1   Q.   Please provide a written description using examples to illustrate the application of

2   the existing approved methodology for the allocation of the Rural Deficit between

3   Newfoundland Power Inc. and the Labrador Interconnected System.

4

5

6   A.   The existing approved methodology for the application of the Rural Deficit between

7   Newfoundland Power (NP) and Hydro Rural Labrador Interconnected Customers is

8   based on a methodology proposed by Mr. G.C. Baker[1] in the 1992/93 Cost of

9   Service Methodology proceeding. Mr. Baker described his methodology as "a mini-

10   cost of service study for the purpose of allocating the deficit between the two

11   systems."[2]

12

13   The description of this methodology that follows uses the 2015 Test Year Cost of

14   Service information provided in PUB-NLH-392 Attachment 1. Detailed references to

15   source data are provided in that Attachment.

16

17   **Step 1 - Classify the Rural Deficit into (i) Demand (ii) Energy and (iii) Customer**

18   **based on the Revenue Requirement of the classes that pay the Rural Deficit.**

19

20   The total revenue requirement of the paying classes and its classification is shown

21   in the following table:

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[1] Refer to Mr. G.C. Baker Evidence in PUB-NLH-483 Attachment 1.
[2] Refer to Mr. G.C. Baker Evidence in PUB-NLH-483 Attachment 1, page 29, lines 22 – 23.

$ millions

Rate Class	Revenue Requirement	Demand	Energy	Customer
NP	463.7	153.9	305.4	4.3
Rural Labrador	18.1	11.1	1.3	5.7
Total	481.8	165.0	306.7	10.0
% of Total		34.2%	63.7%	2.1%

1

2   Applying the classification percentages, which are developed based on

3   Newfoundland Power and Hydro Rural Labrador Interconnected total revenue

4   requirement, results in the following classification of the Rural Deficit:

5

$ millions

	Rural Deficit	Demand	Energy	Customer
% of Total		34.2%	63.7%	2.1%
Rural Deficit ($million)	64.1	22.0	40.8	1.3

6

7   **Step 2 – Using the Classification of the Rural Deficit into (i) Demand (ii) Energy and**

8   **(iii) Customer, as calculated, develop "Deficit Unit Costs".**

9

10   The units which are used as the allocation basis of the paying classes for (i) Demand

11   (ii) Energy and (iii) Customer are shown in the following table:

12

Rate Class	Demand CP kW	Energy MWH	Customers
NP	1,296,985	6,118,065	8,029
Rural Labrador	158,171	740,254	11,600
Total	1,455,156	6,858,320	19,629

1   Applying the units which are used as the allocation basis of the paying classes for (i)

2   Demand (ii) Energy and (iii) Customers to the Rural Deficit classified above, results

3   in the following "Deficit Unit Costs":

4

	Demand	Energy	Customer
Rural Deficit ($m)	22.0	40.8	1.3
Total Units	1,455,156 kW	6,858,320 MWH	19,629 Customers
Deficit Unit Costs	$15.08/kW	$5.95/MWH	$67.97/Customer

5

6   In this step of the allocation, it is noted, based on a number of requests for

7   information, that Mr. Baker's procedure for developing a customer allocator for NP

8   has caused some confusion. Hydro provides the following explanation as its

9   understanding of the procedure used to develop the Customer allocator related to

10   NP:

In the 2015 Cost of Service Study, NP has Specifically Assigned Costs of $4.3 million. To express this amount in Customers, which would be on a comparable allocator basis as Labrador Rural, Mr. Baker's procedure uses cost per customer for Island Interconnected Rural Customers of $539.42[3] divided by NP's Specifically Assigned Costs of $4.3 million to "back into" what is described in Mr. Baker's evidence as "Equivalent Unweighted Customers" of 8,029 customers. The calculated customer allocator of $67.97/customer is then used to allocate $1.3 million (or 2%) of the customer-related Rural Deficit between NP and Hydro Rural Labrador Interconnected Customers.

11   Refer also to Hydro's response to IN-NLH-305.

12

13   **Step 3 – Using the "Deficit Unit Costs", allocate the Rural Deficit between**

14   **Newfoundland Power and the Labrador Rural Interconnected customers.**

---

[3] Island Interconnected Rural Customer Costs of $12,800,038 divided by 23,729 Island Interconnected Rural Customers. Costs reference: Exhibit 13, Schedule 1.3.1, page 1, line 12, column 5; Customers reference: Exhibit 13, Schedule 1.3.2, page 1, line 12, column 4.

1   Applying the "Deficit Unit Costs" to the units that are used as the allocation basis of

2   the paying classes for (i) Demand (ii) Energy and (iii) Customer results in the Total

3   Rural Deficit of $64.1 million being allocated to NP in the amount of $56.5 million

4   and to Hydro Rural Labrador Interconnected Customers in the amount of $7.6

5   million as follows:

6

Rate Class	Demand CP kW	Energy MWH	Customers	
NP	1,296,985	6,118,065	8,029	
Rural Labrador	158,171	740,254	11,600	
Deficit Unit Costs	$15.08/kW	$5.95/MWH	$67.97/Customer	
Deficit Allocation	**Demand**	**Energy**	**Customer**	**Rural Deficit**
		$ millions		
NP	19.6	36.4	0.5	56.5
Rural Labrador	2.4	4.4	0.8	7.6

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1   If the Average & Excess method is considered appropriate for
2   allocation of generation demand costs in these systems, there does
3   not appear to be any reason for allocating transmission demand costs
4   on a different basis.

5 Q. Is the proposed method of allocating the rural revenue deficiency
6   appropriate?

7 A. NLH proposes to allocate the rural revenue deficiency to the
8   subsidizing classes on the basis of revenue requirement.

9   This scheme would result in Labrador Interconnected System paying
10   about 6% of the deficiency and Island subsidizing classes paying
11   about 94%. The cost of electricity in the Labrador Interconnected
12   System is less than half as much as in the Island Interconnected
13   System. For this reason, the subsidy costs would be about $4.71 per
14   MWh at generation for the Island classes and about $1.94 per MWh for
15   the Labrador classes. To saddle certain classes with higher subsidy
16   costs simply because they have higher rates to start with seems
17   unfair.

18 Q. Does Hydro's approach apply standard cost of service methodology?

19 A. Proration on cost between classes within the same class of service
20   is standard procedure. It is used many times in a typical cost of
21   service study. However, in this case separate cost of service
22   studies have been made for Island Interconnected, Labrador
23   Interconnected and Isolated Systems. Thus, the classes to which
24   deficit costs must be allocated do not share a common cost base. In
25   consequence, the considerations which usually justify proration on
26   cost are simply non-existent insofar as the sharing of costs between
27   Labrador and Island Interconnected Systems is concerned.

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1   Q. What alternative approaches might be preferable?

2   A. I am not aware of any generally accepted cost of service methodology
3   for dealing with this particular situation.   In finding the best
4   solution, judgment must play a part.

5   It may be helpful to consider the circumstances which give rise to
6   the revenue deficiency. To the best of my knowledge, statutory and,
7   for the present time at least, public policy limitations exist on
8   Rural and Isolated rate levels. Newfoundland Light & Power rates
9   provide a ceiling. One might draw the inference that public policy
10   at this time requires those who are fortunate enough to enjoy cheap
11   electric service to share their good fortune with those who are not
12   so lucky.

13   From a purely tactical point of view, charging as much of the
14   deficiency as possible to the Island Interconnected subsidizing
15   classes in general and to Newfoundland Light & Power in particular
16   would maximize the increase in the aforesaid ceiling and minimize
17   the apparent revenue deficiency.

18   However, such an approach would increase the rate differential
20   between Labrador and Island Interconnected Systems and would seem in
21   this respect to circumvent rather than support public policy; if
22   indeed that policy favours a levelling process.

23   From the point of view of equitability, there can be little doubt
24   that the deficiency should be shared between Island and Labrador
25   subsidizing classes on the basis of equal per unit costs.

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1   Q. How can this be achieved?

2   A. From Dr. Sarikas' arguments (page 22 of his testimony), it seems
3   clear that any method of allocating the deficiency must observe the
4   following constraints:

5   (1) Subsidizing classes within any one cost of service area should
6   have identical revenue-to-cost ratios after the allocation.
7   This dictates proration on cost within each cost of service
8   study.

9   (2) The quantity measure used as the basis for allocation cannot be
10   energy only; it must be inclusive of all aspects of electric
11   service.

12   These requirements are easily met. One approach which does so
13   involves a preliminary split of costs between Newfoundland and
14   Labrador on the basis of demand, energy and customer number. It is
15   illustrated in Exhibit GCB-5.

16   The procedure illustrated first classifies the deficit by proration
17   on the classified costs of subsidizing classes. Next, the
18   classified totals are divided by the use characteristics of the
19   subsidizing classes as a whole to obtain unit classified costs.
20   These unit costs are then used to allocate between Island and
21   Labrador Systems.

22   This is nothing more than a mini-cost of service study for the
23   purpose of allocating the deficit between the two systems. After
24   that procedure, the costs assigned to each system should be
25   allocated to subsidizing classes within that system in the manner
26   proposed by Dr. Sarikas.

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1   The result of this approach is to increase unit costs equally in the
2   two Interconnected Systems. However, the percentage increase would
3   be over twice as large for Labrador as for the Island. It might for
4   that reason be found expedient to spread the Labrador impact over
5   two or more successive rate increases. That, however, is an aspect
6   of rate design rather than cost of service methodology.

7   Q. Does Newfoundland Light & Power receive credit for the capacity of
8   its mobile gas turbine?

9   A. The response to GCB-13 indicates that no credit is provided in the
10   present cost of service study.

11   Q. This was a point of disagreement at the last hearing. What are your
12   views?

13   A. From the record of that hearing it appears that NP claimed in final
14   argument that it should receive a credit and that Hydro disagreed in
15   its rebuttal on the grounds that:

16   (1) The purpose of the unit is not for system reserve, but to
17   provide emergency generation for areas that become isolated
18   from the main grid;

19   (2) That it is not permanently connected to the grid; and

20   (3) That no credit had been given in the past and NP had not
21   objected.

EXHIBIT GCB-5.1

1. CLASSIFICATION OF DEFICIT

(Classified Allocated Costs
Before Deficit Allocation

		(1) TOTAL	(2) DEMAND	(3) ENERGY	(4) CUSTOMER	SOURCE (RAB-1
	CLASS	$	$	$	$	Schedule)
1.	NLP	175,286,264	114,823,391	58,218,885	2,243,988	1.3.1(P1)
2.	Island Industrial	37,164,834	19,091,933	17,104,784	968,117	1.3.1(P1)
3.	Lab. Intercon.	13,401,357	10,470,416	1,408,487	1,522,454	1.3.1(P3)
4.	Total	225,852,455	144,385,740	76,732,156	4,734,559	
5.	Deficit prorated	28,487,316	18,211,723	9,678,412	597,181	Prorated on li 4

2. UNIT COSTS OF DEFICIT

(Demand, Energy & Customer Totals)

		DEMAND	ENERGY	CUSTOMER* Equivalent	
	CLASS	AED KW	MWh	Unweighted	
6.	NLP	977,031	4,397,884	9,574	3.1A & 3.2A
7.	Island Industrial	166,911	1,292,104	4,131	3.1A & 3.2A
8.	Subtotal, Island	1,143,942	5,689,988	13,705	
9.	DND	21,236	141,298	484	3.1C & 3.2C
10.	1OCC	38,409	243,051	--	3.1C
11.	Labrador Rural	111,624	485,366	7,560	3.1C & 3.2C
12.	Subtotal, Labrador	171,269	869,715	8,044	
13.	Total	1,315,211	6,559,703	21,749	
14.	Deficit unit costs	13.84700/KW	$1.47543/MWh	$27.458 /cust.	Li 5/li 13

*Specifically assigned costs are converted to equivalent unweighted
  customers by dividing the assigned cost by the allocated customer
  cost per unweighted customer ($234.38 Island & $189.28 Labrador).