

OEB STAFF INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.5 Is the IESO's Capital Expenditure budget for Fiscal Year 2017 appropriate?

1.5 Staff – 5

INTERROGATORY

Reference: Exhibit B-2-1, p. 5

Preamble:

The IESO has made changes to its accounting policies to increase transparency and to report certain costs as regulated assets, consistent with the accounting policies of other regulated entities in North America.

Questions:

a) Please indicate how much of the PSAB Transition balance is being recovered in the 2017 rate that has been proposed as part of this application?

b) What methodology is used to determine the annual amount that gets included in rates?

c) Please confirm that the above methodology does not change as a result of the accounting change for these costs as noted in the 2016 audited financial statements.

d) Are there any issues related to the accounting change that will impact future revenue requirement applications by the IESO?

RESPONSE

a) \$3.917 million is being recovered in the proposed 2017 rate. The same amount has been recovered in each year since 2015.

b) The annual amount is calculated on a straight-line basis using the balance as of January 1, 2015 of \$51.265 million divided by the estimated average remaining service life (EARSL) of employees (13 years for pension and 14 years for OPEB).

c) Confirmed. The above methodology does not change as a result of the accounting policy change.

d) The accounting policy change will not impact future revenue requirement applications by the IESO.

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1 AMPCO INTERROGATORY 10

2 1.0 Revenue Requirement, Operating Costs and Capital Spending

3 Issue 1.5

4 Is the IESO's Capital Expenditure budget for Fiscal Year 2017 appropriate?

5 INTERROGATORY

6 Reference: Exhibit A-2-2, Page 28 Appendix 4

7 a) As a result of the significant Market Renewal costs in 2017 to 2019, are there any capital  
8 priorities or projects in 2017 to 2019 that could be deferred? If not, why not?

9 b) Please rank the priority of each project in Appendix 4.

10 c) Please provide a list of the capital projects in 2017, 2018 and 2019 that are considered  
11 discretionary.

12 RESPONSE

13 a) The IESO does not plan to defer any projects included in Appendix 4 of Exhibit A-2-2. While  
14 executing Market Renewal, the organization needs to continue to manage corporate assets,  
15 maintain compliance with changing regulatory requirements, and address continuous  
16 improvement opportunities.

17 b) Please refer to the response to BOMA Interrogatory 8 at Exhibit I, Tab 1.1, Schedule 2.08 for  
18 a list of priority projects.

19 c) The IESO does not consider any of the capital projects in 2017, 2018 and 2019 to be  
20 discretionary. Each of the projects listed in Appendix 4 of Exhibit A-2-2 is necessary to  
21 reduce risk to the IESO, for the operation of its systems, or to provide benefits to Market  
22 Participants.

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1 AMPCO INTERROGATORY 11

2 1.0 Revenue Requirement, Operating Costs and Capital Spending

3 Issue 1.5

4 Is the IESO's Capital Expenditure budget for Fiscal Year 2017 appropriate?

5 INTERROGATORY

6 a) Please provide a table that shows the planned budget to the actual budget by project for the  
7 years 2015 and 2016.

8 RESPONSE

9 a) The tables below show the planned budget compared to actual spending, by capital  
10 project for the years 2015 and 2016.

<b>Projects (\$millions)</b>	<b>2015 Capital Envelope</b>	<b>2015 Actuals</b>	<b>2015 Variance</b>
Revenue Metering System Upgrade	2.1	2.3	0.2
Energy Management System (EMS) Refresh	2.7	2.4	(0.3)
Market Information Management (MIM) Refresh	1.8	1.8	0.0
Registration Automation	0.7	0.7	(0.0)
Outage Management replacement and redesign	0.8	0.3	(0.5)
NERC Critical Infrastructure Protection projects	2.5	1.9	(0.6)
Market Information System (MIS) Refresh	2.2	2.9	0.7
HRIS Implementation	1.1	1.2	0.1
Demand Response Auction	1.0	1.3	0.3
Infrastructure refresh (building services, software licenses & computer hardware)	1.8	1.8	0.0
<b>Total Capital Projects</b>	<b>16.7</b>	<b>16.6</b>	<b>(0.1)</b>
Other Capital Projects	12.7	8.6	(4.2)
<b>Total</b>	<b>29.4</b>	<b>25.2</b>	<b>(4.3)</b>

<b>Projects (\$millions)</b>	<b>2016 Capital Envelope</b>	<b>2016 Actuals</b>	<b>2016 Variance</b>
EMS Refresh	4.7	2.8	(1.9)
MIS Refresh	2.5	1.9	(0.6)
Infrastructure upgrades	2.6	0.5	(2.1)
Capacity Auction & DR Auction	2.5	3.0	0.5
Outage Management System Replacement (OMSR)	0.8	1.2	0.4
NERC CIP projects	1.0	5.0	4.0
Conservation Demand Management Information System (CDM IS)	0.7	0.4	(0.3)
Key Financial Process Enhancements	0.5	1.4	0.9
Enterprise Cybersecurity Enhancement	1.0	-	(1.0)
Consolidated Corporate Website	0.3	1.6	1.3
Operations Readiness Initiatives	1.0	0.5	(0.5)
<b>Total Capital Projects</b>	<b>17.6</b>	<b>18.4</b>	<b>0.8</b>
Other Capital Projects	10.8	5.4	(5.4)
<b>Total</b>	<b>28.4</b>	<b>23.8</b>	<b>(4.6)</b>

BOMA INTERROGATORY 15

Issue 1.5

INTERROGATORY

Reference: Issue 1.5; Ibid, Appendix 4, p29; 2017 Capital Projects

(a) Please provide more detail on the Infrastructure Refresh project for 2017, 2018, and 2019.

(b) Please explain the IESO's fiduciary and contract management responsibilities for the Conservation First Framework.

(c) Why is the IESO proposing to spend \$5 million over three years (2017, 2018, 2019) to replace its CRS with a standard software application? Please provide the benefits/cost study for so doing.

(d) Please explain the "MACD Enforcement Support Tool and related projects". What is the MACD, its purpose, and its impact on market efficiency?

(e) Please explain in what ways each of the above noted software projects contribute to increasing the efficiency of the Ontario market, or, if they do not, provide the purpose of each and its relative importance compared to other projects in Appendix 4.

RESPONSE

(a)

**Infrastructure Projects – Details  
(2017 to 2019)**

**Building Upgrades:**

Purchase of new and replacement building related material and equipment assets for the IESO's following locations: Clarkson System Control Centre, Back-up Operating Centre, Upper Middle Road East and downtown Toronto facilities.

**Increased Disk Storage:**

Procurement and installation of 100 TB of additional Tier 2 disk storage for the existing EMC VMAX Enterprise Storage Array. This additional capacity is necessary to support the growth of existing databases, provide the necessary storage for the merged Exchange E-mail system and provide for additional archived market reports and data.

**Microsoft Licenses:**

To procure Microsoft licenses over a three year period (Q1 2017 – Q4 2019) to ensure Microsoft license compliance. This procurement will provide sufficient Microsoft product licenses to meet current and near term future requirements.

**Miscellaneous Hardware and Software:**

To procure miscellaneous hardware and software items in 2017 as required to maintain existing infrastructure and to meet periodic requests from business users and IT support groups. This funding case will allow for the purchase of replacement and/or new hardware and software within reasonable lead times to meet the business needs in an efficient manner.

**Rack Enclosure Capacity Planning :**

To procure Racks and Enclosures to expand the IESO's blade server rack and enclosure infrastructure which will facilitate the requirements of emerging projects in the next three years (2017-2019).

1  
2 b) The IESO will ensure the cost-effective delivery of CDM programs. The IESO will ensure  
3 there is a positive benefit-cost analysis of each LDC CDM Plan and each Province-Wide CDM  
4 Program and Local Distributor CDM Program utilizing the IESO's Total Resource Cost Test and  
5 the Program Administrator Cost Test found in the IESO's CDM Cost-Effectiveness Guide.

6 The IESO implements a Counterparty Compliance program to ensure contractual  
7 counterparties are meeting their contractual obligations and are utilizing CDM funding in an  
8 appropriate manner.

9 c) CRS Replacement & Migration

10 The technology used to settle IESO markets has not changed since market opening. Since that  
11 time, there have been many improvements in technology that the IESO will be able to take  
12 advantage of through a replacement including: increased agility to implement changes;  
13 automated regression testing; date effective settlement rules; and simplification of the  
14 recalculation process.

15  
16 The business case for this project is still to be developed. We are currently reviewing the  
17 technology options and confirming the approach that will be used to deliver this project.

18  
19 d) MACD Enforcement Support Tool and related projects

20 The Market Assessment and Compliance Division (MACD) is an organization within the IESO.  
21 The MACD Enforcement Support Tool will be a case management solution that will be used to  
22 improve the capabilities of MACD to enforce the market rules and reliability standards  
23 including the investigation of potential breaches of those same rules and standards.



1  
2 MACD's role, in part, is to promote and foster compliance with rules and standards, helping to  
3 ensure the electricity market operates in a fair, efficient and reliable manner. MACD's  
4 enforcement activities, as supported by this software solution, help ensure the ongoing  
5 compliance with rules and standards by participants and the IESO, and, as a result, helps  
6 ensure efficient and reliable market and grid operation.

7  
8 e) The purpose of each initiative is described above.

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CME INTERROGATORY 3

Issue 1.5

INTERROGATORY

Reference: Exhibit A, Tab 2, Schedule 2, page 29 of 31

In the 2017–2019 Capital Plan Details table, the IESO describes “Operations Readiness Initiatives” as:

*This includes a holistic review of all the processes and tools in Market and System Operations with the intent to sustain the level of services to meet reliability standards with the efficient use of resources.*

CME wishes to better understand what is encompassed in this category.

(a) Please breakout and provide information on the specific initiatives encompassed within this category, as well as their individual costs.

RESPONSE

The Operations Readiness Initiative (ORI) is made up of a number of interrelated projects that together will improve existing Market & System Operations policies, processes and tools, and enable the IESO to more effectively operate the power system and markets today and adapt our operations for the power system of tomorrow. Through successful completion of the projects, the IESO expects to reduce six full-time equivalent (FTE) employee positions and to re-purpose these staff to meet emerging work demands. The IESO expects to meet these targets by the end of 2018.

To date, the IESO has approval to proceed with the following capital projects under ORI:

- **Interchange Enhancements** – The Interchange Enhancement Project will provide additional flexibility to Market Participants by allowing them to revise scheduling information for import/export transactions closer to the dispatch hour. The required changes to software, policies, and procedures will also significantly reduce the workload associated with interchange scheduling for IESO operators. The project has a capital and project management budget of approximately \$2.15 million for 2017.
- **Power System Analysis** – Currently, the IESO utilizes multiple tools for analysis, planning, and monitoring of the power system which creates challenges in cross training staff, transferring files between groups, and understanding differences between study results. The project will see us transition toward a common tool set, an approach used by many of

1 our peers throughout North America. Introduction of a common tool set will simplify our  
2 analyses, including the preparation of our daily operating plan, allowing us to re-purpose  
3 staff to emerging work. The project has a capital and project management budget of  
4 approximately \$150,000 for 2017.

- 5 • **Demand Forecast Improvements** – This project will improve the accuracy of the IESO's  
6 near-term demand forecast service. This includes improving the quality of the forecast  
7 inputs, and provisioning a new forecast for embedded variable generation. Today, forecast  
8 errors and challenging forecast conditions require significant manual intervention by our  
9 Control Room operators. Improving the quality of data inputs into the demand forecast  
10 models will improve the accuracy of the demand forecasts in both real-time and pre-  
11 dispatch timeframes. The project has a capital and project management budget of  
12 approximately \$200,000 for 2017.

13 The remaining initiatives under ORI, for which business case approvals are pending, include  
14 projects focused on streamlining processes and improving Control Room tools.

CME INTERROGATORY 4

Issue 1.5

INTERROGATORY

Reference: Exhibit A, Tab 2, Schedule 2, page 29 of 31

In the 2017–2019 Capital Plan Details table, the IESO describes “Infrastructure Refresh (building services, software licenses & computer hardware)” as:

*To procure Racks and Enclosures to expand the IESO's blade server rack and enclosure infrastructure, which will facilitate the requirements of emerging projects. This project also includes miscellaneous building services and software license renewals.*

(a) Please break out the cost for each individual component, i.e. the cost of racks and enclosures, miscellaneous building services, and software license renewals.

(b) What sort of improvements or tasks fall within the “miscellaneous building services” category?

(c) Was a procurement process implemented to procure the racks and enclosures? If so, what procurement process was employed?

RESPONSE

(a) The break out of costs for each individual component is provided in the table below in millions of dollars:

<b>Infrastructure Refresh</b>	<b>2017 Plan</b>	<b>2018 Plan</b>	<b>2019 Plan</b>
Rack Enclosure Capacity Planning	0.5	0.5	0.5
Misc. Building Services	0.7	0.6	0.4
Increased Disk Storage	0.4	0.4	0.4
Microsoft Licenses	0.6	0.7	0.7
Misc. Hardware and Software	0.3	0.3	0.3
<b>Funding Provision Totals in millions \$ =&gt;&gt;</b>	<b>2.5</b>	<b>2.5</b>	<b>2.3</b>

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EB-2017-0150

Exhibit I

Tab 1.5

Schedule 3.04 CME 4

Page 2 of 2

- 1 (a) "Miscellaneous building services" includes general unanticipated repairs/upgrades to the
- 2 building or equipment, retrofit lightings, and replacement of office furniture.
- 3 (b) Yes, a procurement process, consistent with the *Ontario Public Service Procurement Directive*,
- 4 was used.

1 CME INTERROGATORY 5

2 Issue 1.5

3 INTERROGATORY

4 Reference: Exhibit A, Tab 2, Schedule 2, page 29 of 31

5 Reference: Exhibit A, Tab 3, Schedule 1, page 21 of 56

6 In the 2017–2019 Capital Plan Details table, the IESO describes “Corporate Website including  
7 consolidation and enhancement to Save on Energy)” as:

8 *Corporate website upgrade to help proactively manage the IESO's reputation through its*  
9 *communications to and relationships with stakeholders, customers, employees and others*  
10 *to position the organization as a leader in the electricity sector.*

11 At Ref 2 the IESO states that it has recently launched a new corporate website.

12 (a) Is the new corporate website that is described at Ref 2 the product of the project described at  
13 Ref 1, or is the 2017 project in addition to the new website?

14 (b) If the project is in addition to the new website, why wasn't the scope of the project added in  
15 at the time the IESO was upgrading its corporate website already?

16 RESPONSE

17 (a) The new corporate website that is described at Ref 2 is the same product that is described at  
18 Ref 1. The corporate website was completed and launched in March 2017.

19 (b) Please refer to the response to part (a) above.

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CME INTERROGATORY 6

Issue 1.5

INTERROGATORY

Reference: Exhibit A, Tab 2, Schedule 2, page 29 of 31

In the 2017–2019 Capital Plan Details table, the IESO describes “Wallboard Refresh)” as:

*This project proposes to replace all wallboard projector components in the Control Room with a unified vendor solution that can be managed efficiently by the IESO and reduce costs associated with wallboard display changes. Wallboard projectors have exceeded their intended supported service life.*

(a) What are the anticipated cost savings associated with the wallboard display changes?

(b) Has the original vendor of the wallboard projectors informed the IESO that their units are no longer supported?

(c) Has the IESO experienced any performance issues with the wallboard projectors?

RESPONSE

(a) Replacing the control room wallboard with a unified vendor solution will reduce IESO labour for ongoing support. A new consolidated wallboard would have higher capacity to service existing and new display requirements from other projects.

(b) Yes, wallboard projectors have exceeded their supported service life. Currently, the support is on a ‘best-effort’ basis with parts sourced from the used market.

(c) Yes, there are times when one or more wallboard projectors fail, requiring manual intervention by IT staff to restore service.

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ENERGY PROBE INTERROGATORY 10

Issue 1.5

INTERROGATORY

References: Exhibit A-2-2, Page 29; Exhibit A-3-1, Pages 36 & 39; Exhibit C, Tab 2, Schedule 1 Appendix 2-AA

Preamble: As a rate-regulated entity, the IESO, in appropriate circumstances establishes regulated assets or liabilities and thereby defers the impact on the statement of operations of certain expenses or revenues because they are probable to be collected or refunded to market participants through future billings. The IESO has applied guidance from United States Generally Accepted Accounting Principles (US GAAP) Topic 980, *Regulated Operations*, in this policy.

a) In the first reference, and the table listing capital plan items, please provide a breakout of all capex components comprising the Market Renewal Project with the budgets for 2017, 2018 and 2019.

b) Please indicate progress to date on each MRP project component and any expenditures incurred that will eventually be capitalized.

c) Please provide a copy of the IESO capitalization policy.

d) As noted in the preamble, please provide more details as to how Capex is treated for regulatory purposes, for example expensed and/or amortized and in the latter case, for example if IESO has a notional ratebase or net fixed assets amount that is the basis for calculating the return on capital amount in the annual revenue requirement.

e) Please provide the IESO 2017 cost of capital and a sample calculation of how capex translates into assets and a revenue requirement amount.

f) Please provide discussion on options considered and proposed treatment of capital, specifically in context of the \$60 million incremental capital for the MRP.

RESPONSE

a) Please refer to the response to BOMA Interrogatory 45 (a) at Exhibit I, Tab 1.6, Schedule 2.45.

- 1 b) Please refer to the response to OEB Staff Interrogatory 2 part (e) at Exhibit I, Tab 1.4,  
2 Schedule 1.02. There are no expenditures incurred as of June 30, 2017 that will eventually be  
3 capitalized.
- 4 c) Please refer to page 37 of Exhibit A-3-1. The IESO's capitalization policies are found in the  
5 notes to the IESO audited financial statements at Note 2: Summary of Significant  
6 Accounting Policies: f) Tangible capital assets; g) Assets under construction; and h)  
7 Amortization.
- 8 d) Please refer to the response to interrogatory BOMA Interrogatory 42 part (b) at Exhibit I,  
9 Tab 1.6, Schedule 2.42 and the IESO's capitalization policies from part (c) above.
- 10 e) Please refer to the response to interrogatory BOMA Interrogatory 42 part (b) at Exhibit I,  
11 Tab 1.6, Schedule 2.42 and the IESO's capitalization policies from part (c) above.
- 12 f) Please refer to the response to interrogatory BOMA Interrogatory 42 part (b) at Exhibit I,  
13 Tab 1.6, Schedule 2.42 and the IESO's capitalization policies from part (c) above.

1 SEC INTERROGATORY 17

2 Revenue Requirement, Operating Costs and Capital Spending

3 Issue 1.5

4 Is the IESO's Capital Expenditure budget for Fiscal Year 2017 appropriate?

5 INTERROGATORY

6 [A-2-2, p.28-29] Please provide further details, including a breakdown of costs, regarding the

7 Operations Readiness Initiative.

8 RESPONSE

9 Please refer to the response to CME Interrogatory 3 at Exhibit I, Tab 1.5, Schedule 3.03.

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Please refer to the response to OEB Staff Interrogatory 15 part (a) at Exhibit I, Tab 6.1, Schedule 1.15.





VECC INTERROGATORY 12

EXHIBIT A

Issue 1.0 (1.5)

INTERROGATORY

Exhibit A-2-2, Page 14 & 28 & Exhibit B, Tab 2, Schedule 1, Page 5 of 6

a) Please update the table at Appendix 4 (i.e. Appendix 2-AA) to show 2016 actual capital projects, 2017 revised (if necessary) and 2017 spending to date.

RESPONSE

a) The table at Appendix 4 (Appendix 2-AA) has been updated to show year-to-date spending as of June 30, 2017.

Change Initiatives/Projects (in millions)	2016 Actual	2017 Plan	YTD 2017 June Actual
Energy Management System (EMS) Refresh	2.8	-	-
Capacity Auction & DR Auction	3.0	-	-
NERC CIP Projects	5.0	-	-
Outage Management System Replacement	1.2	-	-
Identity Access Management	-	2.1	1.2
Operations Readiness Initiatives	0.5	2.5	1.0
Market Information System (MIS) Refresh	1.9	2.0	2.1
Infrastructure refresh (building services, software licenses & computer hardware)	0.5	2.5	0.8
Enterprise Cyber Security Management Refresh	-	2.0	1.6
Conservation Demand Management Information System (CDM IS)	0.4	1.0	0.1
Corporate Website including consolidation and enhancement to Save-on-Energy	1.6	1.5	0.5
CRS Replacement & Migration	-	1.0	-
Financial Systems Upgrade	1.4	1.0	0.2
MACD Enforcement Support Tool and related projects	-	1.0	-
FIT, microFIT and other upgrades	-	1.0	0.3
Oracle Archetype Expansion and Oracle batch	-	1.0	-
Wallboard Refresh	-	1.0	-
System Logging and Analysis Upgrade Qradar	-	-	-
Tier 1 Storage Refresh	-	-	-
ETP Refresh	-	-	-
<b>Total Capital Projects (\$1M and above)</b>	<b>18.4</b>	<b>19.6</b>	<b>7.8</b>
Other Capital Projects	5.4	5.4	1.6
Market Renewal	-	-	-
<b>Total Capital Projects</b>	<b>23.8</b>	<b>25.0</b>	<b>9.4</b>

