Q. Please provide a copy of the Industrial Rate Design Review report filed with the Board and all related written correspondence between the parties to the Settlement Agreement since the report was filed.

A. Please see attached.

HYDRO
THE POWER OF COMMITMENT

File No.

NEWFOUNDLAND AND LABRADOR HYDRO
Head Office: St. John's, Newfoundland P.O. Box 12400 A1B 4K7
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February 5, 2008

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road
St. John's, Newfoundland
A1A 5B2

ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Industrial Customers Rate Design Review

Please find enclosed ten (10) copies of a report entitled "Review of Industrial Customer Rate Design". This report on rate design alternatives for Industrial Customers is being filed as a result of the October 20, 2006 Agreement on Cost of Service, Rate Design and Rate Stabilization Plan.

Yours very truly,

Geoffrey P. Young
Legal Counsel

GPY/jc
Encls.

cc. G. Hayes, L. Henderson, K. Fagan, Newfoundland Power
Joseph Hutchings, Q.C. &
Paul Coxworthy, Industrial Customers
Dave MacDonald, Corner Brook Pulp & Paper
Thomas Johnson, Consumer Advocate
Mr. Gordon Oldford - Abitibi-Consolidated Inc., Grand Falls
Mr. Jim Gartshore - Abitibi-Consolidated Inc., Montreal
Mr. Patrick Corriveau - Corner Brook Pulp & Paper Co. Ltd.
Mr. Kevin Goulding - Deer Lake Power
Mr. Glenn Mifflin - North Atlantic Refining Ltd.
Mr. Bob Kelly - Aur Resources Inc./Duck Pond Mine

A REPORT TO
THE BOARD OF COMMISSIONERS OF PUBLIC UTILITIES

REVIEW OF INDUSTRIAL CUSTOMER RATE DESIGN

NEWFOUNDLAND AND LABRADOR HYDRO
FEBRUARY 5, 2008

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Appendices

1 Executive Summary

A review of Newfoundland and Labrador Hydro's (Hydro) rate structure for the sale of power and energy to Industrial Customers (IC) has been completed, in accordance with the agreement reached during Hydro's 2006 General Rate Application (GRA). The IC and Hydro have reached agreement as follows:

- A two-block rate structure for IC with a marginal cost based second block can improve price signals and economic efficiency.
- The tail block or second block should be priced at Hydro's Test Year marginal cost of supply.
- An IC will be able to apply to Hydro to have their first block energy adjusted to take account of significant changes to their business or output. The difference between the marginal cost of fuel and the energy revenue received should be recoverable by Hydro through an automatic rate adjustment.
- Industrial Customers entering the Island Interconnected System between rate hearings will be charged a Test Year average energy charge, in addition to regular IC demand charges, for all kilowatt-hours (kWh). The difference between the cost of fuel and the energy revenue received should be recoverable by Hydro through an automatic rate adjustment.
- Hydro will continue to bill IC embedded cost-based demand charges for their full Power on Order.
- Industrial Customer generation does not affect the two-block rate structure, and vice versa.

Outstanding issues to be resolved at a Technical Conference or through some other regulatory proceeding are:

- Two methods[1] of calculating first blocks as presented herein:

  - One method of computing a first block for each customer, without shifting costs between customers, is to calculate the block sizes based on the Test Year percentage of system energy supplied from generation sources other than Holyrood, applied to each customer's Test Year energy forecast. In principle then, each customer's first block energy represents a proportionate share of Hydro's hydraulic resources and the second block represents energy to be supplied by Holyrood.

  - To mitigate possible manipulation of block sizing, a second block sizing method is to set the blocks monthly as a percentage of total energy consumed. For instance, the first block would be 75% of monthly energy consumption. While this approach offers ease of administration and understandability, it mutes the price signal provided to the IC in that every kWh would be partially priced at first block rates.

- Monthly block sizing for the IC raises issues when unusual operating circumstances, such as strikes or temporary plant shutdowns, result in the customer not using all of the first block energy in a given month. The IC perspective is that the unused first block kWh should be available in future periods. Hydro's position is that the first block energy is a monthly allotment, and should not be carried from period to period.

- The format, timing and details of automatic fuel-related rate adjustments, considered where a new customer enters the Island Interconnected System between Test Years, or where an existing IC is given an increased first block.

Issues which the IC and Hydro have discussed in detail, but deferred final decision to other ongoing studies and reports, are:

- DSM and conservation initiatives should be viewed outside the rate structure, and will be considered as part of Conservation and Demand Management initiatives.

[1] See Appendix B for illustration of how both methods would maintain 2007 Test Year Revenue Requirement by customer

- Depending upon the method used to calculate block sizes, the load variation provision of the Rate Stabilization Plan may no longer be required. This will be considered as part of the ongoing Rate Stabilization Plan review.

2 Introduction

This report on rate design alternatives for IC was prepared as a result of the October 20, 2006 Agreement on Cost of Service, Rate Design and Rate Stabilization Plan, filed as part of Hydro's 2006 GRA.

Paragraph nine of the October 20, 2006 agreement states that the "Framework for Industrial Customers' Rate Design Review", attachment B to the October 20, 2006 agreement, (the Framework) will apply to the review process on the rate design for the Industrial Customers. The framework document is attached hereto as Appendix A.

The Framework outlines the agreement to implement marginal price signals on the discretionary or marginal components of the IC load. This review of the IC rate structure also considers the generally accepted rate design principles agreed to by all Parties in the 2006 Hydro GRA[2].

This report contains a summary of the rate design principles and methods considered for altering the IC rate structure, and recommends changes where appropriate.

[2] The generally accepted principles were provided in Schedule A to the October 20, 2006 Cost of Service Agreement.

3 Background

3.1 Industrial Customer Rate Structure

The existing rate structure for Hydro's Industrial Customers includes:

- Monthly demand charges based on Test Year embedded costs, applied to the customers' annual declaration of Power on Order;
- An average-embedded-cost energy rate, based on Test Year costs, applied to all firm energy; and
- Specifically assigned charges based on Test Year embedded costs.

3.2 Marginal Costs

In June 2006, Hydro filed a report entitled "Newfoundland and Labrador Hydro Marginal Costs of Generation and Transmission" (Marginal Cost Study). Hydro filed a follow-up report in July 2006 entitled "Implications of Marginal Cost Results for Class Revenue Allocation and Rate Design" (Marginal Cost Implications Report)[3]. These reports provided the basis for reviewing the efficiency of customer rates on the Island Interconnected System.

The Marginal Cost Studies concluded that:
"Looking just at the marginal cost relationships … Firm industrial rates should have much higher energy charges and much lower demand charges." NERA also stated [4] "We recognize that rate setting requires balancing many objectives, one of which is economic efficiency, but we have not studied all of the objectives and issues related to Hydro's rates."

The Parties to this review agreed that a two-block rate structure for Industrial Customers with a marginal cost based second block can improve price signals and economic efficiency while maintaining a consideration of the other rate design principles agreed to in the October 20, 2006 agreement.

[3] Both reports were prepared by NERA Economic Consulting (NERA). Copies of the reports were included as Attachments 2 and 3 to the Request for Information PUB 1 NLH, filed at Hydro's 2006 GRA.
[4] Reference: Request for Information NP-89 NLH, filed during Hydro's 2006 GRA.

3.2.1 Current Review

The negotiated settlements resulted in agreement to incorporate a marginal price signal into the IC rate structure.

The Parties that have participated in the IC Rate Design Review are Industrial Customers and Hydro. The broad goal of the rate design review was to develop a rate proposal that could be applied to all Industrial Customers. To that end, the Parties have approached the review in a manner that attempts to satisfy the concerns of Hydro and the IC. Newfoundland Power and the Consumer Advocate were provided with draft reports, and their comments are considered in this final report.

Meetings to discuss the rate design alternatives were held during 2007. This report provides the results of the IC Rate Design review.

4 IC Rate Design Review

The proposals for discussion as specified in the Framework are reviewed in this report. Characteristics considered during this review include:

- Energy Blocks;
- Demand Charges;
- Customer Generation;
- Other Contract Provisions; and
- Demand Side Management (DSM) and Conservation Implementation.

The load variation provision of the Rate Stabilization Plan (RSP), as it relates to Industrial Customers was also considered during this review.

4.1 Impacts on Load and Customer Decisions

Marginal price signals should neither detract from economic growth in the province nor encourage reduction in IC operations. The proposed rate design's anticipated impacts on the economics of customer choice are:

- Providing a mechanism for real load growth by permitting each customer access to additional lower-priced, first block energy;
- Providing an automatic mechanism for new customers to have first and second blocks of energy;
- Providing a marginal price signal to encourage customers to conserve and obtain the immediate benefits of the fuel savings; and
- If actual consumption mirrors forecast consumption, retaining each IC's anticipated 2007 Test Year total billing with the revised rate design.

Further, the two-block rate design has been developed with the goal of preserving the following possible range of outcomes as a result of changes to Industrial load characteristics:

- **Industrial Customer load decreases slightly affecting only the second block energy consumption.** In this scenario, the customer saves at the marginal cost rate. The change is largely revenue neutral to Hydro as there are fuel expense savings to offset the lost revenues.

- **Industrial Customer loads decrease substantially affecting both first and second block energy consumption**. In this scenario, the customer would save a certain amount at the marginal cost rate and the remainder at the lower rate. Hydro would likely experience savings to fuel expense that more than offset the lost revenue. However, customers are protected from an excessive "windfall" potential to Hydro by the over-earning provision.

- **Industrial Customer load grows slightly with no material change in customer's output.** In this scenario, all incremental consumption is priced at the marginal cost rate. Hydro is held largely revenue neutral as the incremental revenue is set to offset the incremental fuel expense.

- **Industrial Customer load grows due to a material change in process or output.** In this case, it may be reasonable for Hydro to increase the first block size and access to the lower priced energy. This could have negative impacts on Hydro's revenues, as the incremental revenues would not be sufficient to offset the incremental fuel expense. Potential methods for addressing this situation are discussed further in this report.

4.2 Energy Blocks

The energy blocks for IC were to be considered during this review, specifically:

- Pricing that would apply to each energy block;

- The means to set an initial annual division between the first block for each customer versus the run-out or second block;

- The basis and timing under which the size of the first block might be adjusted for each customer (both short-term and long-term);

- Approaches used to set the first block energy allocation to new Industrial Customers coming on the system; and

- Means to apply the annual first block energy concept to monthly billing.

4.2.1 Energy Block Pricing

As an initial step, there was agreement between the Parties on the following general characteristics of the rate design:

- The tail block or second block should be priced at Hydro's Test Year marginal cost of supply. Under the present system characteristics, it was agreed that the second block should be priced consistent with the cost of fuel at Holyrood. It was also agreed that the basis for the price of the second block could change in the future if system conditions change (for example, in the case of a Labrador Interconnection) and that the second block price should be reviewed at each General Rate Application.

- If customer loads remain at Test Year levels, the overall effect of the rate design should be revenue neutral compared to a single block embedded cost-based rate.

- Ideally, the rate design should ensure Industrial Customers have some portion of their load exposed to the marginal cost price signal in each month.

4.2.2 Means to Set Block

As there are IC of varying sizes, with varying load factors, block sizes are required for each customer. Several methods were explored, some of which result in shifting costs between customers. One method of computing a first block for each customer, without shifting costs between customers is to calculate the block sizes based on the Test Year percentage of system energy supplied from generation sources other than Holyrood, applied to each customer's Test Year energy forecast. In principle then, each customer's first block energy represents a

proportionate share of Hydro's hydraulic resources and the second block represents energy to be supplied by Holyrood. Based on the 2007 Forecast Cost of Service, the blocks would be calculated as illustrated in Table 1 below.

Table 1: Calculation of Industrial Customer Blocks

Line No.	Description	Amount	Source
	Industrial Customers		
	Calculation of Industrial Customer Total Second Block		
1	Total Cost of No. 6 Fuel	$ 137,356,005	Schedule 2.1A, Page 1 of 2 Ln 2, Col 4
2	Industrial Customer Firm Energy Allocation Ratio	0.1438	Schedule 3.1A, Page 1 of 2, Ln 15, Col 4
3	Industrial Customer Firm Energy No. 6 Fuel Cost	$ 19,758,319	Ln 1 * Ln 2
4	Average No. 6 Fuel Cost per Barrel	$ 55.47	
5	No 6 Fuel Barrels Allocated to Industrial Customer Firm Energy	356,196	Ln 3 / Ln 4
6	Efficiency Factor (kWh per Barrel)	630	
	Holyrood kWh Allocated to Industrial Customer Firm Energy		
7	- Industrial Customer Total Second Block	224,403,466	Ln 5 * Ln 6
8	Industrial Customer Total Firm KWh at Generator	922,411,479	Schedule 3.1A, Page 1 of 2, Ln 2, Col 4 *1000
9	First Block Ratio	75.67%	1 - (Ln 7 / Ln 8)

	Calculation of Individual Industrial Customer Blocks	Total	ACI - SV	ACI - GF	CBPP	NARL	AUR	Source
10	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	Load Forecast
11	First Block Ratio		75.7%	75.7%	75.7%	75.7%	75.7%	Ln 9
12	Annual First Block kWh	676,735,471	4,313,309	99,433,122	338,708,260	185,623,628	48,657,152	Ln 10 * Ln 11
13	Annual Second Block kWh	217,564,529	1,386,691	31,966,878	108,891,740	59,676,372	15,642,848	Ln 10 - Ln 12
14	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	Ln 12 + Ln 13

	Energy (First Block):	Amount	Source
15	Total Energy Revenue Requirement	$32,877,667	Schedule 1.3.1, Page 1 of 3, Ln 2. Col 8
16	Less: Second Block Energy Revenue	19,156,163	Ln 13 * Ln 22 / 1000
17	First Block Energy Revenue	$13,721,504	((Sch 1.3.2, pg 1, Ln 1, Col 3) - Ln 8) * Ln 12
18	First Block Energy Consumed (MWh)	676,735	Ln 12 /1000
19	**Rate (Mills/kWh)**	**20.28**	Ln 17/ Ln 18
	Energy (Second Block):		
20	Average No. 6 Fuel Cost per Barrel	$55.47	
21	Efficiency Factor (kWh per Barrel)	630	
22	**Rate (Mills/kWh)**	**88.05**	

4.2.3 Basis and Timing of Block Changes

When an existing customer changes its production process or otherwise materially increases output and therefore requires additional load, it may not be practical to price all energy sales at the tail block, or Holyrood rate. Such a rate structure may inhibit overall provincial economic growth. At the same time, the purpose of a marginal price signal is to encourage efficient use of the Island Interconnected System resources, and load growth attributable to reasons other than production or revenue growth of the customer's should be priced at the marginal cost of supply.

The Parties discussed whether there might be rate design solutions to this problem, including alternatives for block sizes, block pricing or demand charges. However, there did not seem to be a mechanism that would accomplish the objective of distinguishing between load growth due to

changes in the industrial process compared to simple load creep. As such, the Parties discussed other administrative mechanisms.

In order to minimize administrative complexities, the Parties discussed an adjustment mechanism whereby an Industrial Customer could apply to Hydro to have their first block energy adjusted to take account of significant changes to their business or output. In order to qualify for such an adjustment, it was agreed that the following criteria must be met:

- There must be a material change in the customer's electricity requirements resulting in an increased Power on Order of at least 1 MW.
- The increased electricity requirements must be driven by growth or change in the customer's business including:
    - legislated or regulatory requirements;
    - an increase in production or output;
    - improvements in product quality; or
    - change in or addition of a new type of product.

The onus would be on the customer making the application to demonstrate that the additional electricity requirements meet the tests necessary for an energy block adjustment. Application would be made to the Public Utilities Board (the Board) to alter blocks, on a case-by-case basis.

4.2.4 New Customer Block Sizing

When a new customer enters the system, it may not be practical to price all energy sales at the tail block, or Holyrood rate since this could result in barriers for new industry to develop in the province. As well, it is not reasonable to assume that a GRA would immediately result from the entrance of a new customer. It is likely that new customers may take an extended period to reach a 'normal' operating load. Additionally, new customers often require a ramp up, or construction period before production related operations are on line, and forecasting of power and energy requirements for this period may not be realistic. Therefore, it is proposed that customers

entering the Island Interconnected System between rate hearings will be charged a Test Year average energy charge, in addition to regular IC demand charges, for all kilowatt-hours.

Since the incremental costs to serve the new customer would likely be incurred entirely at the marginal fuel cost while the incremental revenues would be an average cost based rate, this treatment would likely result in a negative impact to Hydro's net income. It would not take a very large new Industrial Customer to have a material impact on Hydro's net income.

In order to mitigate Hydro's exposure to this risk, the Parties agreed that it would be reasonable to have an adjustment mechanism that adjusts rates for all customers on the Island Interconnected System. The rate adjustment would be based on the most recently approved Cost of Service study, and would require Hydro to apply to the Board for a rate adjustment. The incremental system generation would be adjusted to account for the new fuel expense and the additional electricity sales. This treatment has the following advantages:

- It allows new Industrial Customers to share in the benefits of the low-cost hydroelectric system;

- It protects Hydro from excessive earnings risk between rate applications and prevents the need for a full General Rate Application in the event that a new Industrial Customer joins the system. This protects all Parties from unnecessary administrative and regulatory costs related to a GRA.

- It produces rates that are consistent with the most recently reviewed Cost of Service study.

This proposal has been discussed with, and agreed to by, Newfoundland Power and the Consumer Advocate.

4.2.5 Block Sizing where a Customer Load Materially Decreases

When a customer load materially decreases on a permanent or semi-permanent basis, block sizes should be reset to reflect the decreased requirements. While Industrial Customers are contractually obliged to declare Power on Order on an annual basis, there is no contractual

requirement to declare energy requirements. Depending on the load change, having a fixed first block may provide an incentive to the Industrial Customer to declare a higher than necessary Power on Order.

Table 2 illustrates the comparative cost to the customer when a Test Year load is substantially reduced.

Table 2: Customer Load Reduction

	Test Year				
	Units		**Rate**		**Cost to Customer $**
Demand:	54,000	kW	6.68	$/kW/mo.	4,328,640
Energy:					
First Block	338,708,260	kWh	20.28	mills/kWh	6,867,657
Second Block	108,891,740	kWh	88.05	mills/kWh	9,587,721
	447,600,000				16,455,377
Total Cost					20,784,017
	Power on Order Reduced by 22 MW				
	Units		**Rate**		**Cost to Customer**
Demand:	32,000	kW	6.68	$/kW/mo.	2,565,120
Energy:					
Revised Requirement	241,600,000	kWh			
First Block Ratio	75.67%				
First Block	182,823,761	kWh	20.28	mills/kWh	3,706,939
Second Block	58,776,239	kWh	88.05	mills/kWh	5,175,141
	241,600,000				8,882,080
Total Cost					11,447,200
	Power on Order Not Reduced				
	Units		**Rate**		**Cost to Customer**
Demand:	54,000	kW	6.68	$/kW/mo.	4,328,640
Energy:					
First Block	241,600,000	kWh	20.28	mills/kWh	4,898,687
Second Block	-	kWh	88.05	mills/kWh	-
	241,600,000				4,898,687
Total Cost					9,227,327

While it is possible to include in the customer contract a provision requiring the customer to advise Hydro when a substantial permanent or long-term load decrease is to occur, there does not

appear to be a practical means of ensuring that provision has received compliance. It should be noted that potential gains to Hydro because of such fuel savings would, of course, be subject to existing over-earnings mechanisms.

4.2.5.1 Rate Design Alternative

To mitigate possible manipulation of block sizing, the Parties considered the option of simplifying the two-block energy structure to set the blocks monthly as a percentage of total energy consumed. For instance, the first block would be 75% of monthly energy consumption. While this approach offers ease of administration and understandability, it mutes the price signal provided to the IC in that every kWh would be priced partially at first block prices.

4.2.6 Means to Apply the Annual First Block to Monthly Billing

The proposed block sizing is based on Test Year percentage of energy supplied from sources other than Holyrood. Since the IC load factor tends to be stable, the first block can be divided by 12 to determine monthly block size, and some portion of the energy sales would be priced at the tail block rate. This is illustrated in Table 3 following.

Table 3: Monthly Blocks 2007 Test Year

	ACI - SV	ACI - GF	CBPP	NARL	AUR
Annual First Block (MWh)	4,313	99,433	338,708	185,624	48,657
divided by	12	12	12	12	12
Monthly First Block (MWh)	359	8,286	28,226	15,469	4,055
2007 Test Year					
Minimum Monthly MWh forecast	-	9,900	32,500	19,100	4,800
Maximum Monthly MWh forecast	1,300	11,600	39,400	21,800	5,500
Average Monthly MWh forecast	475	10,950	37,300	20,442	5,358

The Parties discussed the possibility of a customer not using all of its first block energy in a given month due to an emergency shutdown, strike or lockout. The IC propose that if such an event occurred, energy sales for the year would be reviewed. If the load factor for the year is higher than the customer's historic load factor, indicating that the IC may have made up the unused energy, then the rate for the number of kWh above the calculated load factor will be

adjusted from the second block rate to first block. The Parties could not come to an agreement on a proposal to resolve this rate issue and have agreed to include a summary of both perspectives in this report. The Parties will look to make their respective cases on this matter to the Board and request that the Board determine their preferred treatment with respect to this issue.

Hydro and the IC note that the first block energy has been sized so that under normal operating conditions each IC will use their full allocation of first block energy in each month with some energy being purchased in the second block at marginal cost based rates. Hydro and the IC reviewed historic load patterns of the IC to confirm the appropriateness of the block sizing for this purpose. This is consistent with the rate objectives for the IC rate design in that the rates and revenues track the costs on the system (i.e. that they are consistent with overall Cost of Service) with a marginal cost price signal on the more discretionary or incremental portion of the IC load.

Hydro and the IC also recognize that in the case of certain extreme operating events, such as a fire or other emergency or a strike, it is possible that an IC's load could drop below the second block level. In such a case, the IC would not receive the maximum monthly amount of first block energy for which they would otherwise be eligible.

4.2.6.1 Customer Perspective

Under other than normal operating conditions, an IC may not use all of the first block energy. The IC position is that the customer should have access to an annual first block of energy, broken down by month for billing purposes, and that the customer should be entitled to make up for a temporary shutdown by producing more in a subsequent month, and continuing to receive the benefit of the first block rate.

4.2.6.2 Hydro Perspective

However, from Hydro's perspective, the first block of lower cost energy represents an opportunity for the IC to have access to benefits from the low cost hydro-electric generation resources. It is not, in Hydro's view, an entitlement to that amount of low cost energy. Therefore, it is not necessary to have a mechanism in place to allow an IC to "carry over" unused first block energy from month to month.

4.3 Demand Charges

Demand charges for Industrial Customers are calculated based on Test Year embedded costs that are classified as demand and have been allocated to the Industrial Customer rate class. Although the Marginal Cost Study identifies the marginal cost of demand as negligible, it is recognized that demand does in fact have a value from a planning and winter capacity perspective. Each IC is billed for firm Power on Order for each month of the year.

This review was undertaken with the objective of having new rate designs continue to be based on the embedded Cost of Service study, but with a marginal price signal applied to the discretionary or marginal components of load. In the case of the IC, there is little discretionary demand. No benefits have been identified to warrant changes to the existing embedded cost-based method of designing the demand charge to IC. Since Hydro commits to provide firm Power on Order to the IC based on the individual customer requirements, it is reasonable, and has been agreed that Hydro will continue to bill IC embedded cost based demand charges for their full Power on Order.

Non-firm energy is identified as that in excess of 100% load factor energy. Non-firm supply means that Hydro is not obligated to supply the power, but does if sufficient capacity is available on the system. Any change in this identification of the supply as non-firm may result in capacity constraints on the system, and no changes to non-firm provisions are proposed at this time.

The review of the IC rate design considered whether implementing the marginal cost energy block would require changes to the existing demand charges, Power on Order and provisions for firm and non-firm supply. It was determined by the Parties that no such changes were required.

4.4 Customer Generation

Some of Hydro's IC have their own generation facilities. Therefore, rate design which includes tail block pricing at the marginal energy price will result in higher or lower costs for those customers with their own generation, based on fuel prices. Hydro and Corner Brook Pulp and Paper Limited (CBPP) are currently in separate discussions to permit the optimization of CBPP's hydraulic generation in other circumstances and both Parties believe that any resulting agreement is independent of this review of Industrial Customers' rate design.

The Parties discussed the possible interactions of the generation credits and the marginal cost rate design and consider that the implementation of a marginal energy price remains an appropriate signal.

Abitibi Consolidated Incorporated, Grand Falls (ACI-GF), also has available generation, as well as available compensation. The current contract provisions do not offer ACI-GF an opportunity to alter their generation patterns based upon the rate design considered in this report, and the implementation of a marginal energy price remains an appropriate signal.

4.5 DSM and Conservation

There is an existing joint study being conducted by Newfoundland Power and Hydro on Conservation and Demand Management (CDM). That study will address potential CDM opportunities for the utilities' customers including IC, and this topic will therefore not be addressed in this report.

4.6 Load Variation Provision of the Rate Stabilization Plan

The introduction of a two-block energy rate structure for Industrial Customers requires consideration of the load variation provision of the RSP. The existing load variation provision of the RSP provides for load changes to be recovered from or refunded to the customer group based on the difference between energy revenue and Test Year fuel costs or savings. With tail block pricing based on the Test Year fuel price, load variations at the tail block result in a small change to the existing RSP. Table 4 illustrates a 10 GWh load variation at the existing IC energy rate and at the 2007 Test Year tail block energy rate.

Table 4: Load Variation Comparison

	Sales Variance (kWh)	Cost of Service No. 6 Fuel Cost ($)	Firm Energy Rate ($/kWh)	Holyrood Conversion Factor	Load Variation ($)
Existing Rates	10,000,000	55.46	0.03676	630	512,717
2007 Test Year Tail Block Rate	10,000,000	55.46	0.08805	630	(183)

If all IC load variations were to occur at the tail block, it would appear that there is no need for a load variation component of the RSP. There are, however, instances when an IC load variation may occur within first block sales. During a labour disruption, a prolonged maintenance outage or under other possible circumstances, monthly sales to an individual IC may be less than the first block threshold. In that case, Hydro would save fuel at Holyrood, and lose revenue at a much smaller rate, resulting in savings to Hydro. Potential windfall profits to Hydro are mitigated by Hydro's excess earnings cap however, and the potential for Hydro to make such windfall profits in this manner is very limited.

There may also be instances where there are additional sales to an IC at first block energy prices, and the related Holyrood fuel would cost substantially more than the additional revenue earned. This would occur, for example, if a new customer enters the system, or an existing customer experiences production growth that qualifies for additional energy at first block prices. Table 5 shows the potential impacts on Hydro under various IC load growth scenarios.

Table 5: Revenue and Fuel Comparison – Additional IC load at First Block

Customer Forecast	**Case 1**	**Case 2**	**Case 3**	**Case 4**
Monthly Billing Demand (kW)	**10,000**	**15,000**	**20,000**	**25,000**
Average Annual Energy (kWh Sales)	**50,000,000**	**80,000,000**	**150,000,000**	**165,000,000**
Load Factor	57.1%	60.9%	85.6%	75.3%
Customer kWh/kW	417	444	625	550
Test Year First Block Ratio	**75.67%**	**75.67%**	**75.67%**	**75.67%**
First Block kWh/kW	315	336	473	416
Monthly First Block kWh	3,153,004	5,044,806	9,459,011	10,404,912
Annual First Block kWh	37,836,043	60,537,669	113,508,130	124,858,943
Annual Second Block kWh	12,163,957	19,462,331	36,491,870	40,141,057
Average Annual Energy (kWh Sales)	50,000,000	80,000,000	150,000,000	165,000,000
Revenue				
Demand	765,600	1,148,400	1,531,200	1,914,000
Energy First Block	767,164	1,227,463	2,301,493	2,531,643
Energy Second Block	1,071,014	1,713,623	3,213,043	3,534,347
Total Revenue	2,603,779	4,089,486	7,045,737	7,979,990
Fuel Impacts				
kWh Increase (Decrease) * 1.03 (losses)	51,500,000	82,400,000	154,500,000	169,950,000
Equivalent bbls No. 6 Fuel (630 kWh/bbl)	81,746	130,794	245,238	269,762
Cost ($55/bbl)	4,496,032	7,193,651	13,488,095	14,836,905
Variance between Fuel Savings and Hydro Revenue	(1,892,253)	(3,104,165)	(6,442,359)	(6,856,915)

As illustrated in Table 5, there would be a negative impact on utility revenues as Hydro's incremental revenues would not be sufficient to offset the incremental fuel expense. It may be reasonable for the utility to absorb this revenue impact, subject to a maximum threshold. If the revenue impact exceeded the threshold, Hydro would have recourse to make rate adjustments based on a limited scope re-run of its Cost of Service. Hydro would adjust only loads and fuel expense; other variables would remain the same as at the most recently approved General Rate Application. The Cost of Service rebalancing would adjust rates for all customers, not only Industrials. This will be further discussed in the ongoing RSP review, after consideration by Newfoundland Power and the Consumer Advocate.

APPENDIX A

Framework for Industrial Customers' Rate Design Review

1.0 Current Rate Design Methodology

The current Industrial Customer (IC) firm rate design entails a single demand charge applied to all Power on Order each month and a single energy charge applied to all firm kWh consumed. Non-firm kWh are priced largely at the cost of fuel at Holyrood.

2.0 Rate Design Review

In light of the principles identified in Attachment A, Hydro and the ICs will enter into discussions following the 2006 GRA directed toward development of a suitable revised Island Industrial rate design focused on the following points:

1) New rate designs will continue to be based on recovering the full IC revenue requirement measured by the embedded Cost of Service study, but with a marginal price signal on the discretionary or marginal components of the load.

2) The discussions will focus on development of a suitable and practical industrial rate design for future implementation subject to review by stakeholders and the Board.

3) A variety of issues related to practical implementation and fairness require careful consideration. Guidance on these matters will be sought through discussions at times with each of the Industrial Customers regarding the unique characteristics of their operations and specific facility plans, and through review of similar rate structures in other jurisdictions. Practical issues include, but are not limited to:

a. **Energy Blocks:** Determination of a reasonable approach for sizing first block energy versus run-out (marginal) blocks, including:

- The means to set an initial annual division between the first block for each customer versus the run-out or second block.
- The basis and timing under which the size of the first block might be adjusted for each customer (both short-term and long-term).

- Approaches used to set the first block energy allocation to new Industrial Customers coming on the system.
- Means to apply the annual first block energy concept to monthly billing.

b. Demand Charges: Interaction between demand changes, actual metered peak loads, Power on Order and delimitation between firm and non-firm supplies.

c. Customer Generation: Interaction with customer generation including impacts on dispatch and expansion of generation capability.

d. Other Contract Provisions: Interactions with other provisions in the existing Industrial Customer contracts such as Force Majeure events, and interaction with non-firm rate provisions.

e. Impacts on Loads and Customer Decisions: Impacts on the economics of customer choices with respect to expansions of operations, or reductions. This matter should include an understanding of any likely impact of the rate design on the future growth and development of the level of industrial activity of Newfoundland.

f. DSM and Conservation: Implications for IC to implement DSM or conservation activities to reduce net loads on Hydro's system and capture long-term system savings.

APPENDIX B

Industrial Customer Energy Revenue

Energy Sales at Existing Rates

		Total	ACI - SV	ACI - GF	CBPP	NARL	AUR	Source
1	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	2007Test Year Load Forecast
2	Rate (mills/kWh)		36.76	36.76	36.76	36.76	36.76	
3	Energy Sales ($)	32,874,468	209,532	4,830,264	16,453,776	9,017,228	2,363,668	Ln 1 * Ln 2 /1000

Energy Sales where Second Block represents Test Year Holyrood Energy

		Total	ACI - SV	ACI - GF	CBPP	NARL	AUR	Source
3	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	2007Test Year Load Forecast
4	First Block Ratio		75.67%	75.67%	75.67%	75.67%	75.67%	Table 1
5	Annual First Block kWh	676,716,810	4,313,190	99,430,380	338,698,920	185,618,510	48,655,810	Ln 3 * Ln 4
6	Annual Second Block kWh	217,583,190	1,386,810	31,969,620	108,901,080	59,681,490	15,644,190	Ln 3 - Ln 5
7	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	Ln 5 + Ln 6
8	First Block Rate (mills/kWh)	20.28						
9	Second Block Rate (mills/kWh)	88.05						
10	First Block Revenue ($)		87,471	2,016,448	6,868,814	3,764,343	986,740	Ln 5 * Ln 8 /1000
11	Second Block Revenue ($)		122,109	2,814,925	9,588,740	5,254,955	1,377,471	Ln 6 * Ln 9 /1000
12	Energy Sales ($)	32,882,017	209,580	4,831,373	16,457,554	9,019,299	2,364,211	Ln 10 + Ln 11
13	Difference	7,549	48	1,109	3,778	2,071	543	Ln 12 - Ln 3

Energy Sales where Second Block 25% of monthly total

		Total	ACI - SV	ACI - GF	CBPP	NARL	AUR	Source
14	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	2007Test Year Load Forecast
15	First Block Ratio		75.00%	75.00%	75.00%	75.00%	75.00%	Table 1
16	Annual First Block kWh	670,725,000	4,275,000	98,550,000	335,700,000	183,975,000	48,225,000	Ln 14 * Ln 15
17	Annual Second Block kWh	223,575,000	1,425,000	32,850,000	111,900,000	61,325,000	16,075,000	Ln 14 - Ln 16
18	Average Annual Energy (kWh Sales)	894,300,000	5,700,000	131,400,000	447,600,000	245,300,000	64,300,000	Ln 16 + Ln 17
19	First Block Rate (mills/kWh)	19.67						
20	Second Block Rate (mills/kWh)	88.05						
21	First Block Revenue ($)		84,089	1,938,479	6,603,219	3,618,788	948,586	Ln 16 * Ln 19 /1000
22	Second Block Revenue ($)		125,471	2,892,443	9,852,795	5,399,666	1,415,404	Ln 17 * Ln 20 /1000
23	Energy Sales ($)	32,878,940	209,561	4,830,921	16,456,014	9,018,455	2,363,990	Ln 21 + Ln 22
24	Difference	4,472	29	657	2,238	1,227	322	Ln 23 - Ln 3

First Block Energy Rate variable based on how blocks are fixed. The formula is:
Test Year Industrial Customer Energy Related Revenue Requirement
less
Second Block Energy Revenue
equals
Revenue Requirement to be recovered through first block sales
divided by
Energy Sales kwh
equals
First Block Rate

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2008 04-11

PARTY:	**ATTENTION:**	**E-MAIL**
Newfoundland and Labrador Hydro Hydro Place, Columbus Drive P.O. Box 12400 **St. John's, NL, A1B 4K7**	Mr. Geoffrey P. Young	gyoung@nlh.nl.ca
Newfoundland Power Inc. 55 Kenmount Road P.O. Box 8910 St. John's, NL, A1B 3P6	Mr. Gerard Hayes Mr. Lorne Henderson Mr. Kevin Fagan	ghayes@newfoundlandpower.com lhenderson@newfoundlandpower.com kfagan@newfoundlandpower.com
Consumer Advocate O'Dea, Earle Law Offices 323 Duckworth Street P.O. Box 5955 St. John's, NL **A1C 5X4**	Mr. Thomas Johnson	tjohnson@odeaearle.nf.ca
Industrial Customers Poole Althouse P. O. Box 812 49-51 Park Street Corner Brook, NL A2H 5H7	Mr. Joseph S. Hutchings, Q.C.	jhutchings@pa-law.ca
Steward McKelvey P. O. Box 5038 Cabot Place 100 New Gower Street St. John's, NL A1C 5V3	Mr. Paul L. Coxworthy	pcoxworthy@smss.com

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2008 04 11

To:	**Attention:**
Newfoundland and Labrador Hydro	Mr. Geoffrey P. Young
Newfoundland Power Inc.	Mr. Gerard Hayes
	Mr. Lorne Henderson
	Mr. Kevin Fagan
Consumer Advocate	Mr. Thomas Johnson
Industrial Customers	Mr. Joseph S. Hutchings, Q.C
	Mr. Paul L. Coxworthy

Dear Sir/Madam:

RE: **Newfoundland and Labrador Hydro**
Industrial Rate Design Review

The Board has reviewed the report "Review of the Industrial Customers Rate Design" filed as a result of the October 20, 2006 Agreement on Cost of Service, Rate Design and Rate Stabilization Plan dated February 5, 2007.

The Board notes that in the Executive Summary, page 1 the parties have identified several issues "...to be resolved at a Technical Conference or through some other regulatory proceeding...". Given previous success with a Board facilitated settlement process, the Board is prepared to engage Mr. Mark Kennedy to act in a similar capacity with a view in resolving some or all of the outstanding issues. Thereafter the matter can be brought to the Board by application, if necessary.

Please provide your comments regarding this approach by Friday, April 18, 2008. Should all parties agree, Mr. Kennedy will contact you to facilitate this process.

Yours truly,

Cheryl Blundon
Board Secretary

cc. Mr. Mark Kennedy

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POOLE ALTHOUSE

Barristers & Solicitors

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April 18, 2008

Board of Commissioners of Public Utilities
120 Torbay Road, P.O. Box 21040
St. John's, NL
A1A 5B2

Attn: Ms. Cheryl Blundon, Board Secretary

Re: Newfoundland and Labrador Hydro
Industrial Rate Design Review

Dear Ms. Blundon:

Thank you for your letter of April 11, 2008.

The Industrial Customers would be pleased to participate in the Board facilitated settlement process suggested in your correspondence and we look forward to discussing the matter further with Mr. Kennedy.

Yours very truly,

POOLE ALTHOUSE

Joseph S. Hutchings

JSH/sh

cc Newfoundland & Labrador Hydro
Attn: Mr. Geoffrey P. Young

Newfoundland Power
Attn: Mr. Gerard Hayes

O'Dea Earle
Attn: Mr. Thomas Johnson

Stewart McKelvey
Attn: Mr. Paul L. Coxworthy

J:\clients\25754-47\ltr-parties

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April 18, 2008

Board of Commissioners of Public Utilities
Prince Charles Building
120 Torbay Road
St. John's, Newfoundland & Labrador
A1A 5B2

Attention: Ms. G. Cheryl Blundon,
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Industrial Rate Design Review

This is further to your letter of April 11, 2008 wherein you suggested that the parties avail of the services of Mr. Mark Kennedy as a settlement facilitator in the above-noted matter. We wish to express our consent to the Board's offer of Mr. Kennedy's services of which, we presume, the parties will avail as our needs arise.

From Hydro's perspective, Mr. Kennedy's role in assisting the parties with a number of difficult issues that arose in the settlement negotiations during Hydro's 2006 GRA was extremely positive. We are confident that, if required, he will lend his considerable experience and knowledge to the present matter as well.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

cc. G. Hayes, L. Henderson, K. Fagan, Newfoundland Power
Joseph Hutchings, Q.C. &
Paul Coxworthy, Industrial Customers
Thomas Johnson, Consumer Advocate

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HAND DELIVERED

April 18, 2008

Board of Commissioners
of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Board Secretary

Ladies & Gentlemen:

Re: Newfoundland and Labrador Hydro
Industrial Rate Design Review

This is in reply to your letter dated April 11, 2008.

Newfoundland Power agrees with the proposed approach and the involvement of Mr. Kennedy in resolving outstanding issues.

We expect that our direct involvement in the industrial rate review process will be limited. However, we are prepared to assist and advise where the other participants believe it would be helpful.

In the meantime, we would ask that we continue to be copied on all related correspondence and to be informed of material developments.

Yours very truly,

Gerard M. Hayes
Senior Counsel

c. Geoffrey Young
Newfoundland and Labrador Hydro

Joseph S. Hutchings, Q.C.
Industrial Customers

Mark Kennedy

Thomas Johnson
Consumer Advocate

Paul Coxworthy
Industrial Customers

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Newfoundland and Labrador Hydro Mr. Geoffrey Young Senior Legal Counsel	Hydro Place, Columbus Drive P.O. Box 12400 St. John's, NL A1B 4K7	gyoung@nlh.nl.ca
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Newfoundland Power Inc. Mr. Gerard Hayes Senior Counsel	55 Kenmount Road P.O. Box 8910 St. John's, NL A1B 3P6	ghayes@newfoundlandpower.com

Re: Newfoundland and Labrador Hydro's Industrial Customer Rate Design Review

Dear Sirs:

This is further to correspondence of April 2008 wherein the parties agreed to have outside counsel, Mark Kennedy, facilitate the process for this review. The Board understands that relevant parties were not available over the summer months. At this time, we request that you provide the current status of any discussions and a summary of individual positions on this issue so we may move this matter forward. We shall be engaging Mr. Kennedy at the end of this month so we ask that your positions be received by September 26, 2008.

I trust the foregoing is satisfactory.

Sincerely,

Jacqueline Glynn

Jacqueline Glynn
Legal Counsel

cc: Mr. Mark Kennedy

R:\Hydro\Industrial Rate Design Review\Current position.Sept 16.08.doc

File No. _____

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September 26, 2008

Board of Commissioners of Public Utilities
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ATTENTION: Ms. Cheryl Blundon
Director of Corporate Services & Board Secretary

Dear Ms. Blundon:

Re: Newfoundland and Labrador Hydro's Industrial Customer Rate Design Review

In response to the Board's letter of September 16, 2008, Newfoundland and Labrador Hydro's (Hydro) positions and the Industrial Customer (IC) positions on the Industrial Customer Rate Design Review are contained within the report filed with the Board on February 5, 2008, and conveniently summarized at p 1-2 in the Executive Summary. No substantive discussions have since taken place.

Hydro had consulted with Joseph Hutchings, Counsel to IC, who has expressed his clients' concurrence with the position stated in this correspondence. You may feel free to contact either of us should you require any further information or confirmation.

The IC and Hydro are looking forward to seeking the opinions of the other parties and working with Mr. Kennedy to reach resolution of outstanding issues.

Yours truly,

NEWFOUNDLAND AND LABRADOR HYDRO

Geoffrey P. Young
Senior Legal Counsel

GPY/jc

cc: Gerard Hayes – Newfoundland Power
Paul Coxworthy – Stewart McKelvey Stirling Scales
Joseph S. Hutchings, Q.C., Poole Althouse
Thomas Johnson – Consumer Advocate