Q. **Reference: Holyrood Fuel (Cost of Service Study and Long Term Supply Deferral Account) Application, Volume I, Schedule F, 2027 Test Year Cost of Service Study**

a) Please provide a rationale for using annual energy to allocate Holyrood energy costs, if the Holyrood operation is only in winter. Please specifically and separately address:

i. Holyrood fuel costs (as opposed to using monthly energy in the month in which the costs occur)

ii. Holyrood energy-classified fixed costs (as opposed to using the sum of winter energy over the months where Holyrood operation is expected)

b) Per Schedule F4.3, Application, Volume I, please provide calculations in support of the 455,225,658 kWh of forecast generation from Holyrood, indicating the specific derivation of this value and how the 70 MW minimum operating level is assumed as part of those inputs (i.e., is this value 70 MW times a given number of hours, etc.).

c) Please provide a version of Schedule F based on the principle that Holyrood fuel is a necessary operating cost of securing Holyrood capacity, and is only incidental to producing energy, and is therefore classified the same as Holyrood capital costs (11.16% to energy, with the remainder to capacity).

A. **a)** Holyrood's fuel cost and energy-classified fixed costs form part of Newfoundland and Labrador Hydro's ("Hydro") annual cost of providing service and should therefore be recovered using annual energy. Although fuel consumption is concentrated in the winter, the fuel expense is forecast and recovered as an annual cost, and using monthly energy would make allocations dependent on the timing of dispatch and winter operating conditions. Similarly, Holyrood's energy-classified fixed costs are allocated in the test year cost of service, similar to all other energy-related costs, based on energy independent of the time of delivery.

This approach is consistent with the allocation of Holyrood costs in the previous general rate application ("GRA") in a pre-Labrador-Island Link and Muskrat Falls System. Table 1 presents the 2019 Test Year energy profile. As illustrated, energy production has historically exhibited a seasonal pattern; however, Holyrood costs have traditionally been allocated on an annual basis.

Table 1: 2019 Test Year Holyrood Profile (kWh)

Month	Holyrood Thermal
January	245,520,000
February	211,680,000
March	104,160,000
April	61,150,000
May	37,200,000
June	17,080,000
July	-
August	-
September	36,000,000
October	74,400,000
November	129,360,000
December	153,243,000
Total	**1,069,793,000**

b) The approximately 455 GWh forecast of Holyrood Thermal Generating Station ("Holyrood TGS") production in the 2027 Test Year is a result of the optimized run from PLEXOS. Holyrood TGS is modeled with a minimum generation commitment during the winter period, as described in Hydro's response to part a) of CA-NLH-159 of this proceeding. This minimum generation is equivalent to 424 GWh annually. The PLEXOS model can dispatch Holyrood TGS above the minimum commitment level from time to time to meet peaking demand, resulting in annual generation that exceeds the minimum by approximately 31 GWh in the 2027 Test Year.

c) Please refer to IIC-NLH-022, Attachment 1 for a modified Schedule F of Hydro's 2026 GRA based on the principle that Holyrood fuel is a necessary operating cost of securing Holyrood capacity, and is only incidental to producing energy, and is therefore classified the same as

Holyrood capital costs, that is, reflecting an allocation of 11.16% to energy with the remainder to capacity.

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Total System
Comparison of Revenue & Allocated Revenue Requirement (Revised, Holyrood Fuel Allocated 11.16% Energy)

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credits ($)	5 Deficit ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	Total System						
1	Newfoundland Power	636,811,717	574,317,256	-	62,498,545	636,815,801	
2	RSP Activity	-	-	-	-	-	
3	Subtotal Newfoundland Power	**636,811,717**	**574,317,256**	**-**	**62,498,545**	**636,815,801**	**1.11**
4	Island Industrial	40,450,937	40,447,375	-	-	40,447,375	1.00
5	Unallocated RSP Hydraulic Variation	-	-	-	-	-	-
6	Labrador Industrial	9,171,998	9,172,200	-	-	9,172,200	1.00
7	CFB - Goose Bay Secondary	-	-	-	-	-	-
8	Rural Labrador Interconnected	22,231,036	20,039,020	-	2,180,693	22,219,713	1.11
	Rural Deficit Areas						
9	Island Interconnected	68,909,058	87,024,339	-	(18,115,281)	68,909,058	0.79
10	Island Isolated	1,717,949	10,404,402	-	(8,686,453)	1,717,949	0.17
11	Labrador Isolated	11,969,343	44,165,488	-	(32,196,145)	11,969,343	0.27
12	L'Anse au Loup	4,077,137	9,758,496	-	(5,681,359)	4,077,137	0.42
13	CFB Revenue Credit Applied to Deficit	-	-	-	-	-	-
14	**Subtotal**	**86,673,487**	**151,352,724**	**-**	**(64,679,238)**	**86,673,487**	**0.57**
15	**Total**	**795,339,174**	**795,328,575**	**-**	**-**	**795,328,575**	**1.00**

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Island Interconnected
Comparison of Revenue & Allocated Revenue Requirement (Revised, Holyrood Fuel Allocated 11.16% Energy)

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credit ($)	5 Deficit Allocation ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	Island Interconnected						
1	Newfoundland Power	636,811,717	574,317,256	-	62,498,545	636,815,801	
2	NLP RSP Activity	-				-	
3	**Subtotal Newfoundland Power**	**636,811,717**	**574,317,256**	**-**	**62,498,545**	**636,815,801**	**1.11**
4	Industrial - Firm	40,450,937	40,447,375	-		40,447,375	
5	Industrial - Non-Firm	-	-	-		-	
6	Industrial RSP Activity	-				-	
7	**Subtotal Industrial**	**40,450,937**	**40,447,375**	**-**	**-**	**40,447,375**	**1.00**
8	**Unallocated RSP Hydraulic Variation**	-					
	Rural						
9	1.1 Domestic	18,788,948	28,317,187	-	(9,528,239)	18,788,948	0.66
10	1.12 Domestic All Electric	23,929,645	31,346,443	-	(7,416,798)	23,929,645	0.76
11	1.3 Special	21,704	88,293	-	(66,589)	21,704	0.25
12	2.1 General Service 0-100 kW	12,084,583	13,454,817	-	(1,370,233)	12,084,583	0.90
13	2.3 General Service 110-1,000 kVa	7,645,700	7,733,595	-	(87,895)	7,645,700	0.99
14	2.4 General Service Over 1,000 kVa	5,260,869	4,626,833	-	634,037	5,260,869	1.14
15	4.1 Street and Area Lighting	1,177,608	1,457,171	-	(279,563)	1,177,608	0.81
16	**Subtotal Rural**	**68,909,058**	**87,024,339**	**-**	**(18,115,281)**	**68,909,058**	**0.79**
17	**Total Island Interconnected**	**746,171,712**	**701,788,970**	**-**	**44,383,264**	**746,172,234**	**1.06**

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Island Isolated
Comparison of Revenue & Allocated Revenue Requirement

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credit ($)	5 Deficit ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	Island Isolated						
1	1.2 Domestic Diesel	809,510	7,704,844		(6,895,334)	809,510	0.11
2	1.2G Government Domestic Diesel	-	55,464		(55,464)	-	-
3	1.23 Churches, Schools & Com Halls	54,843	367,319		(312,476)	54,843	0.15
4	2.1 General Service 0-10 kW	285,054	823,425		(538,370)	285,054	0.35
5	2.2 GS 10-100 kW	535,299	1,290,296		(754,997)	535,299	0.41
6	2.3 GS 110-1,000 kVa	-	-		-	-	-
7	2.4 General Service Over 1,000 kVa	-	-		-	-	-
8	4.1 Street and Area Lighting	26,859	163,053		(136,195)	26,859	0.16
9	4.1G Gov't Street and Area Lighting	6,384	-		6,384	6,384	-
10	**Total**	**1,717,949**	**10,404,402**		**(8,686,453)**	**1,717,949**	**0.17**

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Labrador Isolated
Comparison of Revenue & Allocated Revenue Requirement

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credit ($)	5 Deficit ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	Labrador Isolated						
1	1.2 Domestic Diesel	4,669,502	25,171,515		(20,502,013)	4,669,502	0.19
2	1.2G Government Domestic Diesel	945,104	894,393		50,711	945,104	1.06
3	1.23 Churches, Schools & Com Halls	328,742	1,337,649		(1,008,907)	328,742	0.25
4	2.1 General Service 0-10 kW	1,505,530	3,692,362		(2,186,832)	1,505,530	0.41
5	2.2 GS 10-100 kW	3,760,679	9,555,598		(5,794,920)	3,760,679	0.39
6	2.3 GS 110-1,000 kVa	364,087	1,830,407		(1,466,319)	364,087	0.20
7	2.4 General Service Over 1,000 kVa	245,160	1,373,675		(1,128,515)	245,160	0.18
8	4.1 Street and Area Lighting	144,155	309,889		(165,734)	144,155	0.47
9	4.1G Gov't Street and Area Lighting	6,384	-		6,384	6,384	-
10	**Total**	**11,969,343**	**44,165,488**		**(32,196,145)**	**11,969,343**	**0.27**

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
L'Anse au Loup
Comparison of Revenue & Allocated Revenue Requirement

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credit ($)	5 Deficit ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	L'Anse au Loup						
1	1.1 Domestic	828,511	2,224,304		(1,395,792)	828,511	0.37
2	1.12 Domestic All Electric	1,782,547	4,421,637		(2,639,090)	1,782,547	0.40
3	2.1 General Service 0-100 kW	1,046,118	2,332,950		(1,286,832)	1,046,118	0.45
4	2.2 General Service 10-100 kW	-	-		-	-	-
5	2.3 General Service 110-1,000 kVa	354,037	690,869		(336,832)	354,037	0.51
6	4.1 Street and Area Lighting	65,923	88,737		(22,814)	65,923	0.74
7	**Total L'Anse Au Loup**	**4,077,137**	**9,758,496**		**(5,681,359)**	**4,077,137**	**0.42**

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Labrador Interconnected
Comparison of Revenue & Allocated Revenue Requirement

Line No.	1 Rate Class	2 Revenues ($)	3 Cost of Service Before Deficit and Revenue Credit Allocation ($)	4 Revenue Credit ($)	5 Deficit Allocation ($)	6 Revenue Requirement After Deficit and Revenue Credit Allocation (Col.3+4+5) ($)	7 Revenue to Cost Coverage (Col.2/3)
	Labrador Interconnected						
1	Labrador Industrial Firm	9,171,998	9,172,200		-	9,172,200	1.00
2	Labrador Industrial Non-Firm	-	-		-	-	-
3	**Subtotal Industrial**	**9,171,998**	**9,172,200**	**-**	**-**	**9,172,200**	
4	CFB - Goose Bay Secondary	-	-	-	-	-	-
	Rural						
5	1.1 Domestic	106,057	206,448	-	22,466.11	228,914	0.46
6	1.1A Domestic All Electric	11,783,491	12,172,687	-	1,324,660	13,497,348	0.87
7	2.1 General Service 0-10 kW	302,008	302,668	-	32,937	335,605	0.90
8	2.2 General Service 10-100 kW	2,488,347	1,963,429	-	213,665	2,177,094	1.14
9	2.3 General Service 110-1,000 kVa	4,254,476	2,864,082	-	311,676	3,175,758	1.34
10	2.4 General Service Over 1,000 kVa	2,903,849	2,090,121	-	227,452	2,317,573	1.25
11	4.1 Street and Area Lighting	392,808	439,585	-	47,837	487,422	0.81
12	**Subtotal Rural**	**22,231,036**	**20,039,020**	**-**	**2,180,693**	**22,219,713**	
13	**Total Labrador Interconnected**	**31,403,034**	**29,211,220**	**-**	**2,180,693**	**31,391,913**	

NEWFOUNDLAND AND LABRADOR HYDRO
2027 Test Year Cost of Service Study
Total System
Rural Deficit Allocation

Line No.	1	2		
		Deficit Allocation Allocated on Revenue Requirment ($)	Island Interconnected ($)	Labrador Interconnected ($)
	ALLOCATION OF DEFICIT:			
1	Rural Deficit Classified	64,679,238		
2	**Allocated Totals**	**64,679,238**	**62,498,545**	**2,180,693**

	CUSTOMER DEFICIT ALLOCATION:	Amount	Revenue Requirement	Percent
	Island Interconnected:			
3	Newfoundland Power	62,498,545	574,317,256	96.6%
	Labrador Interconnected:			
4	Rural Labrador Interconnected	2,180,693	20,039,020	3.4%
5	**Total**	**64,679,238**		100.0%