



November 2, 2018

Ms. Cheryl Mosher
Regulatory Services
Island Regulatory and Appeals Commission
PO Box 577
Charlottetown PE C1A 7L1

Dear Ms. Mosher:

***2019 Capital Budget Filing Docket UE20728
Response to Additional Interrogatories from Commission Staff***

Please find attached the Company's response to the additional Interrogatories filed by Commission Staff with respect to the 2019 Capital Budget filing.

Yours truly,

MARITIME ELECTRIC



Gloria Crockett
Manager, Regulatory and
Financial Planning

GCC08
Enclosure

The following should be read in conjunction with the Company's responses to the Commission's interrogatories #21, #23, #25(c), #28(c), and #29(b).

These interrogatories request an explanation as to how certain expenditures meet the definition of a capital asset or betterment for accounting standards. The capitalization of these project costs are similar in nature to those previously reviewed and approved by the Commission and are based upon established good utility practice as supported by accounting standards and guidelines that currently exist throughout the industry.

Under existing Canadian Private Entity GAAP, rate-regulated entities are permitted to account for an event or a transaction in a manner specified by the regulator which may be different from the accounting that would follow in the absence of rate regulation. In the absence of specific guidance from the regulator or Canadian industry best practice, Maritime Electric will also use those rules established in the United States as a guide.

In the United States, the Federal Energy Regulatory Commission ("FERC") regulates the transmission and wholesale sale of electricity. FERC is responsible for the accounting and financial reporting of its jurisdictional companies. This is accomplished through the development and maintenance of the FERC's Uniform System of Accounts (USofA) and the issuances of various accounting rulemakings, guidances, and releases. Following the FERC USofA, as well as their accounting guidelines is considered good utility practice in Canada. According to FERC, to capitalize project costs, the costs must either be for a new asset or meet two qualifications:

1. extend the life, increase the capacity or improve the safety or efficiency of an existing asset owned by a company; and
2. improve the condition of that asset after the costs are incurred as compared with the condition of that asset when originally constructed or acquired.

The Island Regulatory and Appeals Commission (the "Commission"), in assessing the reasonableness of the 2019 Capital Budget Application submitted by Maritime Electric Company, Limited ("Maritime Electric" or "MECL"), requests responses to the following interrogatories:

21. With respect to **Section 4.1(c)** Charlottetown Plant Miscellaneous Buildings and Services, the description of this budget line item includes lighting system improvements, process pipeline replacements, sump pump replacements, and door and window replacements. A significant amount of these items appear to be repairs and maintenance in nature. Please provide an explanation as to how these items meet the definition of a capital asset or betterment for accounting standards.

Response:

Please refer to the comments on capitalization of expenditures on page 1 of the interrogatory responses.

As noted in the Decommissioning Plan filed with the Commission to decommission the Charlottetown Plant, the Company has an obligation under the Energy Purchase Agreement ("EPA") with NB Power to keep the facility in a condition to produce energy and meet its capacity obligations until 2022. The items listed in Section 4.1(c) are provisional in nature and actual expenditures will only be incurred if required to sustain the safe and reliable operation of the Charlottetown Plant. To this end, project expenditures, if incurred, will meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. As well, only expenditures that will improve the overall efficiency of the building and/or necessary to extend the life of the building until 2022 (i.e. a betterment) would be considered capital and qualify as expenditures under this project. As an example, in response to IR #18(a), the Company sited replacing existing incandescent lighting with LED lighting. This would improve the energy efficiency and condition of the building and meet two conditions of the second qualification under FERC. However, smaller, minor repairs would not meet the FERC qualifications and therefore are not included in the Capital Budget but instead are charged to operating expense as incurred.

22. With respect to **Section 4.3(a)** Combustion Turbine 3 Turbo-Generator Overhaul and MECL's response to **IR-1(a)**:
- a. MECL has allocated \$40,000 for internal labour. Please provide the hourly rate(s) of pay for the MECL employees that will be performing the work.
 - b. Please provide justification for the Project Management costs (\$172,000), including an explanation as to how the Project Management costs were calculated by MECL.

Response:

In preparing the Company's response to this interrogatory, it became apparent that while the total budget for this section is correct, there were two misallocations of costs that occurred within the two projects listed in Section 4.3 – Charlottetown Plant Turbine-Generator Projects as follows:

1. The estimates for materials and internal labour for both projects were presented in the Application in 2018 dollars and did not reflect the estimated expenditures in 2019 dollars.
2. No project management costs were assigned to Project 4.3 (b) - CT Improvements and Spare Parts.

In both cases, the differences were included in the Project Management Costs Project 4.3 (a) - CT3 Turbo-Generator Overhaul of \$172,000. The table below shows the impact of these changes and provides the updated costs for these two projects.

Updated Project Costs Section 4.3 - Charlottetown Plant Turbine-Generator Projects		
Project Description	Original Application	Updated Project Cost
4.3 a. CT3 - Turbo-Generator Overhaul		
Materials	\$ 1,023,000	\$ 1,055,000
Internal Labour	40,000	40,000
Project Management	172,000	117,000
Subtotal	1,235,000	1,212,000
4.3b. CT Improvements and Spare Parts		
Materials	170,000	175,000
Internal Labour	19,000	19,000
Project Management	-	18,000
Subtotal	189,000	212,000
4.3 Total Charlottetown CT Projects		
Materials	1,193,000	1,230,000
Internal Labour	59,000	59,000
Project Management	172,000	135,000
TOTAL	\$ 1,424,000	\$ 1,424,000

As a result, Table 1 in Appendix C should be updated as follows:

Appendix C - Revised Table 1		
Project Cost		
Description	Original	Revised
Material	\$ 1,023,000	\$ 1,055,000
Internal Labour	40,000	40,000
Project Management	<u>172,000</u>	<u>117,000</u>
TOTAL	\$ <u>1,235,000</u>	\$ <u>1,212,000</u>

With these updates, the Company’s response to the Commission’s Interrogatory IR-22 is as follows.

a. Internal Labour

Maritime Electric skilled tradespersons will be used in two stages of the Combustion Turbine (“CT”) overhaul. The first will be to dismantle the CT, remove it from its enclosure and package it in an Operating Equipment Manufacturer (“OEM”) supplied shipping container for transport. Then, once it is returned to site, the CT will be unloaded from the shipping container and reinstalled in its enclosure. It is estimated that in total, both stages will require 5 people working 14 days for 12 hours per day. The work schedule calls for 12 hour days to minimize the overall outage time on the combustion turbine and to minimize the number of days that Field Service Technicians from the OEM are on-site. The Maritime Electric staff who will be performing the work are a combination of Combustion Turbine Operator/Maintenance Persons and Power Plant Maintenance Person No. 1. For purposes of preparing the estimate, an average hourly rate (wages and benefits costs) of \$41 per hour was used as follows:

Regular Time = 5 Employees X 14 Days X 8 hrs/day X \$41 per hour = \$23,000 (rounded)
Overtime = 5 Employees X 14 Days X 4 hrs/day X \$62 per hour = \$ 17,000 (rounded)

b. Project Management

There are three supervisory staff who will jointly oversee various aspects of the overhaul project:

- Supervisor, Combustion Turbines
- Staff Engineer
- Chief Engineer/Superintendent Mechanical Maintenance

These staff will be responsible for the following Project Management tasks which are estimated to require approximately 1,770 person-hours or approximately 15 weeks per employee:

- identify/develop and further refine scope of work,
- develop related work/task plan and detailed project schedule,
- coordination of outage schedule and combustion turbine availability with Maritime Electric Energy Control Centre for purposes of ensuring non-spinning reserve requirements and capacity requirements are met,

- source materials and resources,
- coordination of inspection, load test and recertification of lifting crane in turbine enclosure,
- coordination of shipping requirements, customs brokerage, and insurance coverage for transport of combustion turbine engine to/from OEM factory (e.g. United States or Europe),
- travel to OEM factory (e.g. United States or Europe) to witness the arrival condition of the engine and strip down inspection and to finalize scope of work in the factory,
- coordination of change orders and scope of work changes occurring at the OEM factory,
- travel to OEM factory (e.g. United States or Europe) to witness testing of the overhauled engine prior to shipment back to the Maritime Electric site,
- develop project-specific hazard identification and health safety and environment (HSE) plan for the project,
- execute the project and monitor performance of scope of work on Maritime Electric site,
- supervise the Maritime Electric skilled tradespersons during the project,
- complete the associated project documentation (e.g. timesheets; purchase orders; change orders; material receipts; corrective actions; etc.),
- oversee site commissioning activities including: commissioning checks; variable geometry setup; first engine startup on-site; NOx water injection mapping; etc., and
- project closure related activities such as preparation of as-built drawings, updates to O&M manuals, financial close-out activities, etc.

23. With respect to **Section 4.4(b)** Miscellaneous Buildings and Services Improvements, the description of this budget line item includes enclosures for combustion turbines and other buildings, fences, roadways, etc. at the Borden Generating Facility. A significant portion of these expenditures appear to be repairs and maintenance in nature. Please provide an explanation as to how these items meet the definition of a capital asset or betterment for accounting standards.

Response:

Please refer to the comments on capitalization of expenditures on page 1 of the interrogatory responses.

Section 4.4(b) is provisional in nature and actual expenditures will only be incurred on this project if required to sustain the safe and reliable operation of the Borden Generating Station. To this end, project expenditures, if incurred, will meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC. As well, the expenditures classified as capital under this budget item will include only those that will improve the overall condition of the building in question (i.e. a betterment) in order to meet the second qualification under FERC. Smaller, minor repairs are not included in the Capital Budget but instead are charged to operating expense as incurred.

24. With respect to **Section 5.4(b)** Reliability Driven Line Extensions and MECL's response to **IR-5(b)**, please provide justification for the labour and material costs associated with the West Royalty Substation 3rd Circuit and the Bonshaw Circuit, including an explanation as to how these line items were calculated by MECL. Please provide supporting quotes/estimates if available.

Response:

At the preliminary budget stage, line extension estimates are prepared using maps and a visual survey to estimate the quantity of poles, wire, hardware, etc. Each of these components has an associated material and labour cost that is based on recent purchasing data and an estimate of the time required to complete the work. In addition, an estimate of the amount of survey time, transportation, supervision time, etc. that is associated with the project is developed. Using this methodology, the budget estimates for the two proposed line extension projects are as follows:

1. West Royalty Substation 3rd Circuit

<u>Material</u>	
Poles	\$ 22,500
Wire	8,800
Framing	10,000
Balance of Materials and Hardware	<u>9,000</u>
Materials Total	\$ 50,000
 <u>Labour</u>	
Contractor	\$ 163,200
Maritime Electric Labour and Transportation	<u>51,800</u>
Total	\$ 215,000
 Total Proposed Budget	 <u>\$ 265,000</u>

2. Bonshaw Circuit

<u>Material</u>	
Poles	\$ 38,000
Wire	28,000
Underground Materials and Hardware	60,000
Framing	32,000
Balance of Materials and Hardware	<u>48,000</u>
Materials Total	\$ 206,000
 <u>Labour</u>	
Contractor	\$ 721,000
Maritime Electric Labour and Transportation	<u>113,000</u>
Total	\$ 834,000
 Total Proposed Budget	 <u>\$ 1,040,000</u>

25. With respect to **Section 5.5(b)** Distribution Line Refurbishment:

- a. Please provide a detailed breakdown of expenses, including a breakdown between inspection costs and other replacement costs.
- b. With respect to inspection costs, are these an annual expenditure?
- c. Please provide an explanation as to how the inspection costs meet the definition of a capital asset or betterment for accounting standards.

Response:

a. A provisional budget of \$680,000 has been requested in Maritime Electric's 2019 Capital Budget Application as itemized and described below:

Labour (asset inspection) and Transportation	\$ 110,000
Labour (asset refurbishment) and Transportation	420,000
Materials	<u>150,000</u>
Total Proposed Budget	<u>\$ 680,000</u>

There are two labour cost components:

- 1. The inspection labour cost component of \$110,000 reflects approximately two-thirds of the total labour amount invested in distribution line inspection annually. This represents the estimated inspection labour that results in a capital expenditure and therefore should properly be capitalized. The remaining one-third investment is charged to annual operating expense as it results in the identification of maintenance work requirements.
- 2. The refurbishment labour cost component of \$420,000 is an estimate of the investment in line life extension (or other work to improve the safety, efficiency and condition of the distribution asset) that will be driven by inspection activity and/or component failures.

The materials component of \$150,000 reflects the estimated cost of poles, wires, insulators, crossarms, etc. that will be necessary to carry out capital refurbishment work under the program.

b. The Company performs various types of inspection work annually. Distribution line inspections are done according to a schedule that enables a line to be inspected once every six years.

In developing the budget for Distribution Line Refurbishments, the Company distributes the cost of the inspections to operating, capital and retirement accounts based on historical experience.

Inspection work that is considered operating in nature typically identifies maintenance activities, minor repairs and any tree trimming that may be needed. This work is charged as an operating expense in the year incurred.

Inspection activity also identifies work that is necessary on specific lines that will extend

service life and deliver other benefits in terms of safety, efficiency, reliability and overall improvement to the condition of the asset. For this reason, the labour associated with these inspections is included in the annual Capital Budget Application in the same manner as prior years' Capital Budget approved by the Commission. For 2019, the inspection costs included in Section 5.5(b) Distribution Line Refurbishment will result in capital refurbishment work on five specific feeders (870 km of distribution line).

- c. Please refer to the comments on capitalization of expenditures on page 1 of the interrogatory responses.

It is common utility practice to have capital refurbishment programs which include work that as standalone items in other industries may be considered operating in nature as the impact on reliability and safety may be minimal. However, when the project work is considered as a whole, the safety and reliability of the line is in fact improved and the life of the line is extended. For the distribution line refurbishments discussed in Section 5.5(b) of the 2019 Capital Budget Application, the inspection is an integral first step of this overall process. These inspection costs are necessary to identify specific replacements required before they fail to allow these feeders to continue to be used reliably and safely as well as extending the life of the asset into the future. By providing a future economic benefit to the Company and its customers, these costs meet the qualifications for capitalization under FERC guidelines.

26. With respect to **Section 5.6** System Meters, the Commission noted this was not included in the 2017 Integrated System Plan.
- a. Does Maritime Electric have a plan for both meter replacement and AMI deployment? If so, please provide it.
 - b. Please provide justification for investing \$655,000 into System Meters without a plan in place for future development of system meters and AMI deployment.

Response:

- a. Maritime Electric has not yet developed a formal business case to pursue an AMI project. The recent study referred to in the Government of PEI's comments titled "Assessment of Rate Alternatives to Facilitate the Achievement of the Energy Strategy Objectives" completed by Power Advisory LLC on September 28, 2017 for the PEI Energy Corporation references the lack of a business case being one of the mistakes made in Ontario's Smart Meter initiative. The reason the Company refers to the Ontario Auditor General's report in regard to AMI is to stress the importance of determining ahead of time whether the benefits of AMI will exceed the costs to implement AMI so that ratepayers are not burdened with incremental costs.

The Power Advisory LLC report also indicates that in Maritime Electric's situation, a business case to support AMI will be difficult considering the fact that the cost savings associated with the conversion to radio-interrogated meters between 2004 and 2012 have already been realized. The study also states that a formal business case should be developed before an investment is made in AMI. Power Advisory suggests that the cost of implementing AMI for Maritime Electric customers is estimated to be \$29 million, while the total benefit is estimated to be \$22 million.

- b. The budget amount for Section 5.6 System Meters includes \$555,000 for the purchase and installation of revenue meters and associated equipment of a type currently deployed in the system. These materials and related equipment, as described in the Capital Budget Application, are recurring expenditures and required to meet the Company's continuing obligation to meet Measurement Canada regulations and the service needs of customers.

An additional \$100,000 has been requested to acquire more sophisticated meters that will support a load research project which requires interval data to be collected from an additional 400 customers. This load research data is critical in assisting the Company in performing rate design to make future recommendations to the Commission.

The Company is of the view that any AMI development would be on a targeted basis and probably not involve a system-wide meter change out. To that end, existing metering technology is expected to remain in service for some time and be replaced based upon targeted programing that makes sense for both the customer and the Company.

27. With respect to **Section 6.1(a)** Lorne Valley 69 kV Switching Station Expansion and MECL's response to **IR-11(b)**:
- a. Please provide all quotes/estimates to support the estimated costs included in the detailed breakdown. If supporting quotes/estimates are not available, please explain why they are not available and provide an explanation as to how the estimated cost of each line item in the detailed breakdown was calculated.
 - b. Please provide an explanation as to why the project in the 2018 Integrated System Plan estimates the project at \$1.7 million but the 2019 Capital Budget estimates the project at \$2.8 million, an approximate increase of over one million dollars.

Response:

- a. A detailed preliminary cost estimate is provided in Attachment 1. The proposed cost of the project of \$2.82M is based on a conceptual design of the substation prepared by Maritime Electric Engineering staff. The conceptual design of a substation is an early phase of the design process, whereby a need has been identified and the Company's engineering team develops a preliminary design to meet that need and develop a budget for the project based on previous substation builds of similar size and function. Maritime Electric has built several substations in recent years and the estimates of the costs of materials, internal and contractor labour, as well as consulting and internal engineering design are based on most recent substation projects including the Bagnall Road Substation, the Borden Riser Station and the Cape Tormentine Riser Station.

The engineering design process for a substation is a methodical series of steps starting with a conceptual design and, after numerous iterations; the concept is developed into the final design that will be used to build the substation. The engineering design process will generate several alternatives that will be evaluated to achieve the balance between reliability and cost. The detailed engineering process will begin if the project is approved by the Commission. The final design may differ from the initial conceptual design that was used to form the basis for the Capital Budget Application and the final construction may differ from the final design depending on the circumstances that are encountered once the construction of the project commences.

Once the final design has been completed, the Company will begin the procurement process for the project. One of Maritime Electric's objectives is to source the required goods and services at the lowest cost by seeking, where possible, competitive quotes or proposals from multiple suppliers through the Company's tendering process. However, many of the goods and services used in the construction of a substation are highly specialized and must meet applicable standards and Maritime Electric Engineering specifications. As a result, there are often only a small field of qualified suppliers or contractors eligible to participate in a request for quote or proposal.

- b. The \$1.74 million estimate for the Lorne Valley 69 kV Switching Station contained on Page 67 of the 2017 Integrated System Plan was based on a Corporate Planning conceptual plan and indicative pricing:

Substation infrastructure wood pole design, including civil work	\$ 1,000,000
69 kV breakers: 4 @ \$60,000 each	240,000
Control building	150,000
Protection and Communications	150,000
Switches, Equipment	200,000
	<u>\$ 1,740,000</u>

Corporate Planning undertakes conceptual planning and indicative pricing to give an order of magnitude cost estimate. More detailed cost estimates are produced when a project proceeds to the initial engineering design stages.

The Company's Engineering department has recommended the following alterations to the Lorne Valley Switching Station that were not reflected in the conceptual planning and indicative pricing provided in the 2017 Integrated System Plan:

- A ring bus substation orientation is being proposed as it results in better reliability when compared to a simple bus configuration and allows maintenance to be undertaken on substation bus components that would otherwise require a complete substation outage.
- Additional requirements on Protection and Control systems associated with the ring bus setup.
- Steel supports are typically more expensive than wood pole supports, however, steel supports have an expected life that are at least double that of wood pole supports.

The Lorne Valley Switching Station is a central hub for eastern PEI and as such its reliability and maintainability are key to continued reliable customer service. The proposed cost of \$2.82 million results from a more detailed cost estimate completed by the Company's Engineering department based on a preliminary design concept and costs for the civil works, foundations, grounding, fencing, steel/bus works and station equipment from recent substation projects.

28. With respect to **Section 6.2(b)** Transmission Line Refurbishment:

- a. Please provide a detailed breakdown of expenses, including a breakdown between inspection costs and other replacement costs.
- b. With respect to inspection costs, are these an annual expenditure?
- c. Please provide an explanation as to how the inspection costs meet the definition of a capital asset or betterment for accounting standards.

Response:

a. A provisional budget of \$865,000 has been requested in Maritime Electric’s 2019 Capital Budget Application as itemized and described below:

Labour (asset ground inspection) and Transportation	\$ 40,000
Labour (asset refurbishment) and Transportation	670,500
Materials	<u>154,500</u>
Total Proposed Budget	<u>\$ 865,000</u>

There are two labour cost components:

- 1. The ground inspection cost component of \$40,000 includes inspection of approximately 180 kms of transmission line and reflects approximately two-thirds of the total cost of the annual transmission line ground inspection. The amount included in Section 6.2(b) is the estimated ground inspection labour that results in a capital expenditure. The remaining one-third amount is charged to annual operating expense as it results in the identification of maintenance work requirements.
- 2. The refurbishment labour cost component of \$670,500 is an estimate of the investment in line life extension (or other work to improve the safety, efficiency or condition of the transmission asset) that will be driven by inspection activity and/or component failures. The complexity of transmission line refurbishment work (working with high voltages, work permits and safety considerations, line locations, customer counts impacted, etc.) requires additional time for planning, supervision and performance of the work involved than comparable work on distribution lines.

The materials component of \$154,500 reflects the estimated cost of poles, wires, insulators, crossarms, etc. that will be necessary to carry out refurbishment work under the program.

b. The Company performs various types of inspection work annually. Transmission line inspections are done according to a schedule that enables a line to be inspected once every five years.

In developing the budget for Transmission Line Refurbishment, the Company distributes the cost of the inspections to operating, capital and retirement accounts based on historical experience.

Inspection work that is considered operating in nature typically identifies maintenance activities, minor repairs and any tree trimming that may be needed. This work is charged as an operating expense in the year incurred.

Inspection activity also identifies work that is necessary on specific lines that will extend service life or deliver other benefits in terms of safety, efficiency, reliability or overall condition of the asset. For this reason, the labour associated with these inspections is included in the annual Capital Budget Application in the same manner as prior years' Capital Budget approved by the Commission. For 2019, the inspection costs included in section 6.2(b) Transmission Line Refurbishment will result in capital refurbishment work on six specific lines (approximately 180 km of transmission) as well as any other lines identified as needing refurbishment through aerial inspection.

- c. Please refer to the comments on capitalization of expenditures on page 1 of the interrogatory responses.

It is common utility practice to have capital refurbishment programs which include work that as standalone items in other industries may be considered operating in nature as the impact on reliability and safety may be negligible. However, when the project work is considered as a whole, the safety and reliability of the line is in fact improved and the life of the line is extended. For the transmission line refurbishments discussed in Section 6.2(b) of the 2019 Capital Budget Application, the inspection is an integral first step of this overall process. These inspection costs are necessary to identify specific replacements required before they fail to allow these transmission lines to continue to be used reliably and safely as well as extending the life of the asset into the future. By providing a future economic benefit to the Company and its customers, these costs meet the qualifications for capitalization under FERC guidelines.

29. With respect to **Section 7.1(a)** Recurring Annual Capital Requirements and MECL's response to **IR-13**:
- a. Please provide an explanation for the increase in this budget amount. For example, does management believe there will be additional capital additions over and above the average of the prior five years? If so, please explain.
 - b. The description of this item includes window and door replacement, garage doors, roofing and siding, paving for facility entrances and parking lots, office furniture and equipment, and unforeseen capital expenditures. A significant amount of these items appear to be repairs and maintenance. Please provide an explanation as to how these items meet the definition of a capital asset or betterment for accounting standards.

Response:

- a. The budget for Section 7.1 (a), Recurring Annual Capital Requirements is a provisional budget amount. The Company believes that it is prudent to set the budget amount at the higher end of actual costs experienced in recent years. As indicated in the table provided in response to UE20728 IR 13, in 2014 actual costs reached just over \$300,000. While the 2019 budget is set at a provisional amount closer to the higher level previously experienced, historical spending on these capital projects can vary from year to year. For example, total costs in 2017 were only \$33,499.
- b. Please refer to the comments on capitalization of expenditures on page 1 of the interrogatory responses.

The budget for projects Section 7.1(a) is provisional in nature and actual expenditures will only be incurred under this project category if required. In some cases, new assets may be purchased with a useful life beyond one year such as office furniture and equipment costing more than \$1,000. In other cases, costs may be incurred to ensure the safe and reliable operation of the various facilities owned by the Company. These types of project expenditures, if incurred, will meet the requirement of improving safety and/or efficiency of an existing asset owned by the Company as required by FERC guidelines. As well, only those expenditures that will improve the overall condition of the facilities (i.e. a betterment) as contemplated under FERC guidelines are capitalized. Smaller, minor repairs are not included in the Capital Budget and will be charged to operating expense as incurred.

30. With respect to **Section 7.2(b)** Purchased Software and Upgrades and MECL's response to **IR-14**:
- a. Please provide a detailed breakdown of the costs which are annual updates and supports versus new purchases or enhancements to existing software.
 - b. MECL states in its response to IR-14 that quotes/estimates were not obtained and that the amounts are based on "prior year expenditures". Please provide the prior year expenditures which support the estimate for Purchased Software and Upgrades in the amount of \$380,000.

Response:

- a. Purchased software systems are integral to the daily operations of the Company. Software agreements with various vendors provide three key functions:
 1. Ongoing software releases that correct product deficiencies, add minor functionality improvements and address security issues;
 2. Major releases that keep the product compatible with other product technologies and add significant functionality; and
 3. Product licensing.

The majority of the benefit derived comes from the first two functions which add value to the asset and are therefore properly capitalized. The third is an annual renewal fee that is considered an operating expense.

Attachment 2 provides a detailed breakdown of each software product included in the 7.2(b) Purchased Software and Upgrades including the allocation between capital investment and operating expense. Typically, the purchase of a new product (i.e. Audit Compliance software) will be completed under a separate capital project request. After the implementation, the annual updates and enhancements associated with the software would then be budgeted under this section.

The following notes should be read in conjunction with Attachment 2.

- Annual Increases are budgeted at 5 per cent unless it is anticipated that the Company will be expanding the use of the software (using additional components or increasing user counts).
- A project approved in the 2018 Capital Budget will see the installation of security cameras in several substations. This will increase the related software costs in 2019.
- In 2018 IT made several changes to its Microsoft licensing agreement as a result of a recent compliance audit assessment related to site and user licenses. These changes will result in a 20 per cent increase in 2019.
- JIRA is a software tool used to track changes to IT software (requester, approver, testing method etc.) JIRA will be expanded in 2019 to assist in the management and tracking of IT Help Desk calls.
- The "New Purchase" budget amount is for software requests that arise during the year. Labour forms a large portion of this category as IT staff are required to

research and evaluate various solutions before purchasing. Selected software must then be installed, configured and tested. In many cases, new solutions must also be integrated to existing systems or databases.

- Internal labor costs reflect the actual time required to install the various updates included in this project category. In recent years, the Company has experienced a marked increase in the frequency of vendor updates and the urgency of their implementation. This is being driven by cybersecurity threats, especially in the Microsoft suite of products.
- b. Attachment 2 includes prior year actual costs for the items included in this budget category.

Attachment 1

Item Description	Estimated Quantity	Unit	Unit Cost	Estimated Total Cost	Estimate
Civil Work					
Grub, strip topsoil and dispose of off site	3375	m3	\$8.00	\$27,000	
Grub, strip topsoil and dispose of off site					\$27,000
Supply, place and compact subsoil	3375	m3	\$12.00	\$40,500	
Supply, place and compact Class "A" gravel	554	m3	\$97.50	\$54,000	
Supply and place Class "D" gravel	400	m3	\$80.00	\$32,000	
Supply, place subsoil, Class "A" and Class "D" gravel					\$126,500
Supply and place geotextile material	2250	m2	\$3.60	\$8,100	
Spread topsoil	250	m3	\$23.20	\$5,800	
Seeding	3000	m2	\$1.63	\$4,890	
Compaction testing	Lump sum	N/A		\$4,000	
Supply and install sediment fence	220	m	\$13.64	\$3,000	
Concrete testing	Lump sum	N/A		\$3,200	
Supply and place geotextile material, topsoil, seeding, compaction and concrete testing					\$29,000
Strawbale Check Dams	5	ea	\$100	\$500	
450mm dia Culvert c/w Riprap Protection	91	m	\$170.33	\$15,500	
Supply and install sediment fence, strawbale check dams, culvert					\$16,000
Circuit Breaker Foundation	4	ea	\$11,375	\$45,500	
Circuit Breaker Foundation					\$45,500
Cable tray footing (sonotubes)	30	ea	\$333.33	\$10,000	
Cable tray footings (sonotubes)					\$10,000
Switch Foundations	16	ea.	\$4,688	\$75,000	
Switch foundations					\$75,000
Dead End Structure Foundations	8	ea.	\$15,000	\$120,000	
Deadend Structure foundations					\$120,000
Ground grid and fence grounding Material (12 X 50m plus connectors)	Lots	N/A		\$41,000	
Ground grid installation and fence grounding	Lump sum	N/A		\$21,000	
Ground grid and fence grounding					\$62,000
Cable trench and covers	85	m	\$1,035	\$88,000	
Cable trench and covers					\$88,000
Electrical PVC conduits	Lots	N/A		\$55,000	
Electrical PVC conduits					\$55,000
Substation fence.	153	m		\$22,000	
Substation fence					\$22,000
69 kV Breakers	4	ea	\$67,000	\$268,000	
69 kV Breakers					\$268,000
69kV Disconnect Switches	12	ea	\$20,667	\$248,000	
69kV Disconnect Switches c/w MOD	4	ea	\$34,000	\$136,000	
69kV Disconnect Switches					\$384,000
Potential transformers	12	ea	\$10,333	\$124,000	
HV Station Service Transformers and Transfer Switches Equipment	2	ea	\$62,000	\$124,000	
Potential transformers, Station Service Transformers and Transfer Switches Equipment					\$248,000
Yard Lighting	Lot	ea	\$28,000	\$28,000	
Generator c/w design, material, install	Lot	ea	\$82,000	\$82,000	
Generator, Yard Lighting and security					\$110,000
Control Building c/w battery bank, Wash room	Lot	ea	\$156,000	\$156,000	
PCT & Communication Equipment Panels	7	ea	\$25,714	\$180,000	
Control Building, PCT and Communication Equipment Panels					\$336,000
69kV Transmission Line Termination Structure c/w attachments equipment	4	ea	\$20,750	\$83,000	
69kV Transmission Line Termination Structure					\$83,000
High Voltage Buswork and Insulators	110	m	\$3,427	\$377,000	
High Voltage Buswork and Insulators					\$377,000
Steel Structures for Bus Work c/w foundations	20	ea.	\$5,900	\$118,000	
Steel Structures for Bus Work c/w foundations					\$118,000
Consultant Design and Engineering	1	ea.	\$120,000	\$120,000	
Consultant Design and Engineering					\$100,000
Contingency	1	ea	\$100,000	\$100,000	
Contingency					\$120,000
Total Cost					\$2,820,000

Attachment 2

Description	Prior Year Actuals	Anticipated Increase	Requirement 2019	Operating Component	Capital Component
Microsoft Various Products	76,000	20%	91,200	13,700	77,500
Estimated Labour					7,500
Subtotal					85,000
Great Plains Financials					
GP Accounting Software	21,000	5%	22,100	3,300	18,800
Citrix Remote Desktop	17,000	5%	17,900	2,700	15,200
Estimated Labour					1,000
Subtotal					35,000
ESRI Mapping System	42,500	15%	48,900	7,300	41,600
Estimated Labour					8,400
Subtotal					50,000
Software Development Tools					
Auto Cadd Design Software	15,500	10%	17,100	2,600	14,500
Bill Design Software	4,200	5%	4,400	700	3,700
Mailing Address Accuracy Software	2,600	5%	2,700	400	2,300
Other GIS Software	3,600	5%	3,800	600	3,200
PB Development Software	2,200	5%	2,300	300	2,000
PDQ App Deployment Software	2,800	5%	2,900	400	2,500
RayGun Software Monitoring	2,500	0%	2,500	400	2,100
Website Portal Updates	5,000	10%	5,500	800	4,700
Estimated Labour					5,000
Subtotal					40,000
Miscellaneous Software Upgrades					
JIRA Change Management	3,500	20%	4,200	600	3,600
Maximo Asset Management	6,000	5%	6,300	900	5,400
Meter Reading Software	0	0%	20,500	3,100	17,400
Mobile Device Management	5,800	10%	6,400	1,000	5,400
Substation Metering System	0	0%	6,900	1,000	5,900
Veeam Backup Software	2,000	5%	2,100	300	1,800
VMware Server Virtualization	19,000	5%	20,000	3,000	17,000
Estimated Labour					3,500
Subtotal					60,000
New Purchases			43,000	6,500	36,500
Estimated Labour					24,500
Subtotal					61,000
Cyber Security Software					
Door Security Software	4,500	5%	4,700	700	4,000
DUO Authentication Software	9,600	10%	10,600	1,600	9,000
Password Management Software	5,500	5%	5,800	900	4,900
SANS Cyber Training System	3,000	5%	3,200	500	2,700
Security Camera Software	3,000	40%	4,200	600	3,600
Security Center Suite	15,000	5%	15,800	2,400	13,400
Trend Anti-Virus Software	5,500	5%	5,800	900	4,900
Estimated Labour					6,500
Subtotal					49,000
Total					\$380,000