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The Island Regulatory and Appeals Commission

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July 31, 2023

VIA EMAIL

Island Regulatory and Appeals Commission
c/o Nicole McKenna
Carr, Stevenson & MacKay
65 Queen Street
Charlottetown, PE C1A 7L1

Attention: Nicole McKenna

Dear Ms. McKenna

Re: UE 22503-MECL- June 30, 20220
IR Submission of Federation of Agriculture
Our File Reference 29768-001lm

In relation to the above-noted matter, please find herein the list of interrogatories pertaining to the above noted matter, as submitted on behalf of the Prince Edward Island Federation of Agriculture.

IR-1

IRAC IR-18 asks:

> Please provide the names, addresses, and monthly consumption level (in kWh) for each of MECL's customers in the Residential rate class who consumed more than 5,000 kWh per month in 2021. This includes both farm and non-farm customers within the Residential rate class. The Commission asks that the information be broken down by month, and that farms (as classified in the 2017 Cost Allocation Study) and net metering customers be clearly identified by MECL.

MECL provided its response, other than a summary table, confidentially.

(a) Please provide the individual customer consumption levels for each of MECL's customers in the residential rate class who consumed more than 2,000 kWh per month in 2021 (i.e. all customers who consume second block energy) similar to as requested by IRAC in the above IR but in a non-confidential manner (i.e. without names, addresses and any identifiers, but with customer numbers if possible to permit correlation of the monthly values).

i. Please specify the residential service rate schedule (rural, urban, seasonal) for each individual customer.

ii. Please also label if each customer provided is a farm, net metering, or 'other' customer that corresponds to the table provided in the non-confidential response to IRAC IR-18. For the

12 customers listed as both 'farm' and 'net-meter' please identify both.

i. Similar to Tables 13 & 14 of the Farm Study, please sub-categorize each farm account by potato, dairy, poultry & hog farms.

iii. Please identify which of the customer accounts were used as the 87-88 farm accounts used in the 2 Farm Studies (Draft & Final) in the data set.

1. Please specifically comment on whether different farms were used between the two studies and if so, why this occurred.

(b) Please explain MECL's process for assigning the farm 'SIC' code to each account and when this was last completed/updated.

i. Please comment on whether or not MECL has immediate plans to review and update the SIC data prior to any rate design changes/decisions taking effect.

1. If yes, please explain how MECL proposes to update/review its SIC code data. If not, please explain why not.

ii. If any of the above responses are deemed to include confidential information, please provide a process for PEIFA experts to retain this information on a confidential basis, or indicate the specific information that would need to be further withheld to permit the underlying load data to be made available (e.g., other utilities provide confidential information through Non-Disclosure Agreements and commitments to destruction of documents at the end of the regulatory process).

(c) Please explain MECL's proposal as it applies to net metering customers, especially the 12 customers who are both net metered customers and farms.

IR-2

IRAC-6 gives the resulting RTC ratios after implementation of MECL's proposals based on the 2017 Cost Allocation study

a) Please provide an updated response to IRAC-6 reflecting the 2020 Cost Allocation study

IR-3

IRAC-15 gives the rates for a Farm Class from what appears to be the 2017 Cost Allocation study

a) Please provide an updated response to IRAC-15 reflecting the 2020 Cost Allocation study

b) Please indicate the equivalent contemporary rates (same test year) that would apply to the other classes consistent with the Farm Class Rate shown in Table 1 (i.e., under the same revenue requirement at a 1.0 RTC for each class) and the contemporary rates that were actually in effect.

c) Please recalculate the IRAC-15 Tables 1 and 2 assuming only the farms who would otherwise convert to the Small Industrial class are included in the new Farm class, and provide the backup detail.

IR-4

a) Please indicate if MECL has continued to collect the data from the metered accounts addressed in the Farm Study, and if so has any updated study been completed (e.g., for 3 or 4 years of data)? If yes, please provide.

  i. If the data has continued to be collected by not included in a more comprehensive study, can MECL indicate if the same general load relationships as noted in the Farm Study (e.g., loads, size, coincidence factors, non coincident peak ratios), are present in the newer data or if the newer data indicates a materially different trend.

b) Please provide an updated Tables 1, 10, 11, 12, 13, 14, for the 2020 Cost Allocation Study.

c) Please provide the underlying calculations (in excel format) that support Chart 1 on Study page 2, separating the impacts by the following:

  i. The percentage of bill increase as a result of eliminating second block rate (and replacing second block charge to the proposed flat rate equal to the current first block rate);

  ii. The percentage of bill increase as a result of increase to reach 95% RTC.

d) Please explain the difference between Chart 1 (page 2) and Chart 2 (page 4), if any. If different please provide the underlying calculations (in excel format) that support Chart 2 with the same separation as requested in part a) above.

e) Please provide a version of Chart 1, estimated for farm customers who use between 2,000 and 5,000 kWh/month (i.e. 24,000 kWh to 60,000 kWh per year).

  i. Provide a Chart that splits the impact for 1) bill increase percentage as a result of eliminating the second block rate, and 2) the percentage of bill increase as a result of increase to reach 95% RTC.

f) Please provide a version of Chart 1, estimated for farm customers who use between 60,000 kWh and 100,000 kWh annually.

  i. Provide a Chart that splits the impact for 1) bill increase percentage as a result of eliminating the second block rate, and 2) the percentage of bill increase as a result of increase to reach 95% RTC.

g) Please also provide the underlying calculations, in excel format, to support Charts 7 and 8 (on pages 22-23 of the Farm Study) and further, provide the same analysis for the remaining 7 farm accounts not provided (hog and poultry farms).

h) MECL's response to IRAC IR-9b & c discusses the treatment of "Other" customers (as shown in response to IRAC IR-18 non-confidential), which MECL classifies as Farms. Please provide a version of Charts 7 and 8 from the Farm Study for these customers.

i. Given that some of these 'Other' customers use substantially more average monthly consumption than all other residential customers, please specifically discuss how the consumption of these customers could impact both Residential RTC and Small Industrial RTC.

ii. Please explain all adjustments MECL made to its estimated load data and Cost Allocation results for the 'Other' customer class, including if it has meter data for any of these customers that it included in a portion or all of the Farm Study.

   i. If metered load data is available and MECL did not use it for the Farm Study or in estimating potential RTC and customer bill impacts please explain why it wasn't used.

iii. Please discuss how MECL estimated the bill impacts for these customers.

iv. Please provide excel analysis splitting the impact for these 14 customers by 1) bill increase percentage as a result of eliminating the second block rate, and 2) the percentage of bill increase as a result of increase to reach 95% RTC.

i) Please provide the same information (including Excel) as provided in Synapse IR-20 (Exhibit M-3(i)) that is available for any Farm customers over 5000 kW.h.

IR-5

Page 5 of the Farm Study states that coincident and non-coincident peak loads for farm load was estimated based on the hourly data collected from the meters installed at "some of the larger farms".

Page 13, states that:

Estimates of hourly class loads for farms were derived from the sample meters hourly data by using a load research method known as ratio estimation. Ratio estimation multiplies the ratio of the sample's weighted average load for a given hour to the sample's weighted average billed energy for the month containing that hour, by the class billed energy for that same month.

a) Please confirm that the meters installed at "some of the larger farms" correspond to the 87 farm accounts used as samples in the Farm Study.

   i. If not confirmed, please explain how many meters were installed for some of the larger farms and why some were or were not used as support in the Farm Study.

b) Please provide MECL's criteria for determining which Farm accounts to install meters for data collection purposes.

   i. Are the 87-88 farm accounts included in the Farm Study the same as the 88 largest farm customers as shown in the non-confidential response to IRAC IR-18 (i.e. the 72 farm customers who use between 20,000 – 49,999 kWh/year and the 16 farm customers who use over 49,999 kWh/year)?

c) Please explain how coincident and non-coincident peak loads were estimated for all farm loads based on the sampled metered data. Please specify in this response any changes made to the actual metered data to broaden the result to apply for all farm customers of various usage amounts (especially in light of large farms being used exclusively in the Farm Study where as actual farms exist of all different usage levels).

   i. In the above response, please explain if the 'ratio estimation' approach as used by MECL results in an exact mirrored peak load profile for all farms as the profiles collected from the participants in the Farm Study (as shown in Charts 3 – 6).

   ii. From pages 29-30 please confirm or explain otherwise that by MECL stating it used the "combined ratio" approach it consolidated the coincident peak and non-coincident peak data for all farms and applied unilaterally, and not applied by type of farm (i.e. dairy farm data collected was solely applied to dairy farms, etc.). If not confirmed, please explain how this was done.

   iii. Please provide the estimated calculations in excel format.

   iv. Please provide the actual coincident peak and non-coincident peak data collected for the farm customers with installed meters for each year 2018-19 and 2019-20. Please include monthly load factor data for each customer included in the study, and specify the type of farm (potato, dairy, hog, poultry).

d) Page 14 of the Farm Study references two potato warehouses being included in Table 8 that were originally outside of the 87 Farm Study accounts. Please explain if these potato warehouses are currently in the residential rate class or general service rate class.

   i. If in the residential rate class, please explain if they are included in the 'Farm' column, the 'net meter' column or the 'other column' in MECL's non-confidential response to IRAC IR-18.

   ii. Please explain what the proposed rate treatment is for the potato warehouses.

e) Please provide the calculated monthly and annual load factors and coincidence factors for each type of farm (potato, dairy, etc.) and indicate if these factors vary by size of farm, for each year of the data collected,

f) Please confirm that the use of the Small Industrial rate, with a demand charge and a higher prices first block energy charge (tied to demand peaks) before a customer can get access to second block energy s generally very favourable to high load factor customers and not favourable to low load factor customers.

g) Please indicate MECL's understanding about the measures that can be practically be used by each type of farming operation to increase their load factor, either by peak shaving or shifting to lower load periods, and whether MECL expects such measures to be practical, cost effective and lead to material savings.

h) Please indicate if MECL has considered implementing the Small Industrial Rate by measuring the billed demand solely on the peak demand set during on-peak hours, and ignoring any higher peaks set in off-peak hours. If yes, please indicate whether this options provides a potential improved price signal to customers linked to system costs.

i) Please update Tables 11, 12, 13 and 14 to the 2020 Cost Allocation study.

j) Please Update Table 4-2 from the Draft Farm Study (Boutilier Study page 80) to include all data from the final Farm Study and using the 2020 Cost Allocation results.

IR-6

Tables 2 & 3 on page 6 of the Farm Study provides a summary of detailed analysis done by MECL for residential accounts over 5,000 kWh/month. The tables are reproduced:

TABLE 2

Residential Rate Farm Electricity Usage for July 2018 to June 2019

(for accounts with 5,001+ kWh usage for at least one month)

		Potato	Dairy	Hogs	Poultry	Total
Number of Residential accounts		353	143	9	15	520
Number of farms		174	136	9	13	332
Annual billed usage (MWh)	A	26,804	13,114	2,288	1,195	43,401
Portion of farms with household loads included (%)		50	75	75	75	
Estimated household usage included above in A (MWh) (based on 8,000 kWh per year)	B	696	816	54	78	1,644
Farm usage - total billed less household (MWh)	A - B	26,108	12,298	2,234	1,117	41,757

TABLE 3

Residential Rate Farm Electricity Usage for July 2019 to June 2020

(for accounts with 5,001+ kWh usage for at least one month)		Potato	Dairy	Hogs	Poultry	Total
Number of Residential accounts		361	142	10	15	528
Number of farms		174	135	9	13	331
Annual billed usage (MWh)	A	31,598	12,887	2,634	1,199	48,318
Portion of farms with household loads included (%)		50	75	75	75	
Estimated household usage included above in A (MWh) (based on 8,000 kWh per year)	B	696	810	54	78	1,638
Farm usage - total billed less household (MWh)	A - B	30,902	12,077	2,580	1,121	46,680

a) Please explain how MECL was able to breakdown each customer by type of farm?

b) Please reconcile the number of farms to the 375 farms listed as total # of farms over 5,000 kWh/month in response to IRAC IR-18 (public version)

c) Please reconcile the number of residential accounts to the number of farms for each column.

d) For the current stepped rate, please explain if the second block applies for each 'account' that surpasses 2,000 kWh/month or if it is applied per farm.

e) Please provide a breakdown of the annual billed usage into first versus second block.

f) For MECL's rate design proposal for farms (where customers can decide to remain in the residential class or move to the small industrial class) will each farm's decision and ultimately the rates applied be applied on a per farm basis or a per account basis – (for example, can a farm consolidate its accounts to retain diversity under the small industrial class)? Please explain MECL's proposal.

g) Please apply the coincident peak and non-coincident peak estimate calculations (as explained on page 5 of the Farm Study) to each column for both Table 2 and Table 3. Please provide in excel format.

h) Please provide a version of 'Chart 1' (increase in bills) for large farms due to changes in proposed residential rate for each column in Table 2 and Table 3 above (i.e. by year).

i. Please also provide the supporting information, broken out by 1) the percentage of bill increase as a result of eliminating second block rate (and replacing second block charge to the proposed flat rate equal to the current first block rate), and 2) The percentage of bill increase as a result of increase to reach 95% RTC.

IR-7

On page 8 of the Farm Study MECL states that:

> "The conclusion is that basing this Study on farms that use at least 5,000 kWh per month as identified in the billing system is a reasonable approach because it includes most of the electricity usage by farms in the Residential class."

a) Please confirm whether or not the above statement when referring to 'this Study' is in relation to the 87 farm accounts used in the 'Farm Study' to meter for monthly consumption data or if it applies to the estimates done for the 520+ residential farm accounts with usage over 5,000kWh/month

b) Please explain how MECL's 'top down estimate' compared to its detailed analysis for accounts greater than 5,000kWh/month leads to the above conclusion.

IR-8

Table 4 & 5 (pages 7 & 8) provides an estimate for farm electricity usage, breaking down by type of farm and main electricity end uses for each year 2018-19 and 2019-20.

a) Please explain whether or not MECL considered potential future changes that may impact farm usage levels, including for example the impacts of electrification usage per type of farm in its estimate of electricity usage by type of farm.

IR-9

Table 14 on page 21 of the farm study is reproduced below. Table 13 in the Study is similar but for the 2018-2019 time period.

TABLE 14
Allocation of 2017 Costs to July 2019 to June 2020 Farm Load
(Based on 2017 Cost Allocation Study)

	Unit Costs (from 2017 Cost Allocation Study)		2017 Cost Allocation Study: Residential Year Round	2017 Cost Allocation Study: Farms	Jul 2019 to Jun 2020 Residential Farm Load: Potato Farms	Dairy Farms	Poultry & Hog Farms	Total
Number customers		#	57,286	2,094	361	142	25	528
CP Demand		(MW)	131.5	13.6	5.3	2.5	0.4	8.2
Group NCP Demand		(MW)	161.9	16.8	8.4	2.3	0.6	11.3
Energy		(MWh)	505,169	52,322	31,598	12,887	3,833	48,318
Allocated costs for 2017 ($000's)								
Customer related	295	$/yr	16,915	618	107	42	7	156
CP Demand related	184	$/kW-yr	24,257	2,509	978	461	74	1,513
NCP Demand related	54	$/kW-yr	8,710	904	452	124	32	608
Energy related	83	$/MWh	41,928	4,343	2,623	1,070	318	4,010
			91,810	8,373	4,159	1,696	432	6,287
Allocated revenues for 2017 ($000's)			83,860	6,868	3,610	1,491	426	5,527
Estimated RTC ratios (%)			91	82				89

For July 2018 to June 2019 Residential farm load:
- CP Demand is for February 26, 2019 hour ending 19:00
- NCP Demand is for December 5, 2018 hour ending 09:00

a. Please confirm or explain otherwise that the Residential Farm Load columns is an estimate of accounts based on the detailed 'SIC' review MECL undertook for accounts greater than 5,000 kWh/month usage. If not please explain.

b. Please provide a version of Table 13 and Table 14 that adds columns for the 87 metered Farm customers by type of farm (potato, dairy, poultry & hog, etc.).

   i. Please explain if there are any underlying differences in the allocators used between the 87 metered Farm customers (by farm type) and the broader 'Farms' and 'Residential Farm Load' columns to apply the unit cost calculation to develop total allocated costs.

IR-10

Page 2 of the Farm Study states the following:

To gain a better understanding of electricity usage by farms, in the first half of 2018 Maritime Electric installed meters capable of storing hourly load data at 87 of the larger farms on Prince Edward Island ("PEI"). Based on the first 12 months (July 2018 to June 2019) of hourly data, the estimated RTC ratio for farm load is 0.86. For the second 12 months (July 2019 to June 2020) of hourly data, the estimated RTC ratio is 0.88. These values are higher than the estimate of 0.82 for Farms in the 2017 Cost Allocation Study, but are still below the target range of 0.95 to 1.05.

a) Please explain in detail and provide all calculations in support of the methods used to calculate the estimated RTC ratios provided above.

b) Please provide the underlying calculations for each estimated RTC ratio.

c) Please explain how the Farm Study participants, as "larger" users and therefore generally using more second block power, have a much higher estimated RTC ratio of 0.88 compared to the estimate for the entirety of the Farm customers of 0.82, when the full Farm customer base includes much more proportionate usage of Block 1 energy per customer.

IR-11

a) Please indicate if the 2020 Cost Allocation study is the most recent prepared, and if not please provide the paper and electronic versions of the latest Cost Allocation study.

b) Please provide a copy of the 2020 Cost Allocation study assuming all farm customers stay as residential, and the full Stage 1 Rate Plan had been implemented (i.e., no second block rate for residential remains, etc.). Please indicate all requires assumptions applied to complete the analysis.

c) Please provide a copy of the 2020 Cost Allocation study assuming all farm customers move as intended (i.e., those anticipated to move to the Small Industrial class move to that class, and those that are anticipated to remain as residential stay as residential), and the full Stage 1 Rate Plan had been implemented (i.e., no second block rate for residential remains, etc.). Please indicate all requires assumptions applied to complete the analysis.

IR-12

In MECL's response to IRAC IR-16a provides RTC ratios based on the 2017 Cost Allocation results revised for the "basic customer method". MECL's response to IRAC IR-16b states that:

> Therefore, Maritime Electric respectfully requests an opportunity to include a review of the customer and demand classification percentages for the distribution system as part of the Company's next cost allocation study, which would then be incorporated into the development of the second stage of the Rate Design Application.

a) Please provide the supporting calculations that lead to MECL's revised RTC ratios by cohort, including what the resulting residential service charge (basic rate) would be for each cohort using this method and the revenue split between different charges (customer, energy, etc.).
b) Please provide a version of the Table from IR-16a that splits the Revised RTC ratio changes by two steps: 1) first removing the 2,000 kWh declining block rate, and 2) impacts from changing the customer classification and charge.
c) Please provide a version of the response to IR-16a using the 2020 Cost Allocation study, as well as supporting calculations.
d) Please specify how MECL intends to test the customer and demand classification percentages – including if methodological review is anticipated based on actual customer class splits.

IR-13

MECL filed the 2017 Cost Allocation Study and an updated 2020 Cost Allocation Study in support of its Rate Design Application.

a) Please indicate whether or not the 2017 Cost Allocation Study as provided in Exhibit M-1(b) is the final version reflecting all review and approvals from any regulatory proceeding. If not, please indicate he changes required as a result of regulatory review.

b) Please explain in detail any methodological changes that MECL has included in its 2017 Cost Allocation Study compared to the 2014 study, including but not limited to functionalization, classification or allocated related method or input changes.

    a. If any changes have occurred, please explain the rationale for the change and compare the details of the change and the resulting RTC impact on customer classes, including by Residential cohorts.

    b. For the proposed classification change for Point Lepreau from 95% demand & 5% energy to 25% demand and 75% energy please explain whether or not this change has been approved by the Commission to date, and if so please provide the Order reference approving it.

i. Please provide a comparison for both the 2017 Cost Allocation Study and 2020 Cost Allocation Study showing the classification change allocated for each customer class and resulting RTC impacts.

c. For the classification for all combustion turbine fuel costs as energy related rather than demand-related, please explain whether or not this change has been approved by the Commission to date, and if so please provide the Order reference approving it.

i. Please provide a comparison for both the 2017 Cost Allocation Study and 2020 Cost Allocation Study showing the classification change allocated for each customer class and resulting RTC impacts.

d. For the classification for a portion of wind purchase power as demand related, rather than 100% energy related, with demand-related at 23% (same proportion as ratio of wind power name capacity) please explain whether or not this change has been approved by the Commission to date, and if so please provide the Order reference approving it.

i. Please provide a comparison for both the 2017 Cost Allocation Study and 2020 Cost Allocation Study showing the classification change allocated for each customer class and resulting RTC impacts.

IR-14

MECL's Exhibit M-1c provides its 2020 Cost Allocation Study, on page /2 it states that there has been a shift from energy-related costs to demand-related costs since the 2017 study.

a) Please explain whether or not the 2020 Cost Allocation Study has been reviewed or approved in a regulatory proceeding.

a. If not, is approval of the 2020 Cost Allocation Study part of MECL's requested approvals in this proceeding? Please explain.

b) Please explain in detail any methodological changes that MECL has included in its 2020 Cost Allocation Study compared to the 2017 study, including but not limited to any functionalization, classification or allocation related method or input changes.

a. If any changes have occurred, please explain the rationale for the change and compare the details of the change and the resulting RTC impact on customer classes, including by Residential cohorts.

c) Please explain what has occurred with regards to MECL's resource base and system load profile that has caused this shift and if MECL anticipates it to continue moving forward.

d) Please discuss MECL's power supply (both generation and purchased power) and transmission resource costs including whether or not there is any monthly volume and price volatility on the supply side being driven by changes in monthly customer demand.

e) Please provide a copy of the 2020 Cost Allocation study separating the Farm versus other Residential loads using the breakdown provided in MECL's response to Synapse IR-9 from October 1, 2021 (i.e., only include large farms in the "farms" category).

f) Please Update Tables 2, 3, 4, and 5, and 8 of the May 14, 2021 Application to reflect the 2020 Cost Allocation study.

g) Please provide a version of Chart 1 and 2 from the May 14, 2021 Application calculated assuming the Small Industrial rate was adjusted to only recover 100% RTC (per the 2020 Cost Allocation Study) through a reduction in the demand charge and the first block energy charge (first 100 kW.h per kW) (or adjustment of the second block energy charge, if needed to bring the unit rates for the second block rate into alignment with the unit costs of energy).

IR-15

Charts 3-6 from the Farm Study, on pages 11-13, are provided below:

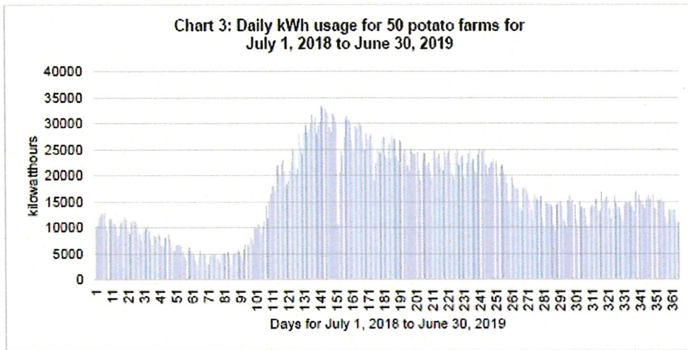

Chart 3: Daily kWh usage for 50 potato farms for July 1, 2018 to June 30, 2019

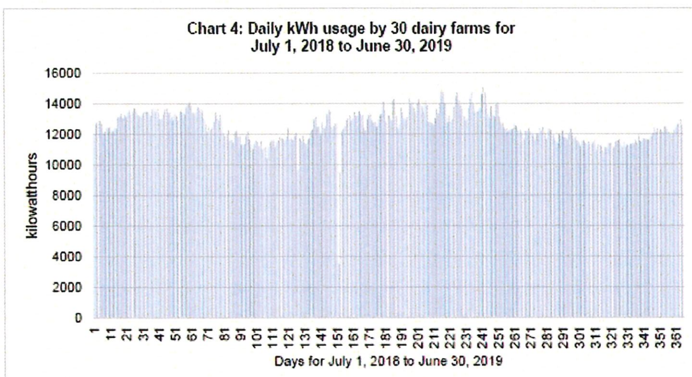

Chart 4: Daily kWh usage by 30 dairy farms for July 1, 2018 to June 30, 2019

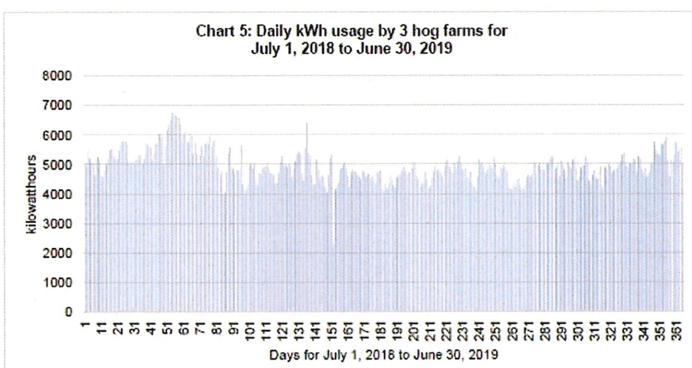

Chart 5: Daily kWh usage by 3 hog farms for July 1, 2018 to June 30, 2019

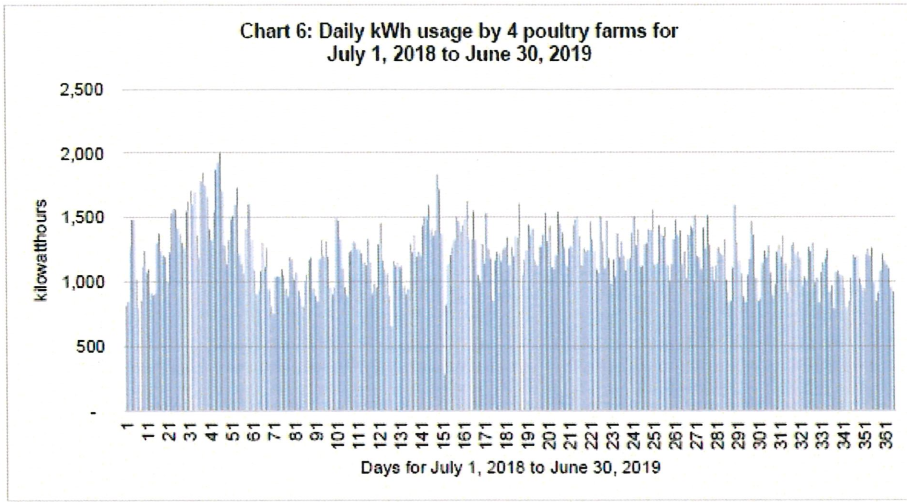

Chart 6: Daily kWh usage by 4 poultry farms for July 1, 2018 to June 30, 2019

MECL's Farm Study collected electricity usage data from the following types and number of farms:

50 at potato farms

30 at dairy farms

3 at hog farms
4 at poultry farms
<u>87</u>

Page 15 provides the following summary table for Farm CP, NCP and billed energy usage compared to the system peak:

TABLE 9
Estimated Coincident Peak and Non-Coincident Peak Loads for Residential Rate Farms

	2018 Nov	2018 Dec	2019 Jan	2019 Feb	2019 Nov	2019 Dec	2020 Jan	2020 Feb
MECL monthly system peak load								
Date	22	27	3	26	13	16	17	21
Hour ending	18:00	18:00	16:00	19:00	18:00	18:00	18:00	8:00
Net MWh/h	241.5	243.2	243.1	245.8	226.6	249.5	259.4	249.2
Farms CP load (MW)								
Potato farms	5.0	5.1	5.3	4.4	5.8	6.4	5.3	5.2
Dairy farms	2.4	2.6	2.5	2.9	2.2	2.4	2.5	2.7
Poultry and hog farms	0.4	0.4	0.4	0.5	0.6	0.5	0.4	0.5
	7.8	**8.1**	**8.2**	**7.8**	**8.6**	**9.3**	**8.2**	**8.4**
90 % confidence band (+/- %)	10.4	11.2	7.2	8.5	10.9	8.2	6.9	7.5
Farms NCP load (MW)								
Date	21	5	8	11	14	9	30	5
Hour ending	9:00	9:00	9:00	9:00	10:00	9:00	9:00	9:00
Potato farms	6.3	8.5	6.7	6.1	7.9	8.4	7.7	7.5
Dairy farms	2.5	2.6	2.8	2.9	1.9	2.3	2.7	2.4
Poultry and hog farms	0.4	0.6	0.5	0.5	0.6	0.6	0.5	0.5
	9.2	**11.7**	**10.0**	**9.5**	**10.4**	**11.3**	**10.9**	**10.4**
Billed energy usage (MWh)								
Potato farms	3,245	3,982	3,572	3,243	4,161	4,532	4,331	3,959
Dairy farms	1,054	1,132	1,227	1,314	1,076	1,097	1,220	1,262
Hog farms	196	185	183	186	243	208	213	218
Poultry farms	91	99	106	115	103	102	113	108
	4,586	**5,398**	**5,088**	**4,858**	**5,583**	**5,939**	**5,877**	**5,547**

Table 10 on page 17 of the Farm Study shows the unit cost breakdown for distribution system customer loads based on the 2017 Cost Allocation Study:

TABLE 10 Unit Costs (from 2017 Cost Allocation Study)		
Customer related	295	$/yr
CP demand related	184.46	$/kWh
NCP demand related	53.80	$/kWh
Energy related	83.00	$/MWh

From MECL's 2017 Cost Allocation Study Schedules 2.4 and 2.5 (pages 28 & 29 of 80), it appears that transmission, substations, and part of MECL generation and MECL purchases are allocated on the basis of a Coincident Peak allocator. MECL includes multiple different 1CP type allocations in its Schedule 2.1 (page 23 of 80).

a) Please confirm that the entire 87-91 accounts from the Farm Study were used in the above referenced charts and tables. If not confirmed, please explain why MECL made changes to the farm customer accounts it was using to populate this research.

b) For both the 2017 and 2020 Cost Allocation Studies, please explain the methodology used for calculating the Coincident peak allocator, including the number or duration of occurrences that go into the CP calculation (i.e. is it a single 15 minute Coincident Peak, or for example a broader average over hours).

c) Please provide actual CP data broken out by rate class (including Farms) for each of the past 10 years, including the most recent set of actuals, including the time and date for each peak.

d) Please provide the underlying calculations that reconcile Table 10 above from the Farm studies with the appropriate schedules from the 2017 Cost Allocation Study.

e) Please provide an updated Table 10 above from the Farm Study for the 2020 Cost Allocation Study.

IR-16

At page 31, the Application indicates that:

> To implement eligibility for farm customers under the Small Industrial class, the Small Industrial Rate Application Guidelines in Section N-8 of the Rates and General Rules and Regulations will need to be updated. The following wording should be added to the "Division E Manufacturing Industries" after "In Addition: ..."
>
> > "Agricultural farming operations are eligible for service under this rate. If there is a residence(s) on the same property as the farming operation, the residence(s) must be metered separately and billed under the Residential Rate."

a) Please provide a summary of the number of customers that are anticipated to move to the Small Industrial class that would need to have their electrical service split in order to meet this requirement.

b) Please indicate all consultation or analytical work prepared by MECL indicating the customer costs to split their customer-side wiring and loads to permit implementation of this constraint, including the extent to which such costs were considered by MECL in making the proposal. Please provide any indication of customer-side costs available to MECL.

c) What proportion of the total existing load of the farm customers expected to switch to the Small Industrial rate is represented by residential consumption? Has MECL completed any analysis or estimates of the impacts on MECL revenue if customers were permitted to switch their entire load to Small Industrial, as compared to splitting the load and charging the residential load at the prevailing residential rate? If so, please provide all quantification and supporting assumptions.

IR-17

Pages 21-22 of the Farm Study justifies MECL's proposal for customers to move to the Small Industrial rate class over the General Service because:

- The Small Industrial rate has a better matching of revenues and costs. The 2017 Cost Allocation Study estimated a 1.02 RTC ratio for Small Industrial, as compared to 1.21 for General Service. Thus, a move to Small Industrial would involve smaller bill increases than would a move to General Service.
- The Small Industrial rate has two energy block rates, with the size of the first energy block being proportional to the size of the monthly maximum demand reading. This is better for a wide range of load factors, which is the case for individual farm loads. Under the General Service rate, the size of the first energy block is fixed at 5,000 kWh per month, regardless of the size of the monthly maximum demand reading.

a) Given the Small Industrial Rate Class is now at 109% per the 2020 Rate Study, has MECL considered the exacerbated adverse impacts on customers from being required to switch from a 93% RTC class to a 109% RTC class in order to help address purported low RTC ratios?

b) Please indicate the MECL revenue generated from farm customers expected to shift to the Small Industrial rate from paying 109% RTC ratio versus a rate that would be 100% RTC ratio.

c) Is it not harder on customers, and similarly unnecessary, to drive them to a point of paying 9% above costs at a time when rate impacts of 10% or more are anticipated solely for rate design/rebalancing purposes (outside of overall Revenue Requirement changes)?

Boutilier Study

IR-18

a) Please update Boutilier's estimated impacts and conclusion regarding the Large Farm class option (option #2) at page 16, using the 2020 Cost Allocation study as inputs rather than 2017

Synapse Study

IR-19

a) Please indicate if MECL agrees with the calculations and results shown in Synapse Table 2 (page 6). If not, please provide MECL's corrected version.
b) Please amend Synapse's Table 2 to include Small Industrial as a row.

Yours truly,

KEY MURRAY LAW

Ryan P. MacDonald
RM/ekh