MARITIME ELECTRIC
A FORTIS COMPANY

September 25, 2015

MLA

Mr. Mark Lanigan
Regulatory Services
Island Regulatory and Appeals Commission
PO Box 577
501–134 Kent Street
Charlottetown PE C1A 7L1

Dear Mr. Lanigan:

2016 Capital Budget Filing Docket UE20724
Response to Interrogatories from the Government of PEI

Please find attached the Company's response to the Interrogatories filed by the Government of PEI with respect to the 2016 Capital Budget filing. An electronic copy will follow shortly which will include any files referred to in the responses.

Yours truly,

MARITIME ELECTRIC

Jason C. Roberts
Director, Regulatory & Financial Planning

JCR57
Enclosure

MARITIME ELECTRIC
A FORTIS COMPANY

September 25, 2015

Ms. Kim Horrelt
Chief Executive Officer
PEI Energy Corporation
PO Box 2000
Charlottetown PE C1A 7N8

Dear Ms. Horrelt:

2016 Capital Budget Filing Docket UE20724
Response to Interrogatories

Please find attached the Company's response to the Interrogatories filed by the Government of PEI with respect to the 2016 Capital Budget filing. Where the interrogatory refers to a spreadsheet, the file has been provided electronically.

Yours truly,

MARITIME ELECTRIC

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Director, Regulatory & Financial Planning

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Introduction

A number of the interrogatories from the PEI Energy Corporation have requested 10 year historical details with respect to both specific project items and project categories in general. Many of these projects are recurring or provisional in nature and have been described in detail annually within the Capital Budget Application filed with the Commission. Where amounts budgeted have been provisional or actual costs incurred for a project category have varied in a material way from budget, the Company has provided details to the Commission through the annual Capital Budget Variance Report filing.

To assist the PEI Energy Corporation in reviewing the details requested throughout the interrogatories, Management has prepared a summary comparative analysis of the annual budget amounts and actual costs incurred as filed and approved by IRAC through the Capital Budget Application and Capital Budget Variance Report filing processes. This summary is attached to these responses as Appendix A along with the annual Capital Budget Applications for the years 2005 – 2016 and Capital Budget Variance Reports for the years 2005 – 2014 both of which are included as Appendix B.

1. **PEI Energy Corporation**
   Section 4.0, Page 7, paragraph 4
   - **While not a part of this application, Maritime Electric Company, Limited (MECL) states that CT4 is being installed to "enable the timely transition of the thermal units at the CGTS to long-term lay up and eventually retirement".**
   - **The PEI Energy Corporation was under the understanding that CT4 was being installed to deal with a capacity deficiency resulting from load growth in the MECL service area and that another CT would be required to replace the CGTS. Please explain this discrepancy.**

Response:
The following table is Table 1 from Maritime Electric's CT4 Application to IRAC.

Table 1 - Meeting the Maritime Electric peak load under worst-case NB transmission system constraint

		2015	2016	2017	2018	2019	2020
Maritime Electric peak load	MW	240	245	251	259	267	275
Less reduction due to DSM	MW		2	4	6	8	10
Forecast peak load	MW	240	243	247	253	259	265
CTGS	MW	55	55	55	55	38	19
Borden Plant	MW	40	40	40	40	40	40
Combustion Turbine 3	MW	49	49	49	49	49	49
Wind Effective Load Carrying Capability	MW	21	21	21	21	21	21
Maximum from off-Island (includes Point Lepreau)	MW	80	80	80	80	80	80
Short term capacity agreement	MW	27	27				
Combustion Turbine 4	MW			50	50	50	50
Additional capacity	MW						50
Total available capacity	MW	272	272	295	295	278	309
Capacity surplus	MW	32	29	48	42	19	44

Table 1 shows a requirement for two 50 MW generating capacity additions during the next five years. These additions are the proposed 50 MW CT4, and a further 50 MW that is yet to be identified.

The need for the additional 100 MW of generating capacity is driven by the combination of:

- Forecast load growth;
- The 80 MW transmission system constraint in New Brunswick; and
- The need to shut down the Charlottetown Thermal Generating Station (CTGS).

Thus both 50 MW generating capacity additions will be needed in order to be able to shut

down the CTGS. However, CT4 can be viewed as the replacement for the CTGS because:

- The start of long term layup of the CTGS can begin in 2019 as shown because of the installation of CT4; and
- By being located at the Charlottetown Plant site, CT4 will provide the backup for much of the on-Island transmission system that the CTGS now provides.

Depending on where it is installed, generating capacity can have added value by serving as a substitute for transmission capacity. Generally, the closer a generator is located to a load centre or at the "end of the line", the more added value it can provide by serving as a backup to the transmission system and / or by enabling the deferral of transmission system additions.

The CTGS, along with CT3, are located at the main load centre for PEI and they are also located at the end of the 138 kV transmission system. By being located in PEI they have also served as backup for the submarine cables, and most recently as backup to supply from NB Power when there are constraints on the New Brunswick transmission system.

By locating CT4 at the Charlottetown Plant site, it will provide all of the transmission system benefits that the CTGS provides, and thus will "enable the timely transition of the thermal units at the CTGS to long-term layup and eventual retirement".

The general location of the additional 50 MW of generating capacity shown in Table 1 as being needed by 2020 is expected to be determined by what is done about the transmission system constraints in the Moncton area. If nothing is done, then the additional 50 MW will need to be located either in PEI, Nova Scotia or in New Brunswick on the PEI side of Moncton. If transmission system additions are put in place, then the additional 50 MW of generating capacity could also be sourced from beyond Moncton. A third scenario could be that new generating capacity is installed by NB Power in the Moncton area or in New Brunswick on the PEI side of Moncton to address the transmission constraints in the Moncton area. This would be another example of generating capacity serving as a substitute for transmission capacity, and in this scenario an option for Maritime Electric could be to participate in this new generating plant.

2. PEI Energy Corporation

Section 4.1.a

- **Please provide a detailed list of all projects and improvements (including budgeted and actual expenditures) carried out over the past 10 years with respect to the roof of the Charlottetown Plant.**
- **Please provide a copy of the inspection report for the roof of the Charlottetown Plant.**

Response:

Below is a list of the major capital work completed on the rooves for the Charlottetown Plant (CTGS) and the River Pumphouse:

Year	Description	Budget	Actual	Comments
2005	River Pumphouse Roof	$21,000	$39,768	Extent of wetting was worse once uncovered.
2008	Roof Upgrade (Old End)	82,000	67,617	Work was completed at a lower cost than expected.
2012	Charlottetown Plant Roof Refurbishment	67,000	36,271	Tendered bids came in lower than expected.
2013	Roof Refurbishment	123,000	110,000	Old End Turbine Hall and Balance of Plant area work.

Roof Inspections

A copy of the inspection reports for the roof of the Charlottetown Plant can be found in Appendix C.

3. PEI Energy Corporation
Section 4.1.b

- **Please provide a detailed list of all projects and improvements (including budgeted and actual expenditures) carried out over the past 10 years that fall under the description of Charlottetown Plant Miscellaneous Buildings and Services, including but not limited to:**
  - **i. Part Storage Improvements,**
  - **ii. Door and Window Replacements,**
  - **iii. Process Pipeline Replacements,**
  - **iv. Plant Lighting Systems,**
  - **v. Safety Equipment,**
  - **vi. Sump Pump Replacements, and**
  - **vii. ECC Renovations.**

Response:
The table below highlights the major projects for the Charlottetown Plant Miscellaneous Buildings and Services Projects for the past 10 years:

Year	Project
2005	Fire Protection improvements
2005	River Pumphouse Roof
2006	Fire Protection Improvements
2006	Fuel Line Replacement
2007	Fire Protection Improvements
2007	River Pumphouse Dredging
2008	Fire Protection Improvements
2008	Roof Upgrade
2008	OASIS Development
2009	Retaining Wall Improvements
2009	River Pumphouse Dredging
2009	River Pumphouse Sheet Piling Replacement and Foundation repair
2010	Fire Protection Improvements – Phase 3
2010	Overhaul of Black Start Diesels No.5 and No.6
2010	Arc Flash Safety Equipment and Training
2010	Remote Circuit Breaker Racking Mechanism
2011	Boiler No. 9 Area Heating System Replacement
2012	Charlottetown Plant Roof Refurbishment
2012	Charlottetown Plant Miscellaneous Buildings and Services
2013	Replace Box Culvert in Charlottetown Substation
2013	Roof Refurbishment
2014	New Heating System for Charlottetown Plant
2014	ECC Heating and Essential Service Generator Upgrade

A summary of the budgeted and actual amounts for this category (Charlottetown Plant Buildings and Services Projects) can be found in Appendix A under the Generation heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under Charlottetown Plant Buildings and Services Projects under the Generation – Summary section, which are included as Appendix B.

4. PEI Energy Corporation

Section 4.2

- **Please provide a detailed list of all projects and improvements (including budgeted and actual expenditures) carried out over the past 10 years that fall under the description of Charlottetown Plant Boiler Projects, including but not limited to:**
  - **i. Waste Water Treatment – Sand Filter Replacement,**
  - **ii. Miscellaneous Tool Replacements,**
  - **iii. Large Motor Replacements,**
  - **iv. Miscellaneous Boiler Improvements, and**
  - **v. Boiler Insulation Replacement Improvements.**
- **Please provide copies of all inspection reports related to Charlottetown Plant Boiler Projects carried out over the past 10 years.**

Response:

The table below highlights the major projects for the Charlottetown Plant Boiler Projects for the past 10 years:

Year	Project
2005	Replace Boiler Feedwater Pump No. 5
2005	Boiler No. 2 Upgrades
2005	Wastewater Treatment System Sludge Handling system
2006	Main Fuel Tank Exterior coating
2006	Distributed Control System Reporting Software
2006	Relocate Heavy Fuel Oil Transfer Pumps
2006	Replace Valves on Boiler #'s 5, 9 and 10
2007	Stack Breaching Repair
2007	Stack Flue Improvements
2007	Charlottetown Plant – CT3 Water Treatment Transfer System
2007	Waste Water Treatment Improvements
2008	Bunker C Fuel Tank Floor Replacement
2010	Control Room and Turbine 7 Annunciator Panel Replacements
2010	Stack Improvements
2010	No. 9 and No. 10 Station Service Breaker Replacement Upgrade
2010	Boiler No. 4 Reinsulation and Waterwall Tube Upgrades
2011	Replace No. 10 Instrument Air Compressor
2011	Upgrade of Plant Heating Piping System
2011	Wastewater Compliance Study
2012	Sulphuric Acid Tank System
2012	Overhaul Dampers on Forced/Induced Draft Fans
2012	Refurbish Air Preheaters on Units 9 and 10
2015	Large Motor Refurbishment

A summary of the budgeted and actual amounts for this category (Charlottetown Plant Boiler Projects) can be found in Appendix A under the Generation heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under Charlottetown Plant Boiler Projects under the Generation – Summary section, which are included as Appendix B.

The following inspection reports are included in Appendix D:

- Report of NON-DESTRUCTIVE INSPECTION No. 5 POWER BOILER GENERATING TUBES – May 2006
- ACUREN Magnetic Particle Test Report on Unit #9, DA Storage Tank – June 2007
- ACUREN Magnetic Particle Test Report on Unit #10, DA Storage Tank – June 2007
- ACUREN Ultrasonic Test Report on 400 lb Header Line – May 2007
- API 653 Inspection Report on Fuel Tank FODTK1 – June 2008
- API 653 Inspection Report on Fuel Tank FODTK10 – June 2008
- API 653 Inspection Report on Fuel Tank FOTK1 – June 2008
- Sulphuric Acid Tank Out-of-Service Inspection Report – October 2012
- Ultrasonic Inspection Report of Non-Destructive Inspection No. 9 Power Boiler – May 2013
- Ultrasonic Inspection Report of Non-Destructive Inspection No. 10 Power Boiler – May 2013
- ACUREN In-Service Inspection Report of Tank # FODTK-9 – December 2014
- ACUREN In-Service Inspection Report of Tank # LFOTK-10 – December 2014

5. PEI Energy Corporation

Please provide details on the extent and amount of Asbestos Containing Material located in the CTGS.

Response:

MECL has an extensive Asbestos inventory for the CTGS.

This inventory is included as Appendix E:

6. PEI Energy Corporation

Section 4.3

- **Please provide copies of the report of the generation engineer who reviewed the Charlottetown Plant to identify areas of risk related to the safe and reliable operation of the equipment for the near term. Please advise if this report is the same report provided to the PEI Energy Corporation in response to its interrogatories on the CT4 application.**
- **Please provide a detailed list of all projects and improvements (including budgeted and actual expenditures) carried out over the past 10 years that fall under the description of Charlottetown Plant Turbine Generator Projects, including but not limited to:**
  - **i. Turbine Generator Overhaul on Unit No. 7,**
  - **ii. Miscellaneous Turbine Projects,**
  - **iii. Turbine Insulation (Asbestos) Replacement,**
  - **iv. Steam Turbine Improvements, and**
  - **v. Combustion Turbine Improvements and Spare Parts.**

Response:

The report (MECL CTGS Study January 2015 Gary J Ross ROS Consulting Inc rev 1.PDF) is the same report provided to the PEI Energy Corporation in response to its interrogatories on the CT4 application and is included as Appendix F.

The table below highlights the major projects for the Charlottetown Plant Turbine-Generator Projects for the past 10 years:

Year	Project
2005	Turbo-Generator No. 9 overhaul
2005	Turbo-Generator No. 10 overhaul
2005	Turbo-Generator No. 8 Replace Oil Purifier Replacement
2005	Turbo-Generator No. 6 Safety Valve Replacement
2005	Upgrade Turbo-Generator No. 10 Air Ejector Tube Bundles
2006	Turbo-Generator # 8 Overhaul
2006	Turbine #8 Generator End Ring Replacement
2006	Turbine #8 Air Cooler Replacement
2007	No. 4 Station Service Replacement
2007	Spare Governor Valve Refurbishment
2007	Weather Enclosure for CT3 Fuel Pump Pad
2008	Safety Valves Replacements
2008	Insulation Replacement – Turbines
2009	Replace Concrete #5 Cooling Water Outfall Structure
2010	Replace HP Heater Valve Actuator Controls on Turbines 9 &10
2010	Replace CW Pump Isolation Valve Actuators
2010	Upgrade RO/EDI Water Treatment Plant

2011	CT3 Water Treatment Plant Upgrades
2011	Turbine No. 9 Condenser Water System Upgrades
2012	Replace Generator Automatic Voltage Regulation on Unit 10
2012	Condenser Brush Replacement on Unit 9
2012	Replace Cooling Water Strainer on Unit 9
2012	Miscellaneous Turbine Projects
2015	Installation of Snow Hood on CT3
2015	Replace Generator Automatic Voltage Regulation on Unit No. 9

A summary of the budgeted and actual amounts for this category (Charlottetown Plant Turbine-Generator Projects) can be found in Appendix A under the Generation heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under Charlottetown Plant Turbine-Generator Projects under the Generation – Summary section, which are included as Appendix B.

7. PEI Energy Corporation
Section 4.4

- **Please provide a detailed list of all projects and improvements (including budgeted and actual expenditures) carried out over the past 10 years that fall under the description of Borden Plant Projects.**
- **Please provide copies of the inspection report on the existing roof of the Borden Plant.**

Response:
The table below highlights the major projects for the Borden Plant Projects for the past 10 years:

Year	Project
2005	Fuel tank upgrade
2005	CT1 Lube oil system modifications
2006	Renovations to fuel unloading system
2007	CT1 generator inspection and overhaul
2008	CT2 generator inspection and overhaul
2008	Bulk diesel storage tank coating upgrade
2009	Driveway and asphalt upgrades
2009	CT2 Controls upgrade
2010	Driveway and asphalt upgrade
2011	CT1 turbine disc and power turbine nozzle replacement
2011	CT1 inspection and refurbishment of main gear box
2012	CT2 Mechanical overhaul
2013	CT1 Off Base oil cooler replacement
2013	CT1 Replacement of fuel pump and lube oil cooler
2014	CT2 Rewind of generator rotor
2015	In-Line fuel oil heater (CT1/CT2)

A summary of the budgeted and actual amounts for this category (Borden Plant Projects) can be found in Appendix A under the Generation heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under Borden Plant Projects under the Generation – Summary section, which are included as Appendix B.

MECL has not conducted any significant roof repairs on the control building or storage building roofs at the Borden Plant. Semi-annual roof inspections of these buildings are not conducted as is customary of the buildings at the CTGS.

8. PEI Energy Corporation
Section 5.0

- **Please provide a copy of MECL's Field Audit and Assessment Database.**

Response:
Maritime Electric's Field Audit and Assessment Database is a portal that links an extensive number of individual databases that cannot be readily copied. The database and its features may be viewed at Maritime Electric's Corporate Offices at 180 Kent Street. The database enables Maritime Electric to enter and maintain all information on 133,000 poles and associated devices, pole and padmount transformers and line connectivity.

The type of pole; height, class, treatment, structure type, tag numbers, line ID, voltage, attachments (XFMR, streetlight, fuses), etc. are all included in the database.

The database is comprised of a number of smaller databases and information from these are used for developing capital programs as well as maintenance programs.

9. PEI Energy Corporation
Section 5.1

- **Please provide a list of the expenses (budgeted and actual) incurred in each of the last 10 years related to:**
  - **i. Replacements due to Storms, Fires and Collisions, and**
  - **ii. Replacements due to road alterations.**

Response:
The budget amount includes traditional levels of roadwork and normal weather events. Actual charges to this account over the past ten years exceeded the budget due primarily to weather events such as the major lightning storm experienced in August 2007, post-tropical storm Noel in November 2007, several ice storms, including the major one in January 2008, a major fire in the West Royalty Substation in April 2009 and accelerated infrastructure spending by the Provincial Government for widening highways, roundabout installations and bridge improvements over the past five years. The Capital Budget Variance Reports filed with the Commission summarizes the details of these variances.

A summary of the budgeted and actual amounts for this category (Storms, Fires and Collisions and Replacements Due to Road Alterations) can be found in Appendix A. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the same headings, which are included as Appendix B.

10. PEI Energy Corporation

Section 5.2

- **Please provide a copy of MECL's Spill Prevention Program.**
- **Please provide a list of the expenses incurred in each of the last 10 years related to Distribution Transformers including the purchase costs per kVA and the installation costs per kVA for both pole mounted and pad mounted transformers.**

Response:

Please provide a copy of MECL's Spill Prevention Program.

The Company's spill prevention program is an annual initiative to proactively reduce the risk of transformer oil release. This program was developed as a result of the Company's environmental Management System (EMS) that was implemented in 1997 as part of an industry wide commitment to environmental stewardship.

The Polychlorinated Biphenyls (PCB) Regulations made under the Canadian Environmental Protection Act, 1999 (CEPA 1999) established a prohibition on the release, manufacture, processing, use, import, export and sale of PCB's. They also set storage requirements for PCB's across Canada. In 1999, Maritime Electric initiated a program to inspect and begin the process of removing/replacing pole mount transformers manufactured prior to 1982 that potentially contained PCB's. Until 1980 the use of PCB's in transformer oil was permitted so the Company chose pre-1982 vintage to ensure any units manufactured up to that period would be captured in the program. The objective of the program is to prevent or minimize the potential for release of transformer insulating oil to the environment that may contain PCB's. Over the years amendments to Federal PCB Regulations warranted the ongoing review of replacement criteria as regulated end-of-use dates were established and the best risk based approach continued to be used. As an example, pole mounted units in prescribed sensitive areas, such as near schools and water treatment plants, had an end use date of December 31, 2009 if the insulating oil contained concentrations of 50 parts per million (PPM) or greater.

The Transformer Spill Prevention Program continues to achieve the objective of reducing the number of spills of insulating oil containing concentration of 50 PPM or greater to the environment from pre-1982 transformers through their elimination. Maritime Electric will be in compliance with the PCB Regulations (SOR/2008-273) which requires the removal of all equipment containing concentrations of 50 PPM or greater by December 31, 2025.

Please provide a list of the expenses incurred in each of the last 10 years related to Distribution Transformers including the purchase costs per kVA and the installation costs per kVA for both pole mounted and pad mounted transformers.

The Company's Capital Budget has historically included an annual provisional amount for distribution transformers with actual expenses ranging from around $2,000,000 (2005) - $3,800,000 (2007). The 2016 Capital Budget provisional amount for polemount

and padmount transformers is $3,219,000. Actual expenses vary from budget and will be driven by customer demand for polemount and padmount transformers, spill prevention initiatives, distribution rebuild requirements, unforeseen storm damage, and reuse of refurbished transformers. Unforeseen storm damage from weather events such as major lightning storms, post-tropical storms and ice storms can significantly impact the requirement for distribution transformers in any given year.

Actual cost incurred in the last 10 years varied depending on the complement of polemount and padmount transformers needed in each year. Depending on the customer demand for polemount and padmount transformers, spill prevention initiatives, distribution rebuilds requirements, unforeseen storm damage and the reuse of transformers, the kVA sizes and voltages vary annually. Consequently the cost per kVA varies from year to year as shown below:

Year	Polemount Transformer Purchase Costs/$/kVA	Padmount Transformer Purchase Costs/$/kVA
2005	47.31	19.55
2006	57.29	27.62
2007	72.48	38.59
2008	69.46	41.70
2009	69.72	33.60
2010	80.89	32.37
2011	63.23	31.30
2012	59.20	31.36
2013	55.32	28.09
2014	54.13	22.30

For polemount transformers the purchase cost varied from as low as $47.31 per kVA (2005) to as high as $80.89 per kVA (2010) and back down to $54.13 (2014). For padmount transformers, the purchase cost varied from as low as $19.55 per kVA (2005) to as high as $41.70 per kVA (2008) and back down to $22.30 (2014). Not only does the purchase cost per kVA vary with the complement of polemount and padmount transformers, it also varies with the price of copper, steel, aluminum and oil. The annual installation cost for the complement of polemount and padmount transformers also varies significantly depending on the transformer type, size and location of the installation. Installations costs are charged to the distribution transformer capital account, however, historically installation costs were not specifically broken out by transformer type and size.

A summary of the budgeted and actual amounts for this category (Distribution Transformers) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the same headings, which are included as Appendix B.

11. PEI Energy Corporation

Section 5.3

- **For Service Line installation and replacement, what are the estimated customer contributions?**
- **Are all new Service and Street Lights being replaced with LED's?**

Response:

For Service Line installation and replacement, what are the estimated customer contributions?

The Company's Rate Schedules and Policies require the Company to collect Contributions from Customers. Contributions are generally required in the following circumstances:

RSP Section
H - Extension of Facilities - Overhead
I – Extension of Facilities - Underground
J – Optional Facilities

The Standard Facility Allowance is 90 meters, which means Customers do not pay a contribution for the first 90 meters construction.

There are some unique situations that can arise that require a Customer Contribution. These contributions reflect the cost of property, plant and equipment paid by customers. The amounts collected are recorded as a long-term liability and amortized annually by an equal charge to amortization of the related asset.

The Annual provision of $400,000 represents a proxy of the minimum amount that is expected to be contributed by customers based on past experience and $200,000 is allocated towards Service Line installation and replacement.

Are all new Service and Street Lights being replaced with LED's?

In 2014, the Commission approved the Company's proposal to establish four new interim rates for Light-Emitting Diode (LED) Street and Area lighting. The Company has developed a 10 year initiative to convert the existing high pressure sodium (HPS) and mercury vapor (MV) fixtures to LED. Also, all new requests from customers for yard lights as well as all replacements of HPS or MV fixtures are being replaced with LED streetlights.

12. PEI Energy Corporation

Section 5.4

- **For Line Extensions what are the estimated customer contributions?**
- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for Line Extensions.**

Response:

For Line Extensions what are the estimated customer contributions?

Line extensions are primarily customer driven. The Company extends the distribution infrastructure to meet the needs of new customers as well address the increased load requirements of existing customers and provide additional redundancy to the distribution system. There are some significant line extension projects that contributed to a variance over the past ten years. The extensions include a new 13.8 kV distribution feeder from the Charlottetown Plant (Confederation Circuit) built in 2010 as a result of load growth in the City of Charlottetown, line extensions required in 2011 as a result of significant load growth at the PEI Mussel Farm on Red Head Road and Phyterra Yeast Plant on the Greenfield Road. The Capital Budget Variance Reports filed with the Commission summarizes the details of these variances.

The Company's Rate Schedules and Policies require the Company to collect Contributions from Customers. Contributions are generally required in the following circumstances:

The Annual provision of $400,000 represents a proxy of the minimum amount that is expected to be contributed by customers based on past experience and $150,000 is allocated towards Line Extensions.

Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for Line Extensions.

A summary of the budgeted and actual amounts for this category (Line Extensions) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the same headings, which are included as Appendix B.

13. PEI Energy Corporation

Section 5.5

- **For Line Rebuilds what are the estimated third party contributions?**
- **For Line Rebuilds what are the determining criteria for selection for a rebuild?**
- **What are the criteria used to determine if a pole has reached the end of its useful life?**
- **What is the failure rate of porcelain cutouts?**
- **What is MECL's long-term plan to replace porcelain cutouts?**
- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for Line Rebuilds.**

Response:

For Line Rebuilds what are the estimated third party contributions?

For 2016 $50,000 has been forecast for line rebuild contributions.

For Line Rebuilds what are the determining criteria for selection for a rebuild?

In 2009 the Company undertook an extensive audit of all transmission and distribution assets including poles, conductor, transformers and other electrical equipment. The audit determined the Company had over 120,000 distribution poles, 19,400 of which were untreated Eastern Cedar poles. The majority of these poles and associated hardware would have an age of 40 years or older, and are approaching the end of their useful life. The Company compiled an asset database using the results of the assessment and for each of the distribution lines a weighted criteria was applied to determine the priority of distribution rebuilds the Company should undertake. Besides the condition of the assets, customers on the distribution line affected by an outage, and reliability history are also taken into account. The criteria weighting used to prioritize rebuilds are as follows:

Weighting Criteria

40%	Condition, age and size of conductor
30%	Condition and age of pole/Density of Eastern Cedar poles
15%	Customers affected by an outage on distribution line
10%	Reliability history (Hours of outage associated with the line)
2.5%	State of vegetation management
2.5%	Density of porcelain cutouts

What are the criteria used to determine if a pole has reached the end of its useful life?

Individual poles are replaced when they are deemed not to meet an acceptable utility standard for reliability or safety. Poles are identified for replacement through the process of upgrading transformer services, through visual inspection, the Spill Prevention Program or as a result of a customer service visit. The Company has also begun testing poles on the transmission system to detect early pole decay. Untreated Eastern Cedar poles with an estimated age of 40 years or older and approaching the end of its useful life represents the vast majority of pole replacements.

What is the failure rate of porcelain cutouts?

Life expectancy can vary for porcelain cutouts depending on the environmental factors under which they operate. Cold temperature extremes and salt and dirt contamination are the key factors in premature failure. PEI's environment is challenging with respect to all of these factors. In particular, northern climates like PEI's subject porcelain cutouts to "freeze - thaw" cycles which can lead to the development of hairline cracks which weaken both the electrical and mechanical integrity of the cutout. Maritime Electric has experienced an average of 22 porcelain cutout failures per month over the five year period from 2010 to 2014. The Company is realizing the improvement in reliability associated with the Porcelain Cutout Replacement Program as the previous five year period from 2006 to 2010, Maritime Electric was experiencing an average of 30 porcelain cutout failures per month.

What is MECL's long-term plan to replace porcelain cutouts?

The Company plans to continue the Porcelain Cutout Replacement Program until all porcelain cutouts have been replaced. Approximately 1,500 porcelain cutouts are planned to be replaced with synthetic polymer cutouts in 2016. The Company continues to target specific areas, under the Program, where porcelain cutout failures are more prevalent. An additional 1,250 cutouts will be changed out through annual transformer replacement, line rebuild and line maintenance activity. As the 2016 Capital Budget Evidence states, there are 19,980 porcelain cutouts remaining. At the current rate of replacement, it will take approximately 8 years to replace all porcelain cutouts with polymer synthetic cutouts.

A summary of the budgeted and actual amounts for this category (Line Rebuilds) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the same headings, which are included as Appendix B.

14. PEI Energy Corporation

Section 5.6

- **What is the difference in costs between a SMART Meter and the current Remote Interrogation meters being installed by MECL?**
- **Has MECL installed any SMART Meters?**
- **How many clients will be served through the installation of miscellaneous metering equipment?**
- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for System Meters.**

Response:

What is the difference in costs between a SMART Meter and the current Remote Interrogation meters being installed by MECL?

A residential Itron Remote Interrogation (RI) watts-hour meter costs $46 while an Advanced Metering Infrastructure (AMI) meter cost $150 to $200. It is not just the difference in the upfront capital cost that has to be considered. AMI is architecture for automated, continuous communication between the smart meter and the utility company. It also must include a meter data management repository for the enormous amount of data associated with the high number of meter interrogations per month. The objective being to match real time consumption with real time costs. All of the Company's energy purchases do not vary in price with the time of consumption. The advanced metering infrastructure is more expensive to implement and maintain with minimal benefit to Maritime Electric's customers at this time. As anticipated, the Remote Interrogation (RI) meter program has proven very successful in reducing meter reading labour costs and related vehicle and transportation expenses, enhancing customer service (meters are read monthly increasing billing accuracy and eliminating estimates) and improving safety for meter readers. Maritime Electric will continue to monitor metering technology for such benefits and further efficiencies.

Has MECL installed any SMART Meters?

In addition to RI meters, Maritime Electric is strategically monitoring key distribution points, wind farms and the 50 largest customers using an AMI meter, which offers advanced power quality analysis coupled with excellent revenue accuracy, multiple communications options and web compatibility without the cost of an advanced metering infrastructure.

How many clients will be served through the installation of miscellaneous metering equipment?

Miscellaneous metering equipment is mainly associated with approximately 2,500 General Service customers.

Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for System Meters.

In 2005, the metering expenditures were $545,000 reflecting approximately 3,000 Remote Interrogation (RI) watt-hour meter installed. Over the 2006 – 2007 period, approximately 5,000 RI meters were installed per year with annual capital investments around $650,000. Over the 2008-2012 period, the annual capital investment reached around $1,200,000 reflecting approximately 10,000 RI meters installed per year. In 2013, the residential RI meter program was substantially completed and the RI demand meter program was accelerated requiring approximately $1,000,000 in capital investment. In 2014, the RI conversion program required approximately $654,000 capital investment with the completion of the RI conversion expected in 2015. The 2016 Corporate capital budget provisional amount for metering is $635,000, which will be the first year after the conversion. Measurement Canada's retesting of Maritime Electric's RI meters has been favorable and the accuracy has been excellent.

A summary of the budgeted and actual amounts for this category (System Meters) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under System Meters, which are included as Appendix B.

15. PEI Energy Corporation

Section 5.7.a

- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for System Equipment, Meter Shop Equipment and Line Equipment.**

Response:

A summary of the budgeted and actual amounts for this category (Distribution Equipment) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the same section, which are included as Appendix B.

16. PEI Energy Corporation

Section 5.8

- **For Table 4, please provide a description of the vehicles being replaced.**
- **What is the expected resale value of the vehicles being replaced?**
- **According to MECL the life span of large line vehicles is 10-12 years but the oldest vehicle being replaced is 8 years old, which is a pickup truck. The rest are 6-7 years old. Please explain.**
- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years for Transportation Equipment.**

Response:

Vehicle Replaced	Description	km	Old Vehicle	Salvage Value
08-05-72*****	Ford F-150 1/2 ton extended cab truck	220,000	Replaces 06-06-32 which is a regular cab 1/2 ton truck which is 10 years old	$3,000
07-06-24	GMC Sierra K1500 extended cab	183,000	Will be relocated to Mechanical Maintenance department as an extra vehicle.	n/a
09-04-09*****	2005 Honda CRV	281,500	Replaces 05-04-16 which is a 2003 Honda Element	$500
10-10-13*****	CSUP vehicle with a Versalift bucket/boom mounted on a 2011 Ford F550 chassis	260,000	Replaces 07-12-57 which is the current spare CSUP truck which is 9 years old	$15,000
09-12-50	Rental tracked digger unit. Past rental fees will offset the purchase price.		n/a	n/a

***** The three vehicles identified above (08-05-72, 09-04-09 and10-10-13) are being replaced with new vehicles for their current use. These vehicles (08-05-72, 09-04-09 and 10-10-13) will then be reassigned within the fleet to replace older less reliable vehicles (06-06-32, 05-04-16 and 07-12-57) in the fleet that will be sold.

Large line vehicle replacements are based on the age and condition of the unit. The life span of large line vehicles is typically 10-12 years. None of the vehicles in the 2016 Capital Budget slated to be sold are large line vehicles.

The criteria for the medium sized CSUP trucks (i.e., 10-10-13) are different as the Ford F550 chassis is not as robust as a larger truck chassis. Also the CSUP trucks operate on a double shift so they are utilized twice as much as regular line vehicles. Given this, the life span of the medium sized CSUP trucks is typically 5 years, again this depends on the condition of the unit as well. As indicated above 10-10-13 will become the spare CSUP vehicle and the current spare (07-12-57), which is 9 years old, will be sold.

Small vehicle replacements depend on age, mileage, condition and type of service with; the typical life span averages from 5 to 10 years.

A summary of the budgeted and actual amounts for this category (Transportation Equipment) can be found in Appendix A under the Distribution heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Distribution - Summary section, which are included as Appendix B.

17. PEI Energy Corporation

Section 6.1

- **MECL indicates that a new substation is required in New Glasgow to serve increased load growth. What other options did MECL explore to serve the increased load in this area?**
- **MECL wishes to purchase a Mobile 138/12.5 kV transformer to use as a backup replacement for the West St. Peters Substation and any other transformer installed in the future.**
  - **i. How many mobile transformers does MECL currently have?**
  - **ii. How many times has MECL deployed its existing mobile transformer(s) in the past 10 years?**
- **MECL states that the addition of new Transmission System Capacitors will reduce transmission system losses. What is the magnitude of this reduction?**
- **Please provide the forecast used to determine the loading on the Crossroads Substation will exceed its capacity in 2016.**
- **Please provide a list of expenditures (budgeted and actual) incurred over the past 10 years for the following:**
  - **i. 69 kV Breaker Program,**
  - **ii. Automation Project,**
  - **iii. Transmission System Capacitors, and**
  - **iv. Miscellaneous Projects.**

Response:

MECL indicates that a new substation is required in New Glasgow to serve increased load growth. What other options did MECL explore to serve the increased load in this area?

Currently, Maritime Electric has the Rattenbury (RT) Substation and the Hunter River (HR) Substation to supply the load in the Cavendish area. The RT Substation is equipped with a 5/6.67 ONAN (Oil Natural Air Natural)/ ONAF (Oil Natural Air Forced) MVA transformer and the HR Substation is equipped with a 7.5 ONAN /10 ONAF MVA transformer. Each substation houses two feeders to serve the local distribution loads, including one feeding the Cavendish/North Rustico area. The electrical distance between these two substations is approximately 33 km which introduces challenges to backup each other. The feeder from the HR Substation feeding Cavendish is 20 km long which causes reduced reliability, high energy losses and potential power quality issues. The Company deems it is critical to add another 7.5/10 MVA transformer to supply the load in the Cavendish area in the coming future.

Due to the load growth due to tourism in the area and rapid growth in the use of mini-split heat pumps, the RT Substation was loaded to 5.4 MVA in August 2015 and 4.5 MVA in January 2015; while the HR Substation was loaded to 7.8 MVA in August 2015 and 9.7 MVA in January 2015. Both of the substations peaked above the Oil Natural Air Natural ONAN ratings and are approaching the ONAF limits, which results in limited available capacity for future load growth.

Both of the RT Substation and the HR Substation were not designed and built based on the today's standards. The Substations are difficult to modify or expand to meet the growing operating requirements, due to congested spacing and insufficient grounding grids. It is not practical to add another transformer without significant upgrade or a complete rebuild.

MECL proposes to construct a new substation (New Glasgow substation) in the New Glasgow area. Not only does the new substation relieve capacity constraints, it will also provide additional operating benefits. It will enable upgrades and maintenances in the existing HR substation and RT substation. For example, the HR substation can be de-energized for grounding grid upgrades without customer outages as the HR loads will be fed by the New Glasgow substation. It will be half way between the HR Substation and Cavendish, which will have 2 feeders serving the local load and have the provision of a 3rd feeder to link the RT Substation. The 2 new feeders will be approximately 8 km in length. Shorter feeders equates to lower losses and improved reliability. As the New Glasgow substation will be closer to load center (Cavendish/North Rustico), losses will be reduced. The associated loss saving over the life time of the New Glasgow substation is estimated at $1,200,000.

MECL wishes to purchase a Mobile 138/12.5 kV transformer to use as a backup replacement for the West St. Peters Substation and any other transformer installed in the future.

iii. How many mobile transformers does MECL currently have?

iv. How many times has MECL deployed its existing mobile transformer(s) in the past 10 years?

Maritime Electric currently has one Mobile transformer 7.5/10.0 MVA 69 kV - 12.47 / 25 kV, which was built in 1979. It is deployed to undertake preventative maintenance, to prevent overloading substation transformers, during transformer replacements and as backup in emergencies for transformer repairs. It was deployed in 2013 to the Dover Substation when a hot spot was found during a bushing replacement. The Dover transformer was shipped to New Brunswick for repairs, which took several months during which the Mobile transformer remained in service at Dover. In addition, over the past 10 years the mobile transformer has been deployed to the Albany Substation, McCain's Substation, Alberton Substation, Scotchfort Substation, Dingwells Mills Substation, and Crossroads Substation. A new 10 MVA 138/69 kV /12.5 /25 kV transformer will serve as a backup replacement in the event of the failure of West St. Peters Substation transformer and any other 138/12.5 kV unit as well as a backup for the 7.5/10.0 MVA 69 kV - 12.47 / 25 kV existing mobile transformer.

MECL states that the addition of new Transmission System Capacitors will reduce transmission system losses. What is the magnitude of this reduction?

As shown in the table below, the installation of 30 MVAr of capacitors in the Charlottetown area will reduce losses in the two 138 kV lines between the Bedeque Station and the West Royalty Substation (Y-109 and Y-111) and in the three 138 kV / 69

kV autotransformers at the West Royalty Substation by approximately 6 % at high system loads.

Estimated Bedeque to West Royalty losses at system load of 250 MW						
	Bedeque to West Royalty			Estimated I2R losses		
	Real power flow (MW)	Reactive power flow (MVAr)	Combined loading (MVA)	On Y-109 and Y-111 (MW)	In West Royalty 138kV/69kV autotransformers (MW)	Total (MW)
Currently	138.0	35.0	142.4	1.98	0.59	2.57
With 30 MVAr of capacitors added	137.8	5.0	137.9	1.85	0.55	2.40
Reduction	0.2	30.0	4.3	0.13	0.04	0.17

Please provide the forecast used to determine the loading on the Crossroads Substation will exceed its capacity in 2016.

With the peak load growing due to increased electric space heating, the Company sees a significant impact on the distribution substations. Peak data is recorded on a monthly basis from a metering unit located in Crossroads substation on the low side of the transformers. It records the combined power coming from both 10 MVA transformers located at Crossroads, which are parallel. The monthly peaks are then tabulated and the highest winter peak for the year is used for the above growth calculation. The 2015 peak in Crossroads was 17.7 MVA (88%). Substation load growth is estimated by taking an average of the previous three winter peak growths, which was 8.6%. The forecast load in 2016 is 19.2 MVA (96%) and in 2017 is 20.8 MVA (104 %). The plan is to purchase land in 2016 for the Cherry Valley substation with construction in 2017.

Please provide a list of expenditures (budgeted and actual) incurred over the past 10 years for the following:

i. 69 kV Breaker Program

In 2013, of the twenty-five 69 kV breakers that are currently in service, fourteen were over 40 years old and, based on test results, should be replaced in the near future. It has become difficult to complete maintenance on these breakers as gaskets and internal parts are no longer available. The breakers would be replaced based on test results, age and severity of the impact on the system in the case of failure. There was a provision to replace 4 breakers annually in 2014, 2015 and 2016.

A summary of the budgeted and actual amounts for this category (Substation Projects) can be found in Appendix A under the Transmission heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Transmission - Summary section, which are included as Appendix B.

ii. Automation Project

The Substation Automation Project will provide the infrastructure to make data collected from substation equipment available to more users. Engineering, Energy Control Centre and Line Operations are able to remotely access relay information which will help locate faults, improve restoration time and therefore increase reliability. Additionally, remote interrogation of relay information will enhance system performance analysis.

A summary of the budgeted and actual amounts for this category (Substation Projects) can be found in Appendix A under the Transmission heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Transmission - Summary section, which are included as Appendix B.

iii. Transmission System Capacitors

There were no Transmission System Capacitors added in the past 10 years.

iv. Miscellaneous Projects.

This is a provision for miscellaneous substation projects such as security fence upgrades, ground grid repairs, fire alarm systems, ultrasonic wild life deterrent, system and other initiatives that may arise.

A summary of the budgeted and actual amounts for this category (Substation Projects) can be found in Appendix A under the Transmission heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Transmission - Summary section, which are included as Appendix B.

18. PEI Energy Corporation

Section 6.2

- **What will be the results of the 69 kV and 138 kV Switch Program?**
- **Please provide a list of the priority deficiencies found on the:**
  - **i. 138 kV Y-109 and Y-111, and**
  - **ii. 69 kV T-5 and T-23.**
- **What replacements are anticipated for T-2, T-12 and T-21?**
- **How many porcelain insulators and wooden crossarms are being replaced on T-10?**

Response:

What will be the results of the 69 kV and 138 kV Switch Program?

The results of the 69 kV and 138 kV Switch Program will be improved operability of the switches, keeping them in a safe and reliable functioning condition.

Transmission system switches are an integral part of the safe and reliable operation of the power system. Maritime Electric has 79 138 kV switches and 210 69 kV switches. The program will be ongoing with the objective of ensuring the switches are inspected and deficiencies identified to determine whether life extension or replacement is carried out.

New switches are added to the system to accommodate the addition of new substations.

Please provide a list of the priority deficiencies found on the:

i. 138 kV Y-109 and Y-111, and

On Y-109, vibration dampers have to be added to each of the 202 structures, on each of the conductors on both sides of the pole. Approximately 1,200 dampers are to be installed. Also, eighteen poles, eight crossarms and one cross brace are identified for replacement.

On Y-111, the ground connections for the overhead shield wire have to be replaced. There are 199 structures requiring the ground connection replacement. Also, fourteen poles, one crossarm and two cross braces are identified for replacement.

As each structure on both Y-109 and Y-111 will be climbed to carry out the damper installation and ground connection replacement, any further deficiency resulting from the close inspection will be addressed.

ii. 69 kV T-5 and T-23.

A climbing inspection is to be carried out on these two 69 kV transmission lines. It is anticipated that minimal repairs will be required and only a few poles requiring replacement. The climbing inspection enables a close visual inspection that may reveal damage from lightning strikes, electrical energy tracking, and loose connections not visible from ground.

What replacements are anticipated for T-2, T-12 and T-21?

These lines will be visually inspected and a minimal amount of repairs is anticipated. Any deficiencies with the wood pole structures, guys and anchors, insulators, hardware and ground wires will be addressed.

How many porcelain insulators and wooden crossarms are being replaced on T-10?

The budget amount in the 2015 Capital Budget Evidence includes the replacement of 381 porcelain insulators and 117 wood crossarms on T-10. The porcelain insulators and wood crossarms will be replaced with armless synthetic insulators.

19. PEI Energy Corporation

Section 7.1

- **How many square feet of asphalt is being replaced at the West Royalty Substation?**
- **Please provide copies of the assessment completed to identify and quantify potential energy conservation measures at the West Royalty Service Centre.**
- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years under Unforeseen Capital Expenditures.**

Response:

How many square feet of asphalt is being replaced at the West Royalty Substation?

The proposed West Royalty Substation entrance resurfacing includes the milling and removal of existing damaged asphalt, grading the entranceway and related base preparation to maximize the longevity of the approximate 8,500ft^2 of new asphalt.

Please provide copies of the assessment completed to identify and quantify potential energy conservation measures at the West Royalty Service Centre.

The West Royalty Service Centre (WRSC) improvement plan is intended to address any areas in which efficiencies can be achieved, including, but not limited, energy conservation measures. Management continues to engage users of the facility in discussions regarding areas of improvement such as building and property security, overall effective and safe use of the existing footprint to permit the consolidation of equipment and materials and any other opportunities to improve workflow of materials, equipment and staff.

As noted in the Application, 50% of the proposed $200,000 budget allocation has been designated to adopt heat pump technology to supplement the existing propane heating system at the WRSC with the remaining 50% noted as provisional to address any other improvements as noted above. The assessment of the heat pump opportunity was completed internally by one of the Company's engineers, with prior work experience in the design and installation of HVAC systems. The assessment involved a mapping and review of the existing HVAC system at the WRSC and subsequent analysis of the savings that could be achieved by using electric sourced heat pumps where appropriate to offset the consumption of propane. This analysis is included in the tables below.

Preliminary Modification Plan

WRSC HVAC System Modifications Plan			
Floor	Zone	Item	Estimated Quantity
2nd	SW AHU-1		
		Replacement of Air Conditioner for Electric Heat Pump	5
		Installation of Electric Heat Pump	5
		Ducting Modifications	1
	NE AHU-2		
		Replacement of Air Conditioner for Electric Heat Pump	5
		Installation of Electric Heat Pump	5
		Ducting Modifications	1
	Meeting Room		
		Replacement of AC Unit for Split System	2.5
		Installation of 10" Duct for Fresh Air Supply	1
	Entire Building		
		Control Upgrades	1
	Office		
	Option 1	Separate from Current AHU-1, Install Split System	1
	Option 2	Install Motorized Damper	1
1st	Technicians Offices		
		Installation of Split System	3
		Installation of Return Grill	1
	Remainder of Floor		
		Replacement of AHU-1 with Electric Heat Pump Unit	4
		Installation of Electric Heat Pump Unit	4
		Ducting Modifications	1

Annual Operating Cost Comparison – WRSC

	Propane	Oil	Electricity	Heat Pumps
Energy required to Heat WRSC in 2014 BTU's	**2,178,488,257**			
Cost per litre $/litre	0.647	0.749	-	-
Cost per KWh $/KWh	-	-	0.085	0.085
Cost per 1000 btu's $/1000 BTU	0.0268	0.0204	0.0249	0.0249
Assumed Efficiency %	94%	85%	100%	230%
Cost to heat WRSC $	**$62,148.17**	**$52,394.58**	**$54,270.66**	**$23,595.94**

Please provide a list of expenses (budgeted and actual) incurred over the last 10 years under Unforeseen Capital Expenditures.

The Corporate Capital Budget has historically included an annual provisional budget amount ranging from $22,000 (2009) - $45,000 (2016) to allow for unforeseen capital expenditures that may occur in the following year. As a provisional amount for unforeseen or unplanned expenditures, there are no particular budget items listed in this category.

Over the years, as noted in the Capital Budget Variance Reports, the Corporate Unforeseen Capital Expenditures provisional amount has been utilized for the following types of capital expenditures:

- Office and workstation renovations, modifications or reconfiguration to address staffing changes, relocations or ergonomic health and safety issues. This would include related HVAC and lighting upgrades as well as office equipment such as chairs, desks, window treatments and computer workstation accommodations.
- Other office equipment replacements such as a mail inserter and meeting room audio-visual equipment and chairs.
- Emergency repairs to elevator doors at the Kent Street location and overhead door replacement at Service Centres.
- Installation of back-up generation at the district service centres after the January 2008 ice storm.
- Safety barriers at the WRSC main loading and fence replacement at the Company's Imperial Stores PCB storage facility to address safety concerns.
- Connection to the Summerside water system at the Sherbrooke Service Centre to provide a safe clean water supply.

- Card access security system upgrades at various locations to provide a secure working environment for employees and to safeguard Company assets.
- Replacement of damaged carpeting and deteriorated metal stairways that were identified during safety audits as potential risk for trips and falls.

A summary of the budgeted and actual amounts for this category (Corporate Services) can be found in Appendix A under the Corporate heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Corporate - Summary section, which are included as Appendix B.

20. PEI Energy Corporation

Section 7.2

- **Please provide a list of expenses (budgeted and actual) incurred over the last 10 years under Information Technology.**

Response:

The annual Information Technology (IT) capital Budget each year includes amounts budgeted for computer hardware and software as well as specific projects to design, build or maintain new and existing IT systems.

A summary of the budgeted and actual amounts for this category (Information Technology) can be found in Appendix A under the Corporate heading. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports under the Corporate - Summary section, which are included as Appendix B.

21. PEI Energy Corporation

Appendix A

- **With respect to the Summary of Capital Expenditures, please provide an additional column for each year showing the budgeted numbers that MECL submitted to IRAC, including the additional 10 year data required by the PEI Energy Corporation.**
- **For convenience, MECL many provide all the additional 10 year data requested by the PEI Energy Corporation on the same spreadsheet.**

Response:

Please refer to the Introduction Section.

Also a summary of the budgeted and actual amounts can be found in Appendix A. More detail can also be found in each of the annual Capital Budget Applications and Capital Budget Variance Reports, which are included as Appendix B.