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PEI Electricity Policy: A Review of the PEI Energy Commission Report

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February 2013

The PEI Energy Commission recommendations for the electric sector provide a comprehensive review of where the province finds itself and where it should be headed.

The report deals with a wide range of matters with the principal recommendations dealing mainly with four areas:

- Electric industry structure
- Power supply
- Regulation
- Regional cooperation.

This independent examination of the report focuses on the risks and rewards that would result from the implementation of the commission's recommendations.

Industry Structure

The report proposes that Maritime Electric, an investor-owned utility that provides the bulk of the electric service on the Island, should be divested of its generation assets, which would be transferred to the provincial PEI Energy Corporation.

The main reasons for this proposal are to move generation out of Maritime Electric's asset portfolio, on which it is allowed to earn a return, and allow borrowing at the province's cost of debt, which is thought to be lower than the utility's cost.

These reasons reflect the widely accepted understanding that non-profit utility operation is less costly. Not only do investor-owned utilities receive an authorized return, but they may also be compensated for income taxes by "grossing up" the return. Non-profit utilities need not recover such costs from customers.

While the report speaks of a "transfer" of generation assets, it only lightly touches on the need for the province to compensate Maritime Electric for the assets taken. It implies that such compensation should be at net book value, i.e., the remaining value of undepreciated facilities on the utilities books.

Maritime Electric might have a different view of the appropriate compensation. It could seek to recover some lost opportunity cost, the profit that investors in parent company Fortis had expected. A dispute on this matter could lead to litigation unless a settlement is found.

It is also worth reviewing other possible tax revenue losses, such as income and property levies to the province, that would result from the transfer of the generating resources away from a taxpaying company.

The commission recommendation correctly foresees lower costs for ratepayers, though the promise may take some time to fulfill because of the payment of compensation. Presumably, the cost would be financed by long-term borrowing that would be recovered in rates.

As a result of this transfer of generating assets, PEI Energy Corporation would become responsible for power supply. In the meantime, the commission expects Maritime Electric to work with the corporation in seeking a new Power Purchase Agreement (PPA).

After divestiture, the management of the in-province generators would be handled by Maritime Electric, according to the proposal. The utility would be paid for its services and its charges could include a profit margin, as is normal in the private sector. The report does not envisage seeking any other possible facilities operator, though a more competitive approach might produce lower operating costs.

As a player in the electric sector, the corporation could be expected to reflect the policies of the government in office. The report states: "the PEI Energy Corporation should be operated at arm's length from the government, with direct government control only being exerted over its mandate, budget and the appointment of its Board of Directors." Such control is quite broad and could leave little room for "arm's length" operations.

The relationship between the corporation and the government is characteristic of government utilities, like NB Power or Nalcor, not consumer-owned utilities, like Summerside.

The commission also proposes to transfer the responsibility for demand-side management (DSM), the effort to make electricity use more efficient, from the PEI government to Maritime Electric.

An inherent conflict of interest may exist when a utility that derives revenues from the power it sells or transmits is also given the responsibility of encouraging the use of less electricity. In effect, it can be forced into a position of failing to meet its fiduciary responsibility to its shareholders.

One approach that has been adopted in some jurisdictions is called "revenue decoupling". The amount of return that a utility could earn through traditional power sales is decoupled from the amount of energy it actually sells or transmits. Its profit opportunity is unchanged even if it does less business because of conservation or other DSM measures. Decoupling removes the disincentive to promote DSM.

The other approach keeps conservation under the control of a government agency. The utility must live with reduced sales if DSM succeeds, but it is relieved of the need to undercut its own sales. This approach is used more widely than decoupling.

If PEI keeps DSM under government control, it might seek, through competitive tendering, entities that would offer programs for that purpose, select one, and allow its profit to be built into charges for services or taken from the savings it produces. The DSM operator would then have the incentive to succeed.

In this part of its report as in all others, the commission proposed no changes for Summerside, a consumer-owned utility serving a portion of the Island[1].

Power Supply

The report proposes that PEI should continue to rely principally on a PPA with an off-Island supplier. It notes that the current arrangement is for system supply, meaning that Maritime Electric's power purchase comes from the generating mix used by NB Power.

Purchasing system supply makes sense, though the report notes that NB Power has had to resort to outside resources to meet its own load requirements. That suggests that it would be desirable for PEI to seek access to competing supplies from other sources. This approach could, however, raise transmission costs, a matter addressed below.

The commission expresses concern about unit participation purchases, such as it has for the Lepreau nuclear station in New Brunswick. Such unit participation places the customer in the position of being an owner with all of the financial responsibilities but none of the control. It can find itself required to make capacity payments whether or not the unit can operate under a so-called "take-or-pay" contract. As a result of these drawbacks, such arrangements have become rare, and the commission's position is reasonable and protective of customers.

Not surprisingly, given the availability of the resource on the Island, the report pays considerable attention to wind power. The commission notes correctly that, because of the need to balance the output of wind generators, the PPA or other resources will remain necessary. Complete reliance on wind power might either be excessively costly, if the sufficient amount of redundancy were available on the Island, or simply impossible because of the lack of wind at certain times.

A key part of the recommendation is the addition of a new underwater cable connection with New Brunswick. The commission cites both the age of the existing cables and the need to consider alternatives to the aging generator in Charlottetown. A new cable would not eliminate the need for some back-up generation on the Island.

Given the reliance of PEI on external supply, maintaining the cable interconnection at the highest level of reliability is essential. The commission's recommendation is sound, but would increase electric rates. Borrowing at current low rates to proceed with the project makes sense.

The report notes the Muskrat Falls project developments. While it calls for monitoring that project's evolution, it would be advisable for the

[1] The author served as a consultant to Summerside on electric matters several years ago.

province to explore the possibility of power purchases from it, should it proceed as planned. Nalcor, the Newfoundland-Labrador utility responsibility for the project, is reluctant to make sales beyond those originally foreseen. However, a substantial amount of Muskrat Falls output is left unsold, imposing a risk on Newfoundland-Labrador ratepayers.

Enhanced transfer capacity between Nova Scotia and New Brunswick would result from the project, and PEI could have access to Muskrat Falls power through New Brunswick. It would remain for PEI to attempt to negotiate with Nalcor for purchases from that regional resource[2].

Regulation

The broadest range of new proposals comes in the PEI Energy Commission's review of electric utility regulation in the province. Its proposals cover:

- The nature of the regulator
- The consumer advocate
- The regulatory process
- The method of regulation
- The scope of regulation

The Nature of the Regulator

The commission believes that the current seven-member Island Regulatory and Appeals Commission (IRAC) cannot adequately regulate the electric sector and should be supplemented by an additional panel concentrating on that sector alone. Relatively few regulatory panels, whether composed of full or part-time members, are as large as seven members.

The commission's concern about the need to increase regulatory expertise about the electric sector is justified. Electric generation, transmission and regulation, including the development of competitive markets, are rapidly evolving. Any jurisdiction with regulatory responsibility is faced with the challenge of understanding, evaluating and adopting relevant policies.

However, the commission's proposal runs counter to virtually universal practices in Canada and the United States. Regulatory boards usually have jurisdiction over multiple areas of utility activity, often including electricity, natural gas, water, and public transportation.

Like sitting judges in court, members of regulatory panels do not usually have in-depth knowledge of all phases of the subject matter coming before them. They may take training, soon after appointment, provided through the National Association of Public Utility Commissioners and academic institutions.

A regulatory body must carry continuous review and surveillance while keeping its costs as low as possible. The permanent staffs of regulatory commissions usually provide the necessary expertise on matters coming before the panels. Staff members may be assigned according to the type of utility or to the function – financial, legal, and technical.

The commission appears to see electric regulation as an episodic matter, active only when there is an IRAC proceeding. However, taking into account both the importance of the sector and the rapid and extensive changes it is undergoing, it requires continuous attention.

There is only one IRAC staff person who deals part-time with electricity matters. This limits the

[2] See Weil, Gordon L. "The Muskrat Falls Hydro Project: Opportunities and Risks", AIMS, October 2012.

ability of that staff person to keep abreast of developments in the electric sector and to track the activities of the regulated entity.

Although the reasons for having a regulatory body unusually composed of seven people is outside of the scope of this paper, there is no need for further expansion. Should in the future PEI have an even smaller regulatory body, it could function effectively if its members were active full-time and it had an adequate staff.

The staff person assigned to electric utility matters should devote full time to it. In that way, this person could follow industry developments and be able to observe and question utility operations. In addition, staff might also have access to regularly consulted outside experts on specific areas of interest.

The use of staff in this way without the addition of a new panel of regulators is likely to be less costly over time than having a part-time special panel. It is the approach widely used elsewhere.

In summary, while there is a need for greater knowledge of the electric sector, the use of the current or even a reduced full-time regulatory body and an in-house expert staff person should work well and potentially at lower cost than the alternative.

Consumer Advocate

The commission makes the sound proposal that PEI should have a consumer advocate who could intervene in the utility regulatory matters.

In practice, residential and commercial customers do not participate in such proceedings, because they lack organization and expertise. They are unable to fund or otherwise support qualified personnel to present their views to regulators or provide alternatives to utility advocates. In most jurisdictions, only larger industrial customers are able to participate effectively, and their positions may not reflect the needs of smaller customers.

The commission appears to believe that the consumer advocate could assist residential and commercial customers to be effective interveners. While the consumer advocate should consult with relevant constituencies to better understand their concerns and needs, they are unlikely to become actively involved in regulatory proceeds except as occasional witnesses to facts with which they are familiar.

The commission appears inclined to have the consumer advocate named by the government for each proceeding as it occurs. This is the practice in other provinces, but it has two serious defects.

First, the consumer advocate may lack the kind of knowledge that can be gained by continuous familiarity with the subject matter. Instead, the advocate may not be the same person from case to case and, as an occasional participant, the person must learn much of the background and subject matter as the proceeding begins, putting the advocate at a disadvantage compared to the utility representatives.

Over time, a full-time consumer advocate should be able to gain a level of expertise in the subject matter. Regulatory bodies, at least in smaller jurisdictions, have allowed advocates to testify as experts, be examined by counsel for other parties, and also have the right to examine other witnesses.

A second reason for appointing a full-time advocate is to ensure independence in defending the consumer interest. When

governments appoint advocates case by case, the appointee may be selected to represents the government's views rather than those of the consumers. The advocate will have an incentive to follow the government's views in hopes of gaining the appointment as advocate for the next proceeding,

If the IRAC is not enlarged, but its staff and the consumer advocate are made more professional in dealing with the electric sector, the cost may be the same or less, but the results can be far more beneficial in raising the level of regulation.

The Regulatory Process

The commission appears to believe that the adversarial process before the IRAC is burdensome and may impede timely and useful results. It recommends moving away from the testimony of expert witnesses before a neutral adjudicator in favor of a more informal approach.

The adversarial process is characteristic of virtually all utility regulation. Because participants may have significant financial interests at stake and customers may be subject to rates that resemble taxation, a careful and thorough process is desirable. For these reasons, the adversarial process has survived.

In recent years, concern about burdensome and complicated hearings has led to a significant innovation in the process. Regulatory bodies call for so-called technical conferences before the formal hearings take place. Statements made at technical conferences are not sworn testimony and the structured discussion, under the regulator's control, allows for informal cross-examination.

Technical conferences allow for at least some issues to be clarified or even negotiated before the hearings themselves. Parties may move to include in the formal hearing record some or all of the transcript of the technical conference, transforming unsworn testimony into evidence for consideration by the regulator.

The technical conference may be conducted by a hearing examiner rather than a member of the regulatory panel. It could even be possible that, in using a hearing examiner, a part-time person could serve.

To buttress the expertise of the IRAC panel, the electricity staff person and the consumer advocate would both be active participants in the technical conference along with the utility and other parties.

This approach would meet many of the concerns raised by the commission. However, it should not eliminate the quasi-judicial proceeding, whose value has been tested and found valuable in sorting out significant economic interests. Board members, no more than judges, need be experts in the substance to be effective adjudicators.

The IRAC has the right to use alternate dispute resolution. In addition, like any other regulatory body, it may approve negotiated settlements among some or all of the parties to a proceeding. It can choose to require the parties to attempt settlement as part of its review process. Thus, even as matters stand now, the IRAC may have less formal procedures at its disposal.

The Method of Regulation

The commission endorses the continued use of cost-of-service regulation. That form of regulation allows for a return on equity to be included in the overall cost. This is a safe and

tested approach, allowing the IRAC to revise the elements of the cost of service as the industry evolves.

By making this recommendation, the commission suggests that the rate cap method should not be used. Under a rate cap, the utility has the incentive to improve its efficiency in order to improve its profits. The problem found by the commission is that the rate cap also provides an incentive to scrimp on service, which would also contribute to greater profits. This is a reasonable concern. In such cases, the regulator or the consumer advocate must have the ability to monitor or measure utility operations to ensure that the cap is functioning as intended.

A rate cap works more readily when the utility is only responsible for wires and not for generation. Transmission and distribution operations are easier to monitor; consumer complaints about reliability may be used as a monitoring factor. Use of a rate cap can significantly reduce the number of rate cases and promote rate stability.

The arguments in favour of a rate cap in the case of a transmission and distribution utility should not be taken to mean that it is preferred over cost of service regulation. However, it should be given consideration should Maritime Electric become only a wires company.

The commission also addresses the question of the debt-equity ratio of a regulated investor-owned utility and proposes a change to the ratio now in law. Its proposal raises the question of whether the debt-equity ratio should be legislated at all.

The overall return to the utility is influenced by the allowed return on equity investment and on the cost of debt. These change over time and the desirable mix, in terms of both keeping rates as low as possible and assuring the utility sufficient financial strength, also changes over time. It is usual for the regulator to take into account an array of factors before setting the ratio.

Thus, rather than setting limits on the ratio in law, the province might consider mandating that the IRAC should determine the appropriate ratio of debt to equity in the utility's capital structure each time it adjudicates rates. In that way, the regulator can guide the utility to a sound structure with the flexibility that the changing nature of financial markets and utility operations require.

In its report, the commission finds two different ways of determining the base for the return on investment allowed. In the Electric Power Act, the term is "return on average rate base", implying that the allowed return could be calculated taking to account all net capital, whether financed by debt or equity.

In practice, the IRAC has used the term "return on average common equity", and this usage is consistent with usage in other jurisdictions. Usually, a regulatory body approves a capital structure in which debt is assigned an allowable rate of interest based on market conditions. The recovery of the cost of debt is not intended to provide a margin for shareholders but rather to reflect actual cost.

The regulator also approves a return on the equity portion of the utility's capital structure. The determination of the approved rate of return is often the most contentious part of rate proceedings, because it is based on opinions about the rate necessary to attract capital. The approved amount does not set the return that will in fact be earned but it assures that rates are set

in such a way that the utility has the opportunity to earn the approved margin. As time passes, it may earn more or less.

It seems evident that the IRAC has interpreted the statutory language to produce the desired result. But the commission is correct in proposing that the term in law be changed. Indirectly its report supports the IRAC approach, which is a sound recommendation.

The commission also favours the transformation of the Energy Cost Adjustment Mechanism (ECAM) from a monthly to an annual basis. This approach would promote greater rate stability and avoid rate shock that could occur from a sudden increase in power costs from month to month.

When power supply arrangements allow for price adjustments to reflect changing costs, a mechanism like the ECAM transmits to the customer the change in the cost of fuel.

The mechanism is associated with longer-term power supply. In shorter contracts, ranging from six months to two years, the seller hedges the cost of fuel and the cost of the hedge is included in the fixed price for the term of the contract. In longer term contracts, in which the seller wants to accept no risk, the price is allowed to fluctuate.

Though other fuel costs, notably changes in gasoline for motor vehicles, may change as frequently as daily with broad customer acceptance, a body of thought has existed that customers are unduly affected by monthly changes in the cost of electricity. There is considerable evidence that this belief is not supported in practice.

It is possible that a sudden change in fuel costs can occur, mainly because of political events abroad. In such cases, regulators can quickly hold a hearing to decide on the need for a rate smoothing mechanism to prevent rate shock. Such occasions are sufficiently rare that the need for a permanent mechanism is not justified.

Fuel adjustment mechanisms impose additional costs on customers. If the supplier receives insufficient revenues to meet an increase in fuel costs it must borrow to pay its bills and then recover the carrying costs of the debt from its customers at the time of the next adjustment to the mechanism.

In general, the term of power supply contracts has been greatly shortened in recent years. That has resulted in an abandonment of fuel adjustment mechanisms. PEI may continue to enter into multi-year power supply arrangements, because of the lack of availability of competitive alternatives. In this case, it is advisable to explore the cost of hedging arrangements as compared with the use of a fuel adjustment mechanism.

The Scope of Regulation

Maritime Electric will continue to be under the jurisdiction of the IRAC. Currently, that means the regulator can look at power supply as well as other aspects of utility service. In practice, the limited range of choice available for the PPA and the need to use available on-Island wind power has limited the review of power supply.

The commission does not take a position on whether PEI Energy Corporation, which would be responsible for all power supply if Maritime Electric undergoes divestiture, would itself be subject to the IRAC.

In a fully competitive power supply market, the generators are not usually subject to most of what constituted traditional regulation. Although the operation of markets has led some regional transmission operators to impose significant rules on generators, suppliers remain free to set their own prices.

PEI will not have a truly competitive market; PEI Energy Corporation will amount to being a monopoly supplier, even if it does not own all generation resources.

Its decisions with respect to source, cost, conditions and term should be subject to independent scrutiny. While the corporation will be subject to government policies, it is important that customers be afforded the protection that would result from independent analysis of its control of power supply. While it might not prove possible for the IRAC to reject a proposed PPA or other power supply arrangement, it could set conditions designed to protect end-use customers.

Regional Cooperation

Looking at the history of attempts at regional cooperation in the electric sector in Atlantic Canada, the commission finds little to report by way of progress. It recognizes that the provinces and utilities within the region are reluctant to cede any control over decisions on their generation and transmission.

Still, the commission appears to support the concept that some degree of regional cooperation on the use of resources might be achieved and mentions the possibility of an independent system operator.

Not only is PEI a small player in the region, but Atlantic Canada itself represents a small regional transmission and power area. The risk is that completely separate operation in each province will impose unnecessarily high costs on customers.

The key may be to find a beneficial regional mechanism that would permit each province to pursue its own policy in the electric sector. In the absence of such a mechanism, hopes for helpful regional cooperation are likely to remain unfulfilled.

Recently, an AIMS paper proposed the creation of an Atlantic power pool, which would protect provincial prerogatives while promoting more efficient use of generating resources throughout the region[3]. This paper described how a power pool could operate.

While all provinces in Atlantic Canada would benefit from a power pool, PEI, as an essentially importing area, would stand to gain most significantly as a result of the dispatch of the lowest cost energy each hour. A power pool involves central dispatch of generating resources based on the cost of fuel for generation.

A power pool could also increase the regional value of the Island's wind generation, particularly when excess energy is available.

A province or utility could also designate certain resources to be excluded from dispatch to be used on the host system, thus not denying any province of the benefit of its investment.

Pool participants could decide to create a single, regional transmission tariff. Each transmission owner would be fully compensated for its

[3] Weil, Gordon L. and McEacharn, Ross, "Regional Cooperation in Electricity Exchanges in Atlantic Canada: Steps Toward the Creation of an Atlantic Power Pool", AIMS, October 2012.

transmission, but revenue would be collected through a combined regional-provincial transmission rate.

The creation of a regional "postage stamp" rate for Atlantic Canada would mean that all generating resources would be available to PEI at the same transmission cost. That should improve power supply options for the province.

With no apparent drawbacks for PEI from a power pool, the commission's intent could best be realised by the pursuit of this mechanism.

Summary

The PEI Energy Commission has proposed significant changes for the Island's electric sector. The conclusions of this paper, listed below, endorse its proposals, suggest further review or provide alternative approaches.

Electric Industry Structure

- In requiring Maritime Electric to divest itself of generation, all costs should be taken into account.
- Transfer of DSM to the utility should be compared with use of a government contractor.

Power Supply

- Power supply should be sought from the widest possible range of suppliers.
- Unit participation power supply arrangements should be avoided.
- Install new cable in preference to costly on-Island generation.

Regulatory

- Without enlarging IRAC, strengthen its staff dealing with electric matters.
- Create full-time consumer advocate.
- Maintain the IRAC adversarial process, but add use of informal technical conferences.
- Maintain cost of service regulation.
- Allow the IRAC to set the utility capital structure rather than setting in law.
- Maintain monthly ECAM to keep costs down.
- Return should be allowed on equity, not on the entire rate base.
- PEI Energy Corporation, as sole or principal supplier, should be regulated for electricity supply.

Regional Cooperation

- PEI should advocate the creation of an Atlantic power pool with a single transmission tariff.

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