QUESTION

1. With respect to the over-collection identified in the current EE&C Plan, does PEIEC anticipate any significant changes to the calculation of the over-collection since filing the Application?

RESPONSE

1. Not at this time. Our estimates for program uptake, and program costs, are based on historical trends, our assessment of the current state of the energy efficiency sector and an estimation of future trends based on information we currently have (i.e. Canada Greener Homes impacts, increased use of enabling strategies, etc.). PEIEC/efficiencyPEI will continue to monitor these variables and if we determine a significant change in our forecasts for program uptake and spending, we will advise the Commission.

QUESTION

2. The current EE&C Plan has been in effect for approximately four years (2018/2019 to 2021/2022). Has the current Plan achieved its intended purpose of reducing electricity consumption in the Province of Prince Edward Island? Please provide all supporting data, calculations and key assumptions.

RESPONSE

2. The table in Attachment 1 contains the energy and demand savings reported to IRAC as prepared by ePEI and PEIEC's measurement & verification consultant Econoler for the fical years 2018/19 and 2019/20, preliminary information from the Impact Evaluation & Savings Verification report being prepared for the PEIEC and ePEI for the fiscal year 2020/21 by their measurement & verification consultant Econoler, and projected energy and demand savings for the fiscal year 2021/22 using ePEI collected data. All figures are Net, at the generator, 1st year savings.

Program	2018/19					2019/20					2020/21					2021/22					4 year totals				
	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned
	Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit	
IES																									
Energy Savings	1.1	GWh	1.175	GWh	107%	3.7	GWh	2.914	GWh	79%	2.399	GWh	2.834	GWh	118%	2.399	GWh	1.566	GWh	65%	9.598	GWh	8.489	GWh	88%
Demand Savings	0.2	MW	0.168	MW	84%	0.8	MW	0.423	MW	53%	0.47	MW	0.382	MW	81%	0.47	MW	0.213	MW	45%	1.94	MW	1.186	MW	61%
WW																									
Energy Savings	0.3	GWh	0.349	GWh	116%	0.3	GWh	0.462	GWh	154%	0.348	GWh	0.497	GWh	143%	0.348	GWh	0.412	GWh	118%	1.296	GWh	1.72	GWh	133%
Demand Savings	0.1	MW	0.044	MW	44%	0.1	MW	0.058	MW	58%	0.08	MW	0.061	MW	76%	0.08	MW	0.048	MW	60%	0.36	MW	0.211	MW	59%
EEER																									
Energy Savings	2.1	GWh	1.976	GWh	94%	2.8	GWh	2.097	GWh	75%	3.126	GWh	2.246	GWh	72%	3.126	GWh	2.317	GWh	74%	11.152	GWh	8.636	GWh	77%
Demand Savings	0.7	MW	1.744	MW	249%	1	MW	1.773	MW	177%	1.1	MW	1.936	MW	176%	1.1	MW	2.047	MW	186%	3.9	MW	7.5	MW	192%
HIR																									
Energy Savings	0.5	GWh	0.128	GWh	26%	1.3	GWh	0.692	GWh	53%	1.843	GWh	0.473	GWh	26%	1.843	GWh	0.473	GWh	26%	5.486	GWh	1.766	GWh	32%
Demand Savings	0.2	MW	0.038	MW	19%	0.4	MW	0.205	MW	51%	0.53	MW	0.14	MW	26%	0.53	MW	0.14	MW	26%	1.66	MW	0.523	MW	32%
NHC																									
Energy Savings	0.1	GWh	0.249	GWh	249%	0.2	GWh	0.792	GWh	396%	0.287	GWh	0.577	GWh	201%	0.287	GWh	0.753	GWh	262%	0.874	GWh	2.371	GWh	271%
Demand Savings	0	MW	0.074	MW		0	MW	0.234	MW		0.08	MW	0.171	MW	214%	0.08	MW	0.223	MW	279%	0.16	MW	0.702	MW	439%
Residential Program Subtotal																									
Energy Savings	**4.1**	**GWh**	**3.877**	**GWh**	95%	**8.3**	**GWh**	**6.957**	**GWh**	84%	**8.003**	**GWh**	**6.627**	**GWh**	83%	**8.003**	**GWh**	**5.521**	**GWh**	69%	28.406	**GWh**	22.982	**GWh**	81%
Demand Savings	**1.2**	**MW**	**2.068**	**MW**	172%	**2.3**	**MW**	**2.693**	**MW**	117%	**2.26**	**MW**	**2.69**	**MW**	119%	**2.26**	**MW**	**2.671**	**MW**	118%	8.02	**MW**	10.122	**MW**	126%
BER																									
Energy Savings	0.9	GWh	0.197	GWh	22%	1.1	GWh	1.021		93%	1.507	GWh	1.4	GWh	93%	1.507	GWh	0.949	GWh	63%	5.014	GWh	3.567	GWh	71%
Demand Savings	0.1	MW	0.134	MW	134%	0.2	MW	0.31	MW	155%	0.21	MW	0.442	MW	210%	0.21	MW	0.282	MW	134%	0.72	MW	1.168	MW	162%
CES																									
Energy Savings	0.39	GWh	0	GWh	0%	1.26	GWh	0	GWh	0%	3.627	GWh	0.011	GWh	0%	3.627	GWh	*	GWh		5.277	GWh	0.011	GWh	0%
Demand Savings	0	MW	0	MW		0.15	MW	0	MW	0%	0.42	MW	0.007	MW	2%	0.42	MW	*	MW		0.57	MW	0.007	MW	1%
Commercial Program Subtotal																									
Energy Savings	**1.29**	**GWh**	**0.197**	**GWh**	15%	**2.36**	**GWh**	**1.021**	**GWh**	43%	**5.134**	**GWh**	**1.411**	**GWh**	27%	**5.134**	**GWh**	**0.949**	**GWh**	18%	10.291	**GWh**	3.578	**GWh**	35%
Demand Savings	**0.1**	**MW**	**0.134**	**MW**	134%	**0.35**	**MW**	**0.31**	**MW**	89%	**0.63**	**MW**	**0.449**	**MW**	71%	**0.63**	**MW**	**0.282**	**MW**	45%	1.71	**MW**	1.175	**MW**	69%
Total																									
Energy Savings	**5.39**	**GWh**	**4.074**	**GWh**	76%	**10.66**	**GWh**	**7.978**	**GWh**	75%	**13.137**	**GWh**	**8.038**	**GWh**	61%	**13.137**	**GWh**	**6.47**	**GWh**	49%	42.324	**GWh**	26.56	**GWh**	63%
Demand Savings	**1.3**	**MW**	**2.202**	**MW**	169%	**2.65**	**MW**	**3.003**	**MW**	113%	**2.89**	**MW**	**3.139**	**MW**	109%	**2.89**	**MW**	**2.953**	**MW**	102%	9.73	**MW**	11.297	**MW**	116%

* data not available

Program	2018/19		2019/20		2020/21		2021/22		4 Year Total	
	Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings	
	Value	Unit	Value	Unit	Value	Unit	Value	Unit	Value	Unit
IES										
Energy Savings	8.32	GWh	21.121	GWh	20.235	GWh	11.2	GWh	60.876	GWh
WW										
Energy Savings	3.035	GWh	4.031	GWh	3.821	GWh	3.4	GWh	14.287	GWh
EEER										
Energy Savings	35.609	GWh	37.772	GWh	40.485	GWh	41.7	GWh	155.566	GWh
HIR										
Energy Savings	2.899	GWh	15.718	GWh	10.737	GWh	10.7	GWh	40.054	GWh
NHC										
Energy Savings	7.462	GWh	23.749	GWh	17.309	GWh	22.5	GWh	71.02	GWh
BER										
Energy Savings	2.634	GWh	17.778	GWh	25.636	GWh	17	GWh	63.048	GWh
CES										
Energy Savings	0	GWh	0	GWh	0.171	GWh	*	GWh	0.171	GWh
Total										
Energy Savings	**59.959**	**GWh**	**120.169**	**GWh**	**118.394**	**GWh**	**106.5**	**GWh**	**405.022**	**GWh**

* data not available

QUESTION

3. In accordance with section 16(5.1)(b) of the *Electric Power Act,* the Commission must be satisfied that the measures contained in the proposed Plan are reasonably likely, on implementation, to achieve the results forecast in the Plan. PEIEC has advised that the current Plan has not achieved the forecast results, yet is forecasting to achieve greater net electricity and net demand savings in the proposed Plan.

   a. Please explain why PEIEC's forecast results have increased?

   b. What changes does PEIEC intend to implement to ensure it is more likely to achieve the forecast results in the proposed Plan?

   c. How likely is PEIEC to achieve the results forecast in the proposed Plan?

RESPONSE

3 (a) PEIEC's forecast results have increased for several reasons, including, but not limited to:

   i. Forecast growth in energy consumption presented in load forecasts provided by both utilities;
   ii. Enhanced enabling strategies increasing awareness of efficiency program measures, resulting in increased anticipated uptake of program measures;
   iii. Increased incentives attracting utility customers to efficiency program measures (i.e., the Free Heat Pumps for Income Qualified Islanders program, the Canada

Greener Homes Grant program, new and upcoming financing programs such as Switch Charlottetown/Statford and CMHC Greener Homes loan programs);

iv. The addition of demand response initiatives within the proposed EE&C Plan; and

v. Federal Government programs to encourage net-zero emission targets are expected to encourage electrification and as a result increase the demand for efficiency programming.

3 (b) As detailed in the PEIEC's response to IR 1, estimates for program uptake, and program costs, are based on historical trends, assessment of the current state of the energy efficiency sector and an estimation of future trends based on information we currently have (i.e. Canada Greener Homes impacts, increased use of enabling strategies, expanded program offerings, etc.). PEIEC will continue to monitor these variables and if we determine a significant change in our forecasts for program uptake and spending, we will advise the Commission.

Furthermore, with the 3rd-Party, independent measurement and verification work completed under the 1st EE&C plan, the PEIEC is more comfortable with the deemed savings attributed to its programs and measures. This will reduce the likelihood of any significant over-estimation of program uptake/costs.

3 (c) With 4 years of program delivery and 3 years of 3rd party measurement and verification work completed, PEIEC is as confident as it can be with respect to its estimates for program uptake, spending and the resultant savings. However, as we have experienced over the past 2 plus years, there can be unforeseen circumstances that could have an impact on each and every component of program delivery and uptake. As we stated in IR-1 and IR-3a and IR-3b, the PEIEC will continuously monitor the variability of the markets and systems and if a significant change in forecasts is expected, we will advise the Commission.

QUESTION

4. In accordance with section 16(5.1)(c)(i) of the Electric Power Act, the Commission must be satisfied that the proposed Plan contains a reasonable estimate of the financial costs of implementing the Plan for each utility and its customers. PEIEC has advised that in the current Plan, it has over-collected $2.01 million from utility customers due, in part, to overestimating program costs and program participation. PEIEC is now seeking approval to increase the financial contribution from utility customers as part of the proposed Plan.

(a) Please provide a detailed analysis and thorough explanation as to why $2.01 million was over-collected from utility customers. Provide all supporting calculations and workbooks.

(b) What changes has PEIEC made to its forecasts, including forecast program costs and program participation, in determining the financial contribution required from utility customers in the proposed Plan?

(c) Please explain why the financial contribution from utility customers in the proposed Plan is reasonable. Provide all supporting documentation, workbooks and key assumptions.

RESPONSE

4 (a) The overcollection of funds was due in large part to:

- lower program subscription rates than expected (Particularly in Home Insulation Rebates, and early campaigns under Instant Energy Savings)
- significant delays in launching two of the commercial programs (Business Energy Solutions and Custom Energy Solutions)
- impacts related to COVID-19, due to decreased availability of workers/ability to do work in clients' homes and significant cost increases/shipping delays in building materials causing clients to delay or even cancel planned upgrades and the cancellation of the Spring 2020 IES campaign.

4 (b) The original forecasts for the current EE&C plan were in large part derived from uptake history from Nova Scotia's similar program and developed by the original plan design consultant EfficiencyOne due to lack of historical data from PEI as it was the first such plan.

The current plan's estimate on program subscription rates are based on actual data gathered during the plan period and input from ePEI's measurement & verification consultant Econoler.

Additionally, increased spending and activities in enabling strategies have been included based on recommendations made by the most recent potential study commissioned by PEIEC with Dunsky Energy Consulting.

4 (c) While PEIEC and ePEI believe that the forecasted participation rates—and consequently program costs—will be more accurate for the proposed plan, it is notoriously difficult to achieve precision in these sorts of estimates when the outcomes are largely determined by forces outside the control of the program administrator/utility.

Participation in programs are at their core determined by human behaviour which in turn are influenced by an extremely wide range of variable which themselves are very hard (or in some cases impossible) to predict and are interactive in nature. Industry capacity, supply chain issues, material costs, fuel prices, weather trends, and the public engagement all directly or indirectly affect program uptake. When the price of fuel increases significantly and quickly this can drive more participation in programs, if the weather is mild this can curtail activity, etc.

Based upon the more specific (local) and recent data used to determine participation rates, and relying on expert consultants to provide guidance on future activities such as enhanced enabling measures to increase participation, PEIEC and ePEI feel the projections are a reasonably accurate forecast of program expenditures and thus funding required by the utilities/ratepayers.

QUESTION

5. In accordance with section 16(5.1)(c)(ii) of the *Electric Power Act,* the Commission must be satisfied that the proposed Plan contains a reasonable estimate of the financial benefits of the proposed Plan for each utility and its customers.

   a. What are the financial benefits of the proposed Plan for Maritime Electric Company, Limited ("MECL"), Summerside Electric and their respective customers?

   b. Please provide a detailed analysis of how the financial benefits were calculated by PEIEC, complete with all supporting documentation, workbooks and key assumptions.

RESPONSE

a) The financial benefits of the Proposed EE&C Plan are outlined on page 9 of Appendix A and is referred to as the present value of the avoided costs. The following summary table allocates the present value of the avoided costs to each utility and its customers.

	MECL		Summerside Electric		Totals	
Year	Investment ($ millions)	Present Value Avoided Costs ($ millions)	Investment ($ millions)	Present Value Avoided Costs ($ millions)	Investment ($ millions)	Present Value Avoided Costs ($ millions)
2022-2023	$ 1.36	$ 27.47	$ 0.15	$ 3.05	$ 1.51	$ 30.52
2023-2024	$ 1.32	$ 26.80	$ 0.15	$ 2.98	$ 1.47	$ 29.78
2024-2025	$ 1.73	$ 27.50	$ 0.19	$ 3.06	$ 1.92	$ 30.56
Total	**$ 4.41**	**$ 81.77**	**$ 0.49**	**$ 9.09**	**$ 4.90**	**$ 90.86**

The total estimated present value avoided costs is estimated to be $90.86 million over the term of the Proposed EE&C Plan. These savings are assumed to be distributed to the utilities and their customers proportionally based on their customer base. Therefore, PEIEC has allocated the present value of avoided costs in the table above to each utility based on

their respective load forecasts (i.e. approximately 90% MECL and approximately 10% Summerside Electric).

The table on the next page is an excerpt from page 8 of Appendix A – in the Proposed EE&C Plan, to provide the breakdown of the budget by funding source.

	Proposed Plan							
	2022-23		2023-24		2024-25		Total	
Funding Source	**$**	**%**	**$**	**%**	**$**	**%**	**$**	**%**
Maritime Electric	1,360,203	18.0%	1,321,690	18.0%	1,732,045	18.0%	4,413,939	18.0%
Summerside Electric	151,134	2.0%	146,854	2.0%	192,449	2.0%	490,438	2.0%
Federal Government	377,834	5.0%	-	0.0%	-	0.0%	377,834	1.5%
Provincial Government	5,667,514	75.0%	5,874,178	80.0%	7,697,980	80.0%	19,239,672	78.5%
Total	**7,556,685**	**100.0%**	**7,342,723**	**100.0%**	**9,622,475**	**100.0%**	**24,521,883**	**100.0%**

The total investment over the period of the Proposed EE&C Plan by the utilities and their customers is $4.9 million, which is approximately 20% of the overall budget, with the remaining program funding being provided by Federal and Provincial Governments.

Therefore, the estimated benefits of the Proposed EE&C Plan are expected to outweigh the costs to the utilities and their customers.

b) The calculation of the present value of the avoided costs is completed on each measure individually. The below is a breakdown of the calculation including the underlying assumptions.

- Net present value of avoided cost = Present value of avoided costs of capacity, transmission and distribution + Net present value of avoided costs of energy.
- Net present value of avoided costs of capacity, transmission and distribution = Avoided Cost of Capacity ($/kW) * 1000 * incremental demand savings net at generator (MW)

- Net present value of avoided costs of energy = Avoided cost of energy * 1,000,000 * incremental energy savings net at generator

Key assumptions vary based on the life of the measure in years. As a starting point measures with a measure life of one year include the following assumptions.

- Measure life in years
- Avoided Cost of Capacity ($/kW) for 2021 is assumed to be $215 per Econolers Cost Effectiveness testing 2018-2019 and 2019-2020 fiscal reporting years
- Avoided Cost of Energy ($/kWh) - 2021 to 2023 $0.080 per Econolers Cost Effectiveness testing 2018-2019 and 2019-2020 fiscal reporting years

For each measure year the above assumptions are discounted based on the following:

- Discount Rate applied throughout is 2.88% based on the Core Government Borrowing Rates as of Tuesday, October 26th, 2021

An example calculation to demonstrate how the financial benefits of the Proposed EE&C Plan were calculated in included below:

Mini-split Air Source Heat Pump (MSHPs): 2022 - 2023		
Notes	**Calculations**	**Assumptions**
A	18	measure life
B	$3,073.26	NPV Avoided Generation, Transmission and Distribution per Incremental Peak Demand Savings (($*year)/kW)
C	1,000	MW to kWh
D	3.17	Incremental Demand Savings - Net at Generator (MW)
E = B x C x D	**$9,734,600.00**	**Present Value Avoided Costs of Capacity, Transmission and Distribution ($)**
F	18	measure life
G	$1.14	NPV Avoided Energy Cost per Incremental First-Year Energy Savings (($*year)/kWh)
H	1,000,000	GWH to kWh
I	3.32	Incremental Energy Savings - Net at Generator (GWh)
J = G x H x I	**$3,790,848.00**	**Net Present Value Avoided Costs of Energy ($)**
K = E + J	**$13,525,448.00**	**Net Total Present Value Avoided Costs ($)**

Note – the above is illustrative only and may reflect small difference due to rounding.

QUESTION

6. PEIEC has screened for cost-effectiveness using both the Total Resource Cost ("TRC") test and the Program Administrator Cost ("PAC") test. However, PEIEC proposes to use the PAC test as the primary test for cost-effectiveness.

   a. Please explain why it is appropriate to use the PAC test to screen for cost-effectiveness. According to PEIEC, the PAC test does not quantify all costs and benefits for the utility and customers, and is used as the primary cost-effective test in only two other Canadian jurisdictions. All other Canadian jurisdictions use the TRC test as the primary test for cost-effectiveness.

   b. There are a number of programs proposed by PEIEC that do not meet the PAC test and/or the TRC test. Please provide justification for these programs.

RESPONSE

6 (a) The use of the PAC cost test, was proposed and approved under the first iteration of the EE&C plan submitted by PEIEC with the following rationale that PEIEC and ePEI still support:

The TRC test is designed to compare all direct costs for both the utility and participants to all direct benefits.

$$TRC = \frac{Avoided\ Costs + Customer\ Benefits}{Net\ Tech.\ Costs + Gross\ PA\ Non\ Incentive\ Costs}$$

While it is relatively straight-forward for the TRC to account for all costs, it is difficult to account for all benefits as this requires quantifying non-energy benefits (NEBs) for participants and the electric utility. Some of these NEBs include increased comfort and health for building occupants, improved worker productivity, decreased maintenance, improved electricity system planning and reliability, the utility's ability to match demand to available capacity, and increased productivity.

Accounting for NEBs can be problematic and expensive, because quantifying NEBs is location-specific and not an exact science. Not including NEBs in the equation leads to inaccurate results by counting all costs, but only a portion of the benefits. With all of the TRCs calculated in this Application, the non-energy benefits have been assigned zero value.

The SCT accounts for societal benefits as well as energy savings benefits and compares them to all of the direct costs for EE&C as illustrated below.

$$SCT = \frac{Avoided\ Costs + Customer\ Benefits + Societal\ Benefits}{Net\ Tech.\ Costs + Gross\ PA\ Non\ Incentive\ Costs}$$

While the SCT is balanced with consideration of both all costs and all benefits, it is challenged in the same manner as TRC; accounting for societal benefits can be problematic because their quantification is not an exact science.

The PAC compares the utility's value of energy savings (the present value of long-run avoided energy and capacity costs) to the utility's EE&C expenditures.

$$PAC = \frac{Avoided\ Costs}{Total\ Gross\ PA\ Costs}$$

This cost effectiveness test is fully symmetrical, comparing only the program administrator's costs to its benefits, with all of the costs and benefits identified monetarily. It is therefore the preferred cost effectiveness assessment tool in the current PEI framework where EE&C programs will be

administered by an agency independent of the electric utility, and where funding for the Program Administrator's EE&C will come from governments (provincial and federal funds), Maritime Electric ratepayers, and Summerside Electric ratepayers.

Cost effectiveness testing is a tool for the Commission to satisfy itself that EE&C is providing value for the investment being made by electricity consumers and the Program Administrator. To maintain symmetry within the PAC test, efficiencyPEI is recommending that the utility value of electricity savings be weighed against the funding provided by Maritime Electric customers, efficiencyPEI, the federal government, and Summerside Electric, i.e. all Program Administrator costs applicable to electricity efficiency.

A group of organizations and individuals have worked together (National Efficiency Screening Project – NESP) to develop the Resource Evaluation Framework (RVF) in order to improve the way that electricity and natural gas energy efficiency resources are screened for cost effectiveness. The RVF is a tool to assess the consistency of a given cost effectiveness approach against the following principles: public interest, energy policy goals, symmetry (inclusion of both relevant costs and benefits), hard-to-quantify benefits, and transparency. In the current circumstances for PEI energy efficiency, of the three cost effectiveness tests considered, use of the PAC test best satisfies these objectives.

6 (b) PEIEC is requesting the plan be evaluated using the cost tests at the portfolio level rather than the program or measure levels. The use of portfolio level CE testing allows for the inclusion of programs and measures that may fail marginally on their own to be included in an overall suite of programs that allow for increased activity on participants part and may reduce administrative costs when provided in conjunction with other programs as opposed to multiple engagements.

As per the results of the cost-effectiveness testing within the proposed Plan only one program failed under the TRC test and none failed under the PAC. Refer to the below table for the results.

Programs	2022 - 2023		2023 - 2024		2024 - 2025	
	TRC	PAC	TRC	PAC	TRC	PAC
Residential Programs						
Energy Efficient Rebates	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Home insulation Rebates	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Winter Warming	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Instant Energy Savings	**Fail**	**Pass**	**Fail**	**Pass**	**Fail**	**Pass**
New Home Construction	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Home Comfort	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Commercial & Industrial Programs						
Business Energy Rebates	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**
Community Energy Solutions	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**	**Pass**

As noted under Instant Energy Savings within Appendix A, page 16 of the proposed Plan, the request for proposal ("RFP") will seek innovative in-store rebates to address the decrease in cost-effectiveness measures related to LEDs over time as more and more homes are equipped with LEDs. Consideration of a total electricity savings approach in the RFP process to reduce the administrative burden for efficiencyPEI which includes responsibility for improved in-store promotional materials. Improved data tracking regarding product models and key metrics used in the evaluation process to be provided by the program delivery organization.

QUESTION

7. On March 31, 2022, MECL submitted comments with respect to the proposed Plan. In its comments, MECL states that time-of-use ("TOU") rates are not currently available due to the need for Advanced Metering Infrastructure ("AMI") and a billing or customer information system ("CIS") compatible with AMI. If MECL obtains Commission approval for AMI and CIS, MECL forecasts a potential implementation timeline of approximately 36 months from the date of approval. As a result, TOU rates may not be available to MECL customers during the term of the proposed Plan.

   a. Are there programs that will not be available to MECL's customers as a result?

   b. If so, will MECL customers still be required to pay for these programs? Please explain and provide justification.

   c. MECL has expressed concern that its customers may not be able to fully participate in the Demand Response Programs, but will be required to partially fund the Programs. Please comment and explain.

RESPONSE

7 (a) No. All programs piloted in the first year of the Proposed Plan are expected to reflect the current system capabilities. Therefore, programs will still be available to MECL customers prior to the establishment of TOU rates. If TOU rates become available during the timeline of the Proposed Plan individual programs and measures may be revised to adjust to evolving system capabilities. As noted on page 26 in Appendix A of the EE&C Plan, “prior to the implementation of an AMI

system, ePEI will collaborate with Maritime Electric to establish and launch demand response pilot programs in the first year of the proposed Plan."

7 (b) MECL customers will not be required to fund programs that are not available to them throughout the Proposed Plan.

7 (c) As noted on page 28 of Appendix A of the EE&C Plan, "given that this is the initial demand response strategy it is difficult to predict customer behaviours and responses. However, the Proposed Plan relies on the Potential Study's estimated achievable results as the starting point. For the purposes of the Proposed Plan an extended ramp up period was applied to the estimated achievable results forecasted by Dunsky."

Therefore, the pilot programs and ramp up period is incorporated to account for customers not being able to fully participate in the Demand Response Programs initially. PEIEC, through ePEI, will work with both utilities and their participants through pilot programs to tailor and respond to system/customer needs, and lessons learned, during pilot programming.

QUESTION

8. In its response to questions from MECL, PEIEC stated that it has not determined the level of investment in infrastructure and human resources that is required by the utilities, and PEIEC has not included the utilities' costs in the Demand Response Program budget.

   a. Did PEIEC include utility costs in its cost-effectiveness screening? Please explain.

   b. If PEIEC did not include utility costs in its cost-effectiveness screening, what impact does their inclusion have on the results of the PAC and TRC tests calculated by PEIEC? Please provide all supporting calculations and key assumptions.

RESPONSE

8 (a) PEIEC did not include utility costs in its cost-effectiveness screening. As outlined in Appendix C on pages 9 and 10 of the EE&C Plan, the components of the TRC and PAC tests include avoided costs, non-energy benefits, non-incentive costs, incentive costs, and customer costs.

This method of cost-effectiveness testing is discussed within “Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers.”[1] It notes “as program management has expanded to government agencies, nonprofit groups, and other parities, the term “program administrator cost test” has come to use, but the computations are the same.”[2] Therefore, the utility costs are not included in the cost-

[1] Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – A Resource of the National Action plan for Energy Efficiency, November 2008
[2] Understanding Cost-Effectiveness of Energy Efficiency Programs: Best Practices, Technical Methods, and Emerging Issues for Policy-Makers – A Resource of the National Action plan for Energy Efficiency, November 2008 – page 1-4, Section 1.5 Notes.

effectiveness testing as ePEI is implementing the programs and taking on both the incentive costs and installation costs.

8 (b) Utility costs would not be included within the cost-effectiveness screening as noted above, therefore there would be no impact on the results of the PAC and TRC tests calculated by PEIEC. In relation to Demand Response Program budget, there was no cost-effectiveness testing performed as this will be the first time for the program. Once the pilot year is completed, cost-effectiveness testing can be performed for years two and three to determine which programs are suitable to be continuing for customers, which then can then be determined if utility costs will be included.

QUESTION

9. In its comments of March 31, 2022, MECL suggests that the current rate rider remain in effect until MECL's next General Rate Application, to limit the number of customer rate adjustments. As part of the GRA, MECL proposes to file an update on the over-collection amount and a calculation of the new rate rider required to collect the approved funding amount.

   a. Does PEIEC agree with this proposal? Please explain.

RESPONSE

9 (a) PEIEC has not reviewed the GRA filed by MECL in its entirety and therefore is unable to comment on the reasonableness of this proposal from MECL. While PEIEC agrees that managing the number of customer rate adjustments may be required at times to encourage transparency and to inform rate payers, it is unable to comment on the appropriateness of that application in this instance. Where possible, customer rates, including any associated rate riders, should reflect the cost of service in the collection period.

QUESTION

10. As part of its review of the current EE&C Plan, Synapse Energy Economics, Inc. ("Synapse") recommended that the energy efficiency budgets should be allocated proportionately across residential and business sectors based on sales from each sector. PEIEC agreed with this recommendation.

    a. Are the energy efficiency budgets in the proposed Plan allocated proportionately across residential and business sectors based on sales from each sector? Please explain and provide supporting calculations and key assumptions.

RESPONSE

10 (a) Please see the below breakdown of the budget over the proposed Plan period for the customer sectors and their respective load forecasts (based on MECL and Summerside Electric, February 2021 information):

	2022 - 2023		2023 - 2024		2024 - 2025		Totals	
Sector	**Budget ($ millions) (1)**	**Forecast Sales (GWh) (2)**	**Budget ($ millions) (1)**	**Forecast Sales (GWh) (2)**	**Budget ($ millions) (1)**	**Forecast Sales (GWh) (2)**	**Budget ($ millions) (1)**	**Forecast Sales (GWh) (2)**
Residential	$4.26	792.96	$4.33	818.98	$4.42	846.36	$13.01	2,458.30
Commercial & Industrial	$1.37	732.46	$1.42	733.38	$1.48	732.46	$4.27	2,198.30
Totals	**$5.63**	**1,525.42**	**$5.75**	**1,552.36**	**$5.9**	**1,578.82**	**$17.28**	**4,656.60**

Note (1) - table above excludes budgets related to demand response and enabling strategies.
Note (2) – forecast sales adjusted to align with the proposed Plan fiscal periods, in addition excluding impacts of system losses, estimated DSM, and Company use. Furthermore, the Summerside Electric breakdown of residential and commercial and industrial customer sales are based on MECL energy sales percentage of residential versus commercial and industrial, as this information was not available.

As seen in the above table the allocation of budget spending compared to energy sales for each customer sector is not proportionately distributed. The reasoning for this is due to the following:

- Lower customer participation within the commercial and industrial sector programs compared to the residential sector program, due to;
    - The C&I programs are new and thus do not have public awareness that mature programs do.
    - These programs rely on a different, if sometimes overlapping, set of suppliers and contractors to implement upgrades. This industry sector hasn't yet expanded capacity to facilitate these upgrades.
    - It is likely over time these two issues will lessen and the portfolio will grow more balanced.
- The residential sector has more cost-effective measures compared to the commercial and industrial sector. Refer to results within the proposed Plan.
- The residential sector programs are mature and have widespread familiarity with the public allowing program uptake occur at much higher levels.

QUESTION

11. In Commission Order UE19-03 approving the current EE&C Plan, the Commission expressed concern about the lack of programs aimed at reducing peak load demand. In the proposed Plan, PEIEC has included certain Demand Response Programs and included forecast demand response savings from those programs.

    a. What is the net impact on peak demand of the entire proposed Plan (not limited to the Demand Response Programs)?

    b. In comments submitted by Roger King dated March 25, 2022, Mr. King expresses concerns about the Heat Pump Program and its impact on peak demand. Mr. King submits that the heat pump peak load demand increase is significant, and is almost three times the EE&C program savings. Does PEIEC agree with this statement? Please explain.

    c. Mr. King also states that the continued deployment of heat pumps suggests that the net potential increase in the annual peak load demand could be in excess of 10% (36MW) by 2025. Does PEIEC agree with this statement? Please explain.

RESPONSE

11 (a) PEI's system has a relatively flat load curve with an evening peak, as well as a second peak in the morning, as noted in the Dunsky Potential Study[1]. This is not uncommon in winter-peaking jurisdictions with a significant penetration of electric heating. It is difficult and unrealistic to calculate and to translate to peak reduction savings as this would be linked to consumer behaviour during the day. However, the table below demonstrates the results of the net impact on

[1] Prince Edward Island Energy Efficiency Potential Study, Volume I, Dunsky – page 56

peak demand of the entire proposed Plan. The totals are based on incremental gross or net demand savings at generator (MW):

Year	Incremental Gross Demand Savings at Generator (MW) - A	Incremental Net Demand Savings at Generator (MW) - B	Demand Response Totals (MW) - C	Total – A + C	Total – B + C
2022-2023	7.09	5.71	1.25	**8.34**	**6.96**
2023-2024	7.17	5.52	5.25	**12.42**	**10.77**
2024-2025	7.29	5.62	14.00	**21.29**	**19.62**
Total	**21.56**	**16.85**	**20.50**	**42.05**	**37.35**

11 (b) As with all incentive programs offered through ePEI, the Energy Efficient Equipment Program (EEER) provides incentives for installing the most efficient version of each type of equipment covered under the program. For air source heat pumps (ASHPs), this means ENERGY STAR Most Efficient or Northeast Energy Efficiency Partnership (NEEP) cold climate, ASHP qualified heat pumps.

The goal of these programs is to change customer behaviour, e.g. if a client was going to install an air source heat pump regardless of the availability of our incentive, our incentive is designed to ensure the heat pump installed is the most efficient unit possible.

The assessed Net to Gross (NTG) ratio (provided by measurement & verification consultant Econoler) for air source heat pumps under the EEER program is 0.77, meaning 23% of applicants would have installed the most efficient system without our incentive, and the remaining 77% would have installed systems that are less efficient than those specified under the EEER program minimum requirements. In the former situation, the increases to demand would have occurred

without the program, and in the latter, the increases in demand are reduced compared to what they would have been without the program.

11 (c) Electrification in general (of space heating, water heating, transportation, etc.) will continue to increase energy and demand into the future. The energy efficiency programs delivered by ePEI are designed to manage and reduce those increases.

QUESTION

12. Please explain how PEIEC determined that 20% of the total plan costs are appropriate for utility customers to contribute.

RESPONSE

12. In Order UE19-03, the Commission approved utility customers in PEI to contribute 20% of the approximate $13.3 million budget spend of the current Plan (approximate $2.7 million from ratepayers). In the proposed EE&C Plan, PEIEC has assumed that no significant changes will occurand therefore a 20% contribution is expected to continue with the Provincial and/or Federal funding continuing to be available over the term of the Proposed Plan.

QUESTION

13. Are certain EE&C programs funded solely by utility customers, while other programs are funded by Government? If yes, please identify which programs are funded solely by utility customers and why.

RESPONSE

13. There are no EE&C programs funded solely by utility customers or Government.

QUESTION

14. The proposed Plan states that federal funding beyond the 2022/2023 year has not been committed.

    a. Is there a plan for maintaining the programs if federal funding does not materialize or ceases during the term of the proposed Plan?

    b. What, if any, impact will a lack of federal funding have on the proposed Plan?

    c. If the federal funding does not materialize, will PEIEC be seeking approval to recover all or part of the shortfall from utility customers?

RESPONSE

14.

a) Currently the Government of Canada provides partial funding to efficiencyPEI, through the Low Carbon Economy Fund. This funding amounts to about 40% of the total EE&C program budget. If the federal funding expires after 2023, the PEIEC would continue to offer the programs in the EE&C Plan with an adjusted budget and scope as committed funding will allow.

b) It could cause a reduction in program scope and scale, depending on the availability of funds from sources, other than the ratepayers.

c) No.

QUESTION

15. A number of the proposed programs are available to some — but not all — utility customers, such as low-income or commercial customers. Will all utility customers be required to fund these programs, even though they are may not be eligible for the programs? Please explain and provide justification.

RESPONSE

15. There are a large number and variety of programs available to all ratepayers in all sectors. PEIEC believes that while there may initially be an imbalance in the split between residential and non-residential customers, over time the program portfolio will come into balance. With respect to low-income customers, we are unaware of any rate category that would delineate this economic sector.

If the Commission feels that separate rate classes should pay actual program costs for their specific rate class, then the PEIEC would implement such a system, keeping in mind that this would be a much more complicated system to develop and implement and maintain.

In the end, the PEIEC believes that because the proposed programs benefit the electricity system overall, that all ratepayers should pay for the plan.

QUESTION

16. For each of the programs included in the proposed Plan, please answer the following:

    a. How did PEIEC develop its cost estimates for each program?

    b. Please provide all key assumptions used to develop cost estimates for each program. Please also provide all key reports, documents or workpapers used to develop the key cost assumptions.

    c. How did PEIEC develop its savings estimates for each program?

    d. Please provide all key assumptions used to develop savings estimates for each program. Please also provide all key reports, documents or workpapers used to develop the key savings assumptions.

RESPONSE

16. a) Cost estimates for each program were developed leveraging the following:

    i. Current plan figures;

    ii. Historical program uptake and an analysis of current trends; and

    iii. Performing a jurisdictional analysis.

b) PEIEC proposes to provide a walkthrough of the model to the Commission to provide clarity on the key assumptions used to develop the cost estimates for each program.

c) PEIEC developed its savings estimates for each program using the 2018/19 & 2019/20 Program Evaluation report results provided by Econoler on June 29, 2020, the planned results from the previously approved plan, and current and historical program data.

d) PEIEC proposes to provide walkthrough of the model to the Commission to provide clarity on the key assumptions used to develop the cost estimates for each program.

QUESTION

17. Please provide the Service Delivery Agreement between PEIEC and the City of Summerside (Summerside Electric).

RESPONSE

17. The current Service Delivery Agreement between PEIEC and the Summerside Electric was filed with IRAC on October 15, 2018, on a Commission Only Confidential basis. A copy of the current Service Delivery Agreement is attached to this Response as a Commission Only Confidential document. At this time a new Service Delivery Agreement pertaining to the proposed Plan will be filed separately after approval of the proposed Plan.

Attachment 1 is not included with this Non-Confidential Response

QUESTION

18. Please provide the estimated rate impact of the proposed Plan on utility customers of both Summerside Electric and MECL.

RESPONSE

18. The estimated rate impact of the proposed Plan on utility customers of both MECL and Summerside Electric is $0.0028 per kWh on Residential Customers and $0.0009 per kWh on Commercial and Industrial Customers for the duration of the Plan. The calculation of these impacts included the following assumptions:

- ➔ The load forecast from MECL as of February 2021, for both MECL and Summerside Electric, adjusted from a calendar year to align with PEIEC's proposed Plan fiscal years ending March 31st;
- ➔ The total load forecast excludes the assumed DSM impacts, system losses, and company use by MECL; and
- ➔ No changes in the base rates of both Utilities and their customer classes during the proposed Plan duration. We understand that MECL currently has in progress regulatory filings. However, for the purpose of the below analysis all rates were assumed to hold constant to reflect the impact of the proposed Plan in isolation.

The percentage impacts of each customer class by Utility is outlined in the tables below based on their current base rates. For further details, refer to Attachment 1.

MECL Energy Charges				
Category	**Current rates ($kWh)**	**Potential rates ($/kWh)**	**Change ($/kWh)**	**Change (%)**
Residential Customer Class				
First 2,000 kWh	0.1532	0.1560	0.0028	1.82%
Above 2000 kWh	0.1228	0.1256	0.0028	2.27%
General Customer Class				
First 5,000 kWh	0.1871	0.1880	0.0009	0.48%
Above 5,000 kWh	0.1241	0.1250	0.0009	0.72%
Small Industrial Customer				
First 100 kWh	0.1834	0.1843	0.0009	0.49%
Above 100 kWh	0.095	0.0959	0.0009	0.94%
Large Industrial Customer				
All kWh per month	0.078	0.0789	0.0009	1.15%

Summerside Electric Energy Charges				
Category	**Current rates ($kWh)**	**Potential rates ($/kWh)**	**Change ($/kWh)**	**Change (%)**
Residential Customer Class				
First 2,000 kWh	0.1492	0.1520	0.0028	1.87%
Above 2,000 kWh	0.1188	0.1216	0.0028	2.34%
General Customer Class				
First 5,000 kWh	0.1831	0.1840	0.0009	0.49%
Above 5,000 kWh	0.1201	0.1210	0.0009	0.75%
Small Industrial Customer				
First 100 kWh	0.1794	0.1803	0.0009	0.50%
Above 100 kWh	0.0910	0.0919	0.0009	0.98%
Unmetered Customer				
All kWh per month	0.1790	0.1799	0.0009	0.50%

Summary of calculations

Calculation of additional Energy Charge per year for DSM Impact - Residential			
	2022-2023	2023-2024	2024-2025
Energy charge per fiscal year ($s)	0.0028	0.0028	0.0028
In cents/kWh	0.28	0.28	0.28

Calculation of additional Energy Charge per year for DSM Impact - General			
	2022-2023	2023-2024	2024-2025
Energy charge per fiscal year ($s)	0.0009	0.0009	0.0009
In cents/kWh	0.09	0.09	0.09

Calculations based on using the total load forecast for the fiscal period, not by customer class.

MECL - Growth in Energy Charges				
Residential Energy Charges	Current rates ($/kWh)	Potential rates ($/kWh)	Change ($/kWh)	Change %
First 2000 kWh	0.1532	0.1560	0.0028	1.82%
Above 2000 kWh	0.1228	0.1256	0.0028	2.27%
General Energy Charges				
First 5000 kWh	0.1871	0.1880	0.0009	0.48%
Above 5000 kWh	0.1241	0.1250	0.0009	0.72%
Small Industrial Energy Charges				
First 100 kWh	0.1834	0.1843	0.0009	0.49%
Above 100 kWh	0.095	0.0959	0.0009	0.94%
Large Industrial Energy Charges				
All kWh per month	0.078	0.0789	0.0009	1.15%

SSE - Growth in Energy Charges				
Domestic Energy Charges	Current rates ($/kWh)	Potential rates ($/kWh)	Change ($/kWh)	Change %
First 2000 kWh	0.1492	0.1520	0.0028	1.87%
Above 2000 kWh	0.1188	0.1216	0.0028	2.34%
General Energy Charges				
First 5000 kWh	0.1831	0.1840	0.0009	0.49%
Above 5000 kWh	0.1201	0.1210	0.0009	0.75%
Small Industrial Energy Charges				
First 100 kWh	0.1794	0.1803	0.0009	0.50%
Above 100 kWh	0.0910	0.0919	0.0009	0.98%
Unmetered Energy Charges				
All kWh per month	0.1790	0.1799	0.0009	0.50%

Summary of information used for calculations

DSM Plan Costs

	Total Plan Budget			
	2022-2023	2023-2024	2024-2025	Total
Residential Electricity Efficiency	$ 4,260,000	$ 4,330,000	$ 4,420,000	$ 13,010,000
Commercial & Industrial Electricity Efficiency	$ 1,370,000	$ 1,420,000	$ 1,480,000	$ 4,270,000
Demand Response	$ 1,000,000	$ 1,130,000	$ 3,250,000	$ 5,380,000
Enabling Strategies	$ 930,000	$ 460,000	$ 460,000	$ 1,860,000
Total	**$ 7,560,000**	**$ 7,340,000**	**$ 9,610,000**	**$ 24,520,000**

Energy Savings

	2022-2023	2023-2024	2024-2025	Total
Residential Electricity Efficiency	9.49	7.76	7.95	25.19
Commercial & Industrial Electricity Efficiency	2.95	3.08	3.22	9.25
Total	**12.44**	**10.84**	**11.17**	**34.45**

Load forecast in GWh per Utility

	Actual						Forecast										
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Energy Sales (GWh)																	*excluding DSM impacts, system losses and company use forecasted*
MECL	1,188.6	1,188.4	1,208.1	1,257.3	1,286.9	1,292.7	1,336.8	1,375.5	1,399.7	1,422.9	1,447.5	1,472.1	1,498.0	1,523.3	1,547.9	1,570.8	
SE	140.5	138.1	139.7	142.8	143.4	140.3	144.0	146.9	149.9	152.9	155.9	159.0	162.2	165.5	168.8	172.1	
Total	1,329.1	1,326.5	1,347.8	1,400.1	1,430.3	1,433.0	1,480.9	1,522.4	1,549.6	1,575.7	1,603.4	1,631.1	1,660.3	1,688.8	1,716.6	1,742.9	
Peak Load (MW)																	*excluding DSM impacts, system losses and company use forecasted*
MECL	215.6	237.0	250.3	243.3	249.5	256.8	275.1	285.2	293.4	301.6	310.0	318.4	327.0	335.5	343.8	350.1	
SE	25.0	27.2	28.1	26.5	25.7	26.7	28.1	28.9	29.5	30.0	30.6	31.2	31.8	32.4	33.0	33.5	
Total	240.6	264.2	278.4	269.8	275.2	283.5	303.2	314.0	322.9	331.6	340.6	349.6	358.8	367.9	376.8	383.7	

	Load forecast aligned with ePEI Fiscal year			
	2022-2023	2023-2024	2024-2025	Total
MECL	1,381.6	1,405.5	1,429.0	4,216.1
SE	147.7	150.6	153.6	451.9
Total	1,529.2	1,556.1	1,582.7	4,668.0

Current base riders for each utility

MECL		
Residential Energy Charges		
First 2000 kWh	15.32	cents/kWh
Above 2000 kWh	12.28	cents/kWh
General Energy Charges		
First 5000 kWh	18.71	cents/kWh
Above 5000 kWh	12.41	cents/kWh
Small Industrial Energy Charges		
First 100 kWh	18.34	cents/kWh
Above 100 kWh	9.5	cents/kWh
Large Industrial Energy Charges		
All kWh per month	7.8	cents/kWh

SSE		
Domestic Energy Charges		
First 2000 kWh	14.92	cents/kWh
Above 2000 kWh	11.88	cents/kWh
General Energy Charges		
First 5000 kWh	18.31	cents/kWh
Above 5000 kWh	12.01	cents/kWh
Small Industrial Energy Charges		
First 100 kWh	17.94	cents/kWh
Above 100 kWh	9.1	cents/kWh
Unmetered Energy Charges		
All kWh per month	17.9	cents/kWh

https://www.maritimeelectric.com/about-us/regulatory/rates-and-general-rules-and-regulations/

https://p1cdn4static.civiclive.com/UserFiles/Servers/Server_4499283/File/Business/Commercial%20&%20Industrial%20%20Accounts/Rates/Summerside%20Electric%20Rates%20-%20Effective%20April%201%202021.pdf

QUESTION

19. In the Enabling Strategies identified in the Application, PEIEC proposes to increase its spending to 10.75%, which is the average percentage of funds the other Atlantic provinces spend on Enabling Strategies.

a. Please explain why this 10.75% average is the appropriate benchmark for spending, versus calculating PEIEC's own budget based on specific enabling strategies planned going forward.

b. Do funds from utility customers contribute to Enabling Strategies? If yes, why? Please explain the benefit to utility customers.

RESPONSE

19 (a) Customer adoption of EE&C planned savings are heavily impacted by the success of the adopted enabling strategies. Setting the enabling strategies budget at 10.75% based on an average of the spending in other jurisdictions as a benchmark is appropriate because it provides PEIEC a basis against its peer group within the Atlantic provinces. It provides a basis for increased investment in awareness of efficiency programs to promote increased adoption of programs required to achieve the forecasted increase in program participation.

19 (b) Yes, funds from utility customers contribute to enabling strategies. Enabling strategies are a foundational element to encourage adoption of EE&C measures, which leads to behavioural change that

improves program response. Refer to Appendix A, page 31, for further details on enabling strategies to utility customers. Without the support of enabling strategies it is inherently difficult to achieve the desired level of EE&C outcomes.

QUESTION

20. Please explain further how Demand Response activities are rated for effectiveness.

RESPONSE

20. The effectiveness of Demand Response activities is rated within the EE&C Proposed Plan based on the results of the Dunsky Efficiency Potential Study[1].

In addition, with pilot programs and rolling out of the demand response initiatives, the EE&C Plan incorporates a 'ramp up period' of 50%, 75%, and 100% in each of the years of the EE&C Plan for the aforementioned effectiveness results.

As explained in the Dunsky Efficiency Potential Study[2] results "[effectiveness of the demand response activities is assessed by determining] if the value of the peak load benefits to the utilities would exceed the cost of setting up and running the programs."

Going forward, Econoler will assess the effectiveness results of PEIEC demand response activities using the above methodology and will provide those results within their evaluation and verification reports.

[1] "A Comprehensive Assessment of Energy Efficiency and Demand Response Opportunities 2021-2030", Volume I, pages 62 and 65.
[2] Ibid, at page 10

QUESTION

21. Please provide a comparison of forecast to actual net electricity savings, net demand savings and lifetime energy savings, broken down by program, for each year from 2018/2019 to 2021/2022. If a program has not performed as anticipated, please explain why.

RESPONSE

21. The table in Attachment 1 outlines the planned versus actual savings for energy and demand for the four years of the current program. Please note that the figures for fiscal year 2020/21 are preliminary numbers from ePEIs measurement & verification (M&V) consultant Econoler and the figures for fiscal year 2021/22 are internal numbers from ePEI and have not been reviewed their M&V consultant.

Explanation of underperformance of the programs included in the current plan have been outlined in the response to question #4.

Program	2018/19					2019/20					2020/21					2021/22					4 year totals				
	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned	Net Energy and Demand Savings Targets		Net Energy and Demand Savings Results		Actual as a % of planned
	Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit		Value	Unit	Value	Unit	
IES																									
Energy Savings	1.1	GWh	1.175	GWh	107%	3.7	GWh	2.914	GWh	79%	2.399	GWh	2.834	GWh	118%	2.399	GWh	1.566	GWh	65%	9.598	GWh	8.489	GWh	88%
Demand Savings	0.2	MW	0.168	MW	84%	0.8	MW	0.423	MW	53%	0.47	MW	0.382	MW	81%	0.47	MW	0.213	MW	45%	1.94	MW	1.186	MW	61%
WW																									
Energy Savings	0.3	GWh	0.349	GWh	116%	0.3	GWh	0.462	GWh	154%	0.348	GWh	0.497	GWh	143%	0.348	GWh	0.412	GWh	118%	1.296	GWh	1.72	GWh	133%
Demand Savings	0.1	MW	0.044	MW	44%	0.1	MW	0.058	MW	58%	0.08	MW	0.061	MW	76%	0.08	MW	0.048	MW	60%	0.36	MW	0.211	MW	59%
EEER																									
Energy Savings	2.1	GWh	1.976	GWh	94%	2.8	GWh	2.097	GWh	75%	3.126	GWh	2.246	GWh	72%	3.126	GWh	2.317	GWh	74%	11.152	GWh	8.636	GWh	77%
Demand Savings	0.7	MW	1.744	MW	249%	1	MW	1.773	MW	177%	1.1	MW	1.936	MW	176%	1.1	MW	2.047	MW	186%	3.9	MW	7.5	MW	192%
HIR																									
Energy Savings	0.5	GWh	0.128	GWh	26%	1.3	GWh	0.692	GWh	53%	1.843	GWh	0.473	GWh	26%	1.843	GWh	0.473	GWh	26%	5.486	GWh	1.766	GWh	32%
Demand Savings	0.2	MW	0.038	MW	19%	0.4	MW	0.205	MW	51%	0.53	MW	0.14	MW	26%	0.53	MW	0.14	MW	26%	1.66	MW	0.523	MW	32%
NHC																									
Energy Savings	0.1	GWh	0.249	GWh	249%	0.2	GWh	0.792	GWh	396%	0.287	GWh	0.577	GWh	201%	0.287	GWh	0.753	GWh	262%	0.874	GWh	2.371	GWh	271%
Demand Savings	0	MW	0.074	MW		0	MW	0.234	MW		0.08	MW	0.171	MW	214%	0.08	MW	0.223	MW	279%	0.16	MW	0.702	MW	439%
Residential Program Subtotal																									
Energy Savings	**4.1**	**GWh**	**3.877**	**GWh**	95%	**8.3**	**GWh**	**6.957**	**GWh**	84%	**8.003**	**GWh**	**6.627**	**GWh**	83%	**8.003**	**GWh**	**5.521**	**GWh**	69%	28.406	**GWh**	22.982	**GWh**	81%
Demand Savings	**1.2**	**MW**	**2.068**	**MW**	172%	**2.3**	**MW**	**2.693**	**MW**	117%	**2.26**	**MW**	**2.69**	**MW**	119%	**2.26**	**MW**	**2.671**	**MW**	118%	8.02	**MW**	10.122	**MW**	126%
BER																									
Energy Savings	0.9	GWh	0.197	GWh	22%	1.1	GWh	1.021		93%	1.507	GWh	1.4	GWh	93%	1.507	GWh	0.949	GWh	63%	5.014	GWh	3.567	GWh	71%
Demand Savings	0.1	MW	0.134	MW	134%	0.2	MW	0.31	MW	155%	0.21	MW	0.442	MW	210%	0.21	MW	0.282	MW	134%	0.72	MW	1.168	MW	162%
CES																									
Energy Savings	0.39	GWh	0	GWh	0%	1.26	GWh	0	GWh	0%	3.627	GWh	0.011	GWh	0%	3.627	GWh	*	GWh		5.277	GWh	0.011	GWh	0%
Demand Savings	0	MW	0	MW		0.15	MW	0	MW	0%	0.42	MW	0.007	MW	2%	0.42	MW	*	MW		0.57	MW	0.007	MW	1%
Commercial Program Subtotal																									
Energy Savings	**1.29**	**GWh**	**0.197**	**GWh**	15%	**2.36**	**GWh**	**1.021**	**GWh**	43%	**5.134**	**GWh**	**1.411**	**GWh**	27%	**5.134**	**GWh**	**0.949**	**GWh**	18%	10.291	**GWh**	3.578	**GWh**	35%
Demand Savings	**0.1**	**MW**	**0.134**	**MW**	134%	**0.35**	**MW**	**0.31**	**MW**	89%	**0.63**	**MW**	**0.449**	**MW**	71%	**0.63**	**MW**	**0.282**	**MW**	45%	1.71	**MW**	1.175	**MW**	69%
Total																									
Energy Savings	**5.39**	**GWh**	**4.074**	**GWh**	76%	**10.66**	**GWh**	**7.978**	**GWh**	75%	**13.137**	**GWh**	**8.038**	**GWh**	61%	**13.137**	**GWh**	**6.47**	**GWh**	49%	42.324	**GWh**	26.56	**GWh**	63%
Demand Savings	**1.3**	**MW**	**2.202**	**MW**	169%	**2.65**	**MW**	**3.003**	**MW**	113%	**2.89**	**MW**	**3.139**	**MW**	109%	**2.89**	**MW**	**2.953**	**MW**	102%	9.73	**MW**	11.297	**MW**	116%

* data not available

Program	2018/19		2019/20		2020/21		2021/22		4 Year Total	
	Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings		Lifetime Energy Savings	
	Value	Unit	Value	Unit	Value	Unit	Value	Unit	Value	Unit
IES										
Energy Savings	8.32	GWh	21.121	GWh	20.235	GWh	11.2	GWh	60.876	GWh
WW										
Energy Savings	3.035	GWh	4.031	GWh	3.821	GWh	3.4	GWh	14.287	GWh
EEER										
Energy Savings	35.609	GWh	37.772	GWh	40.485	GWh	41.7	GWh	155.566	GWh
HIR										
Energy Savings	2.899	GWh	15.718	GWh	10.737	GWh	10.7	GWh	40.054	GWh
NHC										
Energy Savings	7.462	GWh	23.749	GWh	17.309	GWh	22.5	GWh	71.02	GWh
BER										
Energy Savings	2.634	GWh	17.778	GWh	25.636	GWh	17	GWh	63.048	GWh
CES										
Energy Savings	0	GWh	0	GWh	0.171	GWh	*	GWh	0.171	GWh
Total										
Energy Savings	**59.959**	**GWh**	**120.169**	**GWh**	**118.394**	**GWh**	**106.5**	**GWh**	**405.022**	**GWh**

* data not available