Island Regulatory and Appeals Commission
Matter No. UE41400

IN THE MATTER OF *THE ELECTRIC POWER ACT, R.S.P.E.I. 1988, cap. E-4, as amended*

- and -

IN THE MATTER OF *An application by Prince Edward Island Energy Corporation ("PEIEC")for the approval of a 2018-2021 Demand Side Management ("DSM") Resource Plan*

Prince Edward Island Energy Corporation Responses to Interrogatories of Synapse

dated October 29, 2018

Filed By: Prince Edward Island Energy Corporation
Date Filed: November 30, 2018

Request IR-34:

Please refer to the attachment to the response to Synapse IR-08(b). Why are net customer costs negative for Custom Energy Solutions in 2018/19 ?

Response IR-34:

The Custom Energy Solutions program is not expected to generate energy or demand savings in the first year of the Plan, given the long lead times associated with higher complexity projects in this program. The activities contemplated for year one of the Custom Energy Solutions program include the provision of incentives for scoping and feasibility studies. These studies were modelled as having no incremental cost. A revised version of Synapse RIR-08 Attachment 1 is attached to this response, using an incremental cost equal to the incentives provided.

2018-2021 Annual Gross Utility Costs (PAC)	Gross Utility Costs		
	2018/2019	2019/2020	2020/2021
Energy Efficient Equipment Rebates	$ 828,103.18	$ 1,217,283.23	$ 1,479,784.39
Home Insulation Rebates	$ 322,987.88	$ 715,828.17	$ 1,029,733.37
Winter Warming	$ 277,602.07	$ 283,300.07	$ 283,322.28
New Home Construction	$ 149,199.79	$ 168,148.07	$ 206,353.55
Instant Energy Savings	$ 395,346.44	$ 765,364.26	$ 675,160.80
Business Energy Rebates	$ 403,022.27	$ 469,479.04	$ 579,993.33
Business Energy Solutions	$ 287,936.35	$ 418,822.98	$ 547,333.56
Custom Energy Solutions	$ 30,000.00	$ 287,613.18	$ 671,383.18

2018-2021 Net TRC Costs (Gross Admininstration, Net Technology Costs)	TRC Costs		
	2018/2019	2019/2020	2020/2021
Energy Efficient Equipment Rebates	$ 1,614,600.12	$ 2,227,692.89	$ 2,611,012.75
Home Insulation Rebates	$ 1,800,315.95	$ 4,645,571.04	$ 6,715,896.99
Winter Warming	$ 265,866.57	$ 271,564.57	$ 271,586.78
New Home Construction	$ 379,015.74	$ 458,556.83	$ 672,639.45
Instant Energy Savings	$ 799,321.89	$ 2,134,772.55	$ 1,860,628.53
Business Energy Rebates	$ 920,292.73	$ 1,128,998.88	$ 1,472,284.88
Business Energy Solutions	$ 319,557.87	$ 461,828.25	$ 605,517.16
Custom Energy Solutions	$ 27,300.00	$ 415,436.38	$ 1,064,595.99

2018-2021 Annual Net Customer Costs (PCT)	Net Customer Costs		
	2018/2019	2019/2020	2020/2021
Energy Efficient Equipment Rebates	$ 1,054,875.44	$ 1,420,358.16	$ 1,630,057.86
Home Insulation Rebates	$ 1,525,123.98	$ 4,056,881.60	$ 5,870,127.74
Winter Warming	$ -	$ -	$ -
New Home Construction	$ 232,787.71	$ 294,164.05	$ 472,315.46
Instant Energy Savings	$ 393,413.77	$ 1,333,605.99	$ 1,161,986.85
Business Energy Rebates	$ 535,082.64	$ 682,230.36	$ 923,017.55
Business Energy Solutions	$ 54,441.20	$ 74,040.03	$ 100,171.81
Custom Energy Solutions	$ -	$ 141,852.58	$ 436,370.32

2018-2055 Annual Benefits (PAC and TRC)	Annual PAC and TRC Benefits																			
	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	2033/2034	2034/2035	2035/2036	2036/2037
Energy Efficient Equipment Rebates	$ 348,572.66	$ 832,096.15	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,369,358.29	$ 1,359,888.83	$ 1,346,011.56	$ 1,328,393.39	$ 1,327,473.84	$ 1,326,554.29	$ 988,521.11
Home Insulation Rebates	$ 81,212.40	$ 282,312.87	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78
Winter Warming	$ 48,349.77	$ 96,699.54	$ 145,049.32	$ 145,049.32	$ 142,292.18	$ 138,573.89	$ 134,855.59	$ 133,894.43	$ 133,894.43	$ 133,894.43	$ 131,530.42	$ 129,166.41	$ 126,802.39	$ 126,802.39	$ 126,802.39	$ 122,404.71	$ 91,348.24	$ 49,080.78	$ 11,211.00
New Home Construction	$ 21,807.36	$ 47,384.88	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00
Instant Energy Savings	$ 150,825.14	$ 662,096.82	$ 975,477.28	$ 975,477.28	$ 975,431.93	$ 975,278.22	$ 975,124.51	$ 975,124.51	$ 975,037.60	$ 974,742.98	$ 972,858.06	$ 967,467.21	$ 961,577.99	$ 959,888.62	$ 956,742.92	$ 951,806.20	$ 854,956.36	$ 503,995.13	$ 197,419.13
Business Energy Rebates	$ 101,200.26	$ 230,230.58	$ 404,801.03	$ 404,801.03	$ 404,801.03	$ 404,801.03	$ 404,801.03	$ 404,801.03	$ 395,902.47	$ 375,645.55	$ 338,281.20	$ 309,327.36	$ 255,311.23	$ 207,871.11	$ 123,686.63	$ 92,685.45	$ 55,551.06	$ 52,352.23	$ 39,264.17
Business Energy Solutions	$ 45,593.92	$ 107,601.66	$ 191,494.48	$ 191,494.48	$ 182,533.70	$ 170,346.12	$ 153,857.04	$ 153,815.21	$ 153,760.60	$ 153,686.71	$ 153,686.71	$ 153,686.71	$ 153,519.18	$ 153,291.33	$ 134,565.85	$ 105,782.81	$ 65,328.91	$ 56,434.72	$ 41,501.04
Custom Energy Solutions	$ -	$ 78,660.30	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 393,301.49	$ 314,641.19	$ -	$ -

2018-2055 Annual Benefits (PAC and TRC)	Annual PAC and TRC Benefits																			
	2037/2038	2038/2039	2039/2040	2040/2041	2041/2042	2042/2043	2043/2044	2044/2045	2045/2046	2046/2047	2047/2048	2048/2049	2049/2050	2050/2051	2051/2052	2052/2053	2053/2054	2054/2055		
Energy Efficient Equipment Rebates	$ 521,319.62	$ 3,426.55	$ 3,426.55	$ 3,426.55	$ 3,426.55	$ 3,426.55	$ 3,276.08	$ 1,750.90	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Home Insulation Rebates	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 567,528.78	$ 543,165.06	$ 425,986.24	$ 199,651.13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Winter Warming	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
New Home Construction	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 92,216.00	$ 90,035.27	$ 67,850.89	$ 40,348.01		
Instant Energy Savings	$ 123,256.54	$ 107,413.11	$ 53,706.55	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Business Energy Rebates	$ 22,576.90	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Business Energy Solutions	$ 24,909.26	$ 2,461.55	$ 2,461.55	$ 2,461.55	$ 2,461.55	$ 2,461.55	$ 2,461.55	$ 2,285.73	$ 1,636.35	$ 754.88	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Custom Energy Solutions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		

2018-2055 Annual Benefits (PCT)	Annual PCT Benefits																			
	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2031/2032	2032/2033	2033/2034	2034/2035	2035/2036	2036/2037
Energy Efficient Equipment Rebates	$ 234,613.93	$ 559,085.97	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 916,085.59	$ 915,043.77	$ 910,702.87	$ 902,908.55	$ 902,059.67	$ 901,210.78	$ 668,626.45
Home Insulation Rebates	$ 59,943.73	$ 208,378.11	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98
Winter Warming	$ 39,753.52	$ 79,507.04	$ 119,260.56	$ 119,260.56	$ 115,324.75	$ 110,501.65	$ 105,678.54	$ 104,791.24	$ 104,791.24	$ 104,791.24	$ 102,608.90	$ 100,426.55	$ 98,244.21	$ 98,244.21	$ 98,244.21	$ 94,880.36	$ 70,831.21	$ 38,083.14	$ 8,698.92
New Home Construction	$ 15,928.20	$ 34,610.15	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02
Instant Energy Savings	$ 126,124.27	$ 553,664.19	$ 827,654.80	$ 827,654.80	$ 827,590.07	$ 827,370.65	$ 827,151.22	$ 827,151.22	$ 827,027.16	$ 826,606.59	$ 816,330.84	$ 782,923.43	$ 749,030.54	$ 747,384.85	$ 744,320.50	$ 739,511.44	$ 663,384.43	$ 391,063.85	$ 153,183.00
Business Energy Rebates	$ 106,475.31	$ 242,231.32	$ 425,901.23	$ 425,901.23	$ 425,901.23	$ 425,901.23	$ 425,901.23	$ 425,901.23	$ 416,975.02	$ 396,032.05	$ 357,941.14	$ 328,057.09	$ 273,011.82	$ 223,903.91	$ 137,225.97	$ 105,880.28	$ 68,335.06	$ 65,137.94	$ 48,853.45
Business Energy Solutions	$ 47,897.68	$ 113,038.51	$ 201,170.24	$ 201,170.24	$ 191,666.19	$ 178,739.75	$ 161,251.03	$ 161,206.86	$ 161,149.13	$ 161,071.03	$ 161,071.03	$ 161,071.03	$ 160,906.80	$ 160,683.46	$ 140,847.49	$ 110,664.10	$ 68,226.37	$ 59,427.16	$ 43,615.17
Custom Energy Solutions	$ -	$ 85,280.22	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 426,401.09	$ 341,120.87	$ -	$ -

2018-2055 Annual Benefits (PCT)	Annual PCT Benefits																			
	2037/2038	2038/2039	2039/2040	2040/2041	2041/2042	2042/2043	2043/2044	2044/2045	2045/2046	2046/2047	2047/2048	2048/2049	2049/2050	2050/2051	2051/2052	2052/2053	2053/2054	2054/2055		
Energy Efficient Equipment Rebates	$ 350,530.72	$ 2,720.30	$ 2,720.30	$ 2,720.30	$ 2,720.30	$ 2,720.30	$ 2,581.39	$ 1,394.88	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Home Insulation Rebates	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 418,898.98	$ 400,915.86	$ 314,424.93	$ 147,364.61	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Winter Warming	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
New Home Construction	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 67,355.02	$ 65,762.20	$ 49,558.63	$ 29,470.39		
Instant Energy Savings	$ 95,638.18	$ 83,344.82	$ 41,672.41	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Business Energy Rebates	$ 28,090.74	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Business Energy Solutions	$ 26,054.29	$ 2,295.45	$ 2,295.45	$ 2,295.45	$ 2,295.45	$ 2,295.45	$ 2,295.45	$ 2,131.49	$ 1,525.93	$ 703.94	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
Custom Energy Solutions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		

2018/2019 PV Annual Gross Utility Costs (PAC)	Gross Utility Costs - PV 2018/2019
Energy Efficient Equipment Rebates	$3,397,078.79
Home Insulation Rebates	$1,983,483.83
Winter Warming	$818,141.95
New Home Construction	$505,888.80
Instant Energy Savings	$1,770,917.99
Business Energy Rebates	$1,402,526.21
Business Energy Solutions	$1,207,689.22
Custom Energy Solutions	$939,087.47

2018/2019 PV Annual Net Customer Costs (PCT)	Net Customer Costs - PV 2018/2019
Energy Efficient Equipment Rebates	$ 3,961,727.76
Home Insulation Rebates	$ 10,967,943.63
Winter Warming	$ -
New Home Construction	$ 961,309.09
Instant Energy Savings	$ 2,776,710.51
Business Energy Rebates	$ 2,062,822.19
Business Energy Solutions	$ 220,241.33
Custom Energy Solutions	$ 547,182.21

2018/2019 PV Net TRC Costs	Net TRC Costs - PV 2018/2019
Energy Efficient Equipment Rebates	$ 6,224,817.18
Home Insulation Rebates	$ 12,607,702.73
Winter Warming	$ 784,015.85
New Home Construction	$ 1,454,925.85
Instant Energy Savings	$ 4,614,929.61
Business Energy Rebates	$ 3,396,679.85
Business Energy Solutions	$ 1,335,613.77
Custom Energy Solutions	$ 1,429,452.76

2018/2019 PV Annual TRC and PAC Benefits	TRC and PAC Benefits - PV 2018/2019
Energy Efficient Equipment Rebates	$ 18,331,054.62
Home Insulation Rebates	$ 9,974,748.70
Winter Warming	$ 1,684,583.60
New Home Construction	$ 1,907,360.12
Instant Energy Savings	$ 12,345,905.70
Business Energy Rebates	$ 4,040,653.22
Business Energy Solutions	$ 1,995,731.69
Custom Energy Solutions	$ 4,513,197.89

2018/2019 PV Annual PCT Benefits	PCT Benefits - PV 2018/2019
Energy Efficient Equipment Rebates	$ 12,308,996.56
Home Insulation Rebates	$ 7,362,467.23
Winter Warming	$ 1,336,102.18
New Home Construction	$ 1,393,145.28
Instant Energy Savings	$ 10,176,695.01
Business Energy Rebates	$ 4,290,301.99
Business Energy Solutions	$ 2,092,137.65
Custom Energy Solutions	$ 4,893,021.07

2018/2019 PV Net Benefits	Net Benefits		
	TRC	PAC	PCT
Energy Efficient Equipment Rebates	$ 12,106,237.45	$ 14,933,975.83	$ 8,347,268.81
Home Insulation Rebates	$ (2,632,954.04)	$ 7,991,264.86	$ (3,605,476.40)
Winter Warming	$ 900,567.75	$ 866,441.64	$ 1,336,102.18
New Home Construction	$ 452,434.26	$ 1,401,471.32	$ 431,836.19
Instant Energy Savings	$ 7,730,976.09	$ 10,574,987.72	$ 7,399,984.50
Business Energy Rebates	$ 643,973.37	$ 2,638,127.01	$ 2,227,479.80
Business Energy Solutions	$ 660,117.92	$ 788,042.48	$ 1,871,896.32
Custom Energy Solutions	$ 3,083,745.13	$ 3,574,110.42	$ 4,345,838.86

2018/2019 Cost-Effectiveness Ratios (Cumulative)	Cost-Effectiveness Ratio		
	TRC	PAC	PCT
Energy Efficient Equipment Rebates	2.9	5.4	3.1
Home Insulation Rebates	0.8	5.0	0.7
Winter Warming	2.1	2.1	N/A[1]
New Home Construction	1.3	3.8	1.4
Instant Energy Savings	2.7	7.0	3.7
Business Energy Rebates	1.2	2.9	2.1
Business Energy Solutions	1.5	1.7	9.5
Custom Energy Solutions	3.2	4.8	8.9

[1] The PCT result for Winter Warming is infinite, as no participant expenditure exists.

Note: These cost effectiveness test results differ slightly from those presented in Evidence, as the values in this table are cumulative across the entirity of the Plan, present valued to 2018/2019

Request IR-35:

Please refer to the response to Synapse IR-14. Please provide the operational procedures for separately tracking costs and energy savings for electricity and other fuels.

Response IR-35:

Operational procedures are still in the process of being formally documented for all programs intended to be offered as part of the 2018/2019-2020/2021 DSM Plan.

An example of a formalized operational procedure exists in ePEI's planned New Home Construction program; within elements of its Program Manual. In particular, required procedures, in the form of program internal controls relating to the screening and recording of participant details within the program tracking system are attached as Confidential Attachment 1 to this response. The tracking sheet referenced in Confidential Attachment 1 is attached electronically as Confidential Attachment 2. In particular, Excel column X of Attachment 2 provides the ability to separate spending via existing fuel type.

In regard to general costs, such as administration, ePEI intends to utilize a Cost Allocation Model relying on the principles described in ePEI's response to Synapse IR-38. This model is not yet formalized and documented.

Request IR-36:

Please refer to the response to Synapse IR-15. Is ePEI or PEIEC responsible for attaining the non-electrical energy savings targets? If so, how does ePEI or PEIEC plan on attaining the goal for non-electrical savings?

Response IR-36:

The "Provincial Energy Strategy 2016/17" is a 10-year strategy of the Government of Prince Edward Island. This strategy has a goal to achieve savings of two per cent of non-electrical consumption per year by 2020. These energy use reductions are planned to be achieved via energy efficiency and conservation activities, which are the mandate of ePEI. The Energy Strategy also includes an action item to set up an independent energy efficiency utility with a mandate to pursue efficiency for all fuels. This utility is the PEIEC. ePEI will be the service agency for the energy efficiency and conservation responsibilities of PEIEC. However, no organization has been tasked with achieving this specific goal.

ePEI has already expanded its efforts to reduce non-electric fuels, through funding provided by the federal government via the Low Carbon Economy Leadership Fund and from an increased level of investment from the province. As indicated in the Provincial Energy Strategy 2016/17, ePEI activities had already been achieving non-electric energy use reductions of approximately 1.1% of annual consumption[1]. The expanded activities will help to increase this level.

[1] https://www.princeedwardisland.ca/sites/default/files/publications/pei_energystrategymarch_2017_web.pdf (page 15)

Request IR-37:

Please refer to the response to Synapse IR-16, regarding the MECL 2015-2020 DSM Plan.

a) Please describe any overlap between the MECL programs and the proposed ePEI programs.

b) How does ePEI plan to coordinate with MECL?

c) How does ePEI plan to address customer and contractor confusion about multiple program administrators?

d) **Please provide progress reports showing the activities, savings, etc. associated with the MECL programs.**

Response IR-37:

a) MECL does not currently offer programs. The public outreach and education component of the 2015-2020 MECL DSM Plan (at an annual cost of $167,500) was the sole component of the plan that was approved.

b) ePEI plans to have ongoing discussions with MECL to ensure that each organization is familiar with current and planned outreach and education initiatives that relate to energy efficiency and conservation. This is expected to help reduce the potential for any overlap in education and outreach efforts. In addition, ePEI will regularly share progress updates with MECL regarding energy and demand savings, and will continue to review MECL load forecasts for future planning purposes.

c) Please refer to part a of this response.

d) Please refer to part a of this response.

Request IR-38:

On page 23 of the Plan, ePEI states, "While there are alternative ways of ensuring rate classes are treated fairly with the allocation of EE&C expenditures, ePEI is prepared to undertake the administrative requirements in order to track separately by rate class EE&C expenditure and electricity savings, establish a specific rate rider for each rate class, and is recommending this option for EE&C cost recovery in response to requests by several stakeholders."

a) **How is ePEI planning to allocate EE&C expenditures by rate class? Please explain in detail. If there is any formula for allocating the EE&C expenditure, please provide it.**

b) **Please describe the "alternative ways of ensuring that rate classes are treated fairly with cost recovery." For each, please indicate where it has been employed, the pros and cons, and why ePEI is not recommending it.**

Response IR-38:

a) Most EE&C expenditures for electricity relate to specific programs and most programs relate to a specific customer class or classes. Some expenses can be allocated to a single program. Some expenses belong to two or more programs and must be divided between programs. Some costs will be common to all EE&C programs and must be allocated on a proportional basis. Costs will be allocated based on the following:[1]

[1] NSUARB M04819, E-2(r), Revised Evidence, Filed April 18, 2012, at Appendix C.

- All direct, support and administrative costs will be allocated to programs and/or customer classes.
- Each program/class will be responsible for the costs, including overhead costs, they directly or indirectly cause.
- Administrative and accounting costs will be pooled and allocated to classes on a proportional basis using allocators such as participant numbers, energy savings, direct program costs, etc. based on what best reflects the cause of these costs.

No specific formulae are required for the above types of shared allocation beyond the following:

$$AC_{RC,CT} = Total\ Costs_{CT} * \frac{Weighting\ Factor_{RC,CT}}{Weighting\ Factor_{CT}}$$

Where,

$AC_{RC,\ CT}$ are the allocated costs for a specific rate class, for a specific cost type (e.g. Administrative);

Total $Costs_{CT}$ are the pooled total costs of a particular cost type;

Weighting $Factor_{RC,\ CT}$ is the relevant proxy weighting factor (e.g. energy savings) by rate class, and cost type; and

Weighting $Factor_{CT}$ is the relevant proxy weighting factor (e.g. energy savings) by cost type only (i.e. total energy savings).

Beyond this formula, only addition of costs are required to generate total Rate Class allocated costs.

In advance of allocating EE&C costs by program and customer class, ePEI will be allocating costs between electricity related activities and efficiency and conservation activities related to energy sources other than electricity.

b) ePEI has not undertaken an extensive assessment of the various alternatives used by utilities and/or program administrators for allocating costs and particularly DSM costs amongst electricity rate classes. Efficiency Nova Scotia undertook a consultant's study with model development (referenced above) and consultation with electricity ratepayers in developing its cost allocation methodology for Nova Scotia.

Request IR-39:

Refer to the response to Synapse IR-26.

a) Several programs target more than one rate class. If a program targets more than one rate class, how will costs be allocated between the rate classes?

Response IR-39

a) Please refer to PEIEC's response to SYN IR-38.

Request IR-40:

Would any of the proposed programs use upstream or midstream delivery mechanisms? If so, how would costs for such programs be allocated, since it is often not known who exactly is participating in these programs?

Response IR-40

Please refer to PEIEC's response to SYN IR-38. Where participants are not specifically identified for a program that serves more than one customer class, the allocation of that program's cost will be based on a suitable, sector-level proxy. More specifically, ePEI proposes to use the aggregate rate class investment distribution of all other downstream programs within a given sector to determine the rate class allocations for upstream programs. For example, the upstream program serving Commercial and Industrial clients will adopt the aggregate allocation of the other Commercial and Industrial programs, for which customer rate class data is available.

Focused market research is a more accurate method of ascertaining rate class-level participation for upstream programs where customer data is limited. ePEI proposes to conduct this research within this three-year plan period for use in allocation methodologies in successive DSM Plans. To be feasible this method requires historical participation, making it inappropriate for use at this time. ePEI is recommending that any alteration of allocations for these programs be applied on a go-forward basis only (i.e. no true-up for historical years using the initial methodology proposed here).

Request IR-41:

Refer to the Response to Synapse IR-01 Attachment 1. On the Residential tab, please clarify the difference between the number of homes/units (shown in cells C43:C46 and E43:E46) and the number of dwellings (shown in B8:D12). Please include the methodology for how each of those values were calculated.

Response IR-41

C43:C46 estimates the number of homes / units that use electricity as the primary energy source for space heating. E43:E46 estimates the number of homes / units that use electricity as the primary energy source for domestic water heating. To generate these estimates, two factors were multiplied.

The first factor was an estimate of the total number of homes / units on PEI. This factor was established for 2018 by reviewing housing information from 2004 (B8:B12) and 2011 (C8:C12). These results were extrapolated to provide an estimate for the number of homes / units on PEI in 2018. For the single family attached home and multifamily apartment categories, the estimates from the 2004 and 2011 studies varied significantly (one almost tripling and one reduced by more than half). As such, an estimate was made based on the trend in a reduction in the number of homes / units in these categories. For the majority of the residences (single family detached) it was assumed the growth during the 7-year period from 2004 to 2011 was maintained over the 7-year period from 2011 to 2018.

The second factor included estimates of the number of homes that use electricity as the primary source of energy for space and domestic water heating. Results from a 2016 heating survey were used for space heating assumptions, where electricity, air source heat pump and geothermal were grouped together to provide an estimate that 27% of residences use electricity as the primary heat

source. For domestic water heating, the 30% estimate was taken from the 2016/17 Provincial Energy Strategy. These factors were multiplied by the estimated number of homes / units in order to generate the estimates in C43:C46 and E43:E46.

Request IR-42:

Refer to the Response to Synapse IR-01 Attachment 1. On the Business Programs and Measures tab, please define "milestones" (shown in cells B105:B115 and E105:F115) in the context of the Custom Energy Solutions program.

Response IR-42

"Milestones" refer to a claim of partial energy savings of a large project. These can be claimed at a certain point in time of a custom project, when a certain level of activity (e.g. phase of a project) is complete. Given the nature of the larger projects in the Custom Energy Solutions program it is common to have projects that span multiple years, which may be completed in multiple phases.

Request IR-43:

Refer to the Response to Synapse IR-01 Attachment 1. On the Summary Programs tab, please clarify whether the savings reported in GWh are annual or lifetime savings.

Response IR-43

The GWh savings on this tab are annual.

Request IR-44:

Refer to the Response to Synapse IR-01 Attachment 1. On the Technical Tables tab, please refer to columns N and O, rows 17-30. The columns show the incremental cost of the technology next to the measure incentive for low-income customers.

a) Is the customer's out of pocket expense equal to the incremental cost of the technology less the incentive?

b) If so, has ePEI evaluated how likely a low-income customer is to pay the out of pocket expense for each measure?

Response IR-44

a) Not necessarily. The incremental cost represents the difference between the efficient measure cost and the baseline cost (in the case of replace-on-burnout measures). Thus, the participant may have an out-of-pocket expense in excess of the incremental cost, since the participant must pay the full cost of the energy efficient measure, as opposed to difference between the efficient measure and the counter-factual baseline measure. For other decision types such as add-on measures (e.g. heat pump augmenting electric baseboards), the incremental cost of the efficient measure equals the full cost of the measure.

b) ePEI has historical experience in offering two levels of incentives for certain energy efficiency measures. One incentive level is designed as a market-rate incentive (non-low income), while the other level is designed for modest/low incomes. Both incentive levels require some customer contribution. ePEI's historical experience has been that, for these measures, 18% of participants have qualified for the modest/low income incentive level ($35,000 household income or less).

This compares with 2016 Canadian census information for PEI, which indicates that 16.9 per cent of PEI households qualify as Low-Income, using the Low Income Measure – After Tax (LIM-AT).[1]

2016 LIM-AT levels are defined as (by number in household):[2]

- One person: $22,352
- Two person: $31,611
- Three person: $38,715
- Four person: $44,704
- Five person: $49,981
- Six person: $54,757
- Seven person: $59,138

[1] Statistics Canada, Census Profile for PEI, 2016 Census, 2016, at s. "Low income in 2015"
[2] The Province of Prince Edward Island, How is Poverty Measured? Poverty Reduction Action Plan Backgrounder, May 17, 2018, at page 3.

Request IR-45:

Please refer to Appendix A of the Plan. On Page 46, the 7,200 eligible customers listed are all from Maritime Electric. Will this program be directed to Summerside Electric customers as well?

Response IR-45

Yes.

Request IR-46:

Please refer to Attachment 1 to Synapse IR-02, and the Plan at page 12.

a) According to the MECL Integrated Resource Plan at page 6, peak load is growing and is projected to continue to grow faster than energy. Has ePEI accounted for this in the DSM Plan? If so, how?

b) Does ePEI have a strategy for managing peak load in the event that MECL does not implement time of use rates? If not, why not?

Response IR-46

a) No, as the primary focus of the Energy Efficiency and Conservation Plan is on electric energy reductions.

b) No, a strategy for managing MECL's peak load is not part of the Energy Efficiency and Conservation Plan. As per page 6 of the Plan: "More demand response measures would be a valuable addition to programming by ePEI when time of use rates are implemented, and this may be pursued through avenues separate from this EE&C Plan." Managing MECL's peak load is not the focus of this EE&C Plan; rather, it is on electricity use reductions.

Request IR-47:

Please refer to lines 1–4 on p. 26 of the Plan.

a) Please provide more details on ePEI's proposal for MECL ratemaking.

b) Could the proposed mechanism be described as a form of decoupling? If not, how does it differ from decoupling?

c) Does ePEI recommend that any other changes to MECL's ratemaking be considered? If so, please describe changes that ePEI recommends for consideration.

Response IR-47

a) With current practice MECL submits a plan for multiple years that includes the forecast revenue requirement and the forecast load for each year of the plan. Rates specific to each year of this plan are approved by the regulator based on these yearly forecasts. The only minor adjustment that ePEI is proposing to this methodology is that the forecast load for each year of the multi-year rate plan incorporate the forecast reduction in electricity use resulting from EE&C programs. With this ongoing downward adjustment by MECL in annual electricity sales due to lost load resulting from EE&C programs, MECL's lost revenue for fixed costs is eliminated or minimized. With some electric utilities, rates are fixed using a single test year, with no inter-year adjustment for revenue requirement or changes in load until a new rate case is adjudicated; if these rates are fixed over multiple years, the lost contribution to fixed costs can become material for the utility.

b) The proposed adjustment for load each year reflecting the electricity savings resulting from EE&C programs neither incents or penalizes MECL for EE&C activity; the objective is for MECL to be kept whole regarding its revenue. As such there is neither an

incentive nor disincentive for MECL respecting EE&C, which aligns with one of the general objectives of decoupling related to DSM. The approach described in part a) of this response stops short of the *ex-poste* review processes associated with many forms of Decoupling (that may or may not involve the provision of customer refunds or surcharges).

c) ePEI is not proposing any other changes to MECL's ratemaking methodology with this application.

Request IR-48:

Is ePEI recommending that MECL's revenue requirements be reconciled, where the difference between the actual revenues and the forecasted revenues are determined and made up with customers? If so, please describe in detail how the reconciliation would work. If not, why not?

Response IR-48

It is likely that load variations of Actual versus Forecast will be no more significant than load variations due to seasonal weather, the addition of new customers or deletion of existing customers, or ongoing changes in electricity requirements for MECL's customers. Thus, ePEI has not recommended that MECL's revenue requirements be reconciled at this time.

If the Actual versus Forecast load variations are evidenced to be material relative to other factors cited above, then ePEI would have no concern with additional discussion of revenue reconciliation at that time.

Request IR-49:

Please answer the following questions regarding MECL's most recent rate case filing.

a) Did MECL make adjustments to its sales forecasts to reflect anticipated customer adoption of distributed energy resources? If so, how were such adjustments made? Please provide a reference to all sections and exhibits in the rate case filing that pertain to load forecast adjustments for distributed energy resources.

b) Did MECL make adjustments to its sales forecasts to reflect anticipated customer adoption of energy efficiency and conservation? If so, how were such adjustments made? Please provide a reference to all sections and exhibits in the rate case filing that pertain to these adjustments.

c) Please provide a reference to all the sections and exhibits in the most recent rate case filing that pertain to estimates of future revenue requirements.

d) Does MECL use a future test year?

e) How many years of revenue requirements does the rate case forecast include?

f) What assumptions are used in estimating the revenue requirements in the future test year?

g) Are the revenue requirement forecasts based on inflation, and/or productivity, and/or some other index?

Response IR-49

a) ePEI does not have information within its possession relating to MECL that would allow it to respond to this question. ePEI requested this information of MECL. MECL did not provide the information.

b) See response in (a).

c) See response in (a).

d) See response in (a).

e) See response in (a).

f) See response in (a).

g) See response in (a).

Request IR-50:

Does MECL currently have any form of performance incentive mechanisms in place? Is ePEI recommending some form of performance incentive mechanism? If so, please describe in detail.

Response IR-50

ePEI is unaware of whether MECL currently has any form of performance incentive mechanism in place.

ePEI is not proposing or recommending any form of performance incentive mechanism for MECL at this time.

Request IR-51:

Does MECL currently have any form of earnings adjustment mechanism in place? Is ePEI recommending some form of earnings adjustment mechanism? If so, please describe in detail.

Response IR-51

ePEI is unaware of whether MECL currently has any form of earnings adjustment mechanism in operation.

ePEI is not proposing or recommending any form of earnings adjustment mechanism for MECL at this time.