DECISION

IN THE MATTER OF an Application dated July 12, 2001 by New Brunswick Power Corporation in connection with a proposal to refurbish its generating facility at Coleson Cove.

January 28, 2002

NEW BRUNSWICK

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

Introduction

The New Brunswick Power Corporation (NB Power), on July 12, 2001, filed an application, pursuant to Subsection 40.1(1.1) of the Public Utilities Act (the Act), with the New Brunswick Board of Commissioners of Public Utilities (the Board) for a recommendation from the Board concerning a proposed refurbishment of the Coleson Cove generating facility. That section of the Act requires NB Power to make an application to the Board before making an expenditure exceeding $75 million for the maintenance or upgrade of a generating facility. The Board, at the conclusion of the hearing process, is to forward its recommendation in writing to NB Power.

The pre-hearing conference was held on September 14, 2001, at which time the procedure leading up to the public hearing was established. NB Power submitted its written evidence on November 1, 2001. The hearing commenced January 14, 2002 and the Board heard final arguments on January 21, 2002.

The witnesses who testified for NB Power were:

Stewart MacPherson
James Brogan
Sharon MacFarlane
William Marshall
Gaetan Thomas
Glen Wilson

The formal intervenors were:

Bowater Maritimes Inc.

Canadian Unitarians for Social Justice
City of Saint John
Conservation Council of New Brunswick (CCNB)
Fraser Papers Inc.
Rodney J. Gillis
Irving Oil Limited
J.D. Irving Limited
New Brunswick Department of Natural Resources and Energy (the Province)
Saint John Citizens Coalition for Clean Air
Saint John Energy
Union of New Brunswick Indians
UPM-Kymmene Miramichi Inc.
Ville d'Edmundston
Westcoast Power Inc.

NB Power, in its evidence, stated that due to an agreement it had entered into with Bitumenes Orinoco S.A. (BITOR), certain information with respect to the fuel supply term sheet, including the price of Orimulsion®, was confidential. Concern arose over how to assure the public that the evidence of NB Power properly reflected the costs associated with the use of Orimulsion®. This matter was discussed at a Motions Day on December 5, 2001. After discussion by the parties, the Board ruled that:

> "To assist PUB and the Intervenors, a qualified independent auditor will be appointed by the PUB to review the agreement, the spread sheets and input and output information with respect to the analysis, the preparation of all models and statements of all conclusions contained in the NB Power Evidence in relation to BITOR in reference to this particular application. The auditor shall sign a confidentiality agreement with NB Power. The auditor shall be permitted access to any and all information and data (including electronic data) and personnel that he deems necessary or required to complete his report. This auditor shall express his opinion to the PUB and the Intervenors as to the accuracy of the inputs and outputs and identify and report on the extent of any inaccuracy in the analysis and conclusions."

In addition, NB Power was directed to provide a redacted version of the term sheet to all intervenors.

Mr. J.H.S. Easson, a Chartered Accountant, provided a report to all parties and was a witness at the public hearing. The report was filed as exhibit (PUB 4) at the commencement of the hearings. No parties to the proceedings objected to the information or the statements provided by Mr. Easson.

NB Power stated that the key drivers for the proposed refurbishment project were to meet anticipated emission standards for SO_2 and NO_x and the low and stable cost of Orimulsion® fuel and its contribution to rate stability. To achieve this, NB Power is proposing to convert Coleson Cove to allow for the use of Orimulsion® as the primary fuel source.

The Board, as stated in its decision of July 11, 2001, is of the opinion that environmental protection is clearly within the mandate of the New Brunswick Department of the Environment and Local Government. The Board also notes the responsibility of the board of directors of NB Power, under section 3(7) of the Electric Power Act, to take actions based on sound business practices. As well, they are to administer the affairs of the Corporation on a commercial basis subject to public policy as determined by the Lieutenant-Governor in Council.

The issues raised have been grouped in this decision as follows: economic assumptions, fuel supply, environmental controls and project controls. The decision also includes comments on the financial position of NB Power.

Economic Assumptions

As directed in the Generic Hearing decision, NB Power has identified all reasonable options for the project and provided its rationale for eliminating some alternatives from further evaluation. Fifteen power supply options, which could replace energy supplied by the Coleson Cove facility, were identified. These were reduced to three options through a screening curve analysis. The three options were chosen based on their economic viability and their ability to meet the anticipated emission standards for SO_2 and NO_x.

In making its determination of the least cost alternative from the three options, NB Power carried out an evaluation by way of an integrated resource plan. The resource plan was developed using the PROVIEW model, which uses dynamic programming techniques to calculate the least cost supply option to meet the forecast load requirement in New Brunswick. Inputs included the estimated cost for capital equipment, fuel, future interest rates, price escalation, exchange rates and discount rates.

The PROVIEW analysis produced a total lifetime cost for each of the options, which was expressed in their net present value in 2006 dollars. The total net present value (NPV) of each of the options is as follows:

Orimulsion® Conversion	$5.337 billion
Oil Blend	$5.730 billion
Oil Blend/Natural Gas Combination	$5.841 billion

These estimates were prepared on the assumption that the Point Lepreau refurbishment goes forward and were referred to as the "Base Case". NB Power then tested the response of each of the options to the following changes in major input assumptions:

- Load forecast variation of + or – 13%
- Natural gas price variation of + or – 25%
- Discount rate increase from 7.15% to 9.33%
- Capital cost variation of + or – 25%
- Low export sales in terms of both volume and price
- High export sales in terms of both volume and price
- Removal of the Point Lepreau refurbishment project
- Environmental emission costs for SO_2 ($200 per tonne), CO_2 ($15 per tonne) and NO_x ($200 per tonne).

In each of these sensitivity analyses, the Orimulsion® Conversion case remained the low cost option. The corporation proceeded to carry out a "Stress Case" evaluation to consider the impact on each of the options of the following multiple changes from the Base Case:

- Low gas prices
- Low export market conditions
- No load growth beyond 2010
- Environmental emission costs for SO_2, CO_2 and NO_x.

The Stress Case analysis showed that the Orimulsion® Conversion case still remained the low cost option although the differential between Orimulsion® Conversion and the Oil Blend alternative was reduced to $76 million. Also, in response to Interrogatory NBP (PNB) 67, NB Power recalculated the Stress Case to include a capital cost variation of + 25%. In this case, the Oil Blend alternative became a lower cost option than Orimulsion® Conversion by $76 million.

The Board is satisfied that the screening process was conducted appropriately and in keeping with the directions of the Generic Hearing decision. At no time during the hearing process did the Board receive any evidence from the intervenors which would suggest that the project as proposed was not the least cost option in terms of NPV. Based upon all the evidence presented, the Board is satisfied that the Coleson Cove Orimulsion® Conversion is the least cost alternative of all the reasonable options.

Fuel Supply

The Province and CCNB each questioned the prudence of relying on a sole source supply of fuel. NB Power confirmed that in the event of an interruption of supply, the plant could revert to fuel oil, although this would occur only after the onsite storage of Orimulsion® had been exhausted. NB Power also suggested that a sole source supply of natural gas from the Sable Gas Field was no different than the supply of Orimulsion®

and that there were no storage options available for natural gas at this time. As well, the applicant stated it has had many years of successful uninterrupted fuel supply from Venezuela – over 20 years for heavy fuel oil and approximately seven years for Orimulsion®.

The Province questioned the rationale of having a 20 year contract with BITOR for the supply of Orimulsion®. The Province took the position that a 20 year contract would be disadvantageous particularly if the price of natural gas and oil should fall below the price of Orimulsion®. The Province recommended that the contract with BITOR should be for only five years with an option to renegotiate every five years. The Board is of the view that opening the contract every five years would expose NB Power to considerably more risk than a firm contract for 20 years. Prices for competing fuels may rise as well as fall. In any case, the proposed payback period of six years on the capitalization of the project means that a five year contract is not desirable. The Board, in the absence of specific knowledge of the provisions of the term sheet, encourages NB Power to carefully consider the relative advantages of the proposed 20 year contract against a 10 year contract with an option to renegotiate.

The intervenors also questioned under what conditions could NB Power end its obligation to purchase Orimulsion®. It indicated that if environmental standards become so strict that burning the Orimulsion® would not allow them to meet the standards, their obligation would end. The Board is satisfied that the applicant has confidence in the ability of BITOR to perform its obligations under the contract. However, Ms.

MacFarlane did state that NB Power was continuing to review the possibility of third party guarantees. NB Power will conduct a cost benefit evaluation to determine if such guarantees would be reasonable in this case. The Board encourages NB Power to do all that it can to ensure that the contract will include appropriate protection for NB Power in the unlikely event that BITOR did fail to meet any of its obligations.

Environmental Controls

NB Power stated that one of the key drivers for the refurbishment of Coleson Cove is the need to reduce air emissions, specifically SO_2 and NO_x. The Board heard that the need to reduce SO_2 to 40,000 tonnes annually at the facility will likely become a requirement of the certificate issued pursuant to the New Brunswick Clean Air Act in 2005. The Board also heard that NB Power has undertaken to meet the federal emissions guidelines for new and refurbished facilities under the Canadian Environmental Protection Act. By 2005, NB Power plans to meet, at the Coleson Cove facility, an emission rate of .21 lbs/MMBTU (million British Thermal Units) of NO_x, exceeding the existing guideline of .26 lbs/MMBTU. The Board heard there are no current standards for CO_2 emissions. The use of Orimulsion® would reduce CO_2 emissions by 3% compared to the heavy oil presently burned.

In addition, other environmental controls will be required, regardless of the fuel type. These relate to water, wastewater and solid waste. As part of the Generic Hearing, NB

Power was required to provide a cost estimate for each. The Board is satisfied that NB Power has addressed this requirement in the evidence.

CCNB established that there are no legislated standards set by the Province for SO_2, NO_x, or CO_2. NB Power has developed the proposal for the project to meet their forecast of emission standards. The Board concludes that there has been no clear direction provided to the applicant by the provincial government as to what standards the project must meet. The Board recognizes that the Environmental Impact Assessment (EIA) process is underway and at the conclusion of that process, some aspects of the potential requirements may be clearer. However, the Board is disappointed that the Province was unable to provide a definite policy with respect to the management of emissions during the period of time the utility had to plan for the refurbishment project.

Project Controls

NB Power outlined that by accelerating the construction schedule of the project by one year to allow for an in-service date of 2004, there would a gross margin benefit of $100 million dollars. This would arise from a reduction in fuel costs and enhanced export sales potential. NB Power indicated that the full EIA process could be completed in time to begin construction in the fall of 2002. Bringing the plant in-service one year earlier would achieve improvements in air quality that much sooner.

The presentation made by the witness panel, at the commencement of the hearing, showed that turn key contracts had been secured for over 40% of the total cost of the project. The Board recognizes that this is an important consideration in the overall management of the project and that it will contribute to completing the project within budget.

Financial Position of NB Power

In its decision of May 22, 1991, the Board considered the financial ratios of the corporation, and accepted that a debt to equity ratio of 80:20 would be reasonable for NB Power and that a reasonable range for the interest coverage ratio would be 1.00 times to 1.25 times. The Board considers these ratios still to be appropriate.

Prior to the present application, NB Power had not filed financial information with the Board for public review since 1993. The pre-filed evidence for the hearing included a copy of the Business Plan and Financial Projection 2001/02 – 2008/09 (the "Business Plan"). In addition, the Board introduced pages 37 and 49 of the Annual Report for 2000/2001 of the corporation in evidence. (Exhibits PUB 5 and 6 respectively).

In response to a question from the Board, Ms. MacFarlane indicated that the interest coverage ratio is currently below one and that in the last two fiscal years it has been below one because of the losses incurred. Ms. MacFarlane agreed that the retained earnings of the corporation at March 31, 2002, would be approximately $9 million after including the net income for the current year now forecast to be less than $1 million. This would mean that NB Power is effectively being financed 100% by debt.

Ms. MacFarlane made the following statement.

> "Now it is the case that I believe we need to re-establish our balance sheet. And as we go into the future operating with a zero equity and with interest coverages where they are today, is not sustainable into the long term. And does not meet the requirements as you so clearly pointed out. And that will be…part of the consideration that we look (at) in putting together a rate plan for the long term." (Transcript – Page 597).

It is clear that the financial position of NB Power is not healthy and the Board agrees with Ms. MacFarlane in the conclusions expressed in this paragraph.

The Board notes that the eight-year projections included with the Business Plan indicate that the two ratios will not improve significantly over the period to 2008/09, despite the fact that the introduction of Orimulsion® will result in reduced generating costs. Therefore, NB Power's financial position will not improve over this planning period unless there are significant increases in its revenues. NB Power may find it necessary to request the Board to approve rate increases to achieve this. If so, the Board would attempt to give its approval of any necessary changes in a manner that would avoid rate shock, so as to avoid a significant negative impact on the provincial economy.

Proposed Recommendations

In preparing its recommendation to the board of directors of NB Power, the Board was asked to consider a number of proposals brought forward by the intervenors. CCNB recommended that the project be delayed until there is greater certainty regarding the provincial environmental emission standards and their implementation date. The Board concurs that there is a high degree of uncertainty regarding environmental emission standards. The Board is satisfied that NB Power has made adequate provisions in its financial forecast to deal with the costs associated with any reasonable environmental emission standards that may be established.

The Province proposed that the Board make the recommendations which are summarized below:

1. NB Power should be required to submit a strategic plan within 12 months outlining how it would address a potential $100/tonne charge in 2010 for the mitigation of CO_2. Included in the plan should be a discussion of demand side management (DSM) initiatives, non-thermal production opportunities and the development and use of natural gas.

The Board is of the opinion that NB Power has provided a reasonable representation of what measures would have to be taken to address a \$100/tonne CO_2 requirement. In cross examination, Mr. Marshall directed the intervenors to the evidence where the NPVs of the three options were given for such a scenario. He showed that for any future expansions, nuclear generating facilities would be the only viable option. Mitigation of CO_2 emissions is an issue that is not unique to NB Power. It will affect many different industries, including independent power producers in the future. The Board encourages the Province to undertake the development of the appropriate policies to assist NB Power and any existing or potential new industries in New Brunswick.

Regarding DSM, the Board has already directed NB Power to address this in the evidence to be provided in the Point Lepreau filing.

The Board does not believe that it is appropriate for NB Power to undertake studies on the use of non-thermal production or on the development and use of natural gas in New Brunswick. These issues would be more appropriately addressed on a broader scale by the Province.

2. The scaled selective catalytic reactor estimated to cost \$48 million should be added now rather than at a later date.

There may be a need to further reduce NO_x emissions at some point in the future, but it is unclear exactly when and by how much these emissions will need to be reduced. NB Power has satisfied the Board that funds would be available to provide for NO_x reductions if necessary.

3. The 20 year BITOR contract should be negotiated so as to have an initial term of five years with the option to renew for three consecutive 5 year periods. Alternatively, the contract should be negotiated with exit clauses.

   As stated previously, the Board is of the opinion that a 5 year contract is not desirable.

4. NB Power should seek an equity partner in the capitalization of the project.

   The Board is of the opinion that an equity partner for the capitalization of the project is not required.

Recommendation

The Board will recommend to NB Power that the refurbishment of the Coleson Cove generating facility proceed as proposed in the evidence.

DATED at the City of Saint John this 28th day of January, 2002.

BY THE BOARD

Lorraine R. Légère
Secretary