Q. **Re: Rates Schedules, page 35 of 47.**

Paragraph 16 (b) states: "As Newfoundland Power changes its rates, Hydro will automatically adjust all rates such that these [L'Anse au Loup System] customers pay the same rates as Newfoundland Power customers."

Please explain in detail the history of the provision whereby L'Anse au Loup rates are automatically adjusted to follow NP rates, and the reasons behind it, making reference to relevant Board decisions.

A. Please refer to IN-NLH-103, Attachment 1, the Board Report on "A Referral by the Lieutenant-Governor in Council on Electrical Rates in the Labrador Straits Area from L'Anse au Clair to Red Bay". The Labrador Straits Area from L'Anse au Clair to Red Bay is also known as the L'Anse au Loup System.

REPORT

OF

THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

TO

THE HONOURABLE MINISTER OF MINES AND ENERGY
GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

ON

A REFERRAL
BY
THE LIEUTENANT-GOVERNOR IN COUNCIL
ON ELECTRICAL RATES
IN THE
LABRADOR STRAITS AREA
FROM
L'ANSE AU CLAIR TO RED BAY

JULY 12, 1996

BEFORE:

David A. Vardy, Chairperson
Leslie E. Galway, C.A., M.B.A., Vice-Chairperson
Raymond A. Pollett, Commissioner;
Wallace S. Read, P.Eng. Commissioner

REPORT

OF

THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

TO

THE HONOURABLE MINISTER OF MINES AND ENERGY
GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

ON

A REFERRAL
BY
THE LIEUTENANT-GOVERNOR IN COUNCIL
ON ELECTRICAL RATES
IN THE
LABRADOR STRAITS AREA
FROM
L'ANSE AU CLAIR TO RED BAY

JULY 12, 1996

BEFORE:

David A. Vardy, Chairperson
Leslie E. Galway, C.A., M.B.A., Vice-Chairperson
Raymond A. Pollett, Commissioner;
Wallace S. Read, P.Eng. Commissioner

NEWFOUNDLAND AND LABRADOR

BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

P.O. Box 21040
St. John's, Newfoundland
Canada
A1A 5B2

FAX. No.: (709) 726-9604

Telephone Nos.:

Chairperson	(709) 726-1133
Vice-Chairperson	726-0955
Clerk of the Board	726-8600
Manager (Motor Carrier & Insurance)	726-0742
Accountant	726-0553

1996 07 12

Honourable Dr. Rex Gibbons, Minister
Department of Mines and Energy
Government of Newfoundland and Labrador
Confederation Building
PO Box 8700
St. John's, NF
A1B 4J6

Dear Minister:

The Board has completed preparation of the report requested by the Lieutenant-Governor in Council with respect to electrical rates in the area from L'Anse au Loup to Red Bay. The report, in response to Order in Council 96-068 dated January 31, 1996, is attached herewith.

The Board hereby presents this Report to you as Minister of Mines and Energy, on behalf of the Lieutenant-Governor in Council.

Respectfully yours,

David A. Vardy,
Chair.

Leslie E. Galway, C.A., M.B.A.
Vice-Chair.

Raymond A. Pollett,
Commissioner.

Wallace S. Read, P.Eng.,
Commissioner.

TABLE OF CONTENTS

TABLE OF CONTENTS - Page 2

CHAPTER I - INTRODUCTION

The Reference

This Report was written in response to a Referral by the Lieutenant-Governor in Council under the authority of Section 5 of the *Electrical Power Control Act, 1994.* The Order in Council directing this Referral, dated 1996 01 31, reads as follows:

> "Under the authority of section 5 of the *Electrical* Power Control Act, 1994, the Lieutenant-Governor in Council is pleased to refer to the Public Utilities Board the issue of the determination of appropriate rates to be paid by rural customers in the area from L'Anse au Clair to Red Bay upon completion of the transmission line connecting this area with the Lac Robertson hydro-electric project, in the Province of Quebec, and pursuant to the finalization of a contract between Hydro Quebec and Newfoundland and Labrador Hydro, and for that purpose to hold a public hearing in the region affected."

The Hearing

The hearing (Phase I) was held in the Conference Room, Northern Lights Inn on February 27, 1996. Phase I was held to identify interested parties and intervenors intending to participate in the hearing process; finalize a timetable for the filing of pre-filed evidence, if any, and other submissions to the Board and set the time, date and place for Phase II hearings.

Public notice of the time and date of the Phase I hearing was published in the Evening Telegram, The Labradorian, the Aurora and the Northern Pen.

The Board received notices of appearances and expressions of interest for the hearing from Newfoundland & Labrador Hydro (Hydro); Newfoundland Light & Power Co. Limited (Newfoundland Power) (Phase II); Mr. Edward Hearn, Miller & Hearn; Mr. Colm Seviour, of the law firm Stewart McKelvey Stirling Scales representing Abitibi Price (Phase II); Mr. Philip Chubbs of the Southern Labrador Development Association; Mr. Truman Buckle, the

Mayor of the Community of Forteau; Ms. Loretta Griffin of the Community Council of L'Anse au Clair; Mr. Anthony Barney, the President of the Labrador Straits Chamber of Commerce; Ms. Agnes Pike, the Mayor of the Community Council, West St. Modeste; Ms. Josie Moores, the Community Clerk of the community of Red Bay; Mr. Trim, C & T Enterprises, Forteau, Labrador; Ms. Doreen Belbin, Manager and Clerk of the Community Council of L'Anse au Loup; Mr. Stelman Flynn, Member of the Provisional Economic Zone Board and private businessman; Ms. Yvonne Jones, M.H.A. and Mr. Danny W. Dumaresque.

On February 27, 1996, the Board issued Order No. P.U. 9 (1995-96) attached as Appendix A appointing Mr. Edward Hearn, Q.C. to represent the general interests of the various classes of retail users of electricity.

Phase II hearings were held after due public notice. Hearings were held on April 29 and 30, 1996 in L'Anse au Clair.

Evidence was given by the following:

Hydro

Derek Osmond, C.A., Vice-President of Corporate Planning

David Reeves, P.Eng., Vice-President of Transmission and Rural Operations

Derrick Sturge, C.A., Director of Rates and Financial Planning.

Newfoundland Power

Geoffrey Emberley, P.Eng., Manager, Strategic Planning & Rates.

Presenters

Yvonne Jones, M.H.A. - Cartwright - L'Anse au Clair

Philip Chubbs, Southern Labrador Development Association

Cecil Davis, Forteau Community Council

Stelman Flynn, Entrepreneur

Agnes Pike, Mayor, Community of West St. Modeste

Anthony Barney, President, Labrador Straits Chamber of Commerce

Harold Yetman, Mayor, Community of Red Bay

Dennis Normore, Mayor, Community of L'Anse au Loup

Nath Moores, Mayor, L'Anse au Clair

Wayne Halbot, Labrador Straits Development Corporation.

A written submission was filed by Danny Dumaresque. Josephine Tracy, Chairperson of the Labrador Straits Regional Recreation Board, notified the Board that the Recreation Board would not be presenting a brief.

Background

The communities in the area from L'Anse au Clair to Red Bay are presently serviced electrically by diesel generators located in L'Anse au Loup. This diesel system is one of thirty isolated systems and ratepayers in the area pay rates which have been established for isolated customers. Rates on isolated systems are linked with those rates charged by Newfoundland Power to their Island interconnected customers. The rates charged to domestic and general

service customers for the first 700 kWh of energy are the same as the rates charged to Newfoundland Power's domestic service customers. Above 700 kWh per month isolated customers pay a higher rate.

The thirty diesel systems operated by Hydro are located on the Island and in Labrador. By 1997, the number of isolated systems will be reduced to twenty-nine, due to the interconnection of the St. Anthony/Roddickton area of the Great Northern Peninsula.

These isolated systems operate at a deficit, as does Hydro's rural interconnected system on the Island. The rural deficit has two components, the first attributable to isolated systems and the second to Hydro's Island interconnected system.

The projected isolated rural system deficit for 1997 is $16 million while the projected deficit for interconnected systems is about $18 million, as shown in Hydro's final argument (May 14, 1996, p.1). These deficits are added to the cost of electricity purchased from Hydro by Newfoundland Power and by the industrial customers on the Island. In the *Electrical Power Control Act, 1994,* the following definition is given:

> "2(h) 'Industrial Customer' means any person purchasing power, other than a retailer, supplied from the bulk transmission grid at voltages of 66 kV or greater on the primary side of any transformation equipment directly supplying the person;".

The *Electrical Power Control Act, 1994,* also states that:

> "3. It is declared to be the policy of the province that
>
> (a) the rates to be charged either generally or under specific contracts for the supply of power within the province
>
> . . . . . .
>
> (iv) should be such that after December 31, 1999, industrial customers shall not be required to subsidize the cost of power provided to rural customers in the province, and those subsidies being paid by industrial customers on the date this Act comes into force shall be gradually reduced during the period prior to December 31, 1999;".

Up to 1989 rural customers were served by the Power Distribution District. The provincial government funded the rural deficit through a grant to the Power Distribution District and later to Hydro, from the Consolidated Revenue Fund. In 1989, government began a three-year phase-out period wherein the subsidy was transferred from taxpayers to ratepayers, specifically the ratepayers of Newfoundland Power and Island industrial customers of Hydro. To date, Labrador interconnected customers have not contributed to funding the rural deficit.

In order to reduce the cost of energy in the Labrador Straits area, Hydro has negotiated a 25-year contract with Hydro-Quebec and constructed a transmission line to gain access to surplus energy from the Lac Robertson hydro-electric project in Quebec. This interconnection, and the contract with Hydro-Quebec, are central to the subject of this reference. The issue is whether isolated rates should continue to apply or whether the request by residents of the Labrador Straits area for the approval of Island interconnected rates should be accepted.

The Lac Robertson facility is a 21 MW hydro-electric plant on the Quebec North Shore that was constructed by Hydro-Quebec and went into service in 1995 to provide energy and power to its customers. It is not interconnected to the main Quebec grid. Hydro has entered into a 25-year contract to purchase interruptible, surplus energy so as to reduce the cost of providing service to customers on the L'Anse au Loup isolated diesel system, thereby reducing the deficit that is presently being absorbed by Newfoundland Power and Island industrial customers. Improved system reliability will be an important advantage arising from the project. Another quality service benefit is that three-phase power will be available in all of the Labrador Straits area. The contract with Hydro Quebec was signed in December, 1995 and the transmission line is under construction.

The contract is for 25 years, expiring in the year 2020. It provides for access to surplus energy which is in excess of Hydro-Quebec's requirements on a daily basis and by its very nature is not guaranteed to be available at any given time. Surplus energy is defined in the contract as "energy made available by Hydro-Quebec once its own electrical needs have been met". The power is interruptible, rather than firm energy, and the contract is subject to cancellation by either party.

Initially the price is set at 20 mills per kWh until the capital investments in the intertie have been recovered and the benefits to both parties are equal. After this capital investment has been recovered, the price will be set at 50% of the cost of fuel that would have been consumed to generate the same amount of energy from the L'Anse au Loup diesel plant.

The estimated cost of the interconnection to Hydro is approximately $2 million. In return, Hydro expects reductions in fuel costs and in other operating costs which are projected to be quite significant. These cost reductions are expected to be sufficient, over time, to recover all Hydro's capital expenditures related to the project and to reduce Hydro's deficit on the L'Anse au Loup system on average, over the period 1997 to 2006, from $1.4 million per year to $0.6 million per year, as described in DFS-1 (Revised) and in the response to demand for particulars PUB-40.

Because energy purchases from Quebec are "surplus" and not firm power, Hydro must maintain firm generation capability in its L'Anse au Loup diesel plant. Any growth in load must be accommodated through expanded diesel plant capacity. Hydro has prepared load forecasts under three different sets of assumptions. Case One is the status quo, with continuation of isolated rural rates and, on this basis, the average annual growth rate, from 1997 to the year 2006,

is 0.8%. Case Two applies interconnected rates, but with restrictions on electric heat. The forecast load growth associated with Case Two is 1.1%, over the 1997-2006 period. Case Three applies interconnected rates with no restrictions on the use of electric heat. The ten year average load growth projected for Case Three is 3.7%.

Hydro believes it is not practical to impose restrictions on the use of electric heat. For this reason, the policy choice is really between Case One and Case Three. This report will focus primarily on these two cases. The load growth arising from interconnected rates (Case Three) would require Hydro to install new facilities amounting in cost to $1.5 million in 1998 and $1.5 million in 2005, compared with generation additions of $1.6 million in 2002, with isolated rates (Response to Demand for Particulars NP-15).

Hydro's position is that the isolated system rates should continue to apply after interconnection. Their position is that isolated system rates will not recover the costs of service. While variable production costs will be reduced , there will be no reduction in fixed costs specifically attributable to the interconnection.

Hydro is proposing that the rates charged for general service customers in Diesel Class 2.5 on the L'Anse au Loup system be reduced. Response to Demand for Particulars DFS-6 (Revised) shows that the cost recovery ratio in 1997 for general service customers in Rate Class 2.5 is 102%, which is higher than the 89% cost recovery on the rural interconnected system. Therefore, Hydro proposes to drop the end use rate to achieve the same cost recovery for general service customers in the Labrador Straits areas as for those on the Island interconnected system. The end block rate would be reduced by 3.807 cents/kWh, as outlined in the response to Demand for Particulars DFS-7(Revised). The proposed rate decrease for general service customers would

be 13%.

Hydro maintains that isolated system rates should continue to apply for domestic customers, notwithstanding the cost reduction associated with the intertie with Hydro-Quebec. Their position is that customers in the Labrador Straits will not be interconnected to any grid and should therefore not be entitled to interconnected rates. Further, Hydro will still be incurring a significant loss after the interconnection.

The pre-filed evidence submitted by Hydro is based on the assumption that the period for amortizing the costs of the intertie with Hydro-Quebec should be five years. This five year amortization period is proposed for three reasons. First, the benefit period is uncertain and could range from 5 to 25 years. Second, the five year amortization period was chosen to match the amortization period with the lower purchase price (i.e. 20 mills/kWh) for energy in the early years of the 25 year contract. Third, Hydro believes that a 30 year period would create an intergenerational inequity.

The pre-filed evidence (pp. 2 and 3) of Mr. D.W. Reeves, Vice-President of Transmission and Rural Operations with Hydro, describes the seven components of the capital expenditures associated with the L'Anse au Loup to Lac Robertson interconnection. The project involves the voltage conversion and upgrading of distribution lines and substations on the existing L'Anse au Loup system and also the construction of a new substation and section of distribution line to join the two systems.

In addition to the intertie, Hydro has embarked upon two other major projects. The first is the automation of the L'Anse au Loup diesel plant, at an approximate cost of $530,000, while the second capital project is the purchase and installation of electrical protection devices for the

diesel units and substation equipment, at a cost of $280,000. As a result of automation, the operating staff complement will decrease from five to two persons. The intertie, in and of itself, will not lead to further staff reductions.

The contract with Hydro-Quebec provides for three modes of operation: (1) all surplus, (2) limited surplus, and (3) no surplus. At the outset, operations will be mostly in Mode (1). Mode (3) is anticipated to occur infrequently in the early years of the contract. The availability of surplus power will depend not only upon load in the Quebec North Shore area but also on levels of precipitation. Hydro-Quebec have placed a three megawatt limit on the intertie.

Hydro's position is that the L'Anse au Loup system continues to operate as an isolated diesel system, being dependent upon diesel capacity for firm energy. Nothing in the intertie with Lac Robertson changes the fundamental long term cost parameters. The benefits of a fully interconnected system are not available. The fundamental cost of service of the L'Anse au Loup system is significantly different from that of the Island interconnected system.

CHAPTER II

GOVERNMENT POLICY WITH RESPECT TO INTERCONNECTED RATES

Government has provided policy direction to the Board on rural electrical issues through legislation as well as through various Orders in Council. In the *Electrical Power Control Act, 1994,* Sections 3, 4 and 5 provide policy direction on rates. Over the years there have been a number of Orders in Council which establish basic policy parameters for rates. The initial Order in Council on the Lifeline Block was 184-74, which established domestic service rates for the first 500 kWh/mo. and linked these rates with Newfoundland Power rates. Orders in Council 171-75, and 299-80 reconfirmed this first block at 500 kWh/mo. Order in Council 520-87 increased the block from 500 kWh to 600 kWh/mo. and reconfirmed interconnected rates charged by Newfoundland Power. The size of the block was further increased from 600 to 700 kWh/mo. by Order in Council 810-89.

The establishment of the second and third blocks was also confirmed by Orders in Council. Order in Council 171-75 provides that, for consumption levels beyond 500 kWh/mo., "the charge for each additional kWh consumed in any month be increased by an amount equal to the average rate of increase approved by the Board" for Newfoundland Power. This was reconfirmed by Order in Council 229-80. The third block has always referred to consumption beyond 1,000 kWh/mo., while the second block refers to consumption between the first and third blocks, starting at 500 kWh in 1974 and rising to 700 kWh in 1989, up to 1,000 kWh/mo.

The diesel general service rate has also been set from time to time by Order in Council, beginning with 184-74 and 171-75. The lifeline block of 700 kWh/mo. for general service customers was first set by Order in Council 810-89.

Preferential rates for diesel system customers were also set by Order in Council. Order in Council 184-74 confirms "the provision of service to fish plants fed from diesel systems at Hydro rates". Cabinet Directive OC'254-78 reads as follows: "the rates for electricity presently being charged by the Power Distribution District of Newfoundland and Labrador to the Burgeo School and Library and to all churches, schools and church halls supplied on diesel generated systems, as set forth in paragraphs 3 and 4 of the relevant submission, were approved; these rates remain unchanged until further notice". Order in Council 299-80 approved the policy that: "fish plants with a load of 30 kW or more in the diesel areas and Canada Bay Lumber Company Limited continue to be charged the interconnected rate as long as Government believes it is necessary to provide subsidization in this matter". Order in Council 257-81 ordered that "churches, schools and organizational halls in diesel areas to be charged the diesel domestic rate".

Turning to interconnected rural rates, the decision to link these rates to Newfoundland Power rates was also set by Order in Council. Order in Council 184-74 states that: "the Hydro system rates of the Power Distribution District be adjusted to conform to the rates approved by the Public Utilities Board for Newfoundland Light & Power Co. Limited."

In light of the fact that Government policy has been established with respect to interconnected rural systems, the question which must be addressed is whether the present situation in the Labrador Straits was contemplated in existing government policy with respect to rates for interconnected rural systems. Given the Lac Robertson Agreement, will the L'Anse au Clair to Red Bay area meet the criteria established by Government and accepted as traditional policy for the application of interconnected rates?

MC 184-74 established, inter alia, the policy for rates that would be charged to customers on the island interconnected system, which were then served by the Power Distribution District (PDD). The relevant section of MC 184-74 reads as follows:

> "The hydro system rates of the PDD be adjusted to conform to the rates approved by the Public Utilities Board for Newfoundland Light & Power Co. Limited;".

The reference in MC 184-74 to the "hydro system" is to the Island interconnected system. All customers on the system are served by common transmission and generation assets. Hydro's position is that the rates charged to customers should reflect the costs incurred to generate, transmit and distribute electricity on the system from which they are served. In the view of Hydro, the policy set out in MC 184-74 would not result in Island interconnected rates being provided to customers on the L'Anse au Loup isolated system.

MC 171-75 further expanded upon the concept introduced in MC 184-74, referring to PDD's "integrated (hydro) system". While customers on the L'Anse au Loup system will in the future be serviced by surplus energy generated from a hydro-electric plant, other circumstances differ. The rates paid by customers on the Island interconnected system are primarily influenced by the cost on that system. The costs on the L'Anse au Loup system are influenced by a series of factors that differ from those that apply to Island interconnected rates.

It should be noted that the Lac Robertson Project is not connected to the main power grid within Hydro-Quebec's jurisdiction. The Lac Robertson facility supplies electricity to several small distribution systems located on the Quebec Lower North Shore. Prior to March of 1995 these distribution systems (La Tabatiere, St-Augustin, Vieux-Fort, Blanc Sablon) were supplied by their own diesel generating systems. However, customers served by these systems are

charged Hydro-Quebec's interconnected system rates and these rates are significantly below the rates presently charged in the Labrador Straits area.

CHAPTER III - CANADIAN PRICING PRACTICES

Hydro was asked to report on rural systems in the Territories and other Provinces as well as the extent to which rates in these areas are adjusted to reflect the availability of energy from sources other than diesel systems, and particularly from hydro generation. In their response to PUB-21, Hydro reported on a telephone survey of those Canadian electric utilities which have isolated systems. They found that Quebec, Ontario, British Columbia, the Yukon and the Northwest Territories have isolated systems in which the energy is not exclusively generated from diesel systems.

In the Northwest Territories, there are two systems where some of the energy is not diesel generated. In these systems, small hydro generation supplies the majority of the load. However, diesel generation is required for backup and to supply the peak load. Rates in the Northwest Territories are different for every one of 53 isolated systems, based upon their individual costs of providing service. They are lower in the systems with hydro-electric power sources, because the costs in these systems are lower.

In the Yukon, there are both diesel systems and hydro/diesel systems. However, there is only one rate structure, so there are no rate implications arising from any variation in costs between the diesel system and the hydro/diesel systems.

British Columbia Hydro has two isolated systems which receive some of their power from small hydro-based independent power producers. There is only one rate structure in the British Columbia Hydro service territory, so there are no rate implications arising from any variation in costs between the diesel systems and the hydro/diesel system.

Ontario Hydro has isolated systems where the diesel generation is supplemented by mini-

hydro, wind turbines and photovoltaic cells. There are no rate adjustments arising from the use of these different generation sources.

Hydro-Quebec's only non-diesel isolated system is the Lac Robertson system. The customers served by that system always paid interconnected rates, so their rates will be unaffected by the fact that they are now supplied by a hydro power source.

On the basis of the evidence submitted in response to Demand for Particulars PUB-21, it appears that the Northwest Territories is the only jurisdiction where access to lower price hydro-electric power results in lower rates being charged to those customers directly affected. However, the reason lower rates apply is not because the power is hydro-electric but because of the simple fact that costs are lower. The conclusion from the survey conducted by Hydro is that the type of generation source does not, in itself, lead to different rates.

In a number of jurisdictions grid rates are offered to all customers, including those on isolated systems.

CHAPTER IV - VIEWS OF INTERESTED PARTIES

Presentations by Area Representatives heard on April 29, 1996 in L'Anse au Clair

Introduction

The Board was very impressed with the number and quality of the presentations made by the residents of the Labrador Straits at this hearing.

This chapter provides a summary of the positions taken by each of the various parties who participated in the hearing. The complete transcripts and copies of reports filed are available at the offices of the Board. The Board has not made any corrections to inaccurate statements, nor has the Board attempted to provide balance to the arguments with alternative points of view. Rather the Board has reported the statements as presented without commentary or interpretation.

During the proceedings there was a great deal of agreement among all residents of the area, on three points:

(1) that existing electricity rates are exerting extreme hardship on all consumers especially commercial enterprises and municipalities. This results in high consumer prices and taxes for goods and services in addition to their electric bills. In many cases businesses are unable to compete with their counterparts in nearby Quebec communities and on the Great Northern Peninsula.

(2) that Hydro's load growth projections are overstated, given prevailing economic conditions in the area. Because these projections influence capital expansion plans, the credibility of future cost estimates is open to question and potential savings from the project could be understated.

(3) that the cost savings that will occur in the Labrador Straits area, following interconnection with the Lac Robertson energy source, are sufficient to warrant the introduction of the Island interconnected rates in the area.

Member of the House of Assembly Yvonne Jones

Ms. Jones questioned the lack of consultation by Hydro with local people, suggesting that such consultation would have been extremely beneficial to all parties and would have led to the negotiation of a better agreement with Hydro Quebec.

She cited issues worthy of discussion, such as: the load growth assumptions which she said are exaggerated; alternative Labrador hydro-electric sources; the rapid write-off policy for the cost of the Lac Robertson interconnection; and, consideration of swapping three megawatts of the unrecalled 127 megawatts available at Churchill Falls.

Ms. Jones concluded by saying that the people in the Labrador Straits are seeking fair and equitable service at a rate which is comparable to that enjoyed by every other citizen of the Province.

Philip Chubbs of the Southern Labrador Development Association

The Southern Labrador Development Association represents seven communities having 2100 members who consider electricity rates very important from the standpoint of economic development. High rates make it impossible to compete. As an example, the marine service centre in L'Anse au Diable will not be able to compete with the centre in Quebec because of the lower rates available on the Quebec North Shore.

Mr. Chubbs disputed the description of the power from Lac Robertson as being surplus as opposed to being firm power. He said that the power is firm in the sense that the contract covers 25 years.

He also disputed the forecast of growth in the areas on both sides of the border and contended that the communities on that shore will be interconnected to the main Hydro-Quebec grid in the next 6 to 10 years.

Mr. Chubbs argued that a uniform rate is a right of the Straits people and fairness requires that all of the benefits from the project should not go to Newfoundland Power customers.

Cecil Davis of the Community of Forteau

Mr. Davis expressed concern with Hydro's proposal to continue diesel rates in the area. He said that Southern Labrador should not be discriminated against, in comparison with the Great Northern Peninsula and that savings realized by Hydro should be passed along to consumers.

He felt it was highly unlikely that Hydro would revert to diesel generation, because load growth would be lower than projected in light of the collapse of the fishery, out migration from the area and the use of more efficient appliances. He also stated that the higher rates being charged put business people in Labrador in a position where they cannot compete with those in Quebec.

Mr. Stelman Flynn, Businessman

Mr. Flynn, who operates two grocery stores, a motel unit and a restaurant, said that eight

percent of the revenues from his restaurant goes to pay the cost of electricity.

He said that Hydro's projected growth in load is not realistic, due to out-migration and fish plant closures. He made additional observations: that higher rates discriminate against tourism; that taxation, on top of the higher rates, has the effect of adding insult to injury; that rates in the Labrador Straits area are 185% higher than in Quebec; and that Abitibi Price should not complain about the requirement to subsidize its share of the rural deficit, as they benefit from Government assistance for silviculture and for environmental cleanup.

He took strong exception to some of the comments made by Newfoundland Power and was particularly offended by their position with respect to electric hot water heating, wherein they stated it was inefficient and should be discouraged.

Mr. Flynn expressed the view that Hydro did not bargain hard enough with Quebec. He also said there should have been an infrastructure grant, as there was for the Great Northern Peninsula.

Mrs. Agnes Pike, Mayor of West St. Modeste

Mrs. Pike said that Hydro is not being consistent in their treatment of the Labrador Straits area, compared with the Great Northern Peninsula, that the power from Lac Robertson is cheaper and that the Straits area has a stronger case for lower rates than did the Great Northern Peninsula.

She stated that electric power has a big impact on municipal costs, indicating that the pumping system in her community is very costly. The hydro-electric bill for the town is $12,000, of which $6500 is for the pumping system.

Mrs. Pike said that Hydro will not need to plan for additional power, because the electric

load in the area is declining, rather than growing. She said at the last census there were 221 people in West St. Modeste but now the population level is down to 185.

Anthony Barney, President of the Labrador Straits Chamber of Commerce

Mr. Barney outlined the difficulties of doing business in the Labrador Straits. He said that a competitive electricity rate is a key component of the cost of business in the Straits area and gave by way of example that a business in Corner Brook would pay $281.54 for 3,000 kWh, compared with $528.45 in the Straits area. The annual difference is $2,962.92 and is 87.1% more.

Mr. Barney pointed out that many businesses in the area are now installing propane appliances.

Mr. Harold Yetman, Mayor of Red Bay

Mr. Yetman said that people should pay the same price, regardless of where they live. He said that municipal services cannot be provided at present electric rates. Rates are 255% higher than on the Island and 380% higher than in Goose Bay.

Mr. Yetman said that people of the area are not asking for anything special. They are asking for the same rates that Islanders now receive, and that is why savings from the interconnection should be passed on to consumers in the area.

Dennis Normore, Mayor of L'Anse au Loup

Mr. Normore said that Labrador has been treated unjustly. He does not agree with the

formula used to set the price of power from Lac Robertson because there is no relationship between the cost of Lac Robertson power and the avoided cost of fuel at the L'Anse au Loup plant.

He indicated that large employers in the area are prevented from diversifying, because of the high rates and action must be taken to stop the decline and the loss of job opportunities. He went on to say that people feel they are being discriminated against when they are expected to pay diesel rates, while communities on the Island in the same circumstances would automatically receive Island grid rates.

Nath Moores, Mayor of L'Anse au Clair

Mr. Moores said that Hydro belongs to the people of the Province and that everyone in the Province should be treated alike. He claims that the situation on the Straits is the same as on the Great Northern Peninsula, where diesel systems are used as a backup and therefore the Great Northern Peninsula rates should apply. It was his opinion that the agreement with Hydro-Quebec is the Churchill Falls contract in reverse.

He disputes the growth projections for Quebec, indicating that the Coasters Association did a study showing a population decline of 1400 people or about 25% in the Quebec North Shore. Seven out of the ten fish plants in the area are closed permanently.

Mr. Moores said the cost of operating their swimming pool is staggering. The cost of power is $3,209.14, compared with $1,460.66 on the Island.

Mr. Moores said that, when the Quebec grid is interconnected, Hydro will be purchasing Churchill Falls power, at 50-60 mills, power which they sell to Hydro-Quebec for three mills.

Mr. Moores does not accept the concept of surplus power. He said that this is a firm contract and must be treated as such.

Mr. Wayne Talbot of the Labrador Straits Development Corporation

Mr. Talbot said that more competitive electricity rates are needed to foster development and that the higher rates currently paid are unjustified.

He claims that the people of the area are not asking for preferential rates, that the diesel plant will only be used for backup power, and that any fear of creating a precedent, by approving lower rates, is unfounded, because the situation in the Labrador Straits areas is unique.

Mr. Danny Dumaresque did not appear but provided the Board with a written presentation.

Mr. Dumaresque said that Newfoundland Power rates should apply on the coast of Labrador on the basis that all ratepayers in like circumstances should be treated equally. It is his opinion that Lac Robertson power will continue to be available because the load on the Quebec North Shore is not growing. He feels that the load projections are not realistic, nor are the projections showing a reduction over time in surplus energy sales.

He claims that the diesel backup for the Labrador Straits area is no different from the situation on the Great Northern Peninsula and performs the same role which the Holyrood thermal plant plays for the Island system.

Mr. Dumaresque took exception to the proposed five year amortization period for capital assets. He said that the time frame for recovery of capital cost should be no less than for other

transmission assets.

He said that the position taken by Hydro is contrary to government policy and the Public Utilities Board should exercise its power to require that Island interconnected rates be applied.

Representations by Legal Counsel

Position of Edward Hearn, Q.C. Consumer Representative

On behalf of consumers of electrical power in the area, Mr. Hearn takes the position that Island interconnected rates should be charged after the intertie with Quebec has been completed. He states that the L'Anse au Loup system will be unlike all isolated systems in the Province in that the source of energy in the foreseeable future will be, principally, if not entirely, supplied from hydro electric rather than diesel generation.

Furthermore, he argues that, based upon depreciating the interconnections assets over their full service life, the cost recovery ratio is similar to that of Hydro's rural interconnected system on the Island reinforcing his claim that Island interconnected rates should apply.

He believes the social policy of the Province, as reflected in the *Electrical Power Control Act, 1994,* is for the subsidization of rural customers by ratepayers rather than from general revenues. Further he states that the impact of the proposed rates upon Abitibi Price and upon other industrial customers is minimal and that Newfoundland Power has no mandate from their customers to present a position to the Board.

He claims Hydro has not discharged its fiduciary responsibility because they failed to negotiate a firm energy contract for energy from Lac Robertson and refused to consider a swap o recall power from Churchill Falls or from the Menihek facility. As a result Hydro will be paying

45-60 mills for surplus energy from Lac Robertson, compared with the price of three mills paid by Hydro-Quebec, for firm energy from Churchill Falls.

He said that the Menihek facility is the sole source of energy for the Schefferville area but Hydro has failed to link the negotiations concerning Menihek with Lac Robertson, as a lever to obtain firm energy for the Labrador Straits area.

It is his understanding that the 21 MW plant at Menihek is intended to be transferred to Hydro from the Iron Ore Company (IOC) of Canada and that Hydro will lease the plant to Hydro-Quebec who in turn will sell energy to the Naskapi Montagnais Band in Schefferville. Hydro is actively negotiating to purchase the plant from IOC. Hydro-Quebec will pay the cost to upgrade and maintain the plant, and will also pay a leasing fee. No clear answer has been given as to what the arrangement with Hydro-Quebec will produce, in terms of the price of energy to consumers from the Menihek facility.

Mr. Hearn argued that the Menehik situation is virtually a mirror image of the Lac Robertson situation, in that Menihek is the sole source of hydro electric energy to the Schefferville area, and yet no swapping of energy was given even perfunctory consideration.

Mr. Hearn summarized the terms of the Menihek contract (on pp. 26 and 27) of his final argument.

Mr. Hearn said that consumers in the Labrador Straits area should not have to bear the burden of Hydro's failure to carry out the negotiations with Quebec to the best advantage of all parties by using Churchill Falls and Menihek for leverage.

In his Demand for Particulars EMH-8, Mr. Hearn proposes that the plant be depreciated over its useful life of 30-years yielding a cost recovery of 64% in 1997, compared with 54%

based upon Demand for Particulars DFS-3 (Revised) and compared with 60% in the response given to Demand for Particulars PUB-40(ii). He states that there is no evidence to support the view that surplus energy will not be available in the long term and for the duration of the contract.

He criticized Hydro for its lack of research into long term load growth in either the Lac Robertson system or the L'Anse au Loup system citing as an instance that there is no basis for higher rates because of projected load growth. To the contrary, problems of the fishery, as well as cuts in Government funding, would indicate stable or declining load.

Mr. Hearn said that Hydro has no mandate to appropriate the full cost savings to the benefit of the customers of Newfoundland Power and Industrial Customers. In his opinion, customers in the Labrador Straits have an entitlement to benefit from the cost reduction especially since the cost recovery ratio on the L'Anse au Loup system is essentially the same, or comparable with, that of the Island interconnected system.

Position of Abitibi Price

Abitibi Price takes the position that current isolated rates should be maintained and that lower rates should be addressed by the provincial government as a social policy issue and funded accordingly.

Abitibi Price stated that of the 20% of the deficit funded by Island industrial customers, they absorbed one-half, or 10%. The result is that Abitibi Price pays Hydro 14% more for electric power than the cost of its production.

Abitibi Price said that the Public Utilities Board should apply the following generally

accepted and established rate making principles:

* Rates should reflect the cost of service;
* Significant differences in cost structures should be reflected in differential rate structures;
* Interconnected customers should share the same rate structure, if they share the same cost structure;
* Isolated systems should be grouped together, as if they share the same cost structures;
* Uniformity of rates is not part of the philosophy of rate making; and
* Preferential treatment of higher cost recovery systems would be contrary to the goal of improving the overall cost recovery of isolated systems.

They recommend that isolated rates should apply for the following reasons:

* The power from Lac Robertson is not firm;
* The system remains isolated;
* Full cost recovery remains unattainable;
* Lower rates will lead to increased dependence on diesel generation; and
* The GNP system should not be used as a model.

There will be no sharing of the benefits of the backup diesel system with other interconnected customers, as there is in the case of the Great Northern Peninsula.

In the view of Abitibi Price, the analogy with the Great Northern Peninsula also fails because the decrease in rates had no impact on Abitibi or on other subsidizing classes, whereas a reduction in rates in the Straits would actually increase the rural deficit.

Abitibi Price is the industrial base for two Newfoundland company towns. The rural deficit raises the cost of producing paper and diminishes the Company's ability to compete in the international market. Abitibi does not support the proposed reduction in the general service rate nor does it support in any respect the adoption of Island interconnected rates in the Labrador Straits area.

Position of Newfoundland Power

Newfoundland Power opposes the adoption of Island interconnected rates in the Labrador Straits area. The rural deficit is currently paid by Hydro's other customers and in 1995 Newfoundland Power paid 70% of the deficit, amounting to $23,800,000. With the phasing out of contributions from Island industrial customers, by the year 2,000 Newfoundland Power expects to be paying 90% of the deficit. In light of the impact upon Newfoundland Power's customers, the Company has a responsibility to minimize the subsidy that its customers are required to pay. Newfoundland Power customers pay 7% more than the cost of serving them and this surcharge will rise from 7% to 9% by the year 2,000. This funding mechanism, through cross-subsidy on other users, has the effect of distorting consumer choices. The result is that more costly choices may be selected, both by subsidizing and by subsidized classes of customers.

They feel that, in the long term, the area will continue to be supplied with costly diesel generation and the long term marginal cost will revert to its diesel base.

It is the position of Newfoundland Power that all of the savings arising from the interconnection with Quebec should be used to reduce the contribution from subsidizing classes. They said Mr. Hearn's suggestion that Hydro did not bargain hard enough is without merit,

stating that if firm energy were available it would have been put on the table by Hydro-Quebec, since it would have commanded a higher price.

With regard to the load projected by Hydro-Quebec, Newfoundland Power stated it would have been irresponsible to disregard Hydro-Quebec's analysis of its own energy requirements. A change in the relative price of heating oil and electricity is expected to result in the use of more electricity as a source of space heating.

Mr. Hearn suggested that there were energy swapping opportunities which were not effectively pursued by Hydro, relating both to the Churchill Falls contract and to the Menihek plant but Newfoundland Power said no evidence has been presented to support this allegation.

On the question of depreciation, Newfoundland Power supports Hydro in proposing a five year amortization period. Depreciation over a thirty year period is likely to lead to inter-generational subsidy and inequity.

Newfoundland Power claims that the interconnection does not change the cost characteristics of the L'Anse au Loup system, which remains an isolated diesel powered system. Interconnected rates will encourage conversion to electric heat and will accelerate, by about four years, the requirement for new capacity.

Newfoundland Power suggests that the higher cost recovery on the L'Anse au Loup system arises mostly from economies of scale and they question how the same benefit of interconnected rates could be denied to other communities, such as Ramea, if such rates were extended to the L'Anse au Loup system.

Newfoundland Power states that the ten year projected cost recovery under Island interconnected rates is 61% (in the response to Demand for Particulars NP-16), compared with

68%, under isolated system rates, and that the current cost recovery for the Island interconnected system is 65% (as shown in the pre-filed evidence by D.F. Sturge (p. 12).

Therefore, it takes the view that a comparison of cost recovery ratios is less useful than a comparison of the actual cost of service, on a per kilowatt hour basis. The Company states that a more useful and relevant analysis is to compare the cost per kilowatt hour after interconnection, of 19.8 cents as shown in the response to Demand for Particulars DFS-2 (Revised), with the Island interconnected cost of 14.1 cents (based upon the response to Demand for Particulars PUB-20). This 40% difference in the underlying cost confirms the basis for the different rates for the isolated diesel systems.

Newfoundland Power opposes the Hydro proposal to reduce general service rates because the 102% cost recovery is not outside of a reasonable range. If preferential rate customers were included, the cost recovery for the 2.5 rate class would be 92%, under isolated rates and 82%, under the rates proposed by Hydro.

Position of Newfoundland Hydro

Hydro notes that Mr. Hearn and others argued that Hydro should have negotiated more strenuously for firm power rather than surplus power and that Hydro should have negotiated a swapping arrangement, on the basis of Churchill Falls and the Menihek plant. Hydro said that they attempted to purchase firm power but were unable to secure it.

Hydro's position is that the prospect of access to energy from Lac Robertson, at the same price that it buys energy from Churchill Falls, is not realistic. In the case of the Menihek plant they state that it is owned and operated by the Iron Ore Company of Canada and the residents of

Quebec who purchase energy from it are not customers of Hydro-Quebec. If Hydro acquires the facility from the IOC it will be as a landlord. They contend that it has no relevance to the present matter, and no basis has been established by which firm energy could have been negotiated from the Lac Robertson plant, by virtue of a linkage with Menihek.

Hydro disputes the statement by Mr. Philip Chubbs to the effect that Hydro-Quebec is planning to interconnect Lac Robertson with the main Hydro-Quebec grid. The distance involved and the cost associated with the intertie between Natashquan and Lac Robertson suggest that such an intertie would not be cost effective.

Mr. Hearn raised the question of the Sainte-Marguerite 3 facility and the effect of this project in enhancing the availability of power from Lac Robertson to consumers in the Labrador Straits area. Hydro's response is that the Sainte-Marguerite 3 facility will be completed in 2001. This project is 500 kilometres west of Lac Robertson and has no bearing on the present matter. The project is also west of the transmission line between Churchill Falls and Sept Isles and is not, as Mr. Hearn stated, (transcript April 29-pp87,88) located between Sept Isles and Lac Robertson.

On the question of the forecast load growth in Quebec, it should be noted that Quebec customers are expected to lose their oil subsidy. The result is increased use of electricity for space heating. Based upon Newfoundland experience with electric heat penetration, Hydro is of the opinion that this shift has the potential to increase consumption significantly from 8500 kilowatt hours to 19,384 kilowatt hours per year, for households using all-electric heat for space heating. The removal of the oil heating subsidies in the Lac Robertson system can be expected to have a similar effect.

During the hearing, three alternative approaches were suggested to depreciation of the interconnection assets. The first is the writing-off of the capital assets over a five year period, as proposed by Hydro. In Demand for Particulars EMH-8 Mr. Hearn had suggested a second approach, whereby the plant is depreciated over the normal life of such assets, which is thirty (30) years. A third approach is the response to Demand for Particulars PUB-40, based upon a recalculation of EMH-8 (Revised), using a deferred credit treatment for the difference between the reduced mill rate (the initial 20 mill surplus energy price) and the normal contract mill rate (which is 50% of the fuel cost savings at the relevant time), with both the deferred credit and the capital assets amortized over a thirty year period.

Hydro doubts that Hydro-Quebec will provide sufficient energy after the initial five years of the contract to provide sustainable benefits to Hydro's customers. The response to Demand for Particulars EMH-4 shows that, if low water conditions are experienced, Hydro will need to run its diesel generators for energy as early as February, 1998.

In support of the proposed reduction in the general service rate, Hydro uses the following arguments:

(1) This class pays more for its consumption beyond the lifeline block than does the domestic class;

(2) Average consumption for this class contains a significant proportion of energy used which is priced above the lifeline block (61% compared with 20% for domestic customers); and

(3) Similar customers on the Island pay only 89% of their cost of service.

A central issue in the present Referral is whether the customers in the Labrador Straits

will have more in common, from a cost perspective, with the customers on isolated Systems, or with customers on the Island interconnected grid. Hydro takes the position that the L'Anse au Loup system will continue to have more in common with the isolated systems. In Hydro's view the costs of the L'Anse au Loup system are not related to the costs of generation and transmission in either of the other two interconnected systems in this Province.

Hydro stresses two important differences from the situation on the Great Northern Peninsula. First, the diesel system is required in L'Anse au Loup to ensure that firm energy is available and is not required merely as backup. Second, the diesel generators in the L'Anse au Loup system provide no backup benefit to other customers outside of the region, as do the diesel generators on the Great Northern Peninsula.

Hydro acknowledges that the cost recovery ratio for the Labrador Straits system approaches the level of the Island Interconnected Grid. Hydro argues that in addition to the examination of cost recovery ratios it is important to consider the actual cost differences between the two systems. In support of its argument to maintain isolated system rates, with the exception of the proposed rate reduction for general service customers in Rate Class 2.5, Hydro cites the higher relative unit cost of energy on the L'Anse au Loup system, compared with the Island interconnected system (19.8 cents/kWh versus 14.1 cents/kWH).

This concludes the summary of the evidence and arguments presented at the hearing.

CHAPTER V - ISSUES TO BE DECIDED

Introduction

There are a number of issues to be decided. The issues to be addressed are as follows:

(1) Amortization Period;

(2) Projected Load Growth;

(3) Firm versus Secondary Energy;

(4) Hydro's effectiveness in negotiations; and

(5) Pricing of surplus power.

Amortization Period

Hydro has proposed that the interconnection assets be amortized over a period of five years. Recognizing that these assets would normally be amortized over thirty years a shorter period has been adopted by Hydro for a number of reasons. These reasons include the following: the uncertainty of future availability of surplus energy; the attempt to match amortization costs with cost reductions arising from lower energy purchase cost in the early years; and an attempt to avoid inter-generational inequities in the distribution of costs and benefits.

Mr. Hearn has argued that such a short amortization period results in penalizing the project and understating its benefits, as measured over the ten year period 1997-2006. Other representatives of the region also dispute the short amortization period.

An alternative approach is proposed in Demand for Particulars (PUB-40). This approach

uses an amortization period of thirty years but also adopts a deferred credit treatment for the difference between the reduced mill rate (the initial 20 mill surplus energy price) and the normal contract mill rate (which is 50% of the fuel saving cost at the relevant time). This deferred credit is amortized also over a thirty year period.

The Board recommends that this approach be adopted. By adopting such an approach the benefits of the reduced price in the first five years are spread over the normal amortization period of the assets in question, thereby avoiding the pitfalls associated with other alternatives.

Projected Load Growth

Strong arguments were voiced during the hearing in opposition to the load growth projected in the Quebec North Shore and also in the Labrador Straits. The load growth projected by Hydro-Quebec of 4.6% is indeed high, however, the evidence is that there is a subsidy on heating oil which will disappear and this is likely to lead to increased penetration of electric heat. There is no basis to question that Hydro-Quebec is the best judge of its own requirements.

The load forecast prepared by Hydro for the Straits area has also been disputed as being too high. Based upon the continuation of isolated rates, the load growth is projected at 0.8%. With interconnected rates the projected load growth rises to 3.7%. On the basis of the state of the fishery, combined with general economic conditions, these rates do appear to be high.

If the load forecast is revised downward, the effect would presumably be a reduction in required expenditures for additions to diesel generating capacity. The 3.7% average annual growth assumed in Case 3 of DWO-2 is a composite of the two major factors. The first factor is the projected growth in the number of customers. The second factor is the increased penetration

of electric heat. It is the second factor which has the greatest weight. Both of these factors are subject to considerable uncertainty. Demand for Particulars EMH-24 requested a recalculation of EMH-8 (Revised), using the same assumptions as PUB- 40, but excluding any provision for additional generating facilities. The Board is not prepared to adopt the response to EMH-24 as the framework for planning the future growth of the Labrador Straits electrical system. In the absence of a credible alternative to the load forecasts provided in DWO-7, the Board is left with no option other than to use these forecasts as the basis for its report.

Firm versus Secondary Energy

Some of those who appeared before the Board (e.g., Mr. Nath Moores) questioned whether the energy sales provided in the contract with Hydro-Quebec can best be described as firm or secondary. The Board is convinced that these energy sales represent secondary energy, being subject to interruption on a daily basis.

Hydro's Effectiveness in Negotiations

It has been suggested that Hydro could have negotiated a better deal for the Straits area by linking the Churchill Falls contract and current negotiations for the purchase and deployment of the Menihek Power Plant. While opinions have been provided, no evidence has been presented to the Board which would suggest that leverage afforded through these linkages would be effective, whether in the form of a lower price or in securing access to firm power, rather than surplus energy.

Pricing of Surplus Power

Questions have been raised with respect to the formula set out in the contract with Hydro-Quebec for the pricing of surplus power. The price is set initially at 20 mills per kWh until the capital cost of the interconnection has been recovered and the benefits to both parties are equal. It is projected that these costs will be recovered within a five year period. After the capital investment has been recovered, the price will be set at 50% of the cost of the fuel that would have been consumed in generating the same amount of energy from Hydro's L'Anse au Loup plant.

During the hearing, the allegation was made by Mr. Dennis Normore that avoided cost of fuel at L'Anse au Loup has no bearing upon the cost of Lac Robertson energy and should not be used as a basis for setting the price for surplus energy. While this may technically be correct, it is not unreasonable to link the pricing arrangements with the opportunity costs of fuel in the L'Anse au Loup system.

In the final argument of Hydro (May 14, 1996, p. 8), it is noted that the real savings to Hydro's customers exceed the amount paid for the energy because the avoided cost pricing formula in the contract does not include the savings Hydro will realize pertaining to the variable operating and maintenance cost. Schedule DFS-1 (Revised) and DFS-2 (Revised) show that the forecast average annual savings attributable to operating and maintenance cost during the years 1997 to 2006 is $543,814. The average annual fuel savings forecast for the same period is $729,571. These savings are offset somewhat by increased depreciation and interest, and the additional cost of purchased power. The average annual overall savings for this ten year period is forecast to be $842,658.

The response to Demand for Particulars NP-17 shows that the savings in operating and maintenance cost associated with the interconnection include a reduction in system equipment maintenance cost as well as the avoidance of a major overhaul.

The Board finds that the pricing formula is not unreasonable, particularly in light of the fact that the savings extend beyond the avoided cost of fuel.

CHAPTER VI - ANALYSIS OF THE BENEFITS

Introduction

In this Chapter, the Board will conduct an analysis of the benefits and costs associated with the two alternative rate options, namely, isolated system rates and Newfoundland Power rates. This assessment will guide the Board in its recommendations to Government as to the rate option which should be selected. The analysis which follows will conduct comparisons of the options, using the following indicators:

(1) revenue to cost ratios;

(2) unit costs of energy;

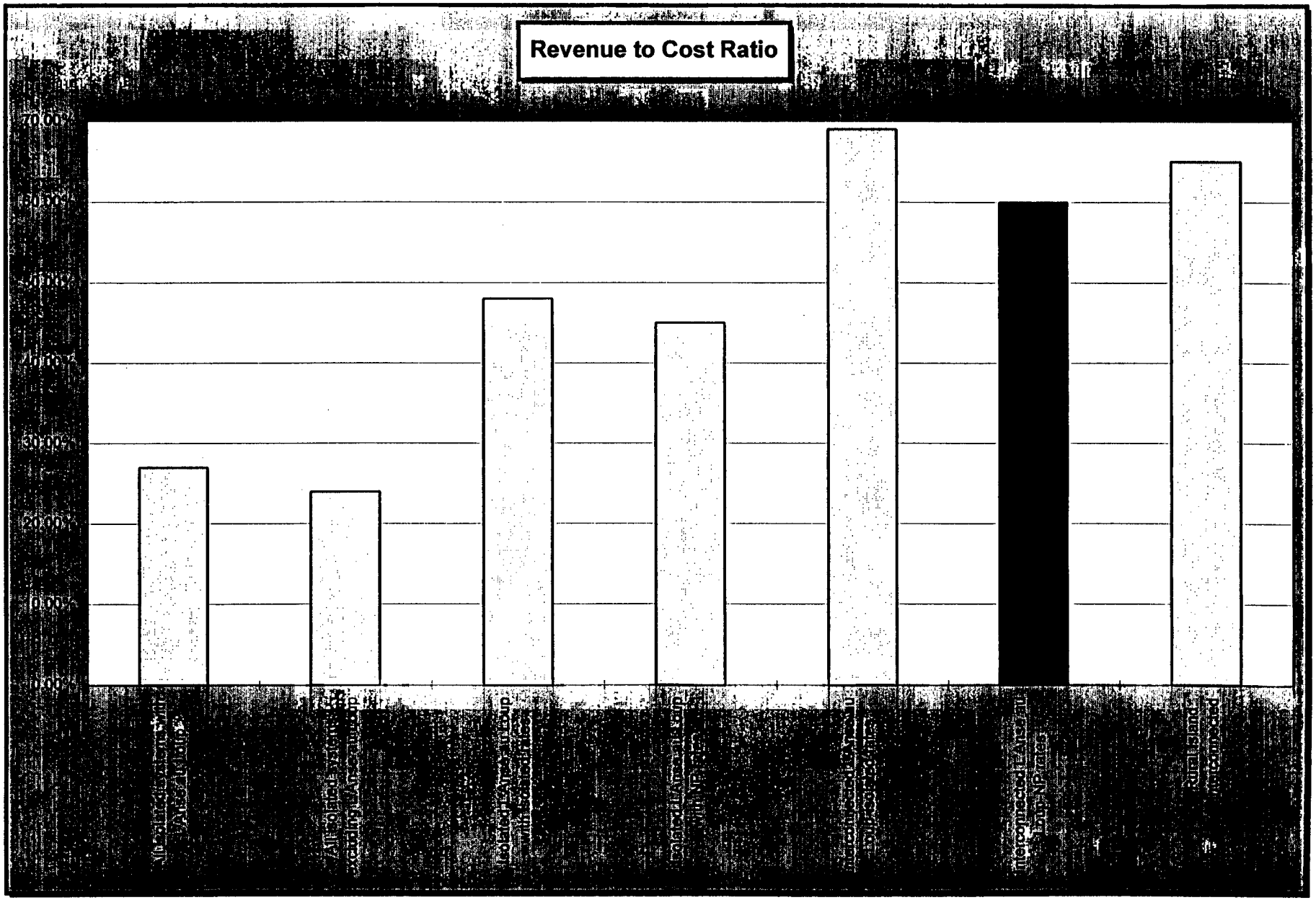
(3) deficit reductions; and

(4) the benefits and costs to all parties.

Revenue to Cost Ratios

During the hearing there was considerable reference to comparisons of revenue to cost. Mr. Hearn held that, upon completion of the intertie and assuming adoption of Island interconnected rates, the revenue to cost ratio for the L'Anse au Loup system will be within the same order of magnitude as the comparable ratio for Hydro's rural Island interconnected system. Chart 1 on page 39 confirms that this is true. This chart also illustrates that the revenue to cost ratio would be better than that of the Island system if isolated rates were maintained. Moreover, the fundamental economic advantages associated with the link to Lac Robertson are sufficiently strong that the ratio of revenue to cost improves significantly over the isolated system situation, even with adoption of interconnected rates. The intertie has the effect of improving the economic viability of the system and bringing it closer to one whose rates are based upon cost.

Chart 1



The response to Demand for Particulars PUB-40 shows that , with Island interconnected rates, the average ratio of revenue to cost, over the period 1997 to 2006, amounts to 62%. For the year 1997, the ratio shown is 60%. This compares to 65% for the Island interconnected system in 1997, as provided in the response to Demand for Particulars PUB-2. With the continuation of isolated rates, DFS - 1 (Revised) shows that the ten year average ratio of revenue to cost would be 69%.

Comparison of Unit Costs

The comparison of revenue to cost ratios appears to support the argument for extending the benefit of interconnected rates. Does an analysis of unit cost differences confirm this argument or does it point in another direction?

In the final argument of Newfoundland Power (June 5, 1996, pp. 6 and 7), a commentary is made which bears upon this question. It is noted that

> "at first glance, this would appear to put the L'Anse au Loup system in the same ballpark. But, ratios do not tell the whole story. A more useful and relevant analysis is achieved by comparing the unit cost of energy on each system. Hydro's evidence discloses that the 1997 forecast cost of 1 kilowatt hour of electricity on the L'Anse au Loup system after interconnection is 19.8 cents (DFS -2 Revised), while the forecast cost of 1 kilowatt hour of electricity on Hydro's portion of the Island Interconnected Grid (the rural interconnected system) is only 14.1 cents (response to Demand for Particulars PUB -20). This 40% difference in the underlying cost of the two systems confirms the original rationale for different rates for the Isolated Diesel systems."

In the rebuttal on behalf of Hydro (June 12, 1996, p. 5), a similar statement is made, comparing the cost of energy for the L'Anse au Loup system with the Island interconnected grid. It is noted that the unit costs of providing energy are 40% higher for the L'Anse au Loup system,

after the interconnection, than they are for the Island interconnected grid and this is used to support Hydro's argument for the continuation of the isolated system rate structure.

Section 73(1) of the Public Utilities Act, R.S.N. 1990, reads as follows:

> "73(1) All tolls, rates and charges shall always, under substantially similar circumstances and conditions in respect of service of the same description, be charged equally to all persons and at the same rate, and the board may by regulation declare what shall constitute substantially similar circumstances and conditions".

When residents of the Labrador Straits area request equal treatment, they refer specifically to the St. Anthony/Roddickton area. For them, section 73(1) provides a policy framework which relates their "circumstances and conditions" to those which apply directly across the Straits, where the Great Northern Peninsula is being interconnected, and those customers will thereby enjoy the benefits of the rates being charged by Newfoundland Power.

The unit costs of providing energy, as cited by Hydro, are 14.1 cents /kWh for the Island interconnected grid. This cost estimate was provided in the response to Demand for Particulars PUB -20. In Demand for Particulars PUB -30, the Board asked whether the figure of 14.1 cents is specifically attributable as the cost of service on the Great Northern Peninsula, or whether this is a blended cost of service for the rural Island interconnected system. The response given by Hydro was that the figure of 14.1 cents/kWh is a blended cost of serving all rural Island interconnected customers, which includes customers on the Great Northern Peninsula.

Hydro has indicated that no separate cost of service is available for the Great Northern Peninsula. In the Board's rural rate report of October 10, 1995, it is noted that

> "The evidence presented at the hearing does not directly provide specific unit cost information for the St. Anthony/Roddickton system. Based upon Demand for Particulars PUB-1 and PUB-2 it can be inferred that the full embedded unit cost for the St. Anthony/Roddickton system is approximately 34cents/kWh."(October 10, 1995, p. 34)

Comparison of this unit cost of approximately 34 cents/kWh with the 19.8 cents/kWh unit cost for the L'Anse au Loup system strengthens the case for adopting Island interconnected rates in the Labrador Straits area. Chart 2 on page 43 shows the relevant unit cost comparisons and places the L'Anse au Loup system in perspective in relationship to both the isolated systems and the Island interconnected system.

Comparison of Deficit Reductions

The magnitude of the total savings from the intertie with Quebec is substantial. Chart 3 on page 44 shows that the isolated system would generate annual deficits of about $1.4 million, with the maintenance of isolated diesel system rates. Based upon the continuation of isolated system rates, Chart 3 also reveals that the deficit declines to an annual average of $562,928 over the ten year period after the interconnection is completed. The savings attributable to the intertie amount to an annual average of $828,459 (i.e., $1,391,387 less $562,928). With continuation of isolated rates, these full savings will accrue to the benefit of subsidizing classes. Apart from enhanced reliability, the consumers of electricity in the Straits would receive no direct savings.

If consumers are offered the benefit of Island interconnected rates, will there continue to be a saving to the subsidizing classes? Chart 3 reveals that the deficit would thereby average $798,437, an average savings over the 1997-2006 period of $592,950. This represents 72 % of the savings associated with the maintenance of isolated rates. Most of the savings will continue to benefit those customers of Hydro who underwrite the rural deficit.

Chart 2

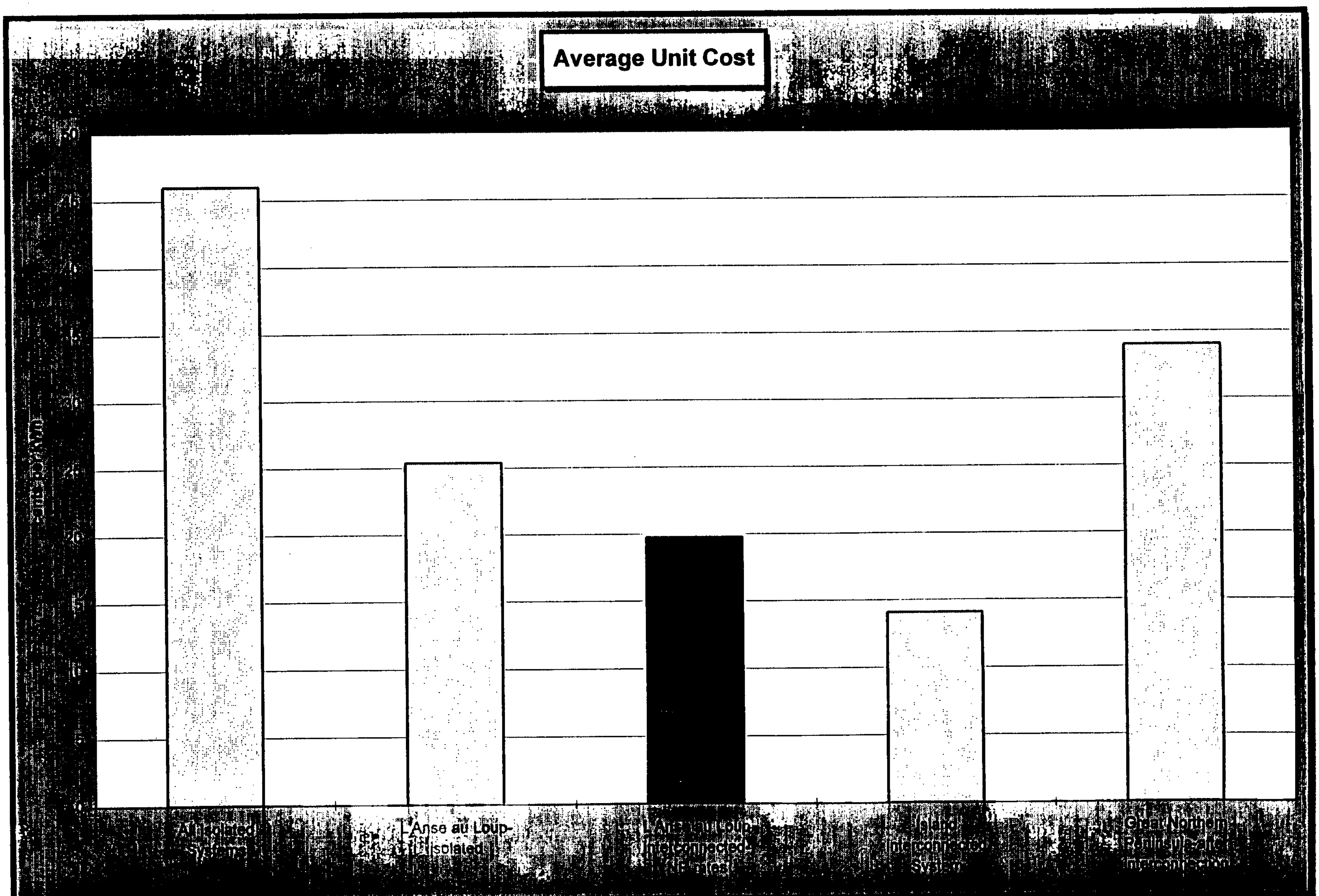
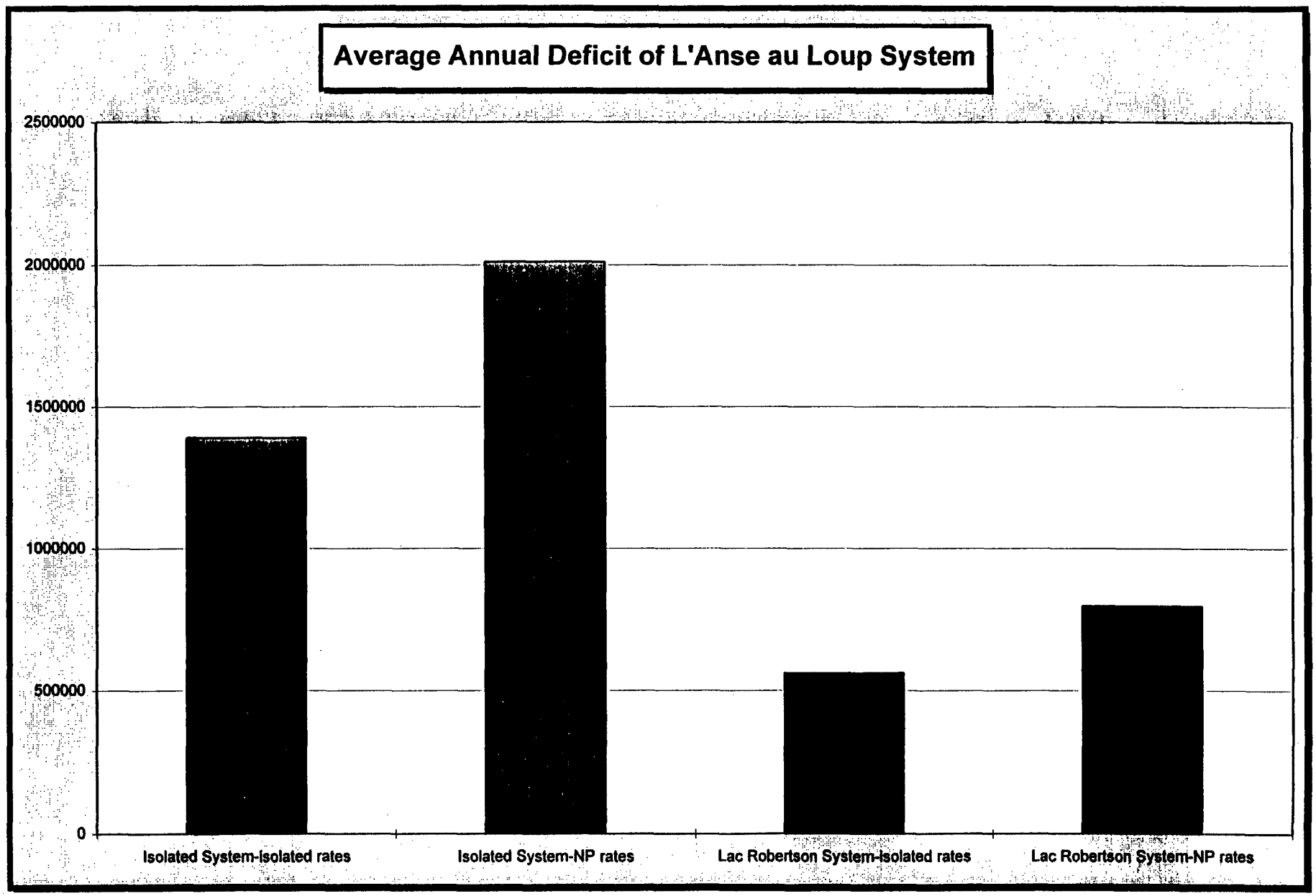

Average Unit Cost
L'Anse au Loup-
Isolated
Interconnected
System

Chart 3



Source: Table 3 and 4

Comparison of Benefits and Cost to all Parties

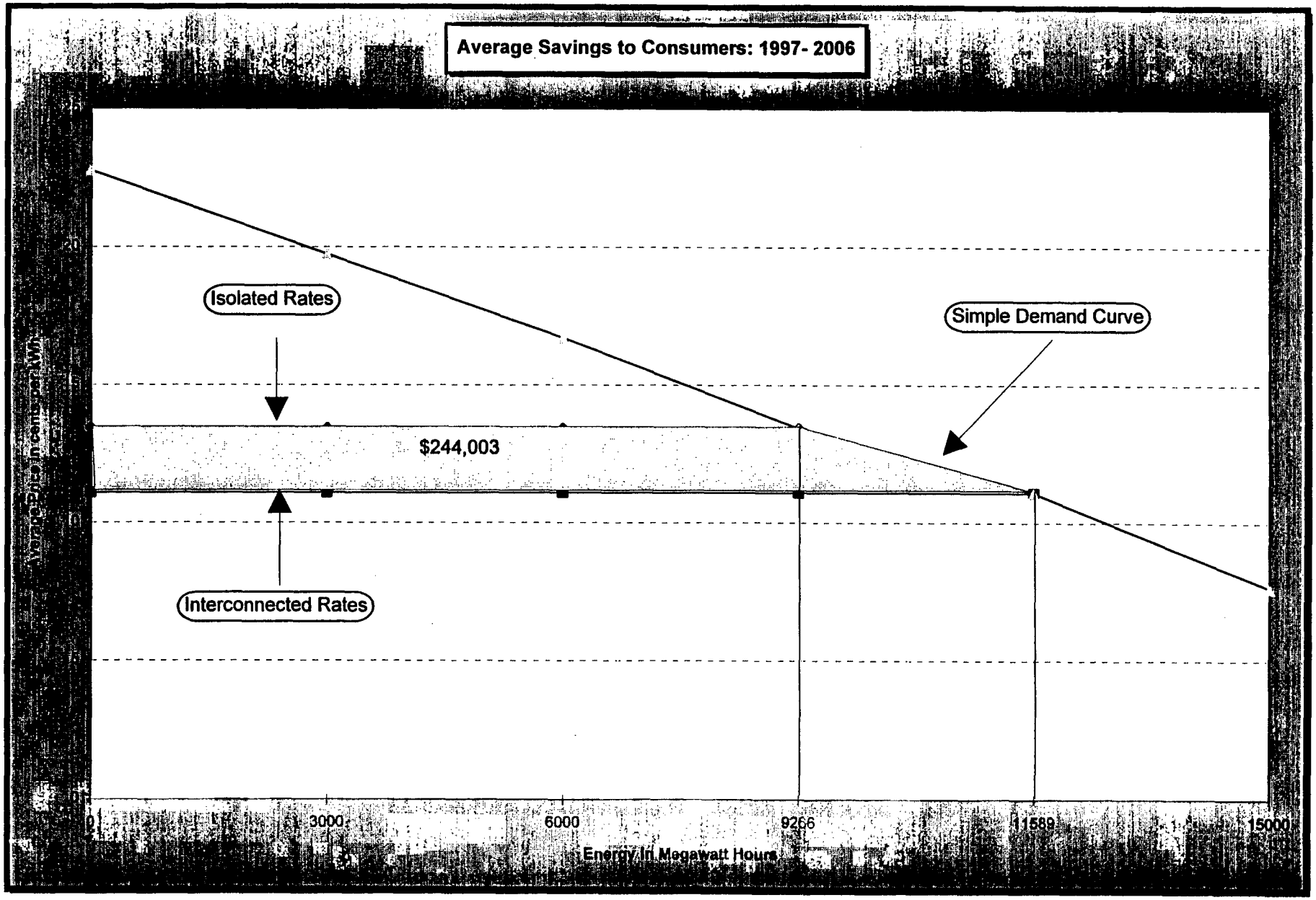
The benefit of deficit reduction does not, in itself, constitute the full benefit associated with interconnected rates. To the cost savings must be added the benefits to consumers. These consumer benefits have two components, as shown in Chart 4 on page 46. The first component is the price reduction enjoyed by the consumer and the measure of this component is the product of the price reduction and the energy load consumed. The second component is the increased level of energy consumption arising from the price reduction, and the measure of this component is the product of the increased consumption and the average of the isolated system prices and the interconnected prices. These benefits are shown as shaded areas in Chart 4.

The consumer benefits, associated with the adoption of Island interconnected rates and portrayed graphically in Chart 4, average $244,003 over the ten year period, 1997-2006. In measuring the total benefits of the intertie with interconnected rates, these consumer benefits must be added to the deficit reduction of $592,950. The total benefits of interconnected rates are compared with the savings associated with isolated rates in Chart 5 on page 47. This chart shows that the total benefits ($836,953), from the adoption of interconnected rates, are not substantially different from the cost savings associated with isolated rates ($828,459).

Conclusion

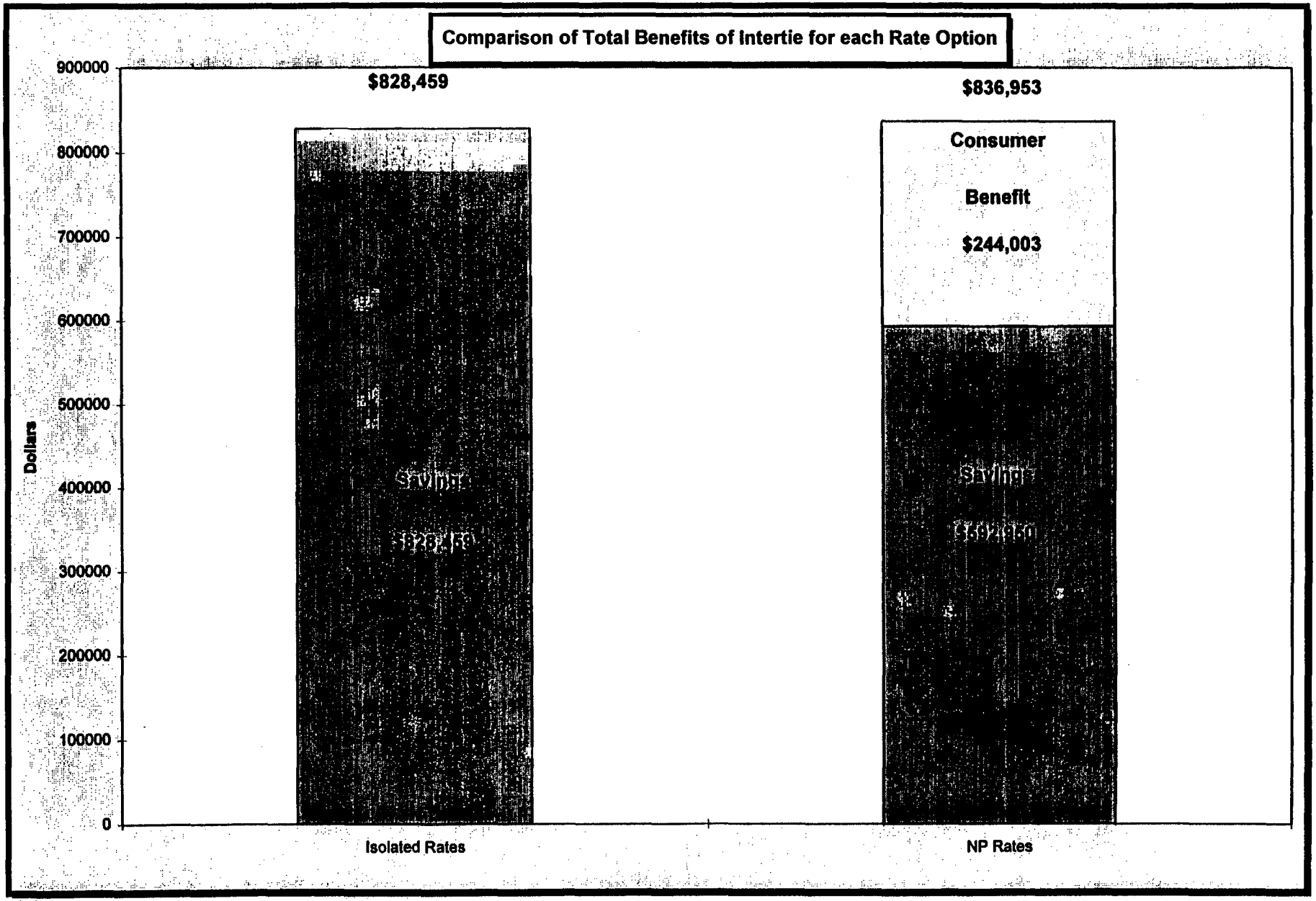
The intertie in question affords certain benefits whose magnitude and duration are uncertain. Under the assumptions accepted by the Board for planning purposes, the magnitude of the benefits is such as to support extending the benefits of interconnected rates. If the savings were lower in magnitude, then the conclusion might be different. In the present case, there are

Chart 4



Source: Table 5

Chart 5


Comparison of Total Benefits of Intertie for each Rate Option
$828,459
$836,953
Consumer
Benefit
$244,003
Dollars
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
Isolated Rates
NP Rates

sufficient savings associated with this project to afford subsidizing ratepayers a substantial cost reduction and, at the same time, provide residents of the area the benefits associated with Island interconnected rates. The ten year forecast shows that most (i.e., 72%) of the potential deficit reduction of the interconnection will go to improving the revenue to cost ratio. Subsidizing classes will receive the benefit of 72% of the potential deficit reduction.

Comparison of unit energy cost with the Great Northern Peninsula leads to the same conclusion, as does comparison of the revenue to cost ratios for the L'Anse au Loup system with the rural interconnected system. The Board concludes that there is a sound basis for approval of Island interconnected rates in the Labrador Straits, by virtue of the magnitude of the cost savings associated with the intertie with Lac Robertson.

The Board has a responsibility to ensure that the interests of all parties are reflected in its report to government and that these interests are properly balanced. In its recommendation on the matter of rates the Board is guided by the policies established by statute as well as through Order in Council. On the basis of these policies and the evidence provided during the hearing, the Board recommends that interconnected rates be approved by Government, upon completion of the Lac Robertson intertie. Such approval would lead to the enjoyment of maximum benefits by all parties, respecting the need for appropriate balance between the interests of local consumers and those of other consumers who share in the cost of the rural deficit.

CHAPTER VII - SUMMARY OF RECOMMENDATION

The Public Utilities Board reports to the Lieutenant-Governor in Council, in response to OC 96-068, as follows:

The Board recommends that Island interconnected rates be applied in the Labrador Straits Area between L'Anse au Clair and Red Bay after interconnection with the Lac Robertson hydro electric project.

The Board recommends that the preferential rates which apply in isolated diesel systems be made no longer applicable in the L'Anse au Clair to Red Bay area.

The Board recommends that a thirty (30) year amortization period be selected for amortization of the capital expenditures associated with interconnection and, pari passu, that a deferred credit treatment be used for the difference between the reduced mill rate (the initial twenty mill surplus energy price) and the normal contract mill rate (which is 50% of the fuel cost saving at the relevant time).

The Board recommends that Hydro establish mechanisms for consultation with rural customers to foster improved communication and to seek advice on measures for cost reduction and improvement in service quality.

APPENDIX A

BOARD ORDER APPOINTING EDWARD HEARN, Q.C.

AS CONSUMER REPRESENTATIVE

NEWFOUNDLAND AND LABRADOR

AN ORDER OF THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

NO. P.U. 9 (1995-96)

IN THE MATTER OF THE ELECTRICAL POWER CONTROL ACT, 1994

AND

IN THE MATTER OF THE REFERRAL FROM THE LIEUTENANT-GOVERNOR IN COUNCIL INTO MATTERS RELATING TO ELECTRICAL RATES IN THE L'ANSE AU CLAIR TO RED BAY AREA.

WHEREAS by Order in Council dated January 31, 1996 under the authority of Section 5 of the Electrical Power Control Act, 1994, the Lieutenant-Governor in Council referred to the Public Utilities Board the issue of the determination of appropriate rates to be paid by rural customers in the area from L'Anse au Clair to Red Bay upon completion of the transmission line connecting this area with the Lac Robertson hydro-electric project, in the Province of Quebec, and pursuant to the finalization of a contract between Hydro Quebec and Newfoundland and Labrador Hydro, and for that purpose to hold a public hearing in the region affected, and

WHEREAS the Board held a Phase I hearing at 2:00 P.M. on Tuesday, February 27, 1996 in L'Anse au Clair at which time Mr. Edward Hearn, Q.C., requested that he be appointed by the Board pursuant to Section 27 (2) of the Electrical Power Control Act, 1994 to represent the general interests of the various classes of retail users of electricity in the L'Anse au Clair to Red Bay area.

IT IS THEREFORE ORDERED THAT:

1. Edward Hearn, Q.C., be appointed to represent the general interests of the various classes of retail users of electricity at the hearing to commence at 9:30 A.M. on April 29, 1996, pursuant to Section 27 of the Electrical Power Control Act, 1994.

L.S.

DATED at. L'Anse au Clair, Newfoundland, this 27th day of February, 1996.

David A. Vardy,
Chairperson.

Leslie E. Galway,
Vice-Chairperson.

Carol Horwood,
Clerk.

APPENDIX B

List of Tables

TABLE 1 REVENUE TO COST RATIOS 1997	
Hydro Isolated Rural System (NP - 14)	
L'Anse au Loup included	27.00%
L'Anse au Loup excluded	24.00%
L'Anse au Loup As Isolated System	
Isolated Rates [DFS-1 (Revised)]	48.00%
Island Interconnected Rates (DFS-1 Revised, PUB - 40 and DWO-2)	45.00%
As Interconnected System	
Isolated Rates [PUB - 40 (i)]	69.00%
Island Interconnected Rates [PUB - 40 (ii)]	60.00%
Rural Island Interconnected (PUB - 2)	65.00%

TABLE 2 AVERAGE UNIT COST 1997	
1. All Isolated Systems (PUB - 28)	46.0¢
2. L'Anse au Loup As Isolated System [DWO-2 (Case 1) and DFS - 1 (Revised)]	25.4¢
3. After Intertie with Quebec (PUB - 20)	19.8¢
4. Island Interconnected System (PUB - 30, EMH - 13)	14.1¢
5. Great Northern Peninsula, after interconnection (Oct 10, 1995 Report, p. 34)	34.0¢

TABLE 3 CALCULATION OF DEFICIT ASSOCIATED WITH INTERCONNECTED RATES, ASSUMING L'ANSE AU LOUP SYSTEM REMAINS ISOLATED 1997 - 2006	
1. Isolated System Costs 1997 - 2006 [DFS - 1 (Revised)]	$2,635,394
2. Average load (DWO - 2, Case 1)	9,266 mWh
3. Cost per kWh	28.44¢
4. Average load (DWO - 2, Case 3)	11,589 mWh
5. Forecast cost based upon interconnected rates (3) x (4)	$3,295,912
6. Average revenue (DFS - 3 Revised)	$1,285,189
7. Deficit (5) - (6)	$2,010,723

TABLE 4 AVERAGE DEFICIT 1997 - 2006	
As Isolated System Isolated Rates DFS - 1 (Revised)	$1,391,387
Island interconnected rates DFS - 3 (Revised) DWO - 2 (Case 1 and Case 3) [Average revenue from DFS - 3 Revised average cost per kWh based upon load shown in DWO - 2 (Case 1) and cost shown in DFS - 1 (Revised) extrapolated based upon DWO - 2 (Case 3) load forecast]	$2,010,723
As Interconnected System Isolated Rates [PUB - 40 (i)]	$562,928
Island Interconnected Rates [PUB - 40 (ii)]	$798,437

TABLE 5 CALCULATION OF SAVINGS TO CONSUMERS 1997 - 2006	
1. Average load forecast with isolated rates (DWO - 2, Case 1)	9,266 mWh
2. Average load forecast with interconnected rates (DWO - 2, Case 3)	11,589 mWh
3. Average Revenues, Isolated Rates (DFS - 1 Revised)	$1,244,007
4. Average Revenue with interconnected rates (DFS - 3 Revised)	$1,285,189
5. Average price per kWh with isolated rates (3) ÷ (1)	13.43¢
6. Average price per kWh with interconnected rates (4) ÷ (2)	11.09¢
7. Price reduction	2.34¢
8. Increase in energy consumption	2323
9. Savings to Consumers (1) x (7) (7) x (8) x 1/2	216,824 27,179 $244,003

TABLE 6 CALCULATION OF AVERAGE BENEFITS FROM INTERTIE WITH ISLAND INTERCONNECTED RATES 1997 - 2006	
1. Average Isolated System Deficit with isolated rates (DFS - 1 Revised)	$1,391,387
2. Average Interconnected System Deficit with Island interconnected rates PUB - 40 (ii)	$798,437
3. Average Deficit reduction (1) - (2)	$592,950
4. Benefits to Consumers	$244,003
5. Total Benefit (3) + (4)	$836,953
6. Interconnected System Deficit with isolated rates	$562,928
7. Deficit reduction with continuation of isolated rates (1) - (6)	$828,459
8. The greater of (5) or (7)	$836,953