



**THE ISLAND REGULATORY AND
APPEALS COMMISSION**
Prince Edward Island
Île-du-Prince-Édouard
CANADA

Docket UE20711
Order UE04-02

IN THE MATTER of an application by
Maritime Electric Company, Limited for approval
to purchase and install a 50 megawatt
combustion turbine generator at the Company's
Charlottetown generating station.

BEFORE THE COMMISSION

on Monday, the 9th day of August, 2004.

Maurice Rodgerson, Chair
Weston Rose, Commissioner
James Carragher, Commissioner
George MacDonald, Commissioner

Order

Compared and Certified a True Copy

(Sgd) *Donald G. Sutherland*

Technical and
Regulatory Services Division

IN THE MATTER of an application by
Maritime Electric Company, Limited for approval
to purchase and install a 50 megawatt
combustion turbine generator at the Company's
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IN THE MATTER of an application by
Maritime Electric Company, Limited for approval
to purchase and install a 50 megawatt
combustion turbine generator at the Company's
Charlottetown generating station.

Appearances & Witnesses

For Maritime Electric Company, Limited:

Counsel:

William G. Lea, Q.C. & Spencer Campbell

Witnesses:

James A. Lea, President & Chief Executive Officer

John Gaudet, Vice-President, Operations

Robert Younker, Director of Planning

For the Government of Prince Edward Island:

Counsel:

Mark Campbell

Witnesses:

Wayne MacQuarrie, Chief Executive Officer

Prince Edward Island Energy Corporation

Mike Proud, Energy Officer

Department of Environment & Energy

For Cavendish Farms:

Witness:

Scott Smith, Operations Manager

For Himself:

Witness:

Leo Broderick

For the Island Regulatory & Appeals Commission:

Counsel:

Thomas A. Matheson, Q.C.

Witness (on behalf of Commission staff):

Terry MacDonald, KnAP Energy Consultants

Staff:

Donald G. Sutherland, Director, Technical & Regulatory Services

Kay Ross, Recording Secretary

IN THE MATTER of an application by
Maritime Electric Company, Limited for approval
to purchase and install a 50 megawatt
combustion turbine generator at the Company's
Charlottetown generating station.

Reasons for Order

1. Introduction

[1] This is an application by Maritime Electric Company, Limited (“Maritime Electric”, the “Company” or the “Utility”) for approval to purchase and install a 50 megawatt (“MW”) combustion turbine generator at the Company’s Charlottetown generating station. The application was heard by the Commission at public hearings conducted in Charlottetown on July 20, 2004 to July 23, 2004 after due public notice.

[2] Formal interventions in this matter were filed by the Government of Prince Edward Island as represented by the Minister of Environment and Energy (the “Government of PEI” or “Government”), Cavendish Farms and by Emera Inc. (“Emera”). The Government participated in the hearing process and submitted evidence and argument. Cavendish Farms appeared and made a presentation at the hearing. Emera did not participate in the hearing process.

[3] The Commission heard, as well, from Terry MacDonald, an expert in generation planning who was retained by Commission staff to review and comment on the application. The Commission also heard from Leo Broderick, a member of the public, and received a written submission from P.E.I. Energy Systems.

[4] The Commission acknowledges these submissions and acknowledges, as well, the assistance of counsel for the parties and the evidence of each of the witnesses.

2. Background

[5] In the fall of 2003, the Legislative Assembly of Prince Edward passed amendments to the former *Electric Power and Telephone Act* establishing a new *Electric Power Act* (the “Act”) and returning the Company to the full jurisdiction of the Commission. Section 17 of the *Act* reads, in part, as follows:

Capital budget of public utility 17. (1) Every public utility shall, at such date as the Commission determines, submit to the Commission for its approval an annual capital budget of proposed improvements or additions to the property of the public utility for the ensuing calendar year, being property of the utility employed in the provision of a service that is subject to the jurisdiction of the Commission under this Act.

Ongoing expenditures (2) The budget shall contain an estimate of future required expenditures on any improvements or additions to the property of the public utility that will not be completed in the ensuing calendar year.

Approval of Commission (3) The Commission, may, after reviewing the annual capital budget of a public utility and on such terms and conditions as it may prescribe approve in whole or in part the annual capital budget of proposed improvements or additions to the property of the public utility.

Report of actual expenditures (4) Every public utility shall submit for the approval of the Commission a report on its actual expenditures on improvements or additions to its property in the prior calendar year together with an explanation as to expenditures in excess of those approved under subsection (1) within sixty days of the calendar year end.

[6] The application before the Commission is part of the Company’s capital budget. It reflects the Company’s view on what is required to satisfy the utility’s public service mandate. That mandate is set out in Section 3 of the *Act*.

Duties of public utilities 3. Every public utility shall

(a) furnish at all times such reasonably safe and adequate service and facilities for services as changing conditions require;

(b) construct its lines with poles of such height as the Commission may prescribe having regard for the nature of the line and the voltage of the electric current passing through the same.

[7] It is well accepted that public utilities must meet their public service mandate at the lowest possible cost. Maritime Electric submits that the proposal before the Commission satisfies the Utility's statutory duty to serve obligation at the lowest overall cost.

3. Application, Interventions & Submissions

[8] The Company's proposal involves the design, construction and commissioning of a 50 MW combustion turbine generator at the Utility's Charlottetown generating station and involves capital expenditures estimated at \$6 million in 2004 and \$29 million in 2005. According to the Company, the proposal will provide the following benefits:

1. *It is a less expensive approach for the electricity consumers of PEI than the other option open to Maritime Electric – increasing the capacity of the interconnection immediately.*
2. *It will defer the installation of a third cable to the mainland. Without additional on-Island generating capacity, a third cable would be needed to ensure system reliability.*
3. *It will provide 50 MW of installed generating capacity. Currently, Maritime Electric needs to purchase MW of capacity, which is being done on a short-term basis.*
4. *It will enhance security of supply. During 2003 NB Power has indicated that the amount of capacity it has available to sell to Maritime Electric may be reduced beginning in Fall 2005.*
5. *It will provide flexibility in the face of uncertainty. Initially the combustion turbine will operate on light fuel oil as a peaking unit. If natural gas becomes available, the combustion turbine could be converted to operate on natural gas and integrated into a combined cycle operation with one of the existing steam turbine generating sets at the Charlottetown Plant.*

[Ex. A-1, p. 7-1]

[9] The Company estimates that the proposal will result in an overall rate increase of approximately 4%.

[10] The Government of P.E.I. submits that the Company has not fully explored all of the alternatives available to it. The Government submits, as well, that staff's independent witness has similarly not explored all available alternatives. It suggests that there are viable alternatives to the Company's proposal that would result in overall long-terms savings to the consumer. The Government asks that Maritime Electric be directed by the Commission to carry out further analyses before any decision is made on the specific proposal before the Commission.

[11] Cavendish Farms opposes the Utility's proposal. It suggests, among other things, that the Company has not adequately examined alternative means of low cost and reliable energy. According to Cavendish Farms' Scott Smith:

It is our opinion that Maritime Electric has failed to demonstrate they have developed a plan that is in the best interests of rate payers in either the short or the long term. The plan submitted to the Commission raises many concerns and needs further scrutiny. My cursory review of this subject has only scratched the surface of the many unanswered questions with this proposal. Committing to the capital cost is a significant investment for future rate payers and it should be given serious consideration by the Commission. Additionally, the operational costs will likely become the burden of the rate payer for the life of the plant. Recent rate increases have put an unfair and unnecessary burden on the rate payer while the regulatory structure fails to encourage innovation, efficiency and energy security. The proposed plan provided by Maritime Electric will raise electrical rates even further creating a greater loss of competitive position between Island companies and our competitors outside the province. The plan submitted by the utility would appear not to consider many issues and factors that could have additional adverse effect on electrical rates. It is our concern that Maritime Electric will be granted approval for this plant then return to the Commission to seek even further rate increases to cover fuel, capital and operational costs at a later date that have not adequately been addressed in this proposal. I acknowledge the nature of the regulatory model used by this Commission is not totally within your control, but we encourage you to seek out a regulatory structure that achieves greater balance between the requirement to have a profitable utility but also protects customers from further unwarranted rate increases. Mechanisms are required to place the burden of risk and cost with the utility for the planning, construction and operation of facilities.

[Ex. O-2, p. 7]

[12] Leo Broderick gave evidence opposing the application. He made a number of suggestions concerning public ownership of Maritime Electric and testified that Prince Edward Island must pursue a renewable energy strategy.

[13] Terry MacDonald was engaged on behalf of Commission staff to carry out an independent evaluation of the Company's proposal. Mr. MacDonald prepared a two-volume report of his assessment and gave evidence at the hearing. Mr. MacDonald's assessment contains the following conclusions:

The [Maritime Electric] load is growing and the load forecast is not unreasonable and should be accepted.

Additional capacity is required by 2005 so as to maintain an adequate level of planning reserves.

Some reinforcement of the electricity supply for P.E.I. is necessary before the 2006 peak to satisfy the single contingency criterion for the cable system.

[Maritime Electric] has assessed the reasonable options – on Island generation and cable reinforcement with off Island capacity purchases.

The cable option with purchased capacity requires that new transmission be built in New Brunswick. The source of any purchased capacity is not apparent. The cost of using the transmission of [NB Power] and perhaps other systems may not be adequately captured in the purchase option.

The only on Island options that will meet reliability requirements and that are reasonable in the circumstances are light oil fired combustion turbines.

The proposed 50 MW CT satisfies all of the planning criteria, including having the lowest long term costs and it is doable in time to satisfy the needs.

[Ex. I-3, p. 9-1]

[14] The Commission also received a written submission from P.E.I. Energy Systems seeking a capacity credit for installed cogeneration facilities. The Commission notes that this matter is more properly addressed when Maritime Electric's rates are reviewed later this year. P.E.I. Energy Systems is encouraged to participate in the rate proceedings.

4. Discussion & Findings

4.1 Introduction

[15] The application before the Commission involves an assessment of a number of issues. These issues can, however, be summarized as follows:

1. whether there is a need for additional capacity; and
2. if the need is established, whether the specific proposal of Maritime Electric address the Utility's mandate of providing safe and adequate service at the lowest possible cost.

4.2 The Need for Capacity

[16] The evidence of Maritime Electric is that it requires the replacement of 50 MW of system capacity that it currently purchases via contract from NB Power. According to the Company, the replacement capacity is required by November 1, 2005.

[17] Under the current *Interconnection Agreement* with NB Power, Maritime Electric is required to maintain a 15% planning reserve. Mr. MacDonald noted in his evidence that, in terms of systems reliability requirements, the Company follows conventional operating reserve criteria for generation and a conventional single contingency criterion for transmission.

[18] A review of the Company's evidence and submissions, including its responses to the information requests of Mr. MacDonald and the evidence of Mr. MacDonald, himself, establish to the satisfaction of the Commission that additional capacity is required in the fall of 2005 to enable the Company to satisfy planning reserve criteria. The system reliability requirements described above are, in the Commission's view, generally accepted industry standards that must be maintained. They define, at a high level, the safety and adequacy requirements of the *Electric Power Act*.

[19] The Commission therefore finds that additional generating capacity is required. We turn our attention, then, to the level and type of capacity required.

4.3 Capacity Options and the Proposed Combustion Turbine

[20] In its detailed evaluation of capacity options, the Company reviewed a number of options and narrowed its focus to two alternatives:

1. the installation of the proposed 50 MW combustion turbine; and
2. an expansion of the capacity of the interconnection with New Brunswick and the continued purchase of 50 MW of generating capacity.

[21] In his report to the Commission, Commission staff witness, Mr. MacDonald, prepared an independent assessment of alternatives, including the proposal of the Company as well sources such as wind, biomass, coal, nuclear, orimulsion and gas, among others.

[22] The Company submits that the proposed combustion turbine is preferable for the following reasons:

It has a lower present value cost than expanding the capacity of the interconnection with New Brunswick and continuing to purchase 50 MW of generating capacity.

Installing on-Island generating capacity will enhance security of supply by reducing the need to purchase generating capacity.

It will maintain Maritime Electric's flexibility to benefit from the use of natural gas if it becomes available in PEI.

[Ex. A-1, pp. 1-2 & 1-3]

[23] In his evidence, Mr. MacDonald, commented as follows:

There are several uncertainties associated with the short term demand supply balance in the Maritimes, the potential for changes in the pricing of transmission services due to the evolution of the electricity market restructuring, the fuel supply to Coleson Cove, the life of Pt. Lepreau and the availability and price of natural gas.

One must be aware that in competitive markets price volatility is a reality. When commodities are scarce the price goes up. During January of 2004, when power demand was high, marginal prices varied by a factor of almost fifty. The high prices of January 2004 are not indicative of a market with a large capacity surplus.

Merchant generators seek to maximize their return and they rightly price their product accordingly. What this would imply for a long term capacity purchase is a price based on the alternatives that the merchant generators or brokers perceive a potential customer might have. This of course would be the principal subject of negotiations.

The CT [combustion turbine] option is entirely consistent with the newly released PEI Energy Policy. Wind generation by its nature is intermittent, requiring capacity back up. Locally based generation adds to security and adequacy.

Given the foregoing, even if the present value of the costs of the two alternatives (CT or cable) were the same, the certainty and security arising from additional on Island generation would weigh in the selection of that option.

In the circumstances the CT option is more cost effective than the cable alternative as has been demonstrated in the evidence.

[Ex. I-3, p. 5-6]

[24] Both the Government of P.E.I. and Cavendish Farms take the position that Maritime Electric has not adequately reviewed alternatives. In its assessment of the Company's proposal, the Government took the rather unusual move of obtaining its own quotes from potential suppliers for short-term capacity and offered this as evidence that the Company had not thoroughly analyzed all of the options available to it. It carried out, as well, its own analysis of the costs of the third cable option. That analysis—prepared by a local electrical engineering firm and included in the written evidence of the Government—suggested, among other things, that certain expenses quoted by Maritime Electric in the Company's assessment of the third-cable options were overstated.

[25] The Government, as well, suggested that Commission staff's independent witness did not fully assess available alternatives. Cavendish Farms suggests that the work of the independent witness *failed to shed any light on the issues.*

[26] On this latter point, the Commission is of the view that the assessment carried out by Mr. MacDonald is both comprehensive and compelling. The work of Mr. MacDonald spanned several months and resulted in an extensive two-volume report that, in our view, represents a thorough assessment of the issues before us.

[27] In the case of the submission of Government, the Commission received a limited submission as well as a copy of a quote from a turbine manufacturer and what appears to be a portion of a copy of a report from a local electrical engineering firm on the cost of a third-cable option. The Government suggests that the proposed generator would expose Maritime Electric's ratepayers to

increases in costs over the lifetime of the proposed unit that might otherwise be mitigated by acquiring short-term capacity pending the construction of new base load generation in the region.

[28] According to Government:

By proceeding with the Project, Maritime Electric will be asking ratepayers to pay an additional 3.9% on their electricity bills for the next 30 years, the anticipated life and amortization of the facility.

The Province submits that a 30 year solution is not appropriate to address a short-term (5 year) problem. A short-term problem should be addressed by a short-term solution.

The Province submits that approval for the combustion turbine project at this time is premature given that the Maritime Region will be required to build new generation or access additional capacity from outside the region prior to 2008/09.

Maritime Electric's proposed schedule for constructing the combustion turbine project has now missed some critical milestone dates. As a result, it would appear that Maritime Electric will be required to make alternative arrangements to purchase capacity for 2005.

As alternative arrangements may be required, these arrangements should be extended through to 2007 when firmer regional decisions will be made regarding new baseload capacity.

The Province submits that Maritime Electric has not fully demonstrated that the Project, when compared to other options that would maintain system reliability, does so at a lower cost and provides a reduced impact to ratepayers over the 30 year lifespan of the Project.

[Ex. G-7, pp. 2-3 (references omitted)]

[29] In its evidence, Government proposed a number of alternatives, including:

- the acquisition of capacity from other markets through existing or proposed transmission infrastructure;
- on-Island solutions, including the short-term lease of generating units pending regional decisions on new generation; and
- recognition of wind generation as capacity.

[30] The Government noted, as well, that the P.E.I. Energy Corporation has interest in installing generating units in conjunction with its existing wind generation if the economics appear viable.

[31] During the course of the hearing, each of the alternatives proposed by the Government of P.E.I. was discussed in some detail. In the case of the acquisition of capacity from other markets, both the nature of the submission and the responses to it by both Maritime Electric and the independent witness lead us to the conclusion that the suggested alternatives are either:

1. inaccessible; or
2. unable to satisfy the legislative requirements or the terms of the *Interconnection Agreement* with NB Power.

[32] In the case of on-Island solutions and the recognition of wind generation as capacity, the evidence discloses that, in the case of wind power, it is not, as yet, recognized as capacity by the Northeast Power Coordinating Council (“NPCC”), a region of the North American Electric Reliability Council. Maritime Electric and other utilities in the Maritime Provinces are part of the NPCC and are interconnected with the North American power grid.

[33] The fact that wind power is not recognized as capacity by the NPCC effectively means that Maritime Electric cannot, itself, claim that capacity in its arrangements with NB Power and NPCC members. Requiring Maritime Electric to recognize wind power as capacity would only require the replacement of that capacity with other, more conventional sources. With the capacity factor noted in the evidence, the Company is encouraged to advance the proposition with NPCC that wind power should be given capacity recognition. For now, however, such recognition is beyond the capability of the Company.

[34] On the remaining suggestion that short-term lease arrangements for on-island generation are available, the Commission is of the view that the proposals advanced by the Government lacked specificity. During the course of the hearing, James Lea, the Company’s President and Chief Executive Officer, testified on the costs that would be incurred if Maritime Electric was found to be capacity deficient under the terms of the *Interconnection Agreement* with NB Power. The Company submitted that, without additional generation, it will likely find itself in that position in the fall of 2005.

[35] Based on the evidence and the submissions of the parties, the Commission has determined that, if arrangements for suitable replacement capacity are not satisfactorily concluded, Maritime Electric will not be able to satisfy the requirements of the *Interconnection Agreement* with NB Power. Any resulting capacity deficiency charges will result in higher costs to consumers.

[36] In the case of the overall position of the Government, the Commission finds that the proposals are inconsistent with generally accepted planning and power system reliability standards. In making this finding, the Commission is cognizant of the critical role that electric power plays in the economy of Prince Edward Island and the absolute duty of Maritime Electric to meet the needs of its customers. There was no evidence presented to us that any of the suggested alternatives would be less costly than the proposed combustion turbine. In these circumstances—with a demonstrated capacity shortfall looming and the lack of fully costed alternatives on the part of Government—the Commission is simply unable to expose the Utility’s customers to the significant risks associated with a further delay in proceeding with a necessary capacity addition.

[37] In the case of the presentation of Cavendish Farms, we believe that many of the issues raised were canvassed during the hearing. The Commission acknowledges the impact the proposal will have on all ratepayers and is sympathetic to the economic impact any rate increase will have on profitability. We reject, however, the suggestion that available capacity alternatives have not been fully considered.

[38] In the Commission's view, the proposal of Maritime Electric will benefit Maritime Electric's customers a number of ways:

1. it will enhance security of supply in Prince Edward Island and will be available to supply power within minutes of start-up;
2. it will meet current system availability requirements;
3. it will satisfy the terms of the interconnection agreement with NB Power and will enable Maritime Electric to continue to purchase interruptible energy from mainland sources; and
4. it is the lowest cost of the available alternatives and is a long-term cost-effective solution to an ongoing capacity issue in Prince Edward Island and the region.

[39] In the final analysis, the Commission has determined that the proposed capacity addition is essential to the ongoing maintenance of necessary system reliability levels and represents the lowest overall cost to the ratepayers of Maritime Electric. Having fully considered the submissions of the parties and the applicable law, the Commission finds that the proposed 50 MW combustion turbine is necessary for the provision of safe and adequate service and facilities for services as changing conditions require.

5. Other Matters

[40] In accordance with a recommendation of staff's independent witness, the Commission will require Maritime Electric to file a monthly status report on the combustion turbine project. The monthly report is to outline the project progress, including an estimate of the in-service date, expenditures and expenditure commitments and the forecast final cost. This reporting requirement is to commence immediately.

6. Disposition

[41] An order will therefore issue approving the proposed 50 MW combustion turbine generator proposed by the Company.

IN THE MATTER of an application by
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to purchase and install a 50 megawatt
combustion turbine generator at the Company's
Charlottetown generating station.

Order

WHEREAS, by application filed with the Commission on February 3, 2004, Maritime Electric Company, Limited (Maritime Electric") applied for approval of capital expenditures to be made in 2004 and 2005 for the design, construction and commissioning of a 50 MW combustion turbine generator to be located at the site of Maritime Electric's Charlottetown generating station;

AND WHEREAS the Commission heard the application at public hearings conducted in Charlottetown on July 20th, 21st, 22nd and 23rd, 2004;

AND UPON considering the application as well as the evidence adduced and the submissions of counsel;

NOW THEREFORE, for the reasons given in the annexed Reasons for Order;

IT IS ORDERED THAT

1. the application is approved at an overall estimated cost of \$35 million;
2. Maritime Electric shall file with the Commission, on a monthly basis, a report outlining the progress of the project, an estimate of the in-service date, expenditures and expenditure commitments and the forecast final cost; and

3. the reporting requirement under 2 above is to commence immediately.

DATED at Charlottetown, Prince Edward Island, this 9th day of August, 2004.

BY THE COMMISSION:

(Sgd) *Maurice Rodgerson*

Maurice Rodgerson, Chair

(Sgd) *Weston Rose*

Weston Rose, Commissioner

(Sgd) *James Carragher*

James Carragher, Commissioner

(Sgd) *George MacDonald*

George MacDonald, Commissioner

NOTICE

Section 12 of the *Island Regulatory and Appeals Commission Act* reads as follows:

12. *The Commission may, in its absolute discretion, review, rescind or vary any order or decision made by it or rehear any application before deciding it.*

Parties to this proceeding seeking a review of the Commission's decision or order in this matter may do so by filing with the Commission, at the earliest date, a written Request for Review, which clearly states the reasons for the review and the nature of the relief sought.

Sections 13.(1) and 13(2) of the *Act* provide as follows:

- 13.(1) *An appeal lies from a decision or order of the Commission to the Appeal Division of the Supreme Court upon a question of law or jurisdiction.*

- (2) *The appeal shall be made by filing a notice of appeal in the Supreme Court within twenty days after the decision or order appealed from and the Civil Procedure Rules respecting appeals apply with the necessary changes.*

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