft Plan.

On January 10, 2014, Docket 2012-00504, the Commission issued “Order Deferring Consideration of Long-term Contract” in which the Commission stated, “Because the [Loring] project may have system reliability benefits within the northern Maine area, to allow for a careful analysis of any such benefits, it is necessary for the Commission to consider the [Loring] proposal as part of our overall consideration of all potential reliability solutions. Accordingly, we request that [Loring Holdings] submit its proposal in our northern Maine reliability proceeding (Docket No. 2012-00529).” [*sic*]

Therefore, Loring hereby submits its proposal to the Commission for the approval of a long-term contract for capacity and associated energy with Emera as a multiple-benefit solution to the reliability issues in Northern Maine.

3.0 Loring Holdings Proposal

3.1 Project Description

The project consists of (1) a twin-turbine, gas-fired cogeneration facility, (2) the design and construction of a 180-mile natural gas pipeline from Winterport, ME to Limestone, ME, terminating at the Loring Commerce Centre, and (3) the expansion of natural gas infrastructure in Northern Maine. This Combined Heat and Power facility (“Loring CHP”) will be capable of supplying electricity to the local transmission and distribution utility, as well as providing electricity and steam to co-located offtakers on a contractual basis.

3.2 Anchor Power, LLC – Loring Cogeneration Facility (Loring CHP)

The Loring CHP will be comprised of two (2) GE LM2500+ G4 aeroderivative gas turbines, generating 32.9 MW each (65.8 MW total) at ISO, and accompanying steam turbine and Heat Recovery Steam Generator (HRSG). Each gas turbine will be capable of operating independently of the other as demand dictates. The gas plant has been fully designed and site control has been secured through a facilities agreement between Loring and the Loring Development Authority.

A system impact study was completed using an earlier project specification, with minor local transmission upgrades required. A new interconnection request and system impact study is expected to be final in Q2 2014. Anticipated transmission upgrades have been incorporated into the project design and budget.

3.3 Great Northern Transmission, LLC - Northern Maine Pipeline

The natural gas pipeline will utilize an existing right-of-way held by Loring from a point of intersection with the Maritimes and Northeast Pipeline in Winterport, ME north 180 miles to its termination at the Loring Commerce Centre in Limestone, ME. The existing right-of-way is the former Searsport-Loring Pipeline corridor, a fifty-foot (50’) wide easement corridor originally developed by the United States Air Force to transport jet fuel to the former Loring Air Force Base. 100% of the pipeline will be located within to the existing Searsport-Loring Corridor, with no additional easements required.

The corridor extends through 31 towns and townships – Limestone, Fort Fairfield, Easton, Mars Hill, Blaine, Bridgewater, Monticello, Littleton, Houlton, Hodgdon, Linneus, TA R2, Forkstown Twp, Haynesville, Glenwood Plantation, Reed Plantation, North Yarmouth Academy Grant, Macwahoc Plantation, Molunkus Twp, Mattawamkeag, Woodville, Chester, Mattimiscontis, Howland, Edinburg, Argyle Twp, Old Town, Orono, Bangor, Hampden, and Winterport. With the closure of the Loring Air Force Base in 1994, the corridor was transferred to the Loring Development Authority, and leased to Loring BioEnergy, a subsidiary of Loring. All land rights to the easement corridor have been retained through a corridor sub-lease to Loring Holdings, LLC.

Initial environmental permitting work has begun, including vernal pool and wetland studies on significant portions of the corridor. All environmental studies are scheduled to be completed in 2014. Permits for the pipeline will be submitted by November 2014. Under the current project schedule, the pipeline will be completed and operational by [Q4 2016].

The initial project design specifies the installation of a 12” carbon steel pipe for 95 miles between Winterport and Haynesville, ME. An additional 85 miles of 10” carbon steel pipe will be installed from Haynesville to Limestone, ME.

Pursuant to Title 35-A M.R.S.A. §122 1-A.C. (1) (2), the S-L ROW is exempt from designation as a statutory corridor.

3.4 Project Status

The project has achieved site control at the Loring Commerce Center; it has an MDEP Air Permit in good standing; an initial system impact study (needs to be updated), a MDEP Competitive Energy Provider’s License in good standing; a project schedule, and unanimous bipartisan support of the Aroostook Delegation to the Maine Legislature.

3.5 Cost to ratepayers

While the specific terms and pricing of the Loring bid in 2012-00504 are, and shall remain, confidential, the concept is simple:

Electric ratepayers, on the supply side of their monthly bills, will cover (1) the cost of fuel used to generate electricity (energy), and (2) the cost of the Loring CHP operations and maintenance only (capacity).

Natural-gas fired generation is a standard known technology, utilized throughout New England, and is the predominant source of electric generation, setting the price for wholesale power in ISO-NE.

Natural Gas ratepayers, the businesses and residents who elect to convert their heating fuel to natural gas, will cover, through a “Cost of Gas Adjustment” rate, (1) the cost to construct the Loring CHP, necessary to anchor natural gas infrastructure, (2) the cost to construct the Pipeline, and (3) the cost of the Pipeline operations and maintenance.

This cost-sharing between electric and natural gas ratepayers, a concept currently being considered in ISO-NE rate structures, will enable a net energy savings of over \$50 million dollars on an annual basis, with no impact on transmission costs and no interconnection with ISO-NE required.

3.6 Additional Project Information

Loring has submitted a significant amount of information regarding its proposal in 2012-00504. As this proceeding moves forward, additional information requested by the Commission can be provided. Loring will continue to work with Summit to further refine the economics of the joint project.

4.0 Project Benefits

4.1 Reliability

For decades, it has been believed that when the lights dim in New Brunswick, the lights could go out in northern Maine. The northern Maine reliability issue has been

around for a long time and was given careful consideration in Docket No. 2004-538 - the foundation of 2012-00589. As a participant in 2004-538, Loring's wholly-owned subsidiary, LBE, took the position that in-region gas-fired generation combined with transmission upgrades would provide a reliability solution for northern Maine. Ultimately, northern Maine reliability was not ruled to be an immediate problem at the time.

Fast-forward to 2014 and circumstances have changed. With the shutdown of in-region wood generation plants, NMISA has formally recognized a reliability problem in northern Maine. The question, again, is: "If there is a reliability problem in northern Maine, what is the best long-term solution?"

Transmission upgrades alone only increase our dependency on a foreign nation for generation, thereby decreasing our system security. This is further complicated by the fact that since Maine deregulated, international mergers and acquisitions have left the fox guarding the chicken coop as both generation and transmission in northern Maine are effectively controlled by foreign nationals. While it is important to be a good neighbor, it is not always best to be too dependent on our neighbors for our essentials, electricity being one of them.

On December 18th, 2013, Docket No. 2012-00589, Emera issued a Briefing Paper on its redacted Draft Plan, in which it states: "The key conclusions about the current [Northern Maine] system include:

- The system was designed based on having in-region generation, and meets Maine Public's long term reliability criteria if there are at least 2 in region dispatchable generators, each greater than 30 MW. The reason that 2 units are required to meet long term reliability criteria is that the system must be able to perform reliably even when the largest unit is offline.
- To meet short term reliability criteria, one unit must be available and running during certain load levels. This is essentially the reason for the Fort Fairfield RMR.
- Without the 2 in region generators available, a number of reliability issues are evident...."

The Loring Proposal will have zero effect on 10 year levelized transmission costs. As such, Loring believes that gas-fired in-region generation was and is the best long-term solution for northern Maine's reliability problem.

4.2 Northern Maine Electric Market

Currently, there are only two major suppliers of electricity with limited in-region generation resources. A third in-region generator providing 2 30MW gas-fired generators on site at Loring will add to system reliability and system security the additional benefits of system stability, voltage support, fuel diversity, competition and economic development in the region. These benefits will help to insure against a market failure.

4.3 Natural Gas Infrastructure

Since #2004-538, oil and gas prices have delinked. Whereas LBE was proposing a 55MW gas-fired generation facility at Loring using the existing 6-inch former jet fuel pipeline in the S-L ROW to fuel the Loring CHP with limited excess gas capacity to serve McCain Foods only, the delinking of oil and gas prices have made 30-50% savings available for energy consumers who are able to convert from home heating oil (“HHO”) to pipeline natural gas. Serving these additional prospective natural gas customers will require a larger capacity pipeline and the involvement of a natural gas distribution company.

Until now, northern Maine energy consumers have not had the choice to convert from HHO to natural gas. Conversion from HHO to propane and CNG provide an interim step in the right direction but pipeline line gas is the least expensive.

To provide natural gas infrastructure in northern Maine to serve more than just the Loring CHP and McCain, will require a new 10-12 inch pipeline. This is why collaboration between Loring and SNG is the key to provide this new energy resource for the benefit of northern Maine energy consumers. Following is a quote from the Summit Report:

“Summit Utilities and Loring Holdings, LLC (“Loring”) are collaborating to provide natural gas to Northern Maine. Summit Natural Gas has designated this project as its “Northern Maine Project”. It is critical to have the Loring Combined Heat and Power Facility (“Loring CHP”) to anchor the Northern Maine Project. The approval of it will provide Summit the catalyst needed to deliver the economic and environmental benefits of natural gas to the region.”

With a new pipeline in the Searsport-Loring Corridor, SNG expects to provide service to at least 80% of the homes and business in northern Maine along the Corridor within five years. As it has done in southern Maine, SNG plans to work in partnership with the communities in the area, as well as with the residents and businesses, to achieve its economic and environmental goals.

4.4 Thermal

Although not dependent on the addition of a thermal host for this price indication proposal, the Loring CHP will be equipped to provide thermal capacity in the order of 100,000 pounds per hour of process steam for a future thermal host. Two primary candidate thermal hosts have been identified:

4.4.1 Value-Added Potato Processing.

In 2000, a world class potato processor, Lamb-Weston (LW), secured an option for a site at Loring to construct an initial 200 Million pound per year processing facility, with sufficient infrastructure to double production capacity of the Loring facility over time. One of the Loring principals served as LW’s local developer for two years and is familiar with the technical, economic and environmental requirements for a potato processing thermal host.

Unlike McCain, which has major processing facilities on both the west and east coasts, LW was looking to provide geographical diversity as a hedge against western crop failures and to increase processing capacity in the east to service its growing east coast market.

Having a second major potato processor competing for supply would have been good for the local economy. [At the end of WW2, northern Maine was producing 250,000 acres of potatoes. In 2013, crop production was down to 55,000 acres.]

During the option period, LW conducted technical, economic, environmental and regulatory feasibility studies for what would have been an initial demand for an additional 20,000 acres of potato production in northern Maine, doubling over time. Although there were a number of factors that caused LW to drop the Loring option, the primary one was the cost of energy in northern Maine v. the cost of energy in the west. No access to natural gas was also a factor in the LW decision not to proceed.

The bottom line is that it would have been net less expensive for LW to continue delivering western product to its east coast distribution centers than to process potatoes for delivery to these same centers from northern Maine.

The gas-fired Loring CHP was originally envisioned as a partial solution for the high cost of energy for value-added potato processing in northern Maine.

4.4.2 Value-Added Wood Processing

As recently as October 2013, a number of wood and biomass processing entities have approached Loring and the Loring Development Authority to secure options for sites at Loring Commerce Centre for the development of wood processing facilities. These include at least two white pellet manufacturers, one black (torrefied) wood pellet manufacturer, and one wood chip processor, among others. The prospective output of the smallest of these facilities, as an example, is 320,000 metric tons per year for delivery to Searsport, ME, and export to European markets. The European biomass market is estimated at between 30 and 70 million metric tons per year, far more than the New England region could supply. However, representatives of energy suppliers have indicated firm, standing orders for up to one million metric tons from ports in Maine. This represents an opportunity for facilities located in Maine to provide sustainable forestry resources to meet this growing demand, while employing Maine-based labor and other resources.

The James W. Sewall Company, a Loring development partner, has confirmed the availability of significant forest resources necessary to develop this market in proximity to Loring Commerce Centre. The primary obstacle to overcome is the price of electricity. This proposal would allow for co-located electricity and wood processing to be installed at Loring. New, competitive consumers for Maine's forest products, located in Maine, would be good for the local economy. The trend of sending raw materials outside of the state and country to be processed and returned to our wholesale and retail markets could be partially reversed.

4.5 Economic

The primary benefit of the Loring project is to provide infrastructure for the first time delivery of natural gas to northern Maine for northern Maine residential, commercial and industrial customers. Secondary benefits include the potential for thermal hosting as described above.

4.6 Environmental

Summit estimates that the introduction of natural gas as a replacement of #2 Distillate Heating Oil could prevent as much as 200,000 tons of carbon emissions from entering the atmosphere on an annual basis.

4.7 Regional

The Loring Proposal plays a significant role in the New England Energy Landscape. Spectra Energy is working to reverse flow on the Maritimes & Northeast Pipeline to bring more natural gas from the Marcellus Scale into Maine and the Maritimes. The Loring CHP, Pipeline and Summit Distribution Network will enable long-term contracts for gas supply and transport, helping to secure increased transmission into the State of Maine.

5.0 Development Team

Loring has assembled a world-class development team to bring the Loring Project to fruition.

5.1 James W. Sewall Company

As Loring's Owner's Engineer, the James W. Sewall Company ("Sewall") is a full-service consulting firm based in Old Town, Maine. The company offers a wide range of professional services, including engineering, surveying, construction management, land use planning, Geographic Information Systems (GIS) consulting, aerial mapping and photogrammetry, and forest resource consulting. The Engineering, Environmental and Surveying (EES) Division includes professional engineers, professional land surveyors, GIS analysts, and technicians with expertise in virtually every discipline of civil engineering, including site design and permitting, structural, hydraulic, environmental, geotechnical, and transportation engineering.

5.2 Lexden Capital

Lexden Capital's primary mission is to provide value-added, comprehensive financing solutions for both Public and Private commercial projects with a focus towards utilizing state of the art green initiatives to create new and/or sustain employment primarily in the USA markets.

Lexden Capital is a fully integrated financing and investment organization with expertise in capital markets and project underwriting. As a conduit to the capital markets with a wide variety of investors, we pride ourselves in our ability to structure financing for complicated transactions efficiently, and expeditiously process to close a variety of commercial projects with competitive pricing and efficient underwriting.

Lexden Capital is currently focused on the following commercial platforms: EB-5 Economic Development Finance, Sale Leaseback Finance, Clean & Renewable Energy Investment, Bridge Lending, SBA 504 Lending and Permanent Financing.

5.3 The Dilling Group / Horn Industries

Dilling and Horn have been part of the Loring development team for several months and contribute extensive design, engineering, procurement and construction experience and expertise.

5.4 Clark Construction / Veolia

Clark Construction and Veolia are advising the project team on the development of the pipeline and gas cogeneration plant.

Clark Construction Group is one of the most experienced and respected building and civil construction firms in the United States. Clark has grown over the past 100 years from a local excavation contractor to a world-class, nationwide civil construction company, with a broad array of services. Clark has significant experience in the design, development, and construction of biomass, cogeneration, solar, geothermal, and wind projects. Their roles vary from project development to design, construction, finance, power purchase agreements, energy service contracts, and maintenance.

Veolia Environment is the only global company to provide a full range of environmental services in the fields of water, waste management, energy and transportation. Veolia's Energy Services Division provides customized, end-to-end solutions for efficient energy supply and use. This includes the management of heating networks and energy and fluid production plants, energy plant engineering and maintenance services, technical services for commercial and industrial building operation and comprehensive building management services.

5.6 Summit Natural Gas of Maine

Loring has partnered with Summit to bring access to low-cost, clean-burning natural gas to the businesses and residents of Northern Maine. A letter of intent with Summit was renewed on January 17, 2014.

5.7 Loring Development Authority

Loring has enjoyed a strong relationship with the Loring Development Authority over the past several years and it is their mutual objective to redevelop the Loring Commerce Centre for energy and economic development in Northern Maine.

6.0 List of Exhibits

6.1 Public

A - Aroostook Delegation to the Maine Legislature

The Loring project has received unanimous bipartisan support of the Aroostook County Delegation to the Maine Legislature.

B - Lexden Capital Letter

Lexden Capital is a Sophisticated Investor/Financier in energy infrastructure. In addition to the Loring CHP, Lexden has expressed interest in developing and financing future thermal hosts for the Loring CHP.

C - Competitive Energy Provider License

The Loring CHP, should it need it, holds a CEP in good standing.

D - MDEP Air License

The Loring CHP holds an MDEP Air Permit in good standing. An amendment may be required with the scope change from a single 55MW unit to 2- 32.9MW units.

6.2 Exhibits Filed Under Protective Order:

E - Repsol Gas Projections

It is commonly known that Repsol controls a substantial amount of NG on the M&NE; a Repsol NG price projection is attached; it is especially important that this information be kept confidential.

F - Summit LOI

Loring and Summit are essentially “joined at the hip” and have been working for the past two years to develop the Loring CHP/Natural Gas Infrastructure project; the recent scope change may help to enhance MPUC’s regulatory perspective on the project.

G - Term Sheet

Based on the recent LH/Summit scope change, the attached Term Sheet provides Loring’s improved price indication compared to previous proposals.

7.0 Conclusion

The Loring Proposal represents a here-and-now opportunity to bring low-cost, clean-burning natural gas to the businesses and families of Northern Maine and solve the reliability issues in the NMISA territory. We look forward to working with the Commission as a determination is made on the direction of Northern Maine’s energy and economic future.