Newfoundland and Labrador Hydro

2001 General Rate Application

Evidence of Mark Drazen

On behalf of
City of Labrador City

Project 011244
August, 2001

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Section I—Introduction and Overview

Q PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A Mark Drazen, Bow Valley Square 3, Suite 3180, 255 – 5th Avenue, S.W., Calgary, Alberta, Canada and 7730 Forsyth Boulevard, St. Louis, Missouri, USA.

Q WHAT IS YOUR OCCUPATION?

A I am a consultant in the field of public utility economics and regulation and a member of Drazen Consulting Group, Inc.

Q PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A I have worked in this field since 1972 in project planning, negotiations and rate cases throughout Canada and the United States. Our firm has been in this field since 1937. I have degrees in mathematics and engineering from the Massachusetts Institute of Technology. Details are given in Appendix A.

Q ON WHOSE BEHALF ARE YOU APPEARING IN THIS PROCEEDING?

A I am appearing on behalf of the City of Labrador City.

Q WHAT IS THE SUBJECT OF THIS EVIDENCE?

A The evidence deals with two issues:

(1) the calculation of cash working capital; and

(2) rates for the Labrador Interconnected System.

Q PLEASE SUMMARIZE THE MAIN POINTS IN THIS EVIDENCE.

A The calculation of cash working capital by Newfoundland and Labrador Hydro (NLH) is based on the net lag in the recovery of operating expenses. This is a positive amount (addition to rate base) because operating expenses are generally incurred prior to the time the revenue to pay those expenses is received from customers. The net lag in operation and maintenance expenses is offset in part by a net lead (or negative net lag) in the recovery of HST. Likewise, revenue from customers also recovers Hydro's financial cost, primarily the cost of debt. On average, this revenue is recovered in advance of the time that the payment is made by Hydro. Thus, this net lead on the recovery of financial costs gives rise to an additional negative cash working capital (deduction from rate base).

Hydro has proposed to begin a rate consolidation program for customers on the Labrador Interconnected System. Although there is an overall reduction of about 13.1% in Labrador Interconnected System rates, the customers in Labrador City and Wabush (Labrador West) would see an increase of about 6.5%. This is just the first step in Hydro's multi-year program to consolidate rates for the entire Labrador Interconnected System. A review of the historical, operational and cost aspects of these customers suggests that this increase is inappropriate.

Section II—Cash Working Capital

Q WHAT IS CASH WORKING CAPITAL?

A Cash working capital (CWC) can be viewed as the amount of capital required to bridge the time gap between a period the Company pays out money in order to provide service and the time when that money is collected from customers. This is usually determined by a lead/lag study, which measures when revenue is received and when expenses are incurred relative to the average service date.

To illustrate, consider the month of June. Assuming that service to customers is provided evenly throughout the month, the "average" service date is the middle of the month, or at the end of June 15. For simplicity, assume that all meters are read at the end of the month, bills rendered 7 days later and payment received (on average) 12 days after billing. In this case, the average date for receipt of payment would be 19 days (=7-day billing lag+12-day payment lag) after the end of the month, or 34 days after the average date of service. This is the *revenue lag*.

Next, assume that all employees are paid twice a month, once in the middle and once at the end. In this case, the average date of payment would be 22.5 days into the month (half at day 15 and half at day 30), giving an expense lag of 7.5 days (22.5 days – 15 days). Thus, the *net lag* in the recovery of salary and wage expense would be 26.5 days (=34-day revenue lag – 7.5-day expense lag). Different expenses are paid at different times, so a weighted average operating expense lag is used.

Q IS THERE ALWAYS A NET LAG IN THE RECOVERY OF EXPENSES?

A No. Some expenses are paid after the corresponding revenue has been received from customers. This "negative lag" actually provides working capital that the Company uses. As we shall see, NLH has recognized this to some extent in its calculation.

Q WHAT IS NLH'S REQUESTED CASH WORKING CAPITAL?

A NLH has calculated a CWC requirement of $3,096,000 (Evidence of J. C. Roberts, Schedule III). This comprises a *positive* CWC requirement of $5,535,000 related to operation and maintenance expenses and a *negative* amount of $2,439,000 related to HST. In simplified form, the calculation of CWC on operation and maintenance expenses looks like this:

Table II-1

Cash Working Capital

Category	Annual Cost (000)	Lag Days	CWC Requirement (1)x(2)/365 (000)
Revenue lag		39.46	
Expenses lag		(20.09)	
Net lag		19.37	
Operating expenditures	$88,971		
Power purchases	15,266		
Total	$104,237		
CWC requirement			$5,535

Source: Evidence of J. C. Roberts, Schedule III

As shown on the first line, revenues are received on average 39.46 days after service is rendered. This is the *revenue lag*. Operations and maintenance expenses have an average lag of 20.09 days. Therefore, the *net lag* in time between when operation and maintenance expenses are incurred and when the corresponding revenue is received from customers is 19.37 days (= 39.46 – 20.09).

Total operation and maintenance expenses are $104,237,000. This amount must be funded by CWC for 19.37 days, or 5.31% of a year. This is equivalent to adding $5,535,000 to rate base.

Q HOW DOES HST AFFECT THE CWC REQUIREMENT?

A The effect of usage taxes (HST) is a *negative* component of cash working capital. This is because usage taxes are collected on average from customers *before* they are paid to the governments (details are given in NLH Evidence of J. C. Roberts, Schedule VI). This reduces the CWC requirement by $2,439,000 as shown on Schedules III and VI of the Roberts evidence.

Q WHAT ADJUSTMENT TO THIS DO YOU RECOMMEND?

A As with the usage taxes, interest payments provide the utility with cash working capital, which reduces the CWC requirement.

For bonds with semi-annual payments, on average the expense is incurred with a lag of one-quarter of a year, or 91.25 days. The Company collects revenues in order to pay the interest cost throughout the year, which on average is before it must actually pay the interest. Accordingly, this represents a source of working capital or a negative CWC requirement. Schedule 1 provides some of the regulatory precedents for this. The negative net lag on interest payments provides cash working capital as shown in Table II-2:

Table II-2

Effect of Debt on CWC

Category	Annual Cost (000)	Lag Days	CWC (1)x(2)/365 (000)
Revenue lag		39.46	

Interest expense lag	91.25	
Net lag	(51.79)	
Interest cost	$93,584	
CWC requirement		($13,279)

Source: Interest from Evidence of J. C. Roberts, Schedule I, Line 40, Column (i).

Combining this with NLH's calculation gives a net working capital requirement of *negative* $10,183,000.

Table II-3

CWC Requirement Adjusted for Effect of Interest Expense

	CWC Amount (000)
Operating expenses and power purchases	$ 5,535
HST	(2,439)
Interest	(13,279)
Total	($10,183)

Q WHAT IS YOUR RECOMMENDATION?

A The Board should include the offset to cash working capital provided by collection of interest expense prior to its being paid by Hydro.

Q HOW HAS HYDRO PROPOSED TO CHANGE RATES FOR THE LABRADOR INTERCONNECTED SYSTEM?

A Hydro is proposing to consolidate the three separate sets of Labrador Interconnected System (LIS) rates into one set. An initial step in this case is a net increase in rates for Labrador West (Labrador City and Wabush) customers. Hydro's witness, Mr. Osmond, says that at its next rate application, Hydro will submit a rate plan "outlining alterations in rates over a maximum of five years in order to complete the implementation of a Labrador Interconnected rate structure" (Osmond Evidence, Page 15).

Q WHAT IS PROPOSED IN THIS APPLICATION?

A According to Mr. Osmond, the first step, proposed in this case, is to have Labrador City and Wabush customers would pay the same rates. Table III-1 shows the change for the total Labrador Interconnected System, divided between the Happy Valley/Goose Bay area and the Labrador City/Wabush area:

Table III-1

Labrador Rural Interconnected System
Revenues (000)

	Current	Proposed	Change	%
HV/GB	$ 7,842	$ 6,018	($1,824)	-23.3%
Lab City/Wabush	4,073	4,333	260	+6.4
Total	$11,915	$10,351	($1,564)	-13.1%

Source: Response to NP-138.

Next, we can look at the customer class effects within each of the areas. Table III-2 shows the effect for Happy Valley/Goose Bay and Table III-3 shows the effect for Labrador City/Wabush.

Table III-2

Happy Valley/Goose Bay
Revenues (000)

	Current	Proposed	Change	%
Happy Valley				
Domestic	$3,565	$3,310	($255)	-7.2%
General service	2,929	1,783	(1,146)	-39.1
Dept. of Nat. Def.	1,244	816	(428)	-34.4
Street lighting	104	110	6	+5.8
Total	$7,842	$6,019	($1,823)	-23.3%

Source: Response to NP-138.

Table III-3

Labrador City/Wabush
Revenues (000)

	Current	Proposed	Change	%
Lab City/Wabush				
Domestic	$2,049	$2,400	$351	+17.1%
General service	1,987	1,881	(106)	-5.3
Street lighting	37	53	16	+43.2
Total	$4,073	$4,334	$261	+6.4%

Source: Response to NP-138.

Q WHAT IS HYDRO'S REASON FOR CONSOLIDATING ALL OF THE LABRADOR INTERCONNECTED SYSTEM RATES?

A Mr. Osmond says:

> *The Board in its 1993 Report recommended one Cost of Service Study for the Labrador interconnected system. Consistent with this, Hydro is proposing to simplify rate classes and structures and to implement interconnected rates to include customers in Labrador City, Wabush and the Happy Valley/Goose Bay area. Any rate changes beyond those currently proposed, that arise as a result of these actions, would be included in a five-year plan to be submitted to the Board in Hydro's next Rate Application.* (Pages 12-13)

Hydro's response to Request LC-7, though, indicates that the idea of homogenizing LIS rates was that of Hydro, not of the Board.

Q HAVE YOU REVIEWED THE BOARD'S 1993 REPORT?

A Yes. That report says, among other things:

> ***The Towns have not submitted any evidence or arguments to show that costs in Labrador Interconnected System are not appropriately allocated by means of a single cost of service study****, or that the rate class structure adopted by Hydro for that system is inappropriate. The Board is not aware of any instance where more than one embedded cost of service study has been deemed necessary for a single interconnected system and moreover considers that all customers served within the Labrador Interconnected System share common costs of generation, transmission and a variety of overheads. It therefore concludes that a single cost of service study is appropriate for that system.* (Page 10, emphasis added)

In this evidence, I shall discuss data that suggest there is a cost difference.

Moreover, having a single cost of service study does not preclude the recognition of cost differences among the areas. While the generation and transmission costs may be common, distribution costs may differ among groups of customers. Differences in distribution costs are often the reason for having different rate classes and different rates. As discussed below, distribution costs do differ. The distribution facilities in Labrador City serve customers in that area only. Accordingly, it is logical to calculate the cost of serving Labrador City customers on the basis of common generation and transmission costs and specific distribution costs.

Q WHAT DIFFERENCES ARE THERE IN THE DISTRIBUTION COSTS?

A The distribution systems for Labrador City and Wabush were acquired at no cost (see response to LC-8). Since they were acquired (Wabush in 1985 and Labrador City in 1992), Hydro has made additional investments in the distribution systems. Nevertheless, from the information provided by Hydro, we can determine that the proportion of distribution plant for the Labrador Interconnected System attributable to

Labrador City customers is lower than the amount that is allocated in the cost of service study.

According to LC-8, Hydro's investment in the distribution system compared to its total distribution investment is $5,437,000. The total LIS gross plant is $26,925,000. Therefore, the investment in distribution system for Labrador City amounts to 20% of the total distribution gross plant.

In Hydro's cost of service study, the distribution costs are allocated among all users on the basis of demand and customers. Hydro does not show the demand for Labrador City broken out, but that demand is proportional to the energy usage (converted by load factor), so we can use the energy usage as a proxy. Labrador City customers represent slightly more than 40% of the total usage and number of customers. Table III-4 summarizes the ratios. As a result, the allocation study overstates the cost of serving the Labrador City customers.

Table III-4

Labrador City as Percent of LIS

	Total LIS	Labrador City	
		Amount	Percent
Gross distribution investment (000)	$26,975	$5,437	20%
Energy used (GWh)	462.3	199.8	43
Customers	9,015	$3,696	41%

Given that its distribution system constitutes a much smaller proportion of the total distribution investment, it is appropriate to consider maintaining a lower rate for Labrador City customers.

Q WHAT EVIDENCE IS THERE THAT WABUSH COSTS ARE LOWER?

A For Wabush, Hydro has kept track of the surplus on operations since 1989. According to the response to LC-10, there has been a surplus of revenues over cost (including interest) each year.

Q WHAT IS YOUR RECOMMENDATON?

A Hydro's proposal to homogenize all the rates for the Labrador Interconnected System should not be accepted as a long-term goal. In the current case, it may be reasonable to consolidate the Labrador City and Wabush rates, given that they are already quite similar. However, given the differences in distribution cost and the fact that Hydro has shown a surplus on Wabush sales, there is no need for a net increase in the combined rates for Labrador West customers. Note that leaving the total Labrador West revenues the same will still enable Hydro to offer a substantial reduction to customers in the Happy Valley and Goose Bay area.

Q DOES THAT CONCLUDE YOUR EVIDENCE AT THIS TIME?

A Yes, it does.