

1 OEB STAFF INTERROGATORY 8

2 **1.0 Revenue Requirement, Operating Costs and Capital Spending**

3 **1.4 *Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?***

4 Staff IR #8

5 INTERROGATORY

6 Reference: Exhibit A-2-2. Pg. 23

7 Preamble:

8 Appendix 3 of the IESO's 2018-2020 Business Plan provides a detailed account of all planned  
9 capital expenditures over the three-year planning period.

10 Questions:

- 11 a) Who at the IESO is responsible for approving the capital projects and related project  
12 budgets listed in Appendix 3?
- 13 i. Please provide a description of the process(es) used by IESO staff to gain approval/sign-  
14 off for capital projects.
- 15 b) Please provide an update on the capital spending plan in Appendix 3.
- 16 i. Does the IESO still expect to spend an amount of \$26.6 million on capital projects in  
17 2018, which includes \$4 million for Market Renewal expenditures?

18 RESPONSE

- 19 a) As stated in Exhibit A-2-2, page 17, core operating initiatives with commitments are  
20 approved individually on an ongoing basis. Capital expenditures are supported by business  
21 cases which are reviewed by subject matter experts, the Project Management Office and  
22 project sponsor and approved by the appropriate level of management as per approval  
23 limits in IESO's Organizational Authority Register (OAR).
- 24 b) The capital envelope for 2018 is \$26.6 million and includes \$4 million for Market Renewal  
25 related projects. Actual capital spending for YTD June is \$7.2 million and full year spending  
26 is forecast to be under budget.

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1 AMPCO INTERROGATORY 8

2 **1.4** *Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?*

3 1.4-AMPCO-8

4 INTERROGATORY

5 Ref: Exhibit B-2-1 Page 2

6 Preamble: The IESO indicates a summary of capital spending and associated project  
7 descriptions is included in Appendix 4.

8 a) Please provide the project descriptions as per Appendix 4.

9 RESPONSE

10 a) Please see the project descriptions of the 2018-2020 Capital Plan found in the evidence at  
11 Exhibit A-2-2, Appendix 3: IESO Capital Spending, page 24.

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1 AMPCO INTERROGATORY 9

2 **1.4** *Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?*

3 1.4-AMPCO-9

4 INTERROGATORY

5 Ref: Exhibit B Tab 3 Schedule 1 Attachment 1 Appendix 2-AA.

6 Please add 2016 Plan, 2016 Actuals and 2017 Plan to the table and provide an excel version of  
7 Attachment #1.

8 RESPONSE

9 Please see Attachment 1 to this exhibit for a pdf version of the updated Appendix 2-AA (capital  
10 projects) with 2016 Plan, 2016 Actuals and 2017 Plan added to the table. As requested, an excel  
11 version of Attachment 1 is also being provided.

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Change Initiatives/Projects (in millions)	2016 Actuals	2016 Plan	2017 Actuals	2017 Plan	2018 Plan	2018 YTD June Actuals	2019 Plan	2020 Plan	Reason for Variance
Operations Readiness Initiatives	0.5	1.0	1.0	2.5	1.8	1.4	-	-	The Operations Readiness Initiative (ORI) is made up of a number of interrelated projects. Initial design work for a number of the projects took longer than anticipated due to overall complexity and need for coordination with neighbouring jurisdictions and market participants. Other projects were delayed due to the availability of critical resources. In addition, overall Capital costs for the Program are coming in under budget. The ORI Interchange Enhancement Project although expected to be substantially complete in 2018 is expected to be completed in Q3 2019 with the delivery of final functionality. The DSA Enhancement and Hardware Refresh Project (formerly the On-Line Limit Derivation Roll Out To Real-Time Operations) is expected to be complete by Q4 2019.
EMS Refresh	2.8	4.7	-	-	-	-	-	-	The main reasons for under-spent are due to actual cost for some of the vendor change requests and IESO labour cost much lower than was originally estimated.
Capacity Auction & DR Auction	3.0	2.5	-	-	-	-	-	-	
Outage Management System Replacement (OMSR)	1.2	0.8	-	-	-	-	-	-	
NERC CIP projects	5.0	1.0	-	-	-	-	-	-	
Conservation Demand Management Information System (CDM IS)	0.4	0.7	0.3	1.0	-	-	-	-	The CDM-IS Project is underway is expected to be complete in Q1 2019. The variance in spending is largely due to changes in timing of the project delivery.
Consolidated Corporate Website	1.6	0.3	0.5	1.5	-	-	-	-	The variance in spending is largely due to changes in timing of the project delivery.

Change Initiatives/Projects (in millions)	2016 Actuals	2016 Plan	2017 Actuals	2017 Plan	2018 Plan	2018 YTD June Actuals	2019 Plan	2020 Plan	Reason for Variance
MACD Enforcement Support Tool and related projects	-	-	-	1.0	-	-	-	-	Work on the tools has been delayed in order to work on associated processes. This work continues in 2018 however we have not established a forecast completion for the project.
Wallboard Refresh	-	-	-	1.0	1.5	-	-	-	Gathering of requirements and the RFP process took longer than anticipated for this project. The Business Case is close to being finalized and the project is expected to be complete in Q4 2019
Unified Communications	-	-	0.6	-	3.0	0.1	2.0	-	This project is expected to be complete in 2018 with no expenditure planned for 2019.
Enterprise Cyber Security Management Refresh (Advanced Malware)	-	1.0	2.8	2.0	1.0	0.3	-	-	This project was completed in 2018
Infrastructure Refresh (building services, software licenses & computer hardware)	0.5	2.6	1.5	2.5	2.5	0.2	2.5	2.5	This budget is allocated to support miscellaneous hardware, software and building service upgrades. The variance results in the delays in some upgrade work as well as the upgrades not being as extensive as anticipated.
CRS Replacement & Migration	-	-	-	1.0	2.0	-	2.0	-	Work on the project started later than anticipated and initial work to define requirements and develop the RFP for the replacement systems is an operating expense. The RFP is expected to be issued by the end of 2018 however a forecast completion date has not been established.



Change Initiatives/Projects (in millions)	2016 Actuals	2016 Plan	2017 Actuals	2017 Plan	2018 Plan	2018 YTD June Actuals	2019 Plan	2020 Plan	Reason for Variance
On-Line Limit Derivation (OLLD) Roll-out To Real-time Operations	-	-	-	-	1.0	-	1.0	-	This project is part of the Operations Readiness Initiative. Changes in approach to how we derive limits in real-time has resulted in the postponement and re-scoping of this project to upgrade the hardware and enhance the current power system analysis tool. Refer to the description under the Operations Readiness Initiative.
Financial Systems Upgrade	1.4	0.5	0.3	1.0	1.0	0.3	0.5	-	A business case to upgrade the current time & attendance and payroll systems was approved in 2017 and the work is currently underway and forecast to complete in early 2019.
FIT, microFIT and other upgrades	-	-	1.1	1.0	1.0	0.6	1.5	-	
Aspen Refresh	-	-	-	-	1.0	-	0.2	-	
IESO Portal	-	-	-	-	1.0	-	0.5	-	
IESO Simulator Project – Phase 2	-	-	-	-	1.1	-	0.2	-	
Meter Data Management (Upgrade)	-	-	-	-	0.5	-	1.0	-	
Wide Area View Phase 2	-	-	0.1	-	0.2	-	0.2	3.0	
PMU Integration Phase 2	-	-	-	-	-	-	-	3.0	
Oracle Archetype Expansion, Oracle batch and Oracle Exadata Refresh	-	-	-	1.0	-	-	1.5	-	Work on the Oracle project has not yet started but is expected to start in 2019.

Change Initiatives/Projects (in millions)	2016	2016	2017	2017	2018	2018	2019	2020	Reason for Variance
	Actuals	Plan	Actuals	Plan	Plan	YTD June Actuals	Plan	Plan	
Tier 1 Storage Refresh	-	-	-	-	-	-	2.0	-	
ETP Refresh	-	-	-	-	-	-	1.0	-	
SCADA/EMS Replacement	-	-	-	-	-	-	5.0	5.0	
Control Room Refresh	-	-	-	-	1.0	-	-	-	The control room refresh business case has been prepared and is undergoing final review. The work is expected to be complete in 2019.
IT Service	-	-	-	-	-	-	-	1.0	
Market Information System Refresh	1.9	2.5	2.7	2.0	-	0.4	-	-	
Identity Access Management	-	-	2.1	2.1	-	0.3	-	-	
<b>Capital (\$1M &amp; above)</b>	<b>18.4</b>	<b>17.6</b>	<b>13.2</b>	<b>19.6</b>	<b>19.6</b>	<b>3.6</b>	<b>21.1</b>	<b>14.5</b>	
Other Capital Initiatives/Projects	5.4	10.8	3.1	5.4	3.0	3.1	3.0	3.0	
<b>Core Operations Capital</b>	<b>23.8</b>	<b>28.4</b>	<b>16.3</b>	<b>25.0</b>	<b>22.6</b>	<b>6.7</b>	<b>24.1</b>	<b>17.5</b>	
Market Renewal	-	-	0.2	-	4.0	0.5	34.0	48.0	
<b>Total Capital including Market Renewal</b>	<b>23.8</b>	<b>28.4</b>	<b>16.5</b>	<b>25.0</b>	<b>26.6</b>	<b>7.2</b>	<b>58.1</b>	<b>65.5</b>	

1 AMPCO INTERROGATORY 10

2 **1.4** *Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?*

3 1.4-AMPCO-10

4 INTERROGATORY

5 Ref: Exhibit B Tab 3 Schedule 1 Page 2

6 Preamble: the IESO indicates the \$1.2 million lower than planned Operating Costs were  
7 partially offset by increased compensation expenses resulting from slower than anticipated start  
8 of capital projects as and as a result there were lower capital costs in the year.

- 9 a) Please explain the reasons for slower than anticipated start of capital projects.  
10 b) Please discuss the IESO's project management process including how the IESO reports  
11 internally on cost, schedule and work completed for initiatives/projects.  
12 c) When it is apparent that an investment will have a material change to scope, schedule or  
13 cost from the approved plan, please explain how variances are managed.

14 RESPONSE

- 15 (a) Please see Attachment 1 of the response to AMPCO Interrogatory 9 at Exhibit I, Tab 1.4,  
16 Schedule 2.09. The lower spending is primarily due to a number of the larger projects such  
17 as CRS Replacement & Migration, Oracle Archetype Expansion, Wallboard Refresh and  
18 MACD Enforcement Support Tool being in the initial stages of development for longer than  
19 originally anticipated.
- 20 (b) The IESO establishes a capital envelope that it works within. As stated on page 17 of  
21 Exhibit A-2-2, core operating initiatives with commitments are approved individually on an  
22 ongoing basis. Once a project is approved, a Project Steering Committee ("PSC") is  
23 established. The PSC meets regularly, typically monthly, and provides oversight and  
24 direction to the project team. The PSC monitors project progress against the approved  
25 project cost, schedule, scope and project objectives. The Project Management office collects  
26 project information on a monthly basis and creates a Project Portfolio Dashboard Report  
27 that is presented monthly to the Executive Leadership Team.
- 28 (c) Where the project manager forecasts a material change that impacts the approved project  
29 objectives, cost or schedule, the change is reviewed with the Sponsor and Project Steering  
30 Committee to accept the change or take corrective actions. Where a change to the project  
31 objectives, cost or schedule is approved by the PSC, the project manager prepares a Project

- 1 Exception Report which is then subject to approval by the appropriate level of management
- 2 as per IESO's Organizational Authority Register (OAR).

1 AMPCO INTERROGATORY 11

2 **1.4** *Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?*

3 1.4-AMPCO-11

4 INTERROGATORY

5 Ref: Exhibit B Tab 1 Schedule 1 Page7

6 Preamble: The evidence indicates 2016 and 2017 capital spending levels were \$4.6 million and  
7 \$9.4 million lower than planned, respectively. The lower spending was primarily due to  
8 changes in timing of the initial stages of development which are treated as expense, and a  
9 number of minor projects that were not undertaken in year as planned.

- 10 a) For 2017, please provide a breakdown of the capital underspend and explain any key  
11 variances.
- 12 b) Please provide the number of projects not undertaken as planned and the total value of the  
13 projects.

14 RESPONSE

- 15 a) Please refer to the table provided in response to AMPCO Interrogatory 9 at Exhibit I,  
16 Tab 1.4, Schedule 2.09, Attachment 1.
- 17 b) As per the table referred to above, the value of miscellaneous projects for 2017 was  
18 budgeted at \$5.4 million and the actual spending was \$3.1 million. The projects included in  
19 this category are smaller initiatives intended to support various business operations which  
20 are prioritized against other work that is underway.

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1 CME INTERROGATORY 1

2 Issue 1.4 Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?

3 **CME # 1**

4 INTERROGATORY

5 **Ref: EB-2018-0143 Exhibit A, Tab 2, Schedule 1, pages 1 and 2 of 2**

6 At Exhibit A, Tab 2, Schedule 1, pages 1 and 2, the Applicant states "Capital projects in 2018 to  
7 facilitate the delivery of core business functions and priority initiatives are expected to be \$22.6  
8 million, which includes \$4 million for the next stage of the Market Renewal Project."

9 At Exhibit A, Tab 1, Schedule 1 page 2 of 4, the Applicant requests approval for its proposed  
10 2018 capital expenditure envelope of \$26.6 million for capital projects.

11 (a) Please confirm that the total capital expenditure envelope is \$26.6 million, broken out  
12 between \$22.6 million for capital projects related to core business functions, and \$4 million  
13 for the Market Renewal Project.

14 RESPONSE

15 (a) Yes, the total capital expenditure envelope is \$26.6 million, broken out between  
16 \$22.6 million for capital projects related to core business functions, and \$4 million for the  
17 Market Renewal Project.

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CME INTERROGATORY 6

Issue 1.4 Is the IESO's Capital Expenditure budget for Fiscal Year 2018 appropriate?

**CME # 6**

INTERROGATORY

Ref: Exhibit B, Tab 2, Schedule 1 page 3 of 3

The Applicant states: "2016 and 2017 capital spending levels were \$4.6 million and \$9.4 million lower than planned, respectively. The lower spending was primarily due to changes in timing of the initial stages of development which are treated as expense, and a number of minor projects that were not undertaken in year as planned."

- (a) What projects were not undertaken in the year as planned, and why?
- (b) Have those projects been scheduled? If so, when will they be completed?
- (c) Is the IESO on track to meet its listed 2018 capital envelope of \$26.6 million? If not, why not?

RESPONSE

- (a) and (b) Please see the table provided in response to AMPCO 9 at Exhibit I, Tab 1.4, Schedule 2.09, Attachment 1.
- (c) The capital envelope for 2018 is \$26.6 million and includes \$4 million for Market Renewal related projects. Actual capital spending for year-to-date June is \$7.2 million and full year spending is forecast to be under budget. The lower spending is the result of some projects being deferred and others still being in the early stages of the project where the work is not of a capital nature.  
  
For Market Renewal, the focus on high-level design in 2018 has resulted in a shift to more operating costs in the near term instead of the planned capital work late in the year, resulting in the forecast for Market Renewal capital spending to be below budget.

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1 SEC INTERROGATORY 17

2 **1.4-SEC-17**

3 INTERROGATORY

4 The IESO states: "2016 and 2017 capital spending levels were \$4.6 million and \$9.4 million lower  
5 than planned, respectively. The lower spending was primarily due to changes in timing of the  
6 initial stages of development which are treated as expense, and a number of minor projects that  
7 were not undertaken in year as planned".

8 a. Please provide further details.

9 b. Please explain why based on the underspending in 2016 and 2017, the 2018 budget is  
10 accurate.

11 RESPONSE

12 a. Please refer to the table provided in response to AMPCO 9 at Exhibit I, Tab 1.4,  
13 Schedule 2.09, Attachment 1.

14 The lower spending is primarily due to a number of the larger projects such as CRS  
15 Replacement & Migration, Oracle Archetype Expansion, Wallboard Refresh and MACD  
16 Enforcement Support Tool being in the initial stages of development for longer than  
17 originally anticipated.

18 b. The establishment of the capital envelope for the business plan considers a number of  
19 factors including:

- 20
- the need to complete in-flight projects from previous years;
  - the need to undertake refresh projects which sustain and extend the service life of our  
21 applications, infrastructure and facilities; and
  - the need to undertake initiatives to enhance the business to improve efficiency or  
22 provide new or improved services.  
23  
24

25 In developing the capital envelope, the IESO considers the capacity and availability of  
26 IESO resources to undertake these projects and estimates the timeline and budgets for  
27 the new projects. Oftentimes, the development of the capital envelope occurs far in  
28 advance of doing detailed planning and resource assignment for the projects. As the  
29 IESO enters each year, the IESO then undertakes detailed planning and resource  
30 assignment for each of the projects and makes risk-informed trade-offs on the proposed

1 projects to ensure the right balance is struck between evolving the business, sustaining  
2 the business, and mitigating corporate risk, based on available resources. Recognizing  
3 that the IESO has underspent against its capital budgets in previous years, the IESO did  
4 reduce its initial estimates based on a level of uncertainty in terms of timing and total  
5 capital costs. As a result, the 2018 budget was appropriate at the time in which it was  
6 developed.