Q. Hydro filed, as part of its 2003 GRA, a Discussion Paper for the Minister of Mines and Energy on the Rural Deficit which included information on the comparative practices in other jurisdictions on the subsidization of certain rates, and Hydro further updated this information in response to an information request during the hearing (NP-58). Provide a copy of this Discussion Paper and update the information provided in the 2003 GRA relating to comparative practices in other jurisdictions.

A. Please see PUB-NLH-339 Attachment 1 for a copy of the Discussion Paper. The source of the original data no longer produces it. Hydro attempted to gather the relevant data through its participation on the CEA Finance Committee on two occasions subsequent to getting this RFI and only received a response from one party which had no isolated systems.

DISCUSSION PAPER FOR MINISTER OF MINES AND ENERGY

SUBJECT: RURAL DEFICIT ISSUE

INTRODUCTION

The Board of Commissioners of Public Utilities (Board) directed Newfoundland and Labrador Hydro (Hydro) in its Order No. P.U. 7 (2002-2003) dated June 7, 2002 (the Board's 2002 Order) to develop an evidentiary record on the rural deficit issue. The Board stated that this record is to document appropriate consultation with Government and is to address the magnitude of the rural subsidy, comparative practices elsewhere, as well as future funding options for the rural deficit. The Board further stated that this record should also contain a concise statement of other public policy initiatives being implemented by Hydro on behalf of Government and their associated costs. This evidentiary record must be filed at Hydro's next rate hearing, which is scheduled for 2003.

To assist in the development of the evidentiary record, this paper outlines the history and magnitude of the rural deficit, rural rates policies, cost control initiatives on isolated systems, comparative practices in other Canadian jurisdictions and future funding options.

HISTORY OF THE RURAL DEFICIT

Hydro owns and operates 24 isolated diesel generating plants serving approximately 4,500 customers throughout Newfoundland and Labrador. Hydro also serves rural customers on the island interconnected system and has approximately 21,800 customers in 180 communities on the south coast, northeast coast and along the Great Northern Peninsula. The cost of providing service to these approximated 26,300 rural customers exceeds the revenues collected, resulting in a deficit which is commonly referred to as the "rural deficit". Until 1989 the rural deficit was funded directly by Government, however today the rural deficit is funded by means of a cross-subsidy from other ratepayers as a

result of a change in policy by Government in 1989. The rural deficit adds to the costs of electricity for Newfoundland Power and for Labrador Interconnected customers. Industrial customers have not contributed to the rural deficit since 1999.

Over the past several years the rural deficit has been as follows:

Rural Deficit
($millions)

Year[1]	Rural Island Interconnected	Labrador & Island Isolated	Total
2002	17.6	21.2	38.8
2001	12.1	22.0	34.1
2000	6.8	20.0	26.8
1999	5.8	16.3	22.1
1997	7.5	16.4	23.9
1995	4.4	24.9	29.3
1994	3.2	24.5	27.7
1993	4.0	24.0	28.0
1992	4.2	24.7	28.9

[1] 2002 data is based on the final forecast Test Year Cost of Service Study filed with the Board during the 2001-2002 rate hearing and reflects the costing methodology approved by the Board resulting from that hearing. Data for the remaining years is based on the "Interim" methodology approved as a result of the 1992 generic methodology hearing. Data for 1996 and 1998 is unavailable.

The amount of the rural deficit is affected by the costing methods used by the Board to set electricity rates for Hydro's customers, and, as well, by interconnections of isolated systems to the main electric grid, in particular the interconnection of the St. Anthony system in 1996. Based on the data shown the rural deficit has been trending upward over the past decade. In general, the rural deficit will tend to further increase as an equal annual inflationary adjustment, similarly applied to both revenues (which are low) and costs (which are high) will cause an ever-widening gap, resulting in an increasing deficit.

It is currently projected that the rural deficit will exceed $40 million in 2004. The Board in its 2002 Report:

> *"acknowledges the burden the rural deficit places on subsidizing ratepayers and is concerned with the potential for increasing levels of subsidization".*

MAGNITUDE OF THE SUBSIDY PAID BY OTHER RATE PAYERS

As shown above, the 2002 total deficit for all rural customers is $38.8 million with $21.2 million attributable to isolated rural customers and $17.6 attributable to island interconnected customers. The average subsidy in 2002 is $4,600 for each isolated rural customer and $800 for each island interconnected customer. On the isolated systems, an estimated 26 cents for each dollar spent is recovered from customers, whereas on the interconnected system 64 cents on the dollar is recovered. Newfoundland Power pays Hydro approximately 19% more than the cost of service as a cross-subsidy to fund the rural deficit. Customers on the Labrador interconnected system pay 49% more than their cost of service as their share of the rural deficit. The Board noted in its 2002 Report:

> *"While cross-subsidization among ratepayers is a common practice, witnesses noted the magnitude of the subsidy is of fundamental importance. The Board acknowledges the burden the rural deficit places on subsidizing ratepayers and is concerned with the potential for increasing levels of subsidization. The Board notes that rising costs, and hence higher subsidies, may place an even greater burden on ratepayers who have no ability to control these costs but are responsible for paying them."*

RURAL RATES POLICIES – LIFELINE BLOCK

Electrically interconnected rural customers on the Island and in the Labrador Straits area pay the same rates as those charged by Newfoundland Power to its customers. These rates automatically change as Newfoundland Power alters its rates. In the case of isolated systems customers, the rates charged by Newfoundland Power apply to the first 700 kWh of monthly consumption or the "lifeline block", however, rates beyond this level of consumption are higher. The generally accepted purpose of the lifeline block is to provide domestic

households located on diesel systems with access to electricity at non-discriminatory prices for essential, non-substitutable end-use requirements. The initial Order in Council 184-'74 set the lifeline block at 500 kWh per month effective March 1, 1974. Effective on April 1, 1987, Order in Council 520-'87 increased the lifeline block from 500 to 600 kWh per month. Order in Council 810-'89 further increased the lifeline block from 600 to 700 kWh per month on July 1, 1989, where it now stands. In 1989, the concept of a lifeline block was also extended to general service customers when they were provided 700 kWh per month consumption at island interconnected rates. Current rates for domestic and general service customers on the island interconnected and isolated systems are as follows:

Comparison of Rates		
	Island Interconnected	**Labrador & Island Isolated**
Domestic		
Basic Customer Charge	$16.81	$16.81
First 700 kWh	6.951 ¢	6.951 ¢
Next 300 kWh	6.951 ¢	9.864 ¢
All kWh over 1000 kWh	6.951 ¢	13.372 ¢
General Service[1]		
Basic Customer Charge	$19.13	$19.13
First 700 kWh	9.097 ¢	9.097 ¢
All kWh over 700 kWh	9.097 ¢	20.065 ¢

[1] **Island Interconnected Rate Class 2.1 is compared with Diesel Rate Class 2.5**

The Board's 2002 Order directed Hydro to file a report with the Board in respect of the "lifeline block" for domestic isolated rural customers to assess its adequacy. In preparing this report, a review of diesel household survey and consumption data indicates that there may be merit in considering a change in the existing lifeline block owing to the continued rise in the market share for

electric hot water heating, seasonal electricity use patterns, and the prominence of diesel customers located on Labrador diesel systems. Changes in the lifeline block will impact the rural deficit. For example, an alternative domestic lifeline averaging 850 kWh per month will result in an increase in the rural deficit of $66,000 per year.

Providing a lifeline block of energy for domestic customers however, limits the cost recovery achievable from isolated systems as a whole. The current 700 kWh lifeline block captures approximately 75% of domestic consumption therefore further increases in rates over this consumption level only have marginal effect in reducing the rural deficit.

The Board's 2002 Order directed Hydro to file as part of its next general rate application, a plan to eliminate the "lifeline block" for general service customers on isolated systems. Hydro estimates that this will reduce the rural deficit by approximately $275,000.

RURAL RATES POLICIES – PREFERENTIAL RATES

A number of rural customers also enjoy "preferential" rates further reducing the percent of their costs that they pay compared to other rural customers with the same usage. These preferential rates have been in place for a number of years and have been reviewed by the Board on a number of occasions. Most recently, in its 2002 Order, the Board stated:

> *"the Board finds no regulatory foundation for preferential rates. As outlined when considering the rural deficit, it can be argued cross-subsidization to effect equal rates among similar classes of customers is an accepted regulatory principle depending on the magnitude of the subsidy. No similar regulatory argument can be made for offering one customer a substantially better rate than another comparable customer for the identical service."*

A number of general service customers benefit from preferential rates. These customers include government agencies, fish plants, churches, municipal buildings, and like facilities. The elimination of these preferential rates commenced with the Board's 2002 Order when it directed Hydro to recover, from Federal and Provincial Government departments, the full cost of providing service in rural areas. These rates were implemented on September 1, 2002 resulting in an estimated annual reduction in the rural deficit of $1 million.

Hydro, as part of the next rate application, was ordered by the Board to file a multi-year plan to eliminate all preferential rates and in the case of government agencies, to move to a full cost recovery rate structure.

Based on the most recent estimates, the following table outlines current and target cost recovery levels to be achieved over the next five years for various customers. Hydro, in its rate application, will propose that customers' rates be phased in over that period, by means of automatic annual increases, to meet the target recovery levels.

Island Interconnected

Customer	Current Recovery	Target Recovery [1]	Rate Increase[2]
Burgeo School	41%	100%	144%
Burgeo Library	50%	100%	100%

[1] Recovery target is the based on the appropriate island interconnected rate.
[2] Increases are based on preliminary estimates and are subject to change however are believed to be indicative. These increases do not include any general rate increase which would be applicable to all customers.

Isolated Systems

Customer	Current Recovery	Target Recovery[1]	Rate Increase[2]
Schools			
Rate 0-10kW	20%	100%	400%
Rate Over 10kW	26%	100%	285%
Health Facilities			
Rate 0-10kW	31%	100%	223%
Rate Over 10kW	37%	100%	170%
Fish Plants			
Rate Over 10kW	17%	45%	165%
Churches and Community Halls			
Rate 0-10kW	21%	45%	114%
Rate Over 10kW	25%	45%	80%
Other General Service			
Rate 0-10kW	31%	45%	45%
Rate Over 10kW	40%	45%	13%
Street and Area Lighting			
Health Facilities and Schools	32%	100%	213%
Regular	36%	50%	39%

[1] Recovery target is the based on the applicable cost recovery level.
[2] Increases are based on preliminary estimates and are subject to change however are believed to be indicative. These increases do not include any general rate increase which would be applicable to all customers.

When fully implemented, rate initiatives outlined in the above tables are estimated to reduce the rural deficit by approximately $2 million.

COST CONTROL INITIATIVES ON ISOLATED SYSTEMS

Hydro has identified a number of initiatives designed to reduce or control the rural deficit. These initiatives include cost reduction, conservation and other measures. Some of the initiatives implemented include interconnection of isolated systems to the main grid where economically attractive, training a multi-skilled workforce in these remote areas, adopting industry recognized best practices for maintenance of isolated systems' assets, implementing demand side management programs and seeking alternative technologies for generation supply. Where possible, Hydro is also seeking to close plants based on community relocations.

The cost savings achieved as a result of these continuing efforts are reflected in the deficit amounts quoted previously.

COMPARATIVE PRACTICES IN OTHER JURISDICTIONS

A number of other provinces in Canada provide electrical service to isolated or remote communities. In May, 2001 and November, 2002 Manitoba Hydro conducted surveys which outline a basis of comparison to Hydro's isolated systems. A summary of the cost of providing service to isolated rural customers is shown below:

Utility[1]	Communities Served	Number of Customers	Operating Deficit $millions	Average Cost per kWh	Deficit per Customer
ATCO Electric	10	N/A	Not Tracked	21¢	N/A
BC Hydro	9	9,104	28	13¢ [3]	$3,076
Hydro One	20	3,691	18[2]	51¢	$4,877
Hydro Quebec	40	13,797	106	45¢	$7,683
Manitoba Hydro	4	791	3	64¢	$3,793
Newfoundland & Labrador Hydro	25	4,463	16[4]	44¢	$3,585
Northwest Territories Power Corporation	51	15,766	0	17¢ [5]	0
Yukon Electrical	10	1,300	Not Tracked	N/A	N/A

[1] **Numbers based on Manitoba Hydro's May 2001 Survey.**
[2] **Subsidy amount $17 million.**
[3] **Based on costs as of March 2000. Does not reflect increases in diesel prices.**
[4] **Based on 1999 Cost of Service Study.**
[5] **Figure under review...may include non-diesel sites as well.**

As can be seen from the above data, Hydro's isolated rural deficit per customer amount of $3,585, based on 1999 data, falls within the range experienced by other utilities. A summary of rates policies for isolated systems customers across Canada is outlined in Appendix A. A review of these rates shows that other

utilities charge rates for some initial level of consumption at interconnected or grid rates, similar to the "lifeline" block feature of Hydro's isolated rural rates.

With its small population base, however, Newfoundland and Labrador has relatively few customers over which to collect the deficit incurred to service isolated systems. In the 1995 inquiry into rural electric service conducted by the Board, Newfoundland Power pointed out in its evidence[1] that

> *"Hydro's operating deficit for its diesel areas at 8.8% of revenue from electricity sales is by far the largest. Only Hydro Quebec has an operating deficit that is larger in actual dollars but represents only approximately 1% of revenue from electricity sales. B.C. Hydro's operating deficit is also approximately 1%. Manitoba Hydro and Ontario Hydro operating deficits represent about 0.1% or less of revenue from electrical sales."*

The magnitude of the rural deficit borne by the other customers (Newfoundland Power's customers and Labrador interconnected customers) was an issue in the 2002 Rate Hearing.

FUTURE FUNDING OPTIONS

In its October, 1995 Report[2] concerning rural electric service, the Board outlined the following options regarding the funding of the rural deficit:

(i) reinstatement of the Government subsidy
(ii) continued cross-subsidization among ratepayers
(iii) full cost recovery from end users
(iv) some combination of the above

In its 2002 Order the Board again reiterated these options, stating:

[1] Direct Evidence, March 17, 1995, Mr Tom Connors, p3.
[2] Report of the Board of Commissioners of Public Utilities to the Honorable Minister of Natural Resources, Government of Newfoundland and Labrador on a Referral by the Lieutenant-Governor in Council Concerning Rural Electric Service, October 10, 1995

> *"The question of who should share in this continuing liability, either rural customers, other customers, NLH and/or Government, may become a central issue for the Board in the future."*

With regard to continued increasing cross-subsidization among ratepayers, the Board highlights a concern of implementing rates which are unreasonable or discriminatory:

> *"The Board refers to its statutory obligations in implementing rates that are in accordance with the provincial power policy. Section 3.3 (a) (i) of the EPCA states "the rates to be charged … should be reasonable and not unjustly discriminatory". Depending on the level of subsidy paid by one customer to support equitable rates for another customer, rates may be judged unreasonable and discriminatory to the subsidizing customer.*"

With regard to continued increasing cost recovery from end-users, the Board also points out a concern of implementing rates which are unreasonable or discriminatory:

> *"The alternative, commensurate with reducing this subsidy, would be to change rate design to shift additional costs to rural customers. This reallocation, it could be argued, may not provide reasonable or non-discriminatory rates to rural customers.*"

It appears, from the Board's perspective, that funding options from subsidizing ratepayers and end users are reaching or have reached maximum levels. This leaves one other alternative, namely funding from government. The Board's Order states:

> *"Under these circumstances, the only effective means of implementing the provincial power policy is to transfer some or all the rural deficit to NLH or its shareholder, Government…..The Board notes that a number of witnesses supported social policies being reflected as a cost to Government with the proposed options varying from adjusting shareholder return to recovering this cost through appropriate taxation. The Board is not inclined to adjust NLH's regulated 3% ROE in this Application and is of the view that taxation is a prerogative of Government beyond the control of this Board. The Board feels strongly, however, that discussions*

involving NLH and Government around future funding options for the rural deficit should constitute part of the evidentiary record."

EVIDENTIARY RECORD

To prepare for its upcoming rate filing, Hydro is updating its review of comparative practices in other jurisdictions and as well updating evidence on the initiatives it has implemented and continues to implement to improve operational efficiency in rural areas. Hydro is also required to seek explicit written comment from Government on the rural deficit issue which, in turn, will form part of the required evidentiary record ordered by the Board to be filed as part of its rate hearing evidence.

APPENDIX A

SUMMARY OF RATES PRACTICES IN OTHER CANADIAN REMOTE ISOLATED COMMUNITIES

- **Hydro Quebec** – residential customers receive the first 900 kWh per month at the same rates as residential customers served from the interconnected grid with the rates for consumption above this level being 26.5¢ per kWh.

- **ATCO** – customers in all isolated communities are served on the same rates as interconnected customers.

- **Manitoba Hydro** – residential customers are limited to a 60-amp service or less and pay the same rates as customers served from the interconnected grid. General service non-government customers pay interconnected rates on the first 3000 kWh per month and a full cost rate of 35.9¢ on consumption in excess of this level.

- **Northwest Territories Power** - residential customers pay the same rates as customers served from the grid for the first 700 kWh per month. Consumption above this level is charged at rates designed to recover full cost. A small number of qualified general service customers who apply for a Territorial Support Program receive up to 1000 kWh per month at the grid rates, with additional consumption being charged a rate designed to recover full costs.

- **B. C. Hydro** - residential customers pay the same rate as customers served on the interconnected grid for the first 1500 kWh per month and 9.91¢ per kWh for consumption above this level. General service customers less than 35 kW pay interconnected rates on the first 7000 kWh per month, while general service

customers greater than 35 kW pay interconnected rates for the first 200 kWh per kW per month. All consumption in excess of these levels for general service customers is billed at 10.8¢ per kWh.

- **Yukon Electrical** - residential customers pay the same rates as customers served from the interconnected grid for the first 1000 kWh per month while general service customers pay the interconnected rates for the first 2000 kWh per month. Consumption above these levels for all customers varies from 10.45¢ to 33.56¢ per kWh.