BOMA INTERROGATORY 4

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan —Energy Conservation; 2015 Annual Report, Pages I1-20, Enabling a Culture of Conservation -The Next Phase for Ontario; Appendix 1 — Corporate Performance Measures

"As noted above, the IESO has been directed by the Minister of Energy to implement a new Conservation First Framework focused on achieving 7 Twh of energy savings by the end of 2020 with a budget of $2.2 billion" [and an additional 1.7 Twh of energy savings from large industrial transmission connected customers within a cost of $500 million].

(a) Please provide the milestones for each of the years 2017, 2018, 2019, and 2020, comparable to the 2016 conservation targets of 800 Gwh from LDCs and 524 Gwh from direct-connect customer programs.

(b) Please state whether the 7 Twh objective for the end of 2020 is cumulative, that is the sum total of the savings in the six year term of the Conservation First initiative, taking into account sustainability calculations, or the sum of the savings achieved in each of the six years 2015-2020, without any assumption about sustainability, in each case with respect to a 2014 consumption baseline.

(c) If the former, please provide the sustainability assumptions/calculations for each year of the program.

(d) Please provide a detailed breakdown of how the proposed 800 Gwh of savings will be achieved by program. Provide the savings from each proposed program or group of programs.

(e) Please provide the same breakdown by year for the direct connect customer program (524 Gwh).

RESPONSE

a) The IESO's corporate performance measures to achieve savings of 800 GWh from LDCs is a conservative adjustment of the aggregated provincial 2016 savings forecast submitted in Conservation First Framework Conservation and Demand Management Plans (CDM Plans) by LDCs. The CDM Plan forecast savings based on LDC CDM Plans submitted and approved as of May 2016 are in Table 1 below. The 2017, 2018, 2019 and 2020 milestones (net incremental first year energy savings) are also in Table 1.

Table 1: LDC CDM Plan Forecast Net Annual Energy Savings at the End-User Level by Program Year Including Persistence to 2020

GWh		Year Realized					
		2015	2016	2017	2018	2019	2020
Year Procured	2015	1,115	1,108	1,107	1,107	1,090	1,084
	2016		1,220	1,173	1,171	1,166	1,133
	2017			**1,347**	1,278	1,276	1,275
	2018				**1,300**	1,227	1,226
	2019					**1,199**	1,115
	2020						**1,128**
Total		**1,115**	**2,327**	**3,628**	**4,856**	**5,957**	**6,961**
Approved LDC Target Gap*		**0**	**0**	**0**	**0**	**0**	**76**
Total including LDC Target Gap		**1,115**	**2,327**	**3,628**	**4,856**	**5,957**	**7,037**

* *Approved LDC Target Gap means the portion an LDC's allocated CDM Plan target that the LDC reasonably expects could only be achieved with funding in addition to their allocated CDM Plan budget, based on a qualified independent third party analysis accepted by the IESO. The approved LDC Target Gap is expected to be addressed as part of the mid-term review of the Conservation First Framework.*

b) The 7 TWh objective for the end of 2020 is an annual persisting electricity savings goal. This represents the total amount of electricity savings generated in 2020 from measures installed between January 1, 2015 and December 31, 2020 and such electricity savings that persist until December 31, 2020.

This objective is based on the direction from the Minister of Energy to the former-OPA issued March 31, 2014 to "coordinate, support and fund the delivery of CDM programs through Distributors to achieve a total of 7 TWh of reductions in electricity consumption between January 1, 2015 and December 31, 2020."

c) A bottom up approach is taken to determine the annual persisting savings for each program. Each measure or custom project has a verified effective useful life ("EUL"),

which defines the period for which energy savings persist. Factors such as codes and standards which take effect during the EUL of the efficient technology (baseline shifts) may deteriorate savings over time.

Annual Persisting Savings = Annual Incremental First Year Savings + Annual Savings Persisting from Prior Years.

d) Table 2 below includes the provincial 2016 forecast savings by program based on submitted and approved LDC CDM Plans as of May, 2016.

Table 2 - LDC CDM Plan Forecast Net 2016 Incremental First Year Energy Savings at the End-User Level

#	Program	Net Incremental First Year Energy Savings (GWh)
1	Save on Energy Coupon Program	55
2	Save on Energy Heating and Cooling Program	39
3	Save on Energy New Construction Program	8
4	Save on Energy Home Assistance Program	10
5	Save on Energy Audit Funding Program	22
6	Save on Energy Retrofit Program	540
7	Save on Energy Small Business Lighting Program	84
8	Save on Energy High Performance New Construction Program	20
9	Save on Energy Existing Building Commissioning Program	3
10	Save on Energy Process & Systems Upgrades Program	234
11	Save on Energy Monitoring & Targeting Program	10
12	Save on Energy Energy Manager Program	27
13	Business Refrigeration Local Program	2
14	First Nation Conservation Local Program	1
15	Social Benchmarking Local Program	45
16	Pilot Programs	7
e	Proposed Programs or Pilots	62
18	Unassigned Target (Programs yet to be identified/developed by LDCs)	51
Total		**1,220**

e) IESO has projected the following breakdown of savings by initiative (within the Industrial Accelerator Program) to meet the 2016 Target of 524 GWh for Transmission connected customers:

Forecast Industrial Accelerator Program Savings by Initiative/ Stream	**Estimated 2016 Savings (GWh)**
Process and Systems Stream	372
Small Capital Incentive Stream	36
Retrofit Stream	56
Enabled Savings (include Energy Managers)	60

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BOMA INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Page 2; 2016 Annual Report, Page 14

You state you have signed ECAs with every LDC, and approved each plan but one, of the forty-two CDM plans that have been submitted.

(a) Which LDC plan has not yet been approved and why?

(b) How many LDCs have not yet submitted plans? Why not? When will those plans be submitted?

(c) Are all the LDCs (seventy odd) now operating under the new 2015 Framework? Please discuss.

RESPONSE

a) On June 16, 2016, the IESO approved the final CDM Plan which included the three First Nation LDCs: Attawapiskat Power Corporation, Fort Albany Power Corporation and Kashechewan Power Corporation.

b) All LDCs have submitted a CDM Plan. Approved CDM Plans can be found online: http://www.ieso.ca/Pages/Conservation/Conservation-First-Framework/Conservation-and-Demand-Management-Plans.aspx.

c) Beginning in January 2016, all LDCs have successfully transitioned to the Conservation First Framework ("CFF"), with the exception of the three First Nation LDCs, which are expected to begin CFF in summer 2016.

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BOMA INTERROGATORY 6

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Page 2

(a) Please provide annual project/production milestones for the 1.7 Twh target for the industrial accelerator program.

(b) Please explain what project event is used as the milestone, the commencement of commercial operation of the project, the disbursement of the incentive funds, the execution of the project contract, or something else.

(c) Please provide any IESO reports which have evaluated the savings achieved by that program to date.

(d) Please provide the number of projects completed, the dollars spent by the company, the incentive provided by the IESO and the savings (kwh) per dollar of incentive provided for each of the years 2012 through 2015.

(e) Please indicate whether any changes to the program design have occurred since 2012.

(f) Please confirm that the energy savings results for each project are meter-measured to ensure performance.

RESPONSE

a) Industrial Accelerator Program ("IAP") projected annual targets are as per Table 1:

Table 1: Projected IAP Annual Targets (2015-2020)

Year	Milestone	Annual Savings Target	Project Event for Milestone
2015	114 GWh	114 GWh	In-service
2016	524 GWh	410 GWh	In-service
2017	780 GWh	256 GWh	Contracted
2018	1458 GWh	678 GWh	In-service*
2019	1604 GWh	146 GWh	In-service*
2020	1722 GWh	118 GWh	In-service*

* *Note that in accordance with the Minister of Energy's direction to IESO dated July 25, 2014 IESO is required to complete a mid-term review of the Industrial Accelerator Program no later than June 1, 2018. This review will include:*

  - *The 1.7 TWh target and the overall budget for achieving the target;*
  - *Lessons learned with respect to financing mechanisms; and*
  - *IAP performance.*

  Targets for the 2018 through 2020 years will be subject to the mid-term review.

b) See response to 6 (a) above.

c) The IESO publishes the results from its independent third-party evaluations annually. All evaluation reports can be found at the following link: http://www.powerauthority.on.ca/opa-conservation/conservation-information-hub/evaluation-measurement-verification/reports.

d) The table below includes the number of projects completed, total aggregate incremental equipment cost (the difference between the baseline measure and the energy efficiency measure) paid by the customer, the incentive funded through the IESO and the Levelized Unit Electricity Cost ("LUEC"), the normalized costs incurred by the program administrator per unit of energy demand reduced) between 2010 and 2015. Variations in LUEC between years are due to variance in the cost-effectiveness of individual projects.

Year	Number of Projects in-service within year	Incremental Equipment cost for in-service projects	Total Project Incentive Value of in-service projects	Total Net verified kWh for in-service projects	LUEC ($/kWh) for in-service projects
2010-2012	3	$8,074,607	$ 5,027,589	43,462,000	0.02
2013	3	$3,389,721	$1,292,450	8,026,890	0.13
2014	8	$4,465,741	$1,911,571	13,464,411	0.09
2015	16	$16,462,029	$5,519,895	49,397,654	0.05

e) The following enhancements have been made to the Industrial Accelerator Program since 2012:

- Revisions to eligibility to include non-industrial transmission connected customers
- Addition of the High-Performance New Construction option for IAP customers
- Addition of the Small Capital Program (a capped incentive for small projects with adjusted measurement and verification requirements and a streamlined contract)
- Addition of an Energy Managers stream, similar to what has been offered through LDCs to distribution connected customers through the 2011-2014 framework and Conservation First Framework.

f) IAP projects are meter measured. Energy and demand savings are measured as per the IESO's EM&V Protocols and Requirements and are compliant with the International Performance Measurement & Verification Protocol (IPMVP). The IESO's EM&V Protocol and Requirements document is publicly available via the IESO website at: http://www.ieso.ca/Documents/conservation/LDC-Toolkit/EM%26V-Protocols-and-Requirements-10312014.pdf.

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BOMA INTERROGATORY 7

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Page 6

(a) Please provide a document which describes LDC Innovation Fund, which includes program objectives, scope, and targets for implementation and the like.

(b) Please provide a list, and brief description, of each of the projects funded by Conservation Fund over the last three years. Please provide any available report that describes the results of this program.

RESPONSE

The Guidelines for the LDC Innovation Fund are available on the LDC Tool Kit website, under the Conservation Program and Pilot Development heading: http://www.ieso.ca/Pages/Conservation/Conservation-First-Framework/LDC-Tool-Kit.aspx.

The fund has a budget of $70 million over the Conservation First Framework (2015-2020) but it does not have annual targets.

a) There is no report that describes the results of the program at a consolidated level. Highlights of Conservation Fund projects are included in the IESO and former OPA annual reports.

Projects approved for Conservation Fund funding between July 2013 and July 2016:

- Loblaw Properties Limited – Results-Based Performance Optimization Program
    - Brief description: The pilot program will test a new approach to encouraging commercial stores to identify areas for potential energy efficiencies through improvements focusing on daily operations, systems and equipment upgrades. Actions undertaken in individual stores will be motivated by a 'pay for performance' incentive through which actual, not forecasted, energy savings are rewarded. The intent is to capture incremental efficiency gains from optimization

associated with store-specific upgrades and improvements, and to validate the potential of pay for performance models as a next generation approach to conservation programming.

- City of Toronto – Energy Retrofit Financing Pilot
    - Brief description: The proposed City of Toronto Energy Retrofit Financing pilot program will test the residential housing market's receptivity towards a comprehensive energy efficiency program that utilizes local improvement charge ("LIC") financing and neighborhood-based marketing to encourage property owners to undertake energy efficiency investments. The pilot's participation-related goals include the completion of energy assessments, the installation of energy efficiency measures and acceptance of LIC (property-assessed) financing offered by the City for 200 single family homes and 2 multi-residential buildings (representing approximately 200 housing units).
- McMaster University, DeGroote School of Business – The Electric Heating Benefits of Thermal Energy Storage
    - Brief description: For the benefit of low income customers, McMaster University in partnership with Hydro One will examine the conservation and load shifting benefits of TES under current time-of-use ("TOU") rates. The pilot will test customer interaction with TES units and determine its potential as a next generation offering for low income customers.
- Toronto Hydro-Electric System Limited – Localized Demand Response Study
    - Brief description: Leveraging installed measurement and load control equipment, this project extends Toronto Hydro's Multi-unit Residential Building ("MURB") DR pilot to learn more about suite and common area load control and energy management.
- ASE Smart Energy – RetroSAVE Emerging Technology Demonstration
    - Brief description: The project will install a wireless HVAC zoning technology called RetroSAVE into 35 homes (25 in Toronto, 10 in Ottawa) for a one-year demonstration project designed to measure impacts on energy use and occupant comfort.

- EnerNOC Inc. – Strategic Energy Management--Commercial & Institutional Pilot
    - Brief description: The project is a collaboration between EnerNOC, the IESO, and LDCs to engage medium and large commercial and industrial companies in Ontario in strategic energy management.
- Strategic Energy Group – Continuous Energy Improvement--Industrial Pilot
    - Brief description: The Industrial CEI project will put in place a continuous improvement process that creates and verifies behavior based energy efficiency savings of 5 to 15 % in addition to conventional equipment savings.
- Natural Resources Canada--CanmetENERGY – Ontario Archetypes for RETScreen Expert
    - Brief description: This project will populate the new RETScreen Expert software with Ontario-specific building archetype and cost data to provide provincial consumers with access to an expert decision intelligence software platform which can provide financial and technical evaluation for energy efficiency projects over the entire project life cycle.
- Ryerson Centre for Urban Energy – Research Fellowships and Student Awards
    - Brief description: As a founding sponsor of the Centre for Urban Energy at Ryerson, the IESO will support the three fellowship positions and student awards focused on: Integration of Energy and Urban Planning, Integrated Delivery of Electricity, Gas and Water Conservation and Energy Storage.
- SUMARAN Inc. – Zoned Distribution Strategies and the Use of Gravel Bed Thermal Storage with Cold Climate Air Source Heat Pumps and Air Conditioners to Reduce Peak Load Demand and Annual Energy Consumption in Low-Rise Housing
    - Brief description: The project will assess the potential for zoning, cold climate air source heat pumps and low cost thermal storage to reduce residential peak load demand and annual energy consumption, using test facilities in Ottawa and computer modeling.
- Globe, Osram Sylvania – Residential Upstream Lighting Pilot
    - Brief description: A strategic call for initiatives ("Upstream Residential Lighting") has been designed to provide financial incentives to residential

lighting manufacturers to enhance the sale of energy efficient lighting at Ontario retail stores. The main purpose of this pilot is to test a new delivery model for retail incentives.

- Toronto and Region Conservation Authority – Performance-Based Conservation Pilot Program

    - Brief description: Integrating electricity, natural gas and water, this project will demonstrate, evaluate and document the implementation of the performance-based conservation approach to drive deeper energy savings in the commercial and institutional building sectors more efficiently than traditional conservation demand management program implementation strategies. The project aims to engage "big customers" (owners of large buildings or large numbers of smaller buildings), identify high potential buildings, produce rational, consistent energy targets and conservation potential for individual buildings, and use benchmarking diagnostics to help customers and utility companies identify and implement measures to convert conservation potential into real, deep energy savings measurable at the meter.

- Canadian Manufacturers and Exporters – Energy Pathfinder Initiative

    - Brief description: The Energy Pathfinder Research Initiative is designed to identify common opportunities to improve, control or optimize energy intensive processes for industry, and develop new best practices to realize efficiency improvements at low cost.

- Waterfront Toronto – Energy Performance Tracking Project at New Toronto Waterfront Buildings

    - Brief description: The goal of this project is to collect and analyze energy and water data from new, LEED-certified commercial and residential buildings in Toronto's designated waterfront area, and prepare a white paper analyzing the datasets.

- Toronto and Region Conservation Authority – Performance-Based Conservation Pilot Program

    - Brief description: This project will pilot a strategic concept using large-scale energy benchmarking diagnostics to enhance conservation program performance for an entire region and drive the adoption of energy benchmarking as a standard practice in the Ontario Commercial & Institutional sector.

- D+R International – Home Appliance Market Lift
    - Brief description: D+R International will pilot a new mid-stream program approach designed to mitigate free-ridership issues that have challenged traditional efficient appliance incentive programs, while leveraging retailer expertise in product promotion.
- Hydro Ottawa – Conservation Voltage Regulation Leveraging AMI Data
    - Brief description: This project will determine if new Conservation Voltage Regulation tools leveraging data from LDC Advanced Metering Infrastructure networks can deliver precise voltage regulation that produces quantifiable energy savings for residential and commercial customers compared to business-as-usual distribution system operation.
- Toronto Atmospheric Fund – Pumping Energy Savings: Advancing the Conservation Opportunities of Air & Ground Source Heat Pumps in Electrically-Heated MURBs
    - Brief description: In collaboration with Toronto Hydro, Hydro One, Horizon Utilities, and Ontario Property Management Group Inc., this project will produce the market characterization research, implementation and financial analysis, and program recommendations necessary to overcome barriers that have prevented the uptake of Ground and Air-Source Heat Pumps as a retrofit measure for MURBs.
- Evergreen CityWorks – Tower Renewal Showcase Project
    - Brief description: As part of a broader, three-phased Tower Renewal initiative, this Phase 1 project works with tower owners to develop scalable financing models using three MURB sites as case studies.
- Canadian Urban Institute ("CUI")– The Ontario Parking Area and Garage Project
    - Brief description: Building on its success with municipal street lighting, CUI will extend the LightSavers model of establishing and educating a peer network of early adopters to accelerate the adoption of Light-Emitting Diode technology with adaptive controls in Ontario's outdoor parking areas, multi-story parking structures, and underground garages.
- EcoSpex Inc. – Development of an Online Industry Platform for Verified Energy Efficient Products and Knowledge Transfer

- Brief description: Ecospex aims to accelerate the penetration of energy efficient products in the Ontario building industry by creating a free online resource of performance verified products with integrated gas and electricity conservation program incentive information allowing easy and confident evaluation and comparison of products. By centralizing and verifying information on available green building products, Ecospex believes its service will significantly reduce the time and risk entailed with procuring "green" materials and equipment.

- Ontario Clean Water Agency – Pay-for-Performance Pilot Initiative

  - Brief description: This pilot will extend the IESO's testing of the pay-for-performance model as a potential approach to program delivery under the Conservation First Framework. Complementing the customer-level pay-for-performance pilots currently underway in the commercial retail and office sectors, this pilot will assess the application of the model at the program delivery agent-level to determine if it offers a more cost-effective, lower-risk means of effectively reaching challenging Industrial, Commercial & Institutional subsectors compared to traditional approaches.

- PowerStream Inc. – Evolution of Advantage Power Pricing

  - Brief description: This project will extend and expand PowerStream's Smart Grid Fund-supported dynamic pricing pilot to produce the financial, energy, and implementation data necessary to inform decisions about the introduction of dynamic pricing as a voluntary, all-year, alternative to the TOU rate structure for residential customers.

- PowerStream Inc. – Residential Solar Storage Pilot

  - Brief description: This project will install 20 residential solar storage units in the PowerStream service area to evaluate their benefits to customers, the distribution system and the provincial grid. Public reports on conservation outcomes, electricity system benefits and LDC business models will be produced and shared publicly with all Ontario LDCs.

- Electrale Innovation Ltd. – Hydraulic Air Compressor ("HAC") Demonstrator Project

  - Brief description: A 30-metre high HAC Demonstrator rig will be installed in a former elevator shaft at Science North's earth sciences centre, Dynamic Earth. The project will measure and verify electricity savings of new HAC technology primarily for deep mining applications, and will provide opportunities for large industrial mining customers to learn more about the

technology, which may lead to increased uptake and eligible projects through the Industrial Accelerator Program.

- BEworks Inc. – Bills that save: Nudging Energy Conservation and Demand Shifting Through Effective Communication of TOU Pricing

    - Brief description: Building on an Ontario Energy Board-commissioned project comparing the effectiveness of different LDC bills in communicating energy consumption and TOU pricing information, this project will test how optimized billing designs can cost effectively increase the desired customer response to TOU pricing.

- Toronto Water – Advancing Energy Efficient Water Service in Toronto

    - Brief description: This project will assess Toronto's water distribution network with the objective of developing a model to enable the use of pressure management strategies and price signals to improve the operational efficiency of Toronto's water system. Results and best practices will be shared with municipalities across Ontario to assist them in implementing a similar approach to energy conservation.

- Infrastructure Ontario ("IO") – IESO Conservation Fund--Infrastructure Ontario Strategic Partnership

    - Brief description: The partnership will use IO facilities and expertise as a test bed for a portfolio of advanced CDM pilot projects. These pilots will aim to improve the business case for implementation of innovative solutions across Ontario by addressing the technical, financial and capacity risks and issues currently impeding their adoption.

- SensorSuite Inc. – Development and Demonstration of Intelligent MURB Energy Management Solution

    - Brief description: This project will enable operators of MURBs to minimize the energy required to comfortably heat, cool, and ventilate their buildings and to proactively respond to anticipated changes in the Hourly Ontario Energy Price.

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BOMA INTERROGATORY 8

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Appendix 1

(a) Please describe the origin of the 7 Twh target for the conservation portfolio.

(b) How does the cost of (a) the 2015 portfolio savings per kwh; (b) the average cost of the savings per kwh achieved through the 2011-2014 program; compare? What was the cost of the energy savings achieved ($ per kwh) by the 2011-2014 program? What was the average cost per kw of the demand savings achieved?

RESPONSE

a) On March 31, 2014, the Ontario Power Authority (now IESO) received direction from the Ministry of Energy to "coordinate, support and fund the delivery of CDM programs through Distributors to achieve a total of 7 TWh of reductions in electricity consumption between January 1, 2015 and December 31, 2020". The 7 TWh target to be achieved between 2015 and the end of 2020 was forecast to remain on track for achieving the 2013 Long-Term Energy Plan (LTEP 2013) of 30 TWh in 2032 through provincial conservation and demand management ("CDM") efforts. Further information can be found in *Achieving Balance: Ontario's Long-Term Energy Plan*[1] released on December 2, 2013.

b) The average Levelized Unit Electricity Cost ("LUEC") (the normalized costs incurred by the program administrator per unit of energy demand reduced) achieved through the 2011-2014 portfolio was $0.037/kWh. The average cost per kW of the demand savings achieved through the 2011-2014 Demand Response programs was $12.06/kW-month.

The 2015 portfolio LUEC and the 2015 average cost per kW of the demand savings achieved are currently not available. These figures will be made available in the 2015 IESO Annual Conservation Report that will be published by 2016 Q3.

[1] Achieving Balance: Ontario's Long-Term Energy Plan (LTEP 2013), December 2, 2013, http://www.energy.gov.on.ca/en/ltep/achieving-balance-ontarios-long-term-energy-plan/

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BOMA INTERROGATORY 9

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Page 8

(a) To what extent does the IESO propose to measure actual savings achieved by the LDCs' and the IESO's own program, as opposed to relying on "deemed savings", "forecast savings", or other methods, over the Framework period (2015-2020)? Please provide answers on a program-specific basis.

(b) To the extent that the IESO will not measure actual savings, how does it propose to validate the annual milestones or the achievement of the 7 Twh framework target. Please discuss fully.

(c) Why is the IESO not proposing to measure energy demand savings for conservation programs, at least the commercial/industrial sector? Please describe the programs that will target energy demand savings (our emphasis).

(d) Please describe the IESO's organization to oversee its energy conservation and demand response programs. Please provide an organizational structure, names and roles of key personnel, resources dedicated to the division. Please provide a breakdown of people and dollars into the various programs/functions/divisions of the organization.

RESPONSE

(a) The IESO does not rely on deemed or forecast savings to measure actual performance achievement. Energy and demand savings are measured as per the IESO's EM&V Protocols and Requirements and are compliant with the International Performance Measurement & Verification Protocol ("IPMVP"). Each program is evaluated annually with the final evaluation reports available at the following link: http://www.powerauthority.on.ca/opa-conservation/conservation-information-hub/evaluation-measurement-verification/reports.

(b) Energy and demand savings are measured as per the IESO's EM&V Protocols and Requirements and are compliant with the IPMVP.

(c) Although the Conservation First Framework targets are energy based (kWh), the IESO continues to measure and report on demand savings for all conservation initiatives. As per the Ministry directive, all programs need to be cost-effective, and a key benefit in the cost-effectiveness determination is the achievement of peak demand savings.

(d) The IESO provides program design and delivery support for LDCs and is responsible for the evaluation, measurement and verification of all conservation programs and activities to validate the achievement of the conservation first framework target of 7 TWh target and 1.7 TWh of additional energy savings through large industrial-connected customers. The IESO is also developing centralized information tools to support the fiduciary reporting responsibilities of both the LDCs and the IESO.

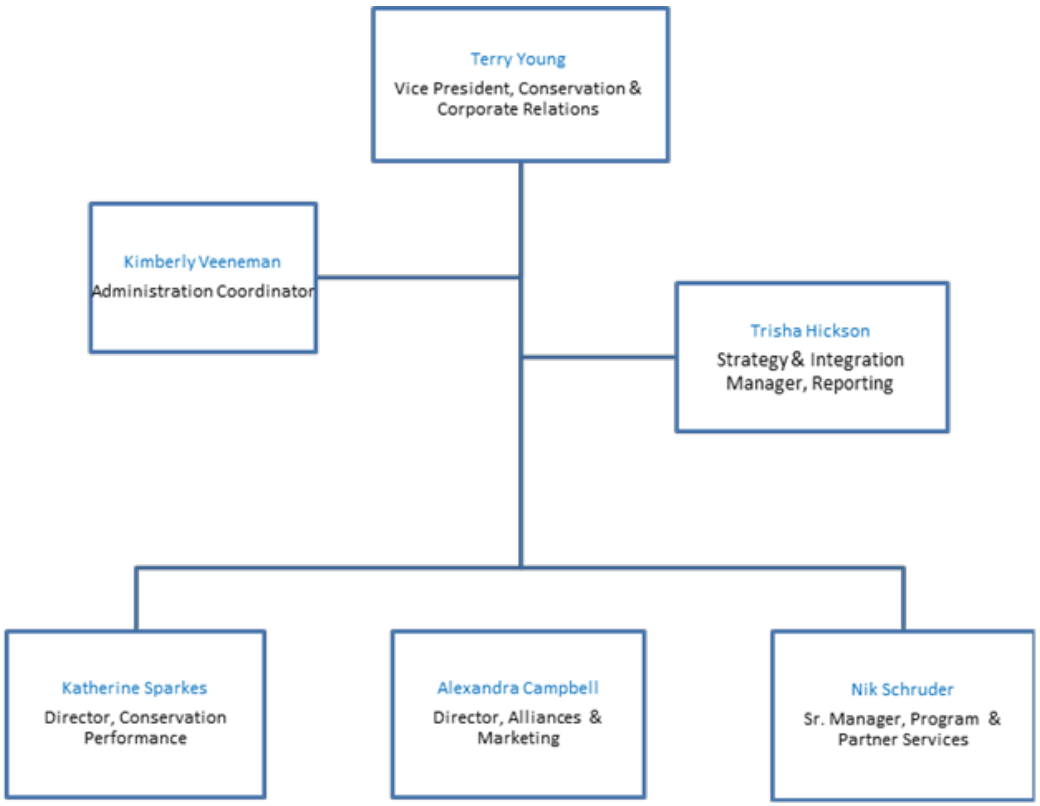
Group Descriptions:

The Conservation Performance group is responsible for the verification and validation of energy and demand savings and cost effectiveness analysis of conservation programs delivered by LDCs as well as energy efficiency initiatives for transmission-connected customers through the Industrial Accelerator Program delivered by the IESO. The group also manages energy innovation, research and development, oversees program and pilot review and approvals, provides engineering support, co-ordinates all compliance requirements, and leads the efforts of integrating conservation with local and regional planning.

The Alliances and Marketing group is responsible for enabling energy conservation activities and managing relationships with key stakeholders (LDC's and channel partners) and customers to help grow capability across the province. The group helps engage the marketplace through its province-wide outreach activities including energy manager programs, energy management training, marketing and market research and efforts.

The Program & Partner Services group is responsible for managing the division's budget requirements, qualifying payment requests, developing and managing contracts, all internal and external reporting of achievements and spending of our program and services, and managing the delivery of all the conservation programs with our partners.

Conservation Organization Chart:



Budget by Conservation Group

Conservation Division					
2016 Budget	VP's Office	Conservation Performance	Alliances & Marketing	Program & Partner Services	Total - Conservation
Compensation & Benefits	$840,026	$2,380,022	$2,128,974	$1,868,034	**$7,217,056**
Professional & Consulting Fees	26,500	930,000	220,000	250,000	**$1,426,500**
Operating & Administration	39,993	88,448	298,867	62,130	**$489,439**
Total 2016 Budget	**$906,519**	**$3,398,470**	**$2,647,841**	**$2,180,165**	**$9,132,995**

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BOMA INTERROGATORY 10

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref Annual Report, Page 12

What is the source(s) for the numbers provided in the graph on the page? Please provide a breakdown of the results achieved by the LDC Business Program in the four years 2011-2014. Please describe each business program, results achieved, and how the savings results were measured as otherwise validated.

RESPONSE

2011-2014 verified results were used to produce the graph on page 12. Please see page 21 of the 2011-2014 Conservation Results Report for information on savings achieved by program in the four years 2011-2014. The report can be found at the following link: http://www.ieso.ca/Documents/2011-2014_Conservation_Results_Report.pdf.

The following tables provide details of each business program:

Efficiency: Equipment Replacement Incentive (ERII)

Target Customer Type(s):	Commercial, Institutional, Agricultural and Industrial Customers
Initiative Frequency:	Year round
Objectives:	The objective of this Initiative is to offer incentives to non-residential distribution customers to achieve reductions in electricity demand and consumption by upgrading to more energy efficient equipment for lighting, space cooling, ventilation and other measures.
Description:	The Equipment Replacement Incentive Initiative (ERII) offers financial incentives to customers for the upgrade of existing equipment to energy efficient equipment. Upgrade projects can be classified into either: 1) prescriptive projects where prescribed measures replace associated required base case equipment; 2) engineered projects where energy and demand savings and incentives are calculated for associated measures;

Target Customer Type(s):	Commercial, Institutional, Agricultural and Industrial Customers
	or 3) custom projects for other energy efficiency upgrades
Targeted End Uses:	lighting, space cooling, ventilation and other measures
Delivery:	LDC delivered

Direct Install Initiative (DIL)

Target Customer Type(s):	Small Commercial, Institutional, Agricultural facilities and multi-family buildings
Initiative Frequency:	Year round
Objectives:	The objective of this Initiative is to offer a free installation of eligible lighting and water heating measures of up to $1,000 to eligible owners and tenants of commercial, institutional and agricultural facilities and multi-family buildings, for the purpose of achieving electricity savings and peak demand savings.
Description:	The Direct Installed Lighting Initiative targets customers in the General Service <50kW account category. This Initiative offers turnkey lighting and electric hot water heater measures with a value up to $1,500 at no cost to qualifying small businesses. In addition, standard prescriptive incentives are available for eligible equipment beyond the initial $1,500 limit.
Targeted End Uses:	Lighting and electric water heating measures
Delivery:	Participants can enroll directly with the LDC, or would be contacted by the LDC/LDC-designated representative.

Existing Building Commissioning Incentive Initiative

Target Customer Type(s):	Commercial, Institutional, and Agricultural Customers
Initiative Frequency:	Year round
Objectives:	The objective of this Initiative is to offer incentives for optimizing (but not replacing) existing chilled water systems for space cooling in non-residential facilities for the purpose of achieving implementation phase energy savings, implementation phase demand savings, or both.
Description:	This Initiative offers Participants incentives for the following: • scoping study phase • investigation phase

Target Customer Type(s):	Commercial, Institutional, and Agricultural Customers
	• implementation phase • hand off/completion phase
Targeted End Uses:	Chilled water systems for space cooling
Delivery:	LDC delivered.

New Construction and Major Renovation Initiative (HPNC)

Target Customer Type(s):	Commercial, Institutional, Agricultural and Industrial Customers
Initiative Frequency:	Year round
Objectives:	The objective of this Initiative is to encourage builders/major renovators of commercial, institutional, and industrial buildings (including multi-family buildings and agricultural facilities) to reduce electricity demand and/or consumption by designing and building new buildings with more energy-efficient equipment and systems for lighting, space cooling, ventilation and other Measures.
Description:	The New Construction initiative provides incentives for new buildings to exceed existing codes and standards for energy efficiency. The initiative uses both a prescriptive and custom approach.
Targeted End Uses:	New building construction, building modeling, lighting, space cooling, ventilation and other Measures
Delivery:	LDC delivers to customers and design decision makers.

Energy Audit Initiative

Target Customer Type(s):	Commercial, Institutional, Agricultural and Industrial Customers
Initiative Frequency:	Year round
Objectives:	The objective of this Initiative is to offer incentives to owners and lessees of commercial, institutional, multi-family buildings and agricultural facilities for the purpose of undertaking assessments to identify all possible opportunities to reduce electricity demand and consumption within their buildings or premises.
Description:	This Initiative provides participants incentives for the completion of energy audits of electricity consuming equipment located in the facility. Energy audits include

Target Customer Type(s):	Commercial, Institutional, Agricultural and Industrial Customers
	development of energy baselines, use assessments and performance monitoring and reporting.
Targeted End Uses:	Various
Delivery:	LDC delivered

All energy efficiency and demand response programs funded through the IESO in 2011 to 2014 were evaluated using the IESO's Evaluation Measurement & Verification ("EM&V") protocols, which are widely regarded as an industry best practice. A copy of the IESO's EM&V Protocols can be found at the following link: http://www.ieso.ca/Documents/conservation/LDC-Toolkit/EM%26V-Protocols-and-Requirements-10312014.pdf.

The IESO uses independent evaluation third-party program evaluators to verify and assess the resource savings, cost-effectiveness and market impacts of each program. Detailed evaluation reports are produced by the program evaluators and help enhance current program offers and inform future conservation programs. All evaluation reports are made public on the IESO website, and can be accessed at the following link: http://www.powerauthority.on.ca/opa-conservation/conservation-information-hub/evaluation-measurement-verification/reports.

BOMA INTERROGATORY 11

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Ibid, Page 13

(a) Please provide a document that describes the LDC Collaboration Fund. Please list, and describe briefly, the fourteen projects that have already been approved.

(b) How many projects have involved LDCs working with natural gas companies to provide comprehensive energy management offerings? Please list and describe/highlight those projects.

(c) How does IESO plan to measure the success of this program?

RESPONSE

a) The LDC Collaboration Fund Guideline is available on the LDC toolkit website under the 'Guidelines' heading at the following link: http://www.ieso.ca/Pages/Conservation/Conservation-First-Framework/LDC-Tool-Kit.aspx

List of approved projects:

Project	Collaborating Parties	Project Type	Description	Status
Key Account Managers	Bluewater Power, Essex Powerlines, EnWin Utilities, Entegrus Powerlines, E.L.K. Energy	Human Resources	The five LDCs share three key account managers, each with a different area of expertise (e.g. municipal projects, refrigeration, re-commissioning, air compressors, water/wastewater). The resources engage with the top 50 customers of each LDC to drive projects. The resources are responsible for the	Active

Project	Collaborating Parties	Project Type	Description	Status
			development and use of a sales package, including billing history, load profiles, and marketing collateral such as local case studies.	
Business Working Group Legal Work	Toronto Hydro, Greater Sudbury Hydro, Guelph Hydro, Niagara Peninsula Energy, CHEC Group, Horizon Utilities, EnWin Utilities, Hydro One, Kitchener-Wilmot Hydro, Enersource Hydro, PowerStream, London Hydro, [Enbridge Gas Distribution]	Working Group	The Business Working Group is comprised of 12 LDCs and is responsible for the design of the province-wide non-residential programs. As part of the program design, external legal counsel was hired to assist in the development of program rules and other processes for the business programs.	Complete
Roving Energy Manager ("REM")	Canadian Niagara Power Inc., Algoma Power, Niagara-on-the-Lake Hydro	Human Resources	This REM provides technical services to business customers within these LDCs' service territories. The REM works with customers to identify, access, prioritize and recommend (both capital and operational /behavioural) projects to customers' senior management.	Active
Energy efficiency sales training	EnWin Utilities, Essex Powerlines, Bluewater	Training	Two training sessions focused on energy efficiency sales were organized and implemented. These two	Complete

Project	Collaborating Parties	Project Type	Description	Status
	Power, Entegrus Powerlines, E.L.K. Energy		sessions were based on Mark Jewell's industry-recognized, "Learning to S.E.E." (Sell Efficiency Effectively), with one session for LDC staff, and the second for vendors.	
REM	Halton Hills Hydro, Milton Hydro, Burlington Hydro	Human Resources	This REM provides support to institutional, commercial, and industrial customers through the identification of projects and assistance with application submission.	Active
REM	InnPower, Centre Wellington Hydro, Lakefront Utilities, Lakeland Power, Midland Power, Orangeville Hydro, Orillia Power, Rideau St. Lawrence, Wasaga Beach Distribution, Wellington North Hydro, West Cost Huron Energy	Human Resources	This Roving Energy Manager is responsible for supporting commercial, institutional and small business customers. This REM interfaces closely with business communities to identify, initiate, monitor and implement energy efficiency projects.	Active
Marketing and Sales Working Group sales training	Hydro One, Thunder Bay Hydro, Hydro Ottawa, PowerStream, Toronto Hydro, Niagara-on-the-Lake Hydro,	Training	The Marketing and Sales Working Group (MSWG) is comprised of 7 LDCs and is responsible for developing marketing best practices and facilitating the integration of marketing and customer needs into program design	Complete

Project	Collaborating Parties	Project Type	Description	Status
	London Hydro, [Enbridge Gas Distribution]		and implementation. As part of its mandate, the (MSWG) arranged for sales training based on Mark Jewell's industry-recognized, "Learning to S.E.E." (Sell Efficiency Effectively) for LDC staff.	
Regional Customer Resource	Thunder Bay Hydro, Atikokan Hydro, Fort Frances Hydro, Kenora Hydro, Sioux Lookout Hydro	Human Resources	This regional customer resource provides direct customer engagement and support for both business and residential customers. The resource conducts monthly visits with both customers and local contractors to drive energy efficiency projects.	Active
REM	Thunder Bay Hydro, Atikokan Hydro, Fort Frances Hydro, Kenora Hydro, Sioux Lookout Hydro	Human Resources	This REM will drive both capital and operational /behavioural energy efficiency projects, with a focus on large mining, wood products, paper manufacturing and other industrial customers.	Active
Energy Into Action event	Burlington Hydro, Enersource Hydro, Halton Hills Hydro, Horizon Utilities, Hydro One Brampton, Hydro One, Milton Hydro, Oakville Hydro, PowerStream,	Customer /channel event	The Energy Into Action event was a half-day energy forum for GTA's energy management professionals targeted to multi-unit residential buildings, commercial, industrial, municipal, academic, and hospital buildings. An array of exhibitors, noteworthy speakers and opportunities for networking were also showcased. The event facilitated discussion and	Complete

Project	Collaborating Parties	Project Type	Description	Status
	Toronto Hydro, [Enbridge Gas Distribution]		learning around new and emerging technologies, reducing energy consumption, lowering costs, identifying new opportunities for savings and the available incentive programs.	

1

Project	Collaborating Parties	Project Type	Description	Status
Business Working Group Legal Work	Toronto Hydro, Greater Sudbury Hydro, Guelph Hydro, Niagara Peninsula Energy, CHEC Group, Horizon Utilities, EnWin Utilities, Hydro One, Kitchener-Wilmot Hydro, Enersource Hydro, PowerStream, London Hydro [Enbridge Gas	Working Group	As part of the ongoing program design activities of the Business Working Group, external legal counsel was hired to assist in the further development of program rules, as well as forms and participant agreements.	Active
Business Working	Toronto Hydro,	Working Group	As part of the continued program design activities	Active

Project	Collaborating Parties	Project Type	Description	Status
Group Program Design support	Greater Sudbury Hydro, Guelph Hydro Niagara Peninsula Energy CHEC Group Horizon EnWin Utilities Hydro One Kitchener-Wilmot Hydro Enersource PowerStream London Hydro [Enbridge Gas		for the province-wide offerings, the Business Working Group has secured external support to provide for project management, communication, and general research. This support will ensure critical milestones and timelines are met so that program implementation within the Conservation First Framework remains on track. The sum of this work will support business cases, program rule changes, and marketplace communication for Retrofit, HPNC, PSUP, Audits & Studies, and Upstream programs.	
CustomerFirst Applicant Representative and Technical Reviewer	Newmarket-Tay Hydro Greater Sudbury Hydro North Bay Hydro Northern Ontario Wires PUC Distribution St. Thomas Energy Espanola	Human Resources	The Applicant Representative and Technical Reviewer will provide a new approach to support business customers with application review and technical review for conservation projects. These resources will build capability within LDCs, reduce costs and provide better customer service and this will lead	Active

Project	Collaborating Parties	Project Type	Description	Status
	Regional Hydro		to increased program participation and savings.	
Greater Toronto and Hamilton Area (GTHA) Joint Procurement	Veridian Enersource Toronto Hydro PowerStream Horizon Hydro One Brampton Whitby Hydro Oakville Hydro	Other	The LDCs involved in this collaboration activity will issue a joint procurement for the province-wide Small Business Lighting (SBL) program. The joint procurement will result in the development of an RFP and contract that can be utilized by other LDCs for vendor contracts for any future joint procurement activities.	Active
Residential Working Group Retail program design	PowerStream Hydro One Veridian Hydro Ottawa Energy+ Toronto Hydro Enersource St. Thomas Energy [Union Gas] [Enbridge Gas Distribution]	Human Resources	This dedicated resource will be responsible for studying the existing Save on Energy Coupon program to identify opportunities for improvement. The ultimate deliverable is to submit a business case to the IESO for a more cost-effective, budget efficient and customer-focused retail program to replace the existing Coupon initiative. This dedicated resource will also be used for any implementation related activities that are the	Active

Project	Collaborating Parties	Project Type	Description	Status
			responsibility of the working group such as forms, communications of program changes, etc.	
Residential Working Group HVAC program design	PowerStream Hydro One Veridian Hydro Ottawa Energy+ Toronto Hydro Enersource St. Thomas Energy [Union Gas] [Enbridge Gas Distribution]	Human Resources	This dedicated resource will be responsible for studying the existing Heating and Cooling Incentive program to identify opportunities for improvement. The ultimate deliverable is to submit a business case to the IESO for a more cost-effective, budget efficient and customer-focused retail program to replace the existing Heating and Cooling Incentive program. This dedicated resource will also be used for any implementation related activities that are the responsibility of the working group such as forms, communications of program changes, etc.	Active
Residential Working Group future programs design	PowerStream Hydro One Veridian Hydro Ottawa Energy+ Toronto Hydro Enersource St. Thomas	Human Resources	This dedicated resource is responsible for future program development through identification of emerging conservation and demand management trends, best practices and innovation in the residential sector	Active

Project	Collaborating Parties	Project Type	Description	Status
	Energy [Union Gas] [Enbridge Gas Distribution]		for consideration in the design of new programs. The ultimate deliverable will be a recommendation report and sharing of findings with all LDCs that may also be utilized for pilot and local program development.	
Energy Manager	Veridian Peterborough Utilities Whitby Hydro Oshawa PUC Hydro One	Human Resources	This Energy Manager will drive participation in the Save on Energy business programs. The resource, an employee of Sonepar Canada, will conduct primary assessments, identify energy saving opportunities, support project implementation, develop M&V plans, assist with program applications, and report on progress. Year 1 targets are 2,250 MWh in energy savings and 3,000 MWh of pipeline savings.	Active

b) To date, there have been no Collaboration Fund projects that directly involve LDCs working with natural gas companies to provide comprehensive energy management offerings. However, there have been a number of approved Collaboration Fund projects where natural gas companies are involved. Collaborative projects range from working group activities (which involve both LDCs and natural gas companies) around the design of province-wide programs to training and events, and are as follows:

- Business Working Group Legal Work
- Sales training

- Energy Into Action event
- Residential Working group program design

c) One of the requirements of each application is to provide measurements that will be used to evaluate the success of the project. The IESO will be monitoring the performance of each project and evaluating its success at achieving its initial objectives. The IESO will produce an annual report to LDCs on the success of collaboration efforts.

BOMA INTERROGATORY 12

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Ibid, Page 12

Please describe the proposed training programs the IESO/LDCs will deliver over the 2015-2020 period, the costs, the annual milestones, and the expected results. How does the IESO define success for these training programs? Provide a document, if available, that assesses training programs done previously.

RESPONSE

The IESO will be providing training initiatives for various audiences over the 2015-2020 period. Currently, the IESO provides incentives for Building Operator Certification, Certified Energy Manager, Certified Measurement and Verification Professional, and Commissioning Agent Certification. The IESO intends to implement additional initiatives throughout the duration of the 2015–2020 timeframe to support local distribution companies, energy managers, other channel allies, multi-site customers, and transmission-connected customers in achieving Ontario's Conservation First Framework ("CFF") objectives. The IESO has established a target of 9,000 trainees to the end of 2020.

The total CFF budget for capability building, of which training is an integral element, is $20 million. Training initiatives comprise approximately 50 per cent of the budget and largely consist of incentives to eligible training participants. The rest of the budget includes proposed channel ally engagement activities along with funding for new initiatives that may be developed in response to evolving market needs such as training and support for lighting design or for specific tools like the new RETScreen Expert. A key success metric for the IESO's training initiatives is the extent to which training influences customers and channels to undertake incented or non-incented CDM activity. As is the case with other Save on Energy programs, the IESO will be retaining an independent evaluator to determine the training program's effectiveness during the course of the CFF. An initial evaluation of the Building Operator Certification ("BOC") initiative will be available by 2017. Independent utility grade evaluations in the United States Research show that the average BOC graduate delivers over $10,000 a year in energy savings for five years.

In 2015, a transition year between the 2011-14 framework and CFF, $120,000 was dispensed for the training of 272 participants in the existing training initiatives cited above. To date one initiative (Residential HVAC Installation Optimization Training which was the first market facing training initiative implemented by the IESO and delivered 2012-14) has been evaluated. The methodology for the evaluation can be found online: http://www.powerauthority.on.ca/sites/default/files/Behaviour-Based-Evaluation-Protocols.pdf.

Results for the cited HVAC initiative are on the IESO's website at the following link: https://saveonenergy.ca/consumer/programs/hvac-rebates.aspx.

BOMA INTERROGATORY 13

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref Ibid, Page 14

The Business Plan describes the IESO as "the lead agency charged with delivering on the government's conservation agenda".

(a) Please provide a detailed description of the "multi-channel media campaign", how it will evolve over the six year program, the budgeted cost, and how success will be determined.

(b) Please provide any studies the IESO has done, or is aware of, which demonstrates the extent to which conservation can "defer investment in other potentially more costly infrastructure" (Page 14, Column 3).

RESPONSE

a) The IESO's role is to build a strong Save on Energy brand that enhances customers' awareness and understanding of the value of conservation and speaks to customers in a way that is meaningful to them.

The primary marketing goal is to draw awareness to the value of being energy efficient and provide an introduction to the programs that can help Ontarians realize this value. This is done by:

- Raising awareness of the Save on Energy brand
- Deepening understanding to prove there are significant and unexpected benefits in making energy efficient choices
- Motivating customers to take action by exploring the Save on Energy program(s) and contacting their LDC to help them realize the energy savings and other benefits.
- Marketing Objectives and associated measure tools include:

Objective	Measurement Tool
Messaging & Creative Strategy - create Save on Energy marketing materials that can generate awareness, change attitudes or persuade the target market to take action	• Pre-launch focus groups and surveys • Results of iterative refinement & retargeting process • Marketing & Sales working group input and feedback on behalf of all LDCs
Communications Strategy - implement a media/communications plan that reaches the target market	• Media & digital plan reach & frequency • In-market surveys of awareness of materials • Change in impressions, bounce rate, sentiment analysis, etc. • Marketing & Sales working group to provide input on behalf of all LDCs
Collaboration Strategy - Encourage LDCs and other partners to consider IESO strategies in their own marketing strategies	• Track LDC usage of Marketing Asset Portal • LDC Satisfaction survey • Compliance assessment of LDC-created marketing materials • Save on Energy marketing to be a standing item on Marketing and Sales Working Group agenda

- The IESO also delivers marketing for some province-wide programs in coordination with LDCs.

- LDCs all use the Save on Energy brand to market and sell specific programs and incentives in their own territories.

- The multi-channel media campaign is comprehensive using paid, earned, owned and shared media that includes the following specific channels:

    - TV and radio commercials, online video, digital display and digital impact, newspaper ads, search engine marketing, social media content including photos and videos, sponsored articles, editorials, media relations, blogs, Save on Energy website, newsletters, written and video case studies, webinars, business and residential customer outreach including participation in events and conferences.

    - Market research and testing informs marketing objectives and plans, as well as initiatives over the six years will be continually optimized based on their measured effectiveness.

- $49 million is allocated for marketing as part of the $2.2 billion funding for the Conservation First Framework. $11 million is allocated to market research.

- IESO's fee covers the employees delivering the marketing and outreach strategy.

b) On June 30, 2016 the IESO completed an Achievable Potential Study ("APS") in order to inform electricity efficiency planning and programs in Ontario. The purpose of the APS is to a) provide an estimate of the short-term electricity conservation potential in Ontario and within the service area of each local distribution company within the available Conservation First Framework ("CFF") budget; and b) to estimate the long-term electricity conservation potential achievable by 2035. The APS estimates savings under a number of scenarios including an economic potential scenario that estimates all cost-effective or nearly cost-effective savings and therefore provides an estimate of the extent to which conservation can defer investment in more costly infrastructure.

The APS is available at the following link: http://www.ieso.ca/Pages/Participate/Stakeholder-Engagement/Working-Groups/2016-Achievable-Potential-Study-LDC-Working-Group.aspx.

Energy and demand savings that result from conservation and demand management ("CDM") programs funded through IESO are evaluated each year as per the IESO's EM&V Protocols and Requirements and are compliant with the International Performance Measurement & Verification Protocol. This evaluation includes an assessment of program cost-effectiveness which includes the Levelized Unit Energy Cost ("LUEC") which is a measure of the normalized the costs incurred by the program administrator per unit of energy or demand reduced. LUEC provides a basis for comparing the cost of CDM with the cost of other supply side resources that can be displaced because of the energy or demand reductions.

The evaluation reports can be found at the following link: http://www.powerauthority.on.ca/opa-conservation/conservation-information-hub/evaluation-measurement-verification/reports.

The IESO has completed a number of Integrated Regional Resource Plans (IRRPs) which indicate that achieving the provincial conservation targets is expected to result in meeting a significant proportion (30% to 40%) of the forecast local peak electrical demand growth in certain regional areas over the next 10 to 20 years. Please refer to IRRPs for the Northwest Greater Toronto Area (http://www.ieso.ca/Documents/Regional-Planning/GTA_West/2015-Northwest-GTA-IRRP-Report.pdf) and York Region (http://www.ieso.ca/Pages/Ontario's-Power-System/Regional-Planning/GTA-West/default.aspx) on the IESO website as examples. Since power system infrastructure investments are based on meeting incremental peak demand requirements, achieving the Provincial conservation targets are an effective means of deferring "other potentially more costly infrastructure". Additionally, targeted conservation and local demand management are being considered as additional solution

measures within the context of the IRRPs. Pilots and studies are underway to develop suitable designs and measure the cost effectiveness of such measures.

The IESO is aware of activities in other jurisdictions and is in the early stages of considering how it can use its investments in conservation for more targeted deferral of local infrastructure investment. Achievement of current conservation targets is considered when developing load growth forecasts for the regional planning process. The next opportunity being discussed is the ability to either redirect current activity to high needs areas or identify opportunities for increased activity where it will provide greatest benefit.

The IESO recently funded a project through the Conservation Fund with Toronto Hydro. This two-part project created a model to determine the fully avoided generation, transmission, and distribution costs offered by local demand reduction capability, and developed an activation protocol for local demand reduction events harmonized with the transmission system and IESO-administered demand response capabilities.

Per the March 31, 2014 direction from the Minister of Energy the mid-term review of the Conservation First Framework that IESO is required to complete by June 1, 2018 will include a review of the contribution of CDM to regional planning.

BOMA INTERROGATORY 14

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

14. Ref. Ibid, Page 16 "Race to Reduce"

(a) What is the IESO doing to build on the results of the Race to Reduce program, described at Page 10?

(b) How many buildings participated in the program?

(c) Will the energy consumption in the buildings that participated in the program to be measured over the 2015-2020 period to measure suitability of the achieved savings?

(d) How, specifically, will the IESO/LDCs use the results of the program to launch a broader program in the GTA and across the province, now that it has a "platform" of data? How will the IESO coordinate its efforts with those of the Government of Ontario, outlined at pages 25-26 and 56-66 of the Ontario Climate Change Action Plan?

RESPONSE

a) The IESO is no longer involved directly in the Race to Reduce program as the Conservation Fund project has ended. We continue to build on the learnings from the project and incorporate them into the design of future programs such as the energy manager program and the upcoming multi distributor pay for performance program. The IESO encourages all program participants to enter their data into Portfolio Manager in order to build the database of buildings and improve the benchmarking capabilities.

b) The number of buildings is 196.

c) The IESO has no ongoing involvement with the building owners that participated in the Race to Reduce and has no plans for ongoing monitoring of their continued performance. The IESO provided support for the building owners to load their data into NRCan's Portfolio Manager database so building owners will have the opportunity for ongoing benchmarking of their performance.

d) The IESO will work with the government to align the efforts of the Save on Energy programs with the objectives of the Climate Change Action Plan. The IESO has recently been directed to develop a province wide pay for performance program for multi distributor customers that will support their efforts to drive energy efficiency throughout their facilities. The Save on Energy Retrofit program also is available across the province through the LDCs to support building owners in upgrading their facilities.

BOMA INTERROGATORY 15

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Ibid, Page 17

Please describe the "early results" of the three residential social benchmarking pilots undertaken by LDCs. Please describe how they will enhance benchmarking for residential customers. Please provide references to any reports you are aware of that evaluate residential benchmarking elsewhere. [BOMA accepts any caveat about their preliminary status].

RESPONSE

The social benchmarking pilots have been completed and the IESO is in the process of evaluating the results of the pilots. The IESO understands that LDCs that participated in the pilots were encouraged by the results and two of the LDCs have received approval to continue with the home energy reports as a local program under the Conservation First Framework. The IESO supports the provision of home energy reports as a valuable tool for consumers to assist them in identifying energy efficiency opportunities within their home.

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BOMA INTERROGATORY 16

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Ibid, Page 20, Pages 25-26, Demand Response Program

The government has stated, and the IESO has confirmed in its page 21 that Demand Response is expected to meet ten percent of Ontario electricity needs by 2025. What is the amount in MWs?

(a) Given that the IESO recently completed an auction in which it received 400 MW for summer 2016 and winter/summer 2017 at reasonable prices, what are the IESO's plans to increase the amount to approximately 3,000 MW by 2025?

(b) What is the IESO's target for acquisition of incremental (that is in addition to the amount acquired in the previous year, which is assumed to continue in the next year, etc.) Demand Response for each year 2017, 2018, 2019, 2020?

(c) What was the range of prices per MW secured for the November 2015 auction for summer 2016 and winter 2016/2017?

(d) What is the distinction between the 80 MW pilot project and the 400 MW amount achieved at auction? Please explain fully.

(e) Please describe the IESO's plan to introduce residential Demand Response and what amounts of Demand Response do they expect to receive by 2020; in each year between now and then? Please discuss.

(f) What was the breakdown of the auction participants by sector, and by end user/aggregator?

(g) What steps will IESO take to expand the awareness of its Demand Response program, or is this task being left to aggregators? Please discuss.

RESPONSE

a) The IESO plans to grow demand response in a steady and predictable way, in order to meet provincial policy goals and system needs cost-effectively, provide a clear, long-

term path to the sector for business planning, and ensure growth is aligned with market potential. The Demand Response ("DR") Auction will be the primary tool to secure competitive DR resources to meet system needs, but works in concert with other demand response programs such as the Industrial Conservation Initiative to achieve the 2025 target. Opportunities also exist to grow emerging DR through targeted pilot approaches to test new and emerging capabilities and prepare resources for future participation in the DR Auction. Through the DR Working Group (www.ieso.ca/drwg), the IESO is currently consulting with stakeholders on the annual growth of DR towards achieving the 2,400 MW target in 2025.

b) Through the DR Working Group (www.ieso.ca/drwg), the IESO is currently consulting with stakeholders on the annual growth of DR towards achieving the 2,400 MW target in 2025. As part of this consultation, the IESO is proposing a year-by-year quantity that the DR Auction will seek to acquire. The actual quantities that are acquired each year will be determined by the DR Auction, which optimizes the demand response offers that are submitted each December.

c) The clearing price for the summer 2016 commitment period (May 1 – October 31, 2016) is $378.21/MW-day, and for the winter 2016/2017 commitment period (November 1, 2016 – April 30, 2017) is $359.87/MW-day. Due to a surplus of economic offers in the Niagara zone relative to the maximum amount of DR that could be accommodated there, DR resources in Niagara are paid $348.45/MW-day in the summer 2016 commitment period and $332.71/MW-day in the winter 2016/2017 commitment period. The results of the DR Auction are available at the following link: http://reports.ieso.ca/public/DR-PostAuctionSummary/PUB_DR-PostAuctionSummary.xml.

d) The IESO undertakes pilot programs to test new capabilities or applications of demand response in the energy market and its ability to meet system needs. The pilot project was designed to test load following capability of DR under real-time market conditions. The IESO is monitoring the operation and performance of the pilot resources to ensure applicable changes are made in the DR Auction. Upon completion of the Pilot program, the capacity procured under the program will be added to the DR Auction target for the Summer 2018 and Winter 2018/2019 commitment periods. More information on the DR Pilot is available at the following link: http://www.ieso.ca/Pages/Participate/Demand-Response-Pilot/default.aspx.

e) The IESO is currently consulting with stakeholders through the DR Working Group to facilitate greater participation by residential DR in the DR auction. In addition to some of the proposed changes in the auction, the IESO is exploring an approach to transition the existing 163 MW of capacity in the peaksaver program to a capacity product

procured through the DR Auction by the end of 2020. A transitional program would help to evolve current peaksaver obligations around availability, utilization frequency and sustainability which are out of step with obligations in the DR Auction. Other early-stage, innovative residential DR products and technologies could participate in the transitional approach. At this stage, it is too early to speculate on the quantity of residential demand response that could be successful in each auction year as these figures will be a result of the economic selection of offers from a variety of different providers and technology types.

f) The results of the DR Auction are available at http://reports.ieso.ca/public/DR-PostAuctionSummary/PUB_DR-PostAuctionSummary.xml. Three aggregators (Energy Curtailment Specialists, EnerNOC, Enershift) and four large industrial consumers (Gerdau Ameristeel Whitby, Gerdau Ameristeel Cambridge, Resolute Forest Products, and Tembec Enterprises) obtained DR Capacity Obligations in the December 2015 auction.

g) The IESO has a variety of methods for engaging stakeholders, communicating strategically and raising awareness. The DR Working Group (www.ieso.ca/drwg) is the primary vehicle by which the IESO communicates information about our demand response programs. In addition to this, through direct outreach to consumers, communities, and LDCs, through mechanisms such as the IESO's weekly bulletin, the IESO is able to ensure that information about our various DR programs is disseminated to as many interested stakeholders as possible. For example, the IESO recently held a dedicated session on demand response opportunities and electricity market issues for BOMA Toronto members.[1] In addition, the IESO periodically offers a public training session on the DR Auction; the training is advertised in the weekly bulletin. In all of its interactions, the IESO is guided by the conduct embodied in its engagement principles (http://www.ieso.ca/Documents/consult/IESO-Engagement-Principles.pdf).

[1] http://www.bomatoronto.org/events/EventDetails.aspx?id=812046&group=

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BOMA INTERROGATORY 17

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref Business Plan/Annual Report

(a) What steps is the IESO taking to ensure it receives the information it requires on the nature, amount, location, and operating mode, of distributed generation across the province?

(b) Please confirm that the IESO's overall approach is supportive of distributed generation, is prepared to remove technical barriers that remain, and that its quest for information described above will in no way inhibit the growth of distributed generation.

(c) Please outline the various benefits distributed generation offers to the integrated grid.

(d) What does IESO anticipate the total MW of installed embedded (distributed generation) in years 2016 through 2020, and the breakdown among solar, wind, cogeneration, gas engines, biomass?

(e) Does the graph at page 5 include cogeneration and other distributed generation at direct connect facilities? How many MW of gas-fired cogeneration does IESO anticipate in each of years 2016, 2017, 2018, 2019, 2020? Does the IESO have any targets for the growth of distributed generation as a whole?

RESPONSE

a) The IESO requires information such as nature, amount, and location of distributed generation as part of its procurement/contracting processes. This information becomes part of any resulting contracts.

The operating mode is under the purview of the facility operator responding to commercial/market signals while meeting any contractual obligations. For those facilities, the following requirements are the minimum necessary to effectively manage the reliability of the power system in Ontario with distribution connected generation. The IESO's requirements for distribution-connected generation vary depending on the type and size of the generation facility:

i. All wind/solar generation facilities greater than 5 MW are required to participate in the IESO's centralized forecasting program and provide the IESO with facility data, as well as, operational and meteorological real-time data as specified in Market Manual 1.2.

ii. All embedded generation facilities greater than 20 MVA are required to provide real-time telemetry as specified in the Market Rules, Appendix 4.15.

iii. All embedded generators greater than 1 MW must supply the facility information described in Appendix 4.6 – Part B and each embedded generation facility that includes a generation unit rated at greater than 10 MVA must also provide the information indicated in Part A.

iv. All embedded generation facilities with a unit size greater than 10 MW or a facility size greater than 50 MW must meet the performance requirements in Appendix 4.2 – Categories 1, 2, 3.

Before an embedded generation facility greater than 10 MW is allowed to connect, the IESO must complete a system impact assessment as described in Market Rules, Chapter 4, Section 6 and Market Manual 2.10 (Connection Assessment and Approval).

For all Conservation Combined Heat and Power projects, a Measurement & Verification Plan (M&V Plan) is required for the collection of metered electrical and process data needed to establish a baseline. Where possible, the M&V plan includes the ability for the IESO to remotely access data from the submeters installed for the project. The project must achieve at least 90% of the electricity savings on an annual basis based on the M&V Report, in accordance with the terms of the project incentive contract (10 years for projects greater than $1 million in incentives, 5 years for projects less than $1 million in incentives). Full details of the M&V requirements can be found in the program rules of both the LDC distribution-connected Save on Energy Process and Systems Program at (https://www.saveonenergy.ca/Business/Program-Overviews/Process-and-System-Upgrades.aspx) and the transmission-connected Industrial Accelerator Program at (http://www.ieso.ca/Pages/Participate/Industrial-Accelerator-Program/Process-and-Systems.aspx).

b) The IESO continues to support distribution connected generation such that Ontario has seen substantial growth in this sector in the past decade. The IESO continues to evaluate distributed generation options as a potential solution in regional planning, and is actively involved in initiatives to remove regulatory or other barriers such as cost recovery/responsibilities to connecting distributed generation. Although the IESO has

established a number of technical requirements for distributed generation facilities (outlined in our response to part (a) above) to ensure we can effectively manage the reliability of the power system in Ontario, we regularly review these requirements to ensure they continue to support the development of distributed generation.

c) Distributed generation facilities located in the service territories of local distribution companies are contributing to broader provincial needs – with solar generation, in particular, working to reduce summer peaks when air conditioning use is at its highest. By producing electricity closer to where it's consumed, distributed generation has the benefit of relieving local transmission and distribution loading and reducing line losses. This type of generation could also help in providing a supply to critical customer loads after major loss-of-supply situations such as following ice storms.

d) The IESO's quarterly Progress Report on Contracted Electricity Supply provides details on contracted generation under development. The table below shows currently contracted resources that are embedded in LDCs installed in each year over the time period specified.

Note, this does not provide embedded capacity already in service, nor does it include capacity yet to be procured and/or contracted. The values below reflect currently known initiatives. Future adoption of distributed energy resources will be driven by a number of factors, including customer and community decisions, evolutions in technology, government policy and other factors.

As of Q1 2016, the IESO had a total of 3,570 MW of distribution connected resources under contract (2,974 MW of which is in commercial operation, and 596 MW of which is under development).

Fuel Category	2016	2017	2018	2019	2020	Grand Total
Bio-energy	2.6	3.0	1.0			**6.6**
CHP		3.5		10.2	91.0	**104.7**
Hydroelectricity	6.1	0.9	7.4	7.2	1.4	**22.9**
Other	13.9					**13.9**
Solar	128.8	65.6	31.2	41.9		**267.5**
Wind	127.6	0.1				**127.7**
Grand Total	**279.0**	**73.0**	**39.6**	**59.3**	**92.3**	**543.2**

All numbers in MWs

e) The graph on page 5 of the annual report that shows the growth of embedded generation includes generation that is embedded within a distribution company (LDC), and has a generation contract with the IESO. Cogeneration, if it is contracted with the IESO, would be

included in this graph within the gas category. It does not include any generation that is not under contract.

Regarding Conservation Program Generation the following applies:

- The IESO currently has two long-standing conservation programs for industrial customers: Save on Energy Process and System Program ("PSP") for distribution-connected customers and the Industrial Accelerator Program ("IAP") for transmission-connected customers.
- As part of the 2015-2020 Conservation First Framework, LDCs are forecasting approximately 1.1 TWh (or approximately 140 MW) in Conservation Combined Heat and Power (Conservation CHP) projects between 2015 and 2020 through the Save on Energy Process and Systems Program[1]. As part of the framework, LDCs can use eligible CHP projects under 10 MW to meet a portion of their 2020 conservation targets, provided that the CHP projects meet specific criteria, including (a) electricity is produced exclusively for load displacement, with no export to the grid, (b) use of natural gas or propane as the sole fuel, (c) projects achieve a minimum annual total system efficiency of 65%, and (d) projects do not use the thermal output from the CHP to generate electricity.
- For the transmission-connected Industrial Accelerator Program, the IESO is forecasting up to 293 GWh (or approximately 37 MW) by 2020 for conservation CHP projects. Note, this is based only on gas-fired CHP projects, not waste energy recovery ("WER") behind the meter generation projects.
- For IAP projects, the project must meet the same eligibility criteria as the LDC distribution-connected PSP program, with the exception that the nameplate capacity must be under 20 MW.
- There are currently 12 in-service CHP projects implemented through both programs, ranging between 50 kW and 20MW, representing a total capacity of 75 MW.
- In addition, there are currently 19 CHP projects in development through both industrial programs (PSP and IAP), ranging between 50 kW and 20 MW, all of which are expected to come into service between 2016 and 2018 and contribute to the LDC forecast CHP projects mentioned above.

Future adoption of other forms of distributed energy resources will be driven by a number of factors, including customer and community decisions, evolutions in technology, government policy and other factors.

[1] Note, the 1.1 TWh of Conservation CHP projects forecast by LDCs includes both gas-fired CHP and WER behind-the-meter generation.

BOMA INTERROGATORY 18

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Heat Pumps

Given that the Minister of Energy has directed the OPA/OEB to consider heat pumps a conservation measure, and given the importance assigned to heat pumps in the Greenhouse Gas Action Plan, what program has the IESO/LDCs developed to facilitate the expansion of heat pumps heating/cooling technology in Ontario? What savings in natural gas/electricity does it forecast from heat pump installation in 2016, 2017, 2018, 2019, 2020?

RESPONSE

For clarity, the IESO has not received a direction from the Minister of Energy to consider heat pumps as a conservation measure. The IESO has, however, undertaken a number of measures to support and examine the potential for heat pumps as part of the Conservation First Framework as described below.

The IESO has approved and provided funding for three LDC pilot programs that include heat pumps:

LDC	**Pilot Program Description**	**Sector**
Hydro One Networks Inc. *- Heat Pump Water Heater Pilot*	Provision of incentives for the installation of air-source heat pumps water heaters targeting areas where natural gas is not available.	Residential
Hydro One Networks Inc. - Air Source Heat Pump Pilot	Provision of incentives towards the installation of an air source heat pump system for households with electric baseboards or electric furnaces. Contractor incentives provided for customer enrollment.	Residential

LDC	Pilot Program Description	Sector
EnWin Utilities - Residential Ductless Heat Pump Pilot	Provision of incentives towards supply/ install of an air source ductless heat pump. Targets an all-electric subdivision constructed in 1970s that cannot be served by natural gas due to the zero lot line design of the community.	Residential

The IESO has established a heat pump advisory group with LDCs in order to explore the potential for air and ground source heat pumps in the Conservation First Framework ("CFF"), including potential incentive options, an assessment of cost-effectiveness and potential in different consumer markets. The IESO will use the input provided by the group to develop a report to be submitted to the Ministry of Energy and to inform potential program design within CFF.

The IESO will also consider heat pumps as a potential measure for inclusion in the residential Whole Home Pilot program that IESO is developing in accordance with the Minister of Energy's June 10, 2016 direction.

BOMA INTERROGATORY 24

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Ref. Business Plan, Page 1, Paragraph 1

Please provide a detailed explanation for the underlined part of the quote that:

"The new organization will be challenged to support ongoing changes in the sector —the scope complexity and pace of change over the next ten to fifteen years is expected to exceed that experienced during the period when Ontario was eliminating coal from its supply max".

RESPONSE

Changes expected in the electricity sector over the next 10 to 15 years include:

- **Nuclear refurbishments** – Four units at Darlington and six units at Bruce Power will go offline for refurbishment. The first unit at Darlington will begin its refurbishment in October 2016, and the first unit at Bruce in 2020. The last refurbished unit at Bruce is currently scheduled to come back online in 2033. Significant coordination will be required to plan for these outages and to maintain reliability throughout this refurbishment period.

- **Retirement of the Pickering Nuclear Generating Station** – Two units at Pickering have been proposed to operate to 2022 and the remaining four units to 2024. Pickering can currently provide 3,100 MW of generation.

- **Increases in renewable energy** – The IESO currently has about 9,300 MW of renewable generation (hydro, solar, wind and bioenergy) under contract in commercial operation. There is an additional 2,000 MW or so under contract that is being developed and is expected to come into commercial operation over the next several years. The IESO is taking necessary steps to integrate the increasing amounts of wind and solar generation.

- **Increases in distributed generation** – Much of the new renewable generation currently in development will be connected to distribution systems, instead of to the IESO-controlled transmission grid. This has some advantages – for example, it can reduce the

need for transmission infrastructure and minimize line losses. However, the IESO does not have broad visibility into the operations at the distribution level, and this can impact the IESO's ability to accurately forecast demand in real time. The IESO continues to closely monitor developments at the distribution level and to work with LDCs to enhance coordination of operations.

- **Effect of conservation** – The IESO will need to accommodate changes in the way all types of consumers use electricity as it works to achieve conservation and energy-efficiency targets. The Conservation First Framework, which is in place for 2015 to 2020, has an energy reduction target of 7 TWh; the IESO is to achieve an additional 1.7 TWh from industrial consumers in this timeframe.

- **Increased use of demand response ("DR")** – The government has set a target that demand response should meet about 10 percent of Ontario's electricity needs by 2025. The IESO is currently integrating DR through the Capacity-Based Demand Response program, DR pilot projects, the annual DR auction and residential DR. The number and type of DR providers are expanding. The IESO continues to explore how DR resources can provide real-time responses to changes in demand during the day, as well as how DR can be provided to the grid in a manner that puts it on par with comparable generation options.

- **Technological developments** – Energy storage and smart grid technologies, for example, are expected to continue to improve over the next decade. In addition, new entrants into the electricity sector, as well as new products, services, solutions and business models, are expected over this time frame. It is difficult to predict what these developments will be and how they will impact the sector and the IESO's operations.

- **Climate change actions** – The government's recently announced climate change strategy will impact the IESO in a variety of ways: the IESO will work to ensure that an effective, efficient and transparent price of carbon is reflected in the market price for electricity; impacts on generation supply contracts are managed and result in efficient operations; and domestic generation and imports are not disadvantaged compared to generators operating in jurisdictions that lack a carbon pricing mechanism.

- **Electrification** – The potential for increased energy consumption arising from the electrification of transit systems and the increasing adoption of electric vehicles ("EVs") impacts how the IESO plans and forecasts the electricity system. For example, one million EVs would require about 3 TWh of electricity each year, representing two percent of Ontario's grid demand. This load could potentially be served during off-peak periods, and there is also the potential for EVs to provide power during peak periods while the vehicle is not in use but plugged in at home. Coordination between

customers, utilities and the IESO will be required to enable effective integration of EVs into the grid.

- **Market renewal** – The IESO has identified the need to evolve Ontario's electricity market to address known market inefficiencies and lay the foundation for a more dynamic market place in the future. The IESO is preparing work plans for market renewal in consultation with stakeholders. The work plan for the Energy stream will target the larger structural inefficiencies by focusing on the market's two-schedule system, day-ahead commitment and real-time commitment processes. It will also include work streams that address capacity and operability.

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ENERGY PROBE INTERROGATORY 1

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit B, Tab 3, Schedule 2, Page 1, Line 13 (Table)

a) Please provide columns with historic data in the same format.

b) Please add a column with the forecast for 2016.

RESPONSE

a) and b) Please see the response to Energy Probe Interrogatory 8, at Exhibit I, Tab 2, Schedule 5.08.

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ENERGY PROBE INTERROGATORY 2

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-2-2, Business Plan Page 13

Preamble: IESO expects full-time staff to decline to decline from 694 in 2015 to 680 in 2018.

a) Please provide the FTEs for OPA and IESO from 2010-2015.

b) Please list the number of part-time or contract employees it will employ between 2015 and 2018.

RESPONSE

a) The FTEs for OPA and IESO for 2010-2014, and the IESO in 2015, are as follows:

FTEs for OPA and IESO from 2014-15						
Actuals	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
OPA	245	260	261	267	255	
IESO	438	448	461	471	470	680
Total	**683**	**709**	**721**	**738**	**725**	**680**

b) The number of budgeted temporary employees for 2015-2018 is as below:

Temporary employees from 2015-18				
Budget	**2015**	**2016**	**2017**	**2018**
Temporary employees	25	25	25	25

Generally the IESO retains temporary resources to backfill regular vacancies. In the course of this practice, temporary staff join, and depart the IESO on a regular basis.

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ENERGY PROBE INTERROGATORY 3

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-2-2, Business Plan Pages 12/13

Preamble: In 2017 and 2018, the IESO is planning to deliver further reductions in operating expenditures and resources as a result of various projects initiated in 2016. Operating expenditures compared to 2016 are decreased by two percent by the end of the planning cycle.

a) In the same format as the 2016 Financial Table, please extend the table to show the historic (2011-2014) costs prior to merger.

b) Discuss for each component how the 2015-2018 costs change relative to history.

c) Specifically, address the drivers for changes in compensation and benefits and relate this to the changes in FTE in 2016-2018.

RESPONSE

a) The table below has been updated to include available 2014 data in the table structure; however, predecessor organizational data prior to 2014 cannot be readily aggregated on this basis.

Budget ($ Millions)	2014	2015	2016	2017	2018
Core Operating Expenses					
Compensation & Benefits	111.7	108.9	110.3	109.6	108.1
Professional & Consulting Fees	23.9	22.1	20.1	20.1	20.1
Operating & Administration	33.5	33.5	33.5	34.1	34.1
Amortization	20.1	18.7	17.5	17.3	17.2
Interest	1.1	1.4	0.7	0.7	0.7
Total Expenses	**190.2**	**184.6**	**182.1**	**181.8**	**180.2**

b) The reduction in total operating costs from the 2014 budget of the two predecessor organizations compared to the combined organization in the 2015 budget reflects $5.3 million in synergy savings. Please see the response to Energy Probe Interrogatory 12, at Exhibit I, Tab 5, Schedule 5.12 and SEC Interrogatory 11, Exhibit I, Tab 5, Schedule 8.11.

c) While the IESO continues to work to achieve the savings discussed in its 2016-2018 Business Plan, it faces risks in both its revenues and its operating expenses as described at Exhibit B-1-1, page 8. Compensation and benefits expenses are planned to decline over the Business Plan period of 2016-2018. The key driver of the decline is the impact of staff headcount reductions. Please see the response to AMPCO Interrogatory 20, at Exhibit I, Tab 5.4, Schedule 2.20 for headcount reductions by year.

ENERGY PROBE INTERROGATORY 4

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-3-2, Pages 36-38

Preamble: Energy Probe wishes to understand IESO Total Compensation before and after Merger and also how this compares to similar organizations. Benchmarking of total compensation for the total organization(s) and as a percentage of OM&A is requested.

The framework for information sought includes Total Compensation as required by the Filing Requirements for Transmitters and Distributors, including Form 2K.

a) Using Form 2K from the Filing Requirements as a starting point, please provide for the historical (2011-2014), bridge (2015) and test years(2016) a breakdown of total Full Time Employees (FTE); total Part-Time Employees, Total Salaries & Wages and Benefits, and Salaries & Wages and Benefits charged to O&M:

- By employee type (i.e. executive, management, analyst, non-unionized, and unionized),
- Total compensation by group and average level per group,
- Incentive program, and
- Status of pension funding and all assumptions used in the analysis.

(Employee benefit programs, including pensions, and costs charged to O&M should be detailed)

b) Please provide a Table that benchmarks for 2011-2016 (forecast)

i. Total Compensation to Total OM&A and

ii. OM&A per TWH.

c) Please provide data that Benchmarks the IESO Revenue Requirement and Total OM&A per TWH to other North American ISOs.

RESPONSE

a) The IESO does not track information in Form 2K as required for transmitters and distributors. Nonetheless, the IESO has provided the requested information as listed below.

Please see the response to AMPCO Interrogatory 12, at Exhibit I, Tab 1.3, Schedule 2.12 for information relating to the IESO's staffing compliment on IESO's variable pay plan.

Please see the response to SEC Interrogatory 5, at Exhibit I, Tab 1, Schedule 8.05 for greater information on the IESO's compensation structure. Employee compensation is comprised of three types of costs: salary, benefits and pension as identified in response to VECC Interrogatory 4, at Exhibit I, Tab 1, Schedule 10.04.

Please see the IESO's 2015 Annual Report, at Exhibit A-3-4, pages 17 and 18 of the financial statements – for pension funding statistics and associated assumptions.

b) Please see the table below for benchmarks of total compensation to total O&A, and O&A per TWh for 2014 to 2018. The IESO does not have consolidated information for the merged organization prior to 2015, but has provided one sample year of each separate organization prior to amalgamation.

(in millions $)	2014 OPA Budget	2014 IESO Budget	2015 Budget	2016 Budget	2017 Budget	2018 Budget
Core Operating Expenses						
Compensation & Benefits	31.0	80.7	108.9	110.3	109.6	108.1
Professional & Consulting Fees	17.0	6.9	22.1	20.1	20.1	20.1
Operating & Administration	10.0	23.5	33.5	33.5	34.0	34.1
Amortization	2.4	17.7	18.7	17.5	17.3	17.2
Interest	-	1.1	1.4	0.7	0.7	0.7
Net Core Operating Expenses	**60.3**	**129.9**	**184.6**	**182.1**	**181.8**	**180.2**
Total Compensation to Total O&A	**51%**	**62%**	**59%**	**61%**	**60%**	**60%**
TWh Forecast	138.0	157.6	155.7	160.1	160.8	158.2
O&A per TWH	**0.44**	**0.82**	**1.19**	**1.14**	**1.13**	**1.14**

c) As the IESO's usage fee is not directly comparable to charges of other North American system operators due to the broader mandate of the IESO and the differing nature and complexity of the various regulatory and physical environments, such benchmarking has not been performed.

ENERGY PROBE INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-3-4, Page 59/60

Preamble: Prior to the amalgamation of the IESO with the OPA, the Ministry of Energy had retained the Hay Group, a global management consulting firm, to evaluate and market price the CEO position for the new organization.

Please provide a copy of the Hay Group Study that benchmarked the CEO Total Compensation Post Merger to that of a peer group sample.

RESPONSE

The Ministry of Energy retained the Hay Group to evaluate and market price the CEO position for the new IESO. As the Hay Group's client, the Ministry received the Hay Group's Report. The IESO has never received a copy of the Hay Group's Report.

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ENERGY PROBE INTERROGATORY 6

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-3-4, Page 59/60

Preamble: Following Mr. Campbell's appointment to the CEO position on January 1, 2015, the decision was made to adopt a similar approach to evaluate and market price all other executive roles using the Hay point system.

As part of this process, the comparator group was redefined and is now comprised of 13 public sector and 11 private sector organizations, with the comparator data weighted on a 50/50 public/private sector basis.

a) Please provide a copy of the Hay Report.

b) Please indicate how the comparator group was redefined and the reasons for, and results from, this redefinition.

c) If not covered in the Report (References), please provide a clear description of how the CEO Compensation package analysis was used to determine the market price of the other Executive Positions.

d) Please provide a side by side analysis/comparison of the Positions of VP Planning (OPA) and VP Market & Resource Development IESO, using the defined job functions and the Hay Points system.

e) Please indicate how the resulting compensation for the IESO VP Market & Resource Development is reasonable.

RESPONSE

a) The market pricing report for executive positions undertaken by the Hay Group on behalf of the IESO is found as xls Attachment 1 to this exhibit:

- xls Attachment 1 - IESO - Grade Structure – Executives (July 17, 2015)

b) The OPA and IESO historically had two groups of comparator organizations: one private and one public; however, these groups were not the same organizations in any given year. For the 2015 IESO compensation review, there was no change in logic of what either organization had done in the past. However, as has to be done each year, comparators are chosen from available organizations in the current database, such that some of the comparator organizations change from year-to-year.

c) The 2014 IESO CEO review was a separate exercise to the 2015 IESO executive compensation review. The two reviews did not influence each other.

d) A brochure with an overview of the Hay Group Job Evaluation Method, as well as a document with a side-by-side comparison of Hay points by factor for the former OPA position of Vice-President, Power System Planning and the current IESO position of Vice-President, Market and Resource Development, are found as Attachments 2 and 3 to this exhibit respectively:

- Attachment 2 - The Hay Group Method
- xls Attachment 3 - VPRoles_PointEvaluation_HayGroup

Key points of comparison of the 2 positions are:

i. Know-How (KH):

- The IESO job scores one step of KH more than the OPA job (i.e., GIII3 700 points for the IESO job versus FIII3 608 points for the OPA job). The "III" denotes that both manage large infrastructure and the "3" denotes that both must influence & impact stakeholder behaviours, but the "G" versus the "F" denotes the extra level of expertise required for the IESO job to procure and oversee such large and complex engagements as the Bruce and Darlington nuclear refurbishment projects.

ii. Problem Solving (PS):

- Both jobs score the same PS, which is measured as a percentage of KH, at 57%, which is generally described as "Strategic Alignment – the position holder must consider how to position a business or function within a broadly defined business strategy. Involves scanning the environment and anticipating the impact of external forces—up to 5-year horizon". However, 57% of 700 KH points results in more PS points (i.e., 400) than does 57% of 608 KH points (i.e., 350).

iii. Accountability (ACCT):

- The OPA job was assessed as having "Generally Directed" (i.e., Level F) Freedom to Act relative to being "Prime" to its divisional operating budget which was within the span of $ 8 million to $ 80 million. The resulting ACCT score is F3P 460 points.

- The IESO job was assessed as having "Generally Directed" (i.e., Level F) Freedom to Act relative to being "Contributory" to its procurement portfolio which was within the span of $ 8 billion to $ 80 billion. The resulting ACCT score is F+6C- 528 points.

e) The mid-point of the salary range (2H) for the Vice-President, Market and Resource Development position is the hybrid market's target total direct cash compensation minus the prospective short term incentive for the Vice-President, Market and Resource Development position (i.e. the 2H mid-point is $368,100). The incumbent's base salary is $339,968, or 92% of the mid-point of the 2H salary range, a relatively low compa-ratio given the incumbent's extensive experience.

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THE HAY GROUP GUIDE CHART–PROFILE METHOD OF JOB EVALUATION[SM]

The Hay Group job evaluation method is a form of factor comparison that has been used by thousands of organizations to evaluate clerical, trade and technical, management and professional, and executive level jobs. At present, it is used in profit and non-profit organizations in over forty countries around the world. A substantial number of clients have relied on our approach for many years, applying the methodology through many reorganizations; during periods of growth and also when they must rationalize their structures. They have also used it to evaluate totally new product and service organizations and as a means to maintain consistency in periods of great change or legal challenge to the previously established order.

The Hay Group's method works because it is a dynamic process that organizations adapt and apply in ways that meet their needs. It is based on the notion that jobs can be measured on the basis of their relative contribution to the overall objectives of the organization. By considering core aspects of content and context that are common to all jobs, it provides a clear, understandable and systematic basis for defining and comparing the requirements for all kinds of jobs at all levels. However, the Hay Group method can readily be adapted to reflect special determinants that affect only some jobs in some organizations.

It is this combination of discipline and flexibility that has made it possible for the fundamental principles of the Hay Group method to remain intact over the years, even as there have been many refinements in language and application. For example: in Canada core factors of Know-How, Problem Solving and Accountability have been expanded to include, once again, a fourth factor – Working Conditions – in response to equal pay legislation. The following explanation covers all four factors and their twelve dimensions.

The Four Factors Used by Hay Group

Know-How

This factor is used to measure the total of every kind of ***knowledge and skill, however acquired***, needed for acceptable job performance. Three dimensions are considered:

- practical procedures and knowledge, specialized techniques, and learned skills;
- planning, coordinating, directing or controlling the activities and resources associated with an organizational unit or function; and
- active, practising, person-to-person skills in the area of human relationships.

Problem Solving

This factor measures the ***thinking required*** in the job by considering two dimensions:

- the environment in which the thinking takes place; and
- the challenge presented by the thinking to be done.

Accountability

This factor measures the relative degree to which the job when performed competently, can affect the end results of the organization or a unit within the organization. The opportunity to contribute to an organization is reflected through three dimensions:

- the nature and degree of the decision-making or influence of the job;
- the unit or function most clearly affected by the job; and
- the nature of that effect.

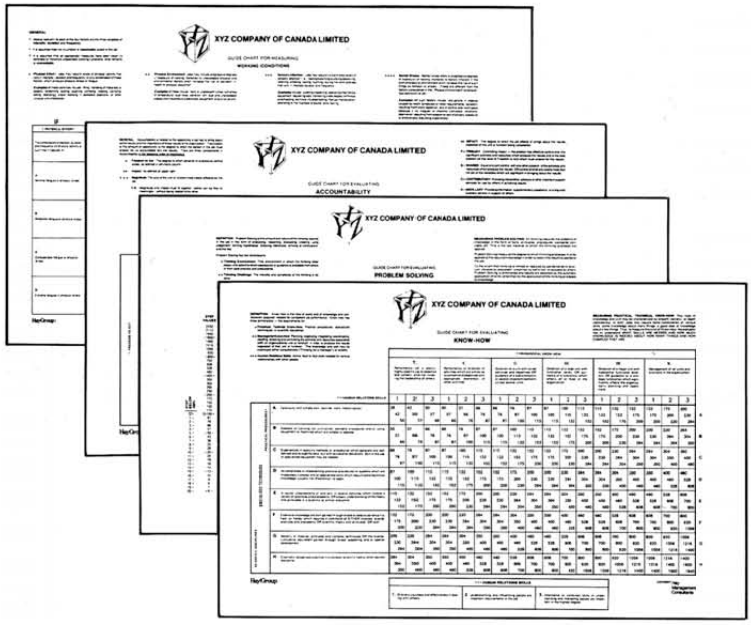
Working Conditions

This factor measures ***the context*** in which the job is performed by considering four dimensions:

- ***Physical Effort*** – Levels of physical activity that vary in intensity, duration and frequency that contribute to physical stress and fatigue.
- ***Physical Environment*** – Progressive degrees of exposure of varying intensities to unavoidable physical and environmental factors which increase the risk of accident, ill health or discomfort.
- ***Sensory Attention*** – Levels of sensory attention (e.g., seeing, hearing, smelling, tasting, touching) during the work process that vary in intensity, frequency and duration.
- ***Mental Stress*** – Progressive degrees of exposure of varying intensities of factors inherent in the work process which increase the risk of such things as tension or anxiety.

Hay Group Guide Charts

Hay Group ***Guide Charts*** provide the standard tools that clients use to systematically evaluate all of their jobs, or a particular group of jobs in the organization. ***Guide Charts*** (see the illustrative example below) are tailored to suit the client organization and the jobs to evaluated. Today, the logic of the ***Guide Charts*** is often incorporated within computer software as an additional way to assist the evaluation process.



There are a Variety of Ways to Apply the Hay Group Method

When there are a large number of jobs within an organization to be evaluated, a representative sample of jobs is usually evaluated first by an experienced Hay Group consultant and the client organization. The resulting evaluations can be used as ***benchmark references*** to assist in the evaluation of all other jobs in the organization.

Often a committee, representing various groups within the client organization, is trained in the use of the Hay Group method so that it can evaluate the organization's jobs. More and more these days, the evaluation process is assisted by computer, within committees providing ***quality assurance*** to the evaluation process. In other organizations, Hay Group consultants might evaluate the jobs and have them checked by the client. In some organizations, the human resources group is charged with the evaluation process and uses various approaches to gather job information, develop evaluations and have them accepted.

Regardless of who is involved, our process of job evaluation is based on ***consensus building*** after all components of a job are fully understood. Working from documentation which describes the content of the job and the content of the job and the environment in which it is performed, plus the definitions and quantitative measures provided, each job is given a ranking on the four factors in relation to other jobs in the organization. When only Know-How, Problem Solving and Accountability are used to measure jobs, the results are represented by "total points". When all four factors are used, the results are referred to as "full points". For example, the evaluation for a Research Scientist might be as follows:

Know-How		460
Problem Solving		230
Accountability	(50)	132
Total Points – Content	P4	***822***
Working Conditions – Context		33
Full Points – Combined		***855***

Frequently Asked Questions About the Hay Group Method

Can a Well-Established Evaluation Method Meet the Needs of a Changing Organization?

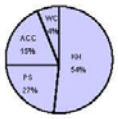
The Hay Group method works because it is based on the most flexible elements found in both job rating and ranking systems. It is a ***dynamic*** process that organizations adapt and apply in ways that meet their needs. It provides the ***discipline*** of a consistent, systematic means for measuring the relative contribution of different jobs over time, regardless of how the individual jobs may change or how the interrelationships may change. At the same time, it provides the ***flexibility*** of a process that can be adapted to the specific needs of the organization.

What is the Weighting of the Factors?

This is an often asked question. The answer is that there is ***no*** universal "weighting". When the Hay Group Method was being developed, it was found that jobs which were the same in nature would have evaluation points distributed between the factors in much the same way, ***even though the jobs might differ significantly in size.*** In other words, the proportion of the points assigned to Know-How, Problem Solving, Accountability and Working Conditions tends to be similar for similar types of jobs, regardless of the total number of points involved.

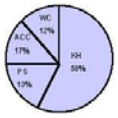
As an illustration, in the previous example of a scientist, the points were distributed as follows:

Scientist

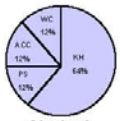


54%-27%-15%-4%

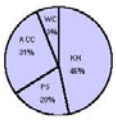
54-27-15-4 is the ***"long profile"*** or "weighting" or "relative distribution" of the factors for this job. Another position of a similar nature would have a similar weighting or ***long profile, even though the total points might be different.*** That is, one would expect most of the points ***for scientists*** to be given for Know-How and Problem Solving (81%) because of their relative importance in such a job. Other examples of typical profiles are:



Trade
58%-13%-17%-12%



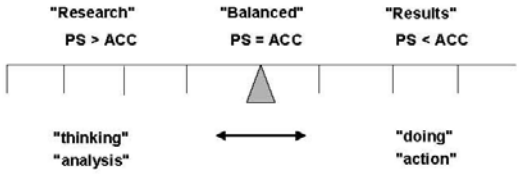
Clerical
64%-12%-12%-12%



Supervisory
46%-20%-31%-3%

What is the "Short Profile"

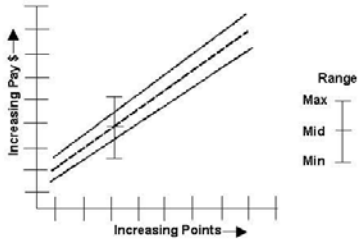
Know-How, Problem Solving and Accountability are all linked together. Working Conditions is more "contextual" in nature. ***"Short profile"*** assesses the ***relationship*** between Accountability and Problem Solving (and to Know-How). Jobs with significantly more Accountability points relative to Problem Solving are usually very end results-focused. When Problem Solving is greater than Accountability, jobs are typically more research-oriented. Still other jobs are balanced, with similar amounts of Accountability and Problem Solving. ***Short profile*** is a valuable ***quality control check***, it prompts evaluators to review their work to see if, on balance, they have developed the right "configuration", "relative contribution", or profile for the job being evaluated:



The Profile part of the Hay Group Guide Chart–Profile Method of Job Evaluation℠ not only provides a clear, brief "description" of the job, but also answers "weighting" and relationship questions.

How are Evaluations linked to Pay?

Evaluations result in Full Point values (K-H + PS + ACC + WC). These values, ***through specific points, pay grades, broad bands, work levels, etc.*** can be related to different types of pay (internal and/or market comparisons; base salary plans, base + incentive, etc.) Ranges with Midpoints, Maximums and Minimums can be developed that ***compare points levels and pay levels***. Jobholders can be positioned in ranges based on a wide variety of criteria.



How does the Hay Group Method Fit with Equal Pay Legislation?

As can be seen on the next page, the four Hay Group factors fit closely with the Skill, Effort, Responsibility and Working Conditions factors which are stipulated in most equal pay legislation. Therefore, the Hay Group method is often used to develop Pay Equity plans.

The Hay Group Method and Equal Pay

CANADIAN HUMAN RIGHTS ACT AND EQUAL PAY GUIDELINES Core factor	Sub factor	*HAY GROUP GUIDE CHART–PROFILE METHOD OF JOB EVALUATION[SM]* Dimension	Core factor
Skill	Intellectual skill	Knowledge and skill, however acquired, associated with practical procedures, specialized techniques and scientific disciplines	**Know-How**
		Conceptual or actual management knowledge and skill	
		Human relation skill	
	Physical skill	Physical skill associated with practical procedures and specialized techniques	
Effort	Intellectual effort	The independence, complexity and novelty of the thinking required in the job	**Problem Solving**
	Physical effort	Intensity, frequency and duration of physical effort or activity producing physical stress or fatigue	**Working Conditions**
Responsibility	Accountability for machines, finances and other resources	The size of the organizational unit or function which the job affects, as indicated by the resources involved (human and otherwise)	**Accountability**
	Accountability for work of other employees	The role of the job in bringing about the objectives of an organizational unit or function, including accountability for the work of others.	
	Reliance on employees to perform the work	The nature of the organizational unit or function requiring knowledge and skill.	**Know-How**
Working Conditions	Noise, heat, cold, physical danger, conditions hazardous to health, other conditions produced by the physical work environment	Intensity, frequency and duration of unavoidable conditions in the physical environment (e.g., fumes, temperature, noise, vibration, dirt, dust, and unavoidable exposure to hazardous substances, equipment, and/or situations)	**Working Conditions**
	Isolation, mental stress, other conditions produced by the psychological work environment	Intensity, frequency, and duration of exposure to factors inherent in the work process or environment, (e.g., isolation, multiple deadlines) which increase the risk of such conditions as tension or anxiety.	
		Intensity, frequency and duration of sensory attention during the work process	

ENERGY PROBE INTERROGATORY 7

1.0 Revenue Requirement, Operating Costs and Capital Spending

INTERROGATORY

Reference: Exhibit A-3-4, Page 62

a) Please provide an updated version of the 2015 Summary Compensation Table showing all Executives. (Note: VP Information and Technology Services and CIO and VP Planning, Law & Aboriginal Relations were not included)

b) Please provide a similar projection for 2016 stating all significant assumptions. Reconcile to Total Compensation.

c) Please provide a Table showing all Executive Other Benefits and Other Post Retirement Benefits for 2015 and a projection for 2016.

d) Please provide a consolidated Total Executive Compensation Table for the Historic (2011-2014), post-merger (2015) and projection for the 2016 Fee Year. Reconcile to the answers on Enterprise Total Compensation and other answers regarding Executive Compensation

RESPONSE

a) Please see xls Attachment 1, worksheet "Energy Probe #7a" to this exhibit.

b) Please refer to the 2015 "Annual Base" column in Summary Compensation table for the 2016 base salary projection. Going forward, the IESO executive salaries will remain frozen at current rates per the Broader Public Sector Accountability Act, 2010 and subsequent amendments to that Act, until the Government of Ontario balances its budget. The performance pay envelope for IESO executives is frozen per the aforementioned Act; however, individual performance pay awards may change depending on individual performance for the 2016 earnings year. Total 2016 performance pay will not exceed the executive performance pay envelope from the previous year.

c) IESO Executive Benefit and Post Retirement Benefit plans fall under the IESO Management Benefit program. There are no other supplemental benefits or post-retirement benefits for IESO executives outside of what is provided to all non-represented Management staff.

d) Please see xls Attachment 1, worksheet "Energy Probe #7d" to this exhibit.

SEC INTERROGATORY 1

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-1

INTERROGATORY

[A-2-3, p.2]

The Letter from the Minister of Energy to the Chair of the IESO states, "I am satisfied that the revised business plan shows the IESO is making good progress toward achieving these savings objectives". Please provide the original business plan submitted and identify all changes from the approved business plan.

RESPONSE

The original business plan submitted to the Minister is not relevant to this proceeding as the IESO's 2016 revenue requirement submission, currently before the Board, is based on the business plan approved by the Minister on December 9, 2015.

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SEC INTERROGATORY 2

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-2

INTERROGATORY

Please provide an overview of the IESO budgeting process. Please provide copies of any budget guidance documents.

RESPONSE

Business planning is the process used at the IESO to identify the business and resource requirements necessary to support the IESO's business needs and strategy. The IESO management team works together to prioritize deliverables based on risk assessments.

The business planning process is conducted annually and starts in early spring with the management team identifying business needs and determining the required resources. The IESO's Board of Directors and senior management solicit initial input from Stakeholder Advisory Committee ("SAC") members and further meetings are held with SAC members to discuss IESO priorities and corporate performance measures to develop the business plan. In the late summer, the IESO presents its business plan at a SAC meeting also attended by IESO Board members and solicits further feedback. For the 2016-2018 Business Plan, an initial meeting was held with SAC members on February 23, 2015 and the IESO presented the business plan at a formal SAC meeting on August 13, 2015. The link below is to the SAC webpage which contains the agendas and minutes of prior SAC meetings:
http://www.ieso.ca/Pages/Participate/Stakeholder-Engagement/Stakeholder-Advisory-Committee.aspx

The business plan is then updated based on SAC input and submitted for approval to the IESO Board of Directors during their August meeting. Once approved by the Board of Directors, the business plan is sent to the Minister of Energy, who must approve it before the IESO's annual fees submission is filed with the OEB. The business plan is filed in support of the IESO's fees submission. It spans three years, however, the OEB approves a fee for only the upcoming year.

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SEC INTERROGATORY 3

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-3

INTERROGATORY

Please provide a list of all productivity and efficiency initiatives undertaken by the IESO in the past two years, as well as any forecast initiatives to be undertaken in 2016.

RESPONSE

Please see the response to SEC Interrogatory 11, Exhibit I, Tab 5, Schedule 8.11 for efficiency initiatives undertaken by the IESO as part of the merger.

Please see the response to AMPCO Interrogatory 19, Exhibit I, Tab 5.4, Schedule 2.19 and AMPCO Interrogatory 22, Exhibit I, Tab 5.4, Schedule 2.22 for efficiency initiatives taking place in 2016 and beyond.

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SEC INTERROGATORY 4

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-4

INTERROGATORY

[B-1-1] Regarding the proposed revenue requirement:

a) For complete the following appendices from the Board's Filing Requirements For Electricity Distribution Rate Applications1, with information for 2014 (approved and actuals), 2015 (actuals) and 2016 (forecast):

   i. 2-AA – Capital Projects Table

   ii. 2-JB – OM&A Cost Driver Table

   iii. 2-JC – OM&A Program Table

   iv. 2-K – Employees Cost Table

b) Please explain all material variances between 2014 approved and actual amounts in any capital projects, OM&A programs, and employees' costs.

c) Please explain all material year-over-year variances in any capital projects, OM&A programs, and employees' costs. Please provide a list of all productivity and efficiency initiatives undertaken by the IESO in the past two years, as well as any forecast initiatives to be undertaken in 2016.

RESPONSE

The IESO does not track information in the requested forms as required of distributors. Nonetheless, requested information is provided in the following places:

a) Please see the response to VECC Interrogatory 6, at Exhibit I, Tab 1, Schedule 10.06 and the 2016-2018 Business Plan for information on capital projects.

Please see the response to Energy Probe Interrogatory 3, at Exhibit I, Tab 1, Schedule 5.03 for O&A costs, employee costs, and compensation drivers.

b) and (c)

In 2014, variances were driven by higher than planned revenues combined with lower operating expenditures as focus in both organizations shifted to merger activities.

Savings in professional consulting were driven by reduced consulting support, contracted services, and program activities. Amortization was lower than budget due to fewer than planned assets being placed in service and the extension of asset service lives.

Key drivers of the capital budget variance for both organizations include reprioritization of projects, including changes in timing, related to focus on merger priorities in latter 2014.

Please see the response to SEC Interrogatory 11, Exhibit I, Tab 5, Schedule 8.11 for efficiency initiatives undertaken by the IESO as part of the merger. Please see the response to AMPCO Interrogatory 19, Exhibit I, Tab 5.4, Schedule 2.19 and AMPCO Interrogatory 22, Exhibit I, Tab 5.4, Schedule 2.22 for efficiency initiatives taking place in 2016 and beyond.

SEC INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-5

INTERROGATORY

Please explain the IESO compensation system.

RESPONSE

The IESO has 3 separate compensation structures, 1 for each of the Power Workers Union ("PWU") bargaining unit, the Society of Energy Professionals ("Society") bargaining unit and the non-represented staff.

The compensation structures for both the PWU and Society bargaining units are collectively bargained. Please see response to AMPCO Interrogatory 9, at Exhibit I, Tab 1.3, Schedule 2.9 for further information about the PWU and Society labour contracts.

Employee compensation is comprised of three types of costs: salary, benefits and pension as identified in response to VECC Interrogatory 4, at Exhibit I, Tab 1.0, Schedule 10.4.

After the merger of the IESO and the Ontario Power Authority ("OPA") on January 1, 2015, the IESO retained the Hay Group to conduct a job evaluation and job mapping initiative for all non-represented (Management Group) positions.

The purpose of this initiative was to produce a new, harmonized Band/Salary structure for Management Group positions that is appropriately aligned with external market comparators, at approximately the 50th percentile.

Specifically, the objectives of the initiative were to:

1. Link and align the executive and management group job mapping processes,

2. Select a methodology that is sound, with a logic and rationale that can be clearly communicated,

3. Design a process to establish the relative value of jobs that had been previously evaluated using two differing approaches: in the case of the former OPA, a point factor comparison job evaluation system with narrowly defined salary Grades; in the case of the former IESO, a descriptive narrative job evaluation system with broad salary Bands,

4. Develop a new, harmonized Band/Salary structure for Management Group positions that is appropriately aligned with external market comparators, and

5. Reconcile differing approaches to titling conventions and salary administration.

Process Steps:

1. Job documents were completed under the supervision of the Business Unit Vice-Presidents,

2. The Hay Group evaluated each position based upon the job documents and interviews with the Business Unit Vice-Presidents,

3. The Executive Leadership Team reviewed several prospective compensation structures presented to them by the Hay Group and agreed upon the new structure,

4. Similarly, the Executive Leadership Team agreed upon the position title naming conventions for each Band,

5. The Board of Directors approved the new Band and salary range structure with the associated position titles for each Band,

6. All management group positions were mapped into the new structure based upon evaluated points,

7. Incumbents' salaries were analyzed for fit within the new salary ranges, and

8. Salary administration decisions were made for each incumbent.

The new Bands and salary ranges, with associated position titles, are shown below:

Band	Salary Grade	Range of Points	Salary Range (Minimum, Mid-Point, Maximum)	Position Title(s)
Band 3	**3A**	1006 - 1232	$212,084 - $249,510 - $311,888	Director
	3B	821 – 1005	$158,415 - $186,370 - $232,963	
Band 4	**4**	631 - 820	$121,472 - $151,840 - $182,208	Senior Manager
Band 5	**5A***	515- 630	$100,984 - $126,230 - $151,476	Manager
	5B	420 - 514	$87,176 - $108,970 - $130,764	
Band 6	**6A**	342 - 419	$69,550 - $86,880 - $104,260	Consultant
	6B	279 – 341	$59,230 - $74,040 - $88,840	Associate / Admin Coordinator
Band 7	**7A**	227 – 278	$49,460 - $61,830 - $74,200	Admin Assistant
	7B	185 – 226	$48,420 - $60,530 - $72,640	

***Note:** The pre-existing 5A (OPS) salary range for Control Room Superintendents was not changed.

Grade/Salary Structure Design:

The salary ranges were established using the following methodology:

1. A group of 30 companies was identified as external market comparators for total direct cash compensation pricing purposes (total direct cash compensation is the sum of base salary, short-term incentives and long-term incentives),

2. The comparator group is comprised of 15 public sector and 15 private sector organizations, representing a range of industries, core business activities and roles that are similar to IESO's: electricity, energy, asset management, financial services, infrastructure procurement, engineering and large-scale, complex IT functions (see table below for the list of organizations),

3. The compensation data from the comparator companies was combined with a 50/50 public/private sector weighting to produce a hybrid external market compensation structure,

4. The mid-point of the range of points for each salary grade is the market price point for comparison purposes (e.g. 1119 points is the market price point for the 3A salary grade),

5. The mid-points of the new salary ranges (e.g. for 3A, $249,510) are the total direct cash compensation of the hybrid market's price point (at the 65th percentile for Band 5, the 55th percentile for Band 4 and the 50th percentile for Bands 3, 6 and 7) for each salary grade, and

6. The minimums and maximums of each salary range were calculated using typical salary range spreads at each level (i.e. 85% - 125% of the mid-point for Band 3 and 80% - 120% of the mid-points for Bands 4, 5, 6 and 7).

IESO Management Comparator Group:

Public (15)	Private (15)
Business Development Bank of Canada	Bruce Power LP
CPP Investment Board	Capgemini Canada
Enersource Hydro Mississauga	CIBC
Horizon Utilities Corporation	Enbridge
Hydro One	Fortis Inc.
Hydro Ottawa	Manulife Financial
Metrolinx	Navtech Systems Support Inc.
NB Power Holding Corporation	Newfounland Power Inc.
Ontario Power Generation	Rogers Communications
Ontario Teachers' Pension Plan Board	Scotiabank
PowerStream	Siemens Canada Limited
SaskEnergy Incorporated	Sun Life Financial Canada
Toronto Hydro-Electric System Limited	Suncor Energy
Veridian Corporation	TD Bank Financial Group
Workplace Safety and Insurance Board	Telus Communications Inc.

SEC INTERROGATORY 6

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-6

INTERROGATORY

[A-2-2, p.15] With respect to the Corporate Performance Measures:

a) The Business Plan says "[t]he targets have been shared with stakeholders and intervenors, and the IESO has incorporated any relevant feedback" (p.13). Please provide details of when these targets were shared with stakeholder and intervenors and the feedback received.

b) What other Corporate Performance Measures did the IESO consider and why were they ultimately not chosen.

c) For each Corporate Performance Measures, please provide the specific metric used.

RESPONSE

a) Please see the response to Energy Probe Interrogatory 15 a), at Exhibit I, Tab 6, Schedule 5.15.

b) Please see the response to OEB Staff Interrogatory 8, at Exhibit I, Tab 6.2, Schedule 1.08 for a discussion of the iterative process used to develop the Corporate Performance Measures.

c) Please see the response to Energy Probe Interrogatory 15 c).

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SEC INTERROGATORY 7

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-7

INTERROGATORY

[B-1-1, p.9] Please provide details regarding the "extensive oversight" that is being undertaken to manage the recently entered-into contract with Bruce Power.

RESPONSE

As the counterparty to the Amended and Restated Bruce Power Refurbishment Implementation Agreement ("ARBPRIA" or "Agreement"), the IESO must prudently manage this Agreement to ensure that ratepayers receive the best value, pursuant to the terms of the Agreement. This entails ensuring that Bruce Power performs its contractual obligations to provide a fixed cost for the refurbishment scope of the work and, operate the facility in accordance with good engineering practices, while sharing in any operational efficiencies. The IESO must also fulfill its obligations to pay Bruce Power for the production of energy, through accurate contractual price adjustments and payment settlements.

A fundamental tenet of the Agreement is the "open-book" process by which all information that impacts the Agreement is fully transparent to the IESO. Bruce Power is obligated to allow the IESO access to all relevant information; and it is the responsibility of the IESO to maintain the required resources and expertise to make use of this open-book transparency to ensure that price adjustments for refurbishments, asset management, periodic cost updates and operating efficiency sharing are both accurate and in accordance to the terms of the Agreement.

The "extensive oversight" is in relation to exercising the additional rights mostly related to ongoing due diligence and audit activities under the Agreement, which include the following:

- Two dedicated personnel will spend a majority of their time at the Bruce site (site representatives) with responsibilities for attending meetings, reviewing relevant information and monitoring progress of refurbishment and asset management planning and execution.

- Staff and external resources to perform due diligence on cost items that will result in price adjustments, prior to the implementation of such adjustments. This will include

costs for refurbishment, asset management and any operating costs that may result in a price adjustment.

Staff and external resources to perform and oversee audits on costs after completion of refurbishments and asset management to ensure that only allowable costs are included, audits for appropriate sharing of operational efficiencies to ensure that ratepayers are credited with the appropriate portion of any savings, and audits on fuel costs to ensure that the pass-through costs are accurate and valid. The volume and complexity of these type of oversight activities is significant and not always predictable given the size, scope and complexity of refurbishment projects and operating activities at the world's largest nuclear power plant and IESO's largest contracted electricity generating facility, however the extent of the effort by the IESO is expected to continue to intensify as the refurbishment program enters detailed design and execution phases over the next year and beyond.

SEC INTERROGATORY 8

1.0 Revenue Requirement, Operating Costs and Capital Spending

1-SEC-8

INTERROGATORY

Please provide a summary of all internal audit reports issued in the past 2 years, their recommendations and the status of the implementation of those recommendations.

RESPONSE

Internal Audit provides independent, objective services on risk management, controls and governance processes to management and the Audit Committee of the Board of Directors. The IESO Internal Audit function is committed to being a high value, cost-effective contributor to the overall business success of the IESO. Annually, the Internal Audit group develops an Audit Services Plan.

In the last two years, the Audit Services Plan has included audits covering process control, information technology and policy compliance. The following provides, for the period July 1, 2014 to July 1, 2016, a listing of the internal audits completed by audit type, a summary of recommendations identified from these reviews, and the current status of management's remediation activities.

Process Control

The objectives of a process control review are to confirm that the IESO's controls are designed appropriately for the task, as well as to verify that they are operating as designed. These reviews may confirm that the organizational or program processes are aligned with leading industry practices.

The Process Control audits completed between July 1, 2014 and July 1, 2016 are:

- Project portfolio management
- Dispatch algorithm (bi-annual)
- First Nations & Metis engagement process
- Claims adjudication and payment process (annual)

- Meter Market Participant independence
- CEO and Chair expenses (annual)
- Market suspension and resumption process
- CSAE 3416 Market Settlements (external auditor) (bi-annual)
- CSAE 3416 MDMR (external auditor) (annual)
- Generation & conservation contract settlement process
- Internal compliance program
- Detect and investigate non-compliance with market rules
- Demand response auction clearing process
- Market evolution process
- Effective separation assurance
- Employee expense process integration
- Dispute resolution process
- Records management process
- Employee recruiting management and termination process
- Asset management software license
- Prudential management
- Customer relations
- Baseline management
- Derive security limits
- Connection assessment process
- Market rules enforcement process
- Employee expenses

The following is a summary of key recommendations documented by Internal Audit to address identified findings:

- Develop a department strategy to successfully deliver on mandate
- Provide training to staff to improve awareness of controls
- Internal outreach to increase awareness of departmental services and share information
- Reporting activity is completed according to requirements
- Ensure measures are taken to mitigate perceived conflicts of interest in IESO activities
- Ensure internal manuals and departmental documents are user friendly and appropriately meet the intended use

- Update documentation of controls, policies and procedures to reflect current practice
- Ensure software applications and tools are adequately maintained and are effective
- Ensure records are properly categorised, managed, stored and retained
- Bring physical records into alignment with digital records
- Ensure alignment with the Electronic Records as Documentary Evidence Standard
- Ensure service level agreements exist within the IESO to allow for timely completion of work tasks and projects.
- In merger, ensure best practice inform process and system integration
- Ensure policies and procedures are clear and applied consistently across the company
- Appropriate balance between administrative tasks and strategy

Information Technology

The objective of an IT review is to confirm that IESO's IT system control and processes are designed appropriately for the purpose, as well as to verify that these controls are operating as intended. These reviews often confirm that the controls and practices are aligned with leading industry practices. IT and end user computing tool reviews are often included within process audits.

The Information Technology audits completed between July 1, 2014 and July 1, 2016 are:

- IT General Controls (part of the CSAE 3416) (bi-annual)
- IT governance
- System development lifecycle of Extract, Transform & Load Refresh

The following is a summary of key recommendations documented by Internal Audit to address identified findings:

- Develop formal mechanisms to establish governance roles and responsibilities

Policy Compliance

The objective of policy compliance reviews is to confirm that the organization is in compliance with documented and approved corporate or government policies. A secondary objective of these reviews is to identify any existing gaps in the policy and procedure (e.g. a new government administrative directive, such as the Travel, Meal, Hospitality and Expenses Directive) that should be updated by the IESO.

The Policy Compliance audits completed between July 1, 2014 and July 1, 2016 are:

- Ethics Line test (annual)
- Regulated price plan self-certification (annual)
- MOU compliance (annual)
- Mock audit for NPCC compliance (every 3 years)
- Privacy

The following is a summary of key recommendations documented by Internal Audit to address identified findings:

- Ensure that governance and policies necessary to comply with privacy requirements are developed and implemented

Management Response and Action Plans

Over the past two years, management has fully participated in the internal audit process, has accepted recommendations presented by Internal Audit and implemented necessary action plans. Examples of management action items include:

- Staff training is delivered
- Reporting protocols and processes are developed and implemented
- Independent audits implemented
- Documents and policies are revised and updated
- Software applications are reviewed and proper maintenance is confirmed
- Records management program is being deployed across the company
- Department strategies are developed and implemented

As of July 1, there are ten (10) open action items, which are monitored by the Internal Audit team. These actions items relate to the following four (4) audits completed in the last two years:

- Detect and investigate potential non-compliance with market rules
- Records management process
- Employee recruiting management and termination process
- IT governance review

VECC INTERROGATORY 1

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.1 Is the IESO's Fiscal Year 2016 net revenue requirement of $181.1 million appropriate?

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.0-VECC-1

INTERROGATORY

Reference: B/T1/S1/pg. 8

a) Please explain the basis for NERC and NPCC 2016 membership fees (i.e. how are they forecast?).

b) Please provide the basis for the 2016 OEB fees (i.e. how were they forecast?)

c) Please provide the last complete year of IESO and OPA, OEB fees.

RESPONSE

a) In the absence of better information at the time of business planning, the forecast 2016 NERC and NPCC membership fees were based on actual invoices received (in $US) for the 2015 assessment year ending December 31, 2015, translated to Canadian dollars.

b) In its cost assessment for 2014-15 the OEB assessed the IESO, OPA and OPG as one group with a total assessment of $2.75 million, of which the OPA & IESO were assessed $1.6 million and based on this, the IESO calculated OPG's assessment as $1.15 million.

The IESO understood that the OEB was examining its cost assessment model in the summer/fall of 2015 and had assumed that the IESO's cost assessment to the merged IESO would decrease from the combined IESO and OPA amount of $1.6 million for multiple reasons, including that:

- The merged IESO is now only required file one fee application rather than two;
- The previous assessment for the former OPA was, in part, based on staff time when the Integrated Power System Plan was an active proceeding before the Board. The proposed

legislative changes under Bill 135 related to the long-term planning process will reduce the work burden the IESO imposes on the OEB; and

- The work burden resulting from applications to the OEB by the IESO is seen to be substantially less than the burden imposed by OPG.

The IESO now understands that its cost assessment for 2016-17 will be higher than forecast and similar to the previous combined cost assessment amount of $1.6 million.

c) OEB fees to the IESO in 2015 were $1.6 million. OEB fees to the OPA in 2014 were $0.6 million and to the IESO were $1.0 million.

VECC INTERROGATORY 2

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.1 Is the IESO's Fiscal Year 2016 net revenue requirement of $181.1 million appropriate?

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.0-VECC-2

INTERROGATORY

Reference: B-1-1/Attachment 3/Appendix A

a) Please explain any variance between Appendix A, Total Expense, for 2016 of $182,131,970 and the revenue requirement sought in this application.

b) Please provide the reasons for increases as between 2015 and 2016 in the following areas:

1) Internal Audit
2) Operational Effectiveness
3) Operations Changes Initiatives
4) Contract Management
5) Renewable Procurement
6) Clean Energy Procurement
7) VP Office Conservation and Corporate Relations
8) Business Development (Conservation and Corporate Relations
9) Stakeholder & Public Affairs
10) General Counsel
11) Transmission Integration

12) Conservation Integration

13) Corporate Controller

14) Settlements

15) Business Solutions and Business Analysis

RESPONSE

a) The variance of the total expenses of $182.1 million and the net revenue requirement of $181.1 million is $1 million. This variance is attributable to the forecast registration fee revenue of $1 million, for a net revenue requirement of $181.1 million.

b) The departments mentioned above are a selected group from the total list of IESO departments shown in the Elenchus report in Exhibit B-1-1, Attachment 3, Appendix A.

The main drivers for the increase in the budget from 2015 to 2016 for the selected departments are listed below:

- the impact of the pension and benefits estimates
- organizational structure changes across the organization over the time period
- additional consulting support, including the Dispatch Scheduling and Optimization (DSO) review required by the Market rules in 2016
- increase in computer services contracts to support business applications and systems

VECC INTERROGATORY 3

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.0-VECC-3

INTERROGATORY

Reference: A

a) Provide an organizational structure chart of the new IESO showing by department:

- FTESs, by management, bargaining unit, non-bargaining unit.
- Total Compensation costs.

b) Please provide the same for the 2014 OPA and IESO

RESPONSE

(a) and (b)

Please see the response to SEC Interrogatory 10, at Exhibit I, Tab 5, Schedule 8.10 for organizational charts.

Please refer to the response to AMPCO Interrogatory 12 at Exhibit I, Tab 1.3, Schedule 2.12 for headcount divided into Executive, Non-Represented and Represented staff for the OPA and IESO in 2014 and the IESO in 2015 and beyond. The IESO does not track employees per division by employee type (e.g., non-represented, represented) and therefore does not have the requested information readily available.

Type	2014 Budget	2015 Budget
Executive	12	7
Non-Represented	130	111
Represented	588	576
Total	**730**	**694**

Please refer to the response to VECC Interrogatory 4 at Exhibit I, Tab1.0, Schedule 10.04 for total compensation costs.

The table below shows the compensation and benefits costs, including pension costs by division for the 2014 and 2015 budgets.

Divisions	2014 Budget
Chief Executive Officer	1,449
Markets & Finance	13,420
Corporate & Employee Relations	11,968
Information & Technology Services	19,465
Operations	34,341
Market Assessment & Compliance	2,678
Power System Planning	4,972
Electricity Resources	7,911
Conservation	6,699
Business Strategies & Solutions	2,655
Legal Aboriginal & Regulatory Affairs	4,639
Other	1,452
Total	**111,650**

Divisions	2015 Budget
CEO & Internal Audit	1,797
Market and System Operations	33,786
Market and Resource Development	11,536
Conservation and Corporate Relations	11,555
Information and Technology Services	19,724
Planning, Law and Aboriginal Relations	9,025
Corporate Services	12,118
MACD	2,854
Other	6,529
Total	**108,924**

VECC INTERROGATORY 4

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.0-VECC-4

INTERROGATORY

Reference: A-2-2-/Appendix 3/pg. 13

a) For 2015 through 2018 please provide a breakdown of the staffing budget using the Board format of Distribution and Transmission filers Appendix 2-K, which shows compensation categorized by :

   a. Separation of salary and wages from benefits

   b. Shows executive, management (excluding executive) costs separately

   c. Unionized compensation costs separately

   d. Non-bargaining units positions separately

   e. Temporary positions separately.

b) Please provide the same for the OPA and IESO in 2014.

RESPONSE

a) and b)
The IESO does not track information in Form 2K as required for transmitters and distributors, nor does the IESO track compensation by employee type (e.g., non-represented, represented) and so does not have the requested information readily available.

The following table is a breakdown of compensation by salary, benefits and pension for the IESO:

	2014 - FOPA	2014 - FIESO	2015	2016	2017	2018
Salary	26,243	56,092	82,297	81,985	83,652	83,297
Benefits	2,805	12,992	15,013	15,746	16,309	16,765
Pension	1,920	11,598	11,614	12,543	9,641	8,007
Total Compensation and Benefits	30,967	80,683	108,924	110,274	109,603	108,070

**FOPA is former OPA; FIESO is former IESO*

Please see the response to VECC Interrogatory 3, Tab 1, Schedule 10.03 for further compensation details.

Due to merger-related workforce harmonization taking place in 2015 and beyond, comparative data regarding represented and non-represented positions is not available.

VECC INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.0-VECC-5

INTERROGATORY

Reference: A-2-2

a) Please provide the most recent compensation study undertaken by the IESO. If no study has yet been undertaken please explain why and provide the last studies undertaken separately by the OPA and IESO.

RESPONSE

a) Please see the following attachments to this exhibit, which are the most recent compensation studies undertaken by the Hay Group on behalf of the IESO:

1. xls Attachment 1 - IESO - Grade Structure – Executives (July 17, 2015)
2. xls Attachment 2 - IESO – Grade Structure – MGMT Group w/o Exec's (June 4, 2015)

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VECC INTERROGATORY 6

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.5 Is the IESO's capital expenditure budget for Fiscal Year 2016 appropriate?

1.0-VECC-6

INTERROGATORY

Reference: A-2-2-/Appendix 3/pg. 17

a) Please provide the actual 2015 capital budget spending. Please explain any material variances from the 29.4 million should in Appendix 3.

b) Please provide the actual capital spending of the OPA and IESO in 2014.

RESPONSE

a) Actual capital spending for 2015 was $25.2 million vs the capital envelope of $29.4 million as shown in the following table:

Projects ($millions)	2015 Budget	2015 Actuals	Variance
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
Total Capital Projects ($1M & above)	**16.7**	**16.6**	**(0.1)**
Other Capital Projects	12.7	8.6	(4.2)
Total Capital Projects	**29.4**	**25.2**	**(4.3)**

Capital projects were $4.3 million under budget primarily due to reduced spending in the following other capital projects:

- $2.7 million in projects planned for 2015, but moved into future years. Examples include the Forms development Framework, Video Conferencing and FIT and microFIT re-platform

- $1.5 million due to timing in implementation of projects. Examples include MS exchange Refresh, Dispatch Service Refresh and Data Warehouse replacement

b) OPA and IESO capital spending in 2014 is shown in the table below:

($ millions)	2014 Spending
IESO	$20.1
OPA	$1.6
Total	$21.7

AMPCO INTERROGATORY 1

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-1

INTERROGATORY

Ref: Exhibit A-2-2, Page 5

Preamble: The IESO's Business Plan is built on three strategic themes.

(a) Please list the strategic objectives and goals that support each theme.

RESPONSE

Please see response to OEB Staff Interrogatory 6, at Exhibit I, Tab 6.2, Schedule 1.06 for the strategic objectives that support the achievement of the IESO's three strategic themes of Providing Public Value, Building Corporate Resilience, and Respecting and Valuing Our Stakeholders.

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AMPCO INTERROGATORY 2

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-2

INTERROGATORY

Ref: Exhibit A-2-2, Page 5

Preamble: The business plan lists the following business unit functions: Operations, Planning, Market and Resource Development, Conservation, Information Technology, Corporate Services.

(a) Please provide the budget and regular and temporary FTEs associated with each business unit.

RESPONSE

a) The budget and regular and temporary FTEs associated with each business unit are shown in the tables below:

Headcount:

Divisions	2015 Budget			2016 Budget			2017 Budget			2018 Budget		
	Regs	Temps	Total	Regs	Temps	Total	Regs	Temps	Total	Regs	Temps	Total
CEO & Internal Audit	8	-	8	8	-	8	8		8	8		8
Market and System Operations	190	-	190	190	-	190	190		190	190		190
Market and Resource Development	84	16	100	82	16	98	82	16	98	82	16	98
Conservation and Corporate Relations	90	-	90	90	-	90	90		90	90		90
Information and Technology Services	138	8	146	138	8	146	138	8	146	138	8	146
Planning, Law and Aboriginal Relations	58	1	59	60	1	61	60	1	61	60	1	61
Corporate Services	83	-	83	80	-	80	80		80	80		80
MACD	14	-	14	15	-	15	15		15	15		15
Other	4	-	4	-	-	-	(4)	-	(4)	(8)		(8)
Total	**669**	**25**	**694**	**663**	**25**	**688**	**659**	**25**	**684**	**655**	**25**	**680**

Budget:

Divisions ($m)	2015 Budget	2016 Budget	2017 Budget	2018 Budget
CEO & Internal Audit	6.8	6.8	6.8	6.7
Market and System Operations	35.3	34.1	33.4	32.7
Market and Resource Development	19.3	20.4	19.8	19.7
Conservation and Corporate Relations	17.6	16.6	16.3	16.2
Information and Technology Services	44.3	44.1	43.7	43.5
Planning, Law and Aboriginal Relations	15.0	15.2	15.0	14.9
Corporate Services	16.4	16.5	16.3	16.1
MACD	3.6	3.7	3.6	3.6
Amortization	18.7	17.5	17.3	17.2
Interest	1.4	0.7	0.7	0.7
Other	6.4	6.5	8.8	8.8
Total	**184.6**	**182.1**	**181.8**	**180.2**

AMPCO INTERROGATORY 3

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-3

INTERROGATORY

Ref: Exhibit A-2-2, Page 9

a) Please provide the latest Terms of Reference for the new SAC.

RESPONSE

The Terms of Reference for the Stakeholder Advisory Committee can be found at the following link: http://www.ieso.ca/documents/consult/sac/sacTOR.pdf

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AMPCO INTERROGATORY 4

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-4

INTERROGATORY

Ref: Exhibit A-2-2, Page 16

Preamble: The business plan outlines the key risks for 2015.

(a) Please summarize the key risks for 2016.

RESPONSE

As described on page 16 of Exhibit A-2-2, the key risks for 2016 are as follows:

1. A significant IESO cyber security event occurs
2. Slow rate of progress in workforce integration leads to ineffective execution of the IESO's strategy
3. The breadth and pace of change of Ontario's evolving energy environment challenges the IESO's ability to maintain grid reliability and efficiently integrate new entrants and technologies into the operation of the grid
4. Insufficient support from key stakeholders and Aboriginal communities impacts the IESO's ability to effectively pursue key initiatives

The IESO notes that this page of the business plan was inadvertently labelled as 2015 risks, but should instead have been identified as 2016 risks.

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AMPCO INTERROGATORY 5

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-5

INTERROGATORY

Ref: Exhibit A-2-3, Page 1

Preamble: The letter to the IESO from the Ministry of Energy dated December 9, 2015 states "I am satisfied that the revised business plan shows the IESO is making good progress toward achieving these savings objectives."

a) Please explain the material changes in the revised business plan compared to previous version(s).

b) Please provide any direction received from the Ministry of Energy/Board of Directors/Executive Management regarding significant changes to be made to the business plan to arrive at the latest revised version.

RESPONSE

The original business plan submitted to the Minister is not relevant to this proceeding as the IESO's 2016 revenue requirement submission, currently before the Board, is based on the business plan approved by the Minister on December 9, 2015.

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AMPCO INTERROGATORY 6

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-6

INTERROGATORY

Ref: Exhibit A-2-2, Page 4

Preamble: The 2016-2018 business plan indicates that Ontario's climate-change strategy and the proposed cap-and-trade market have the potential to place, new, unanticipated demands on the IESO.

(a) Based on current information and knowledge, please explain further the potential demands on the IESO.

(b) Please provide the budget the IESO has included in its 2016 to 2018 plan to support Ontario's climate-change strategy/cap-and-trade market.

(c) Please provide the number of incremental FTEs by year that the IESO has included in its 2016 to 2018 budget to support Ontario's climate-change strategy/cap-and-trade market.

RESPONSE

a) As the scope and complexity of the IESO's mandate continues to expand, the IESO recognizes the potential for additional unplanned work activities that may be material in scope and are beyond the control of management.

The IESO faces risks in both its revenues and operating expenses. The IESO's expenses and revenues are forecast based on both the experience of IESO staff and the best information available when the business plan is being composed. The business plan was constructed over a matter of months, and the 2016-2018 Business Plan was submitted to the Minister on September 1, 2015. The IESO strives to reduce uncertainty in the inputs in order to make the resulting business plan as robust as possible. However, all forecasts are inherently uncertain: they take the best information available at the time and attempt to predict the

future. At the time of business planning, some of the potential risks the IESO faces in a given year may be anticipated but not quantifiable, while others are simply not known at the time of business planning.

b) The 2016-2018 Business Plan was developed to include IESO's baseline operations and does not consider the potential impacts of significant incremental initiatives such as climate change, market renewal, cap-and-trade, nor any resulting changes to the mandate of the IESO.

The Ontario's government's Climate Change Action Plan ("CCAP") is a significant priority that includes solutions to reduce emissions, focus on energy efficiency and invest in clean energy and innovation – all areas that are within IESO's current scope of work. Management anticipates that the Climate Change initiative – the CCAP and/or Cap and Trade – will have long-term impacts on the organization's resources.

However, in mid-2015 when the 2016-2018 Business Plan was developed, insufficient information was available to develop meaningful projections of resourcing and funding impacts of the Climate Change initiative, therefore no specific budget nor resourcing were included.

Ontario's Climate Change initiative continues to be under development and, as indicated in the business plan, has the potential to place, new, unanticipated demands on the IESO. The draft cap and trade regulation was posted in February 2016 and subsequently, in May 2016, Bill 172 was passed and the cap and trade regulation finalized. The government's CCAP was released in June 2016. The IESO did not allocate budget specifically to support the potential unknown demands on the IESO. Existing internal resources have been used to support these initiatives, as needed, to date.

The IESO will work with the Ministry of Energy to develop specificity around organizational impacts and these will be included in our future business plans as they become further defined.

c) Please see the response to b) above.

AMPCO INTERROGATORY 7

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 Is the IESO's Operating Costs budget of $182.1 million for Fiscal Year 2016 appropriate?

1.2-AMPCO-7

INTERROGATORY

Ref: Exhibit A-2-2, Page 12, 2016 Financial Review

(a) Please provide a breakdown/description of the professional & consulting fees work by year?

(b) Please provide a breakdown/description of the operating and administration costs by year?

RESPONSE

The response to (a) and (b) is contained in the following table:

Budget ($ Millions)	2015	2016	2017	2018
Core Operating Expenses				
Compensation & Benefits	108.9	110.3	109.6	108.1
Professional & Consulting Fees	22.1	20.1	20.1	20.1
Operating & Administration	33.5	33.5	34.1	34.1
Amortization	18.7	17.5	17.3	17.2
Interest	1.4	0.7	0.7	0.7
Total Expenses	**184.6**	**182.1**	**181.8**	**180.2**

	2015	2016	2017	2018
External Consultants/Contract Services	15.8	14.2	14.2	14.2
Legal Services	6.3	5.9	5.9	5.9
Total Professional & Consulting Fees	**22.1**	**20.1**	**20.1**	**20.1**

	2015	2016	2017	2018
Computer Services/Software/Hardware	11.6	12.2	12.2	12.2
Memberships	5.6	5.1	5.1	5.1
Rent	5.2	4.7	4.7	4.7
Telecommunications	3.6	3.4	3.4	3.4
Building Services/Utilities/Taxes	2.1	2.2	2.2	2.2
Insurance	1.0	0.8	0.8	0.8
General Operating Expenses	4.6	5.1	5.7	5.7
Total Operating & Administration	**33.5**	**33.5**	**34.1**	**34.1**

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OSEA INTERROGATORY 1

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.2 OSEA 1

INTERROGATORY

Reference: Exhibit B, Tab 1, Schedule 1, Attachment 3, Pages 22, 23, 39 IESO is proposing to increase its 2016 budget for its Renewables Procurement group to $3,477,961 (31% increase from 2015) and its Clean Energy Procurement group to $1,910,054 (56% increase from 2015).

(a) Please explain the rationale for the increase in the budgets to the Renewable Procurement and Clean Energy Procurement group.

(b) Please explain how these funds will be allocated within these groups.

RESPONSE

a) The Renewables Procurement group's contribution to the overall IESO budget for 2016 includes a flat (no change) headcount. The Renewable Procurement budget increase reflects the impact of revised pension and benefits estimates in 2016. The Clean Energy Procurement department budget reflects an organizational structure change whereby a portion of the Policy & Analysis budget was newly located in this group in 2016.

b) Funds allocated within groups are determined as part of the Business Plan budgeting process.

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AMPCO INTERROGATORY 8

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-8

INTERROGATORY

(a) Please provide the most recent organizational chart to the Manager level and map the number of FTEs to each business unit.

RESPONSE

Please see the responses to SEC Interrogatory 10, at Exhibit I, Tab 5, Schedule 8.10 for the IESO's organizational chart, and AMPCO Interrogatory 12, Exhibit I, Tab 1.3, Schedule 2.12 for FTEs for each business unit.

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AMPCO INTERROGATORY 9

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-9

INTERROGATORY

Ref: Exhibit A-2-1, Page1

(a) Please provide the labour contract increases for the years 2014 to 2018 by contract.

RESPONSE

a) Please find below, the annual labour contract increases and other compensation, benefits and pension plan changes for the current Power Workers Union ("PWU") and Society for Energy Professionals ("Society") contracts, as well as information for 2014 as requested.

PWU Contract

Annual Wage Increases		
Current Contract Term	**April 1, 2014 - March 31, 2017**	
2014 Negotiated Wage Increases	April 1: 1.25%	October 1: 1.25%
2015 Negotiated Wage Increases	April 1: 1.25%	October 1: 1.25%
2016 Negotiated Wage Increases	April 1: 1.25%	October 1: 1.25%

Student Remuneration Changes (Effective May 1, 2015):

- University students are not subject to the economic increases
- College students were reduced 10% and are not subject to the economic increases

Employee Pension Contribution Changes:

- April 1, 2014: increase by 0.5%
- April 1, 2015: increase by 0.5%
- April 1, 2016: increase by 0.5%

Health and Dental Plan Changes (Effective January 1 2015):

- Vision increase maximum on glasses/lens coverage from $500 to $550 per person in the two calendar year period

- Vision - limit eye exam coverage to once every 2 years
- Increase Orthodontic coverage from a lifetime maximum of $4,500 to $5,000

Other Monetary Changes:

- Discontinuance of Company Paid Optional Group Life Insurance
- Reduction in Steward Release Time from 100% to 25%
- Elimination Position in Settlement Merger ($82.3k per year with escalated wage increase)
- Safety Footwear: Increase the dollar limit from $150 to $200 for each pair

Society Contract

Annual Wage Increases	
Previous Contract Term	**January 1, 2013 – December 31, 2014**
2013 Arbitrated Wage Increase	January 1: 2%
2014 Arbitrated Wage Increase	January 1: 2%
Current Contract Term	**January 1, 2015 – December 31, 2018**
2015 Arbitrated Wage Increase	January 1: 1.75%
2016 Arbitrated Wage Increase	January 1: 1.75%
2017 Negotiated Wage Increase	January 1: 1.0%
2018 Negotiated Wage Increase	January 1: 1.0%

Pension Plan Changes

- Plan Design Changes (effective March 31, 2025, for future service benefit accruals for current employees and new hires):
  - Final average earnings to be based on "high five" (changed from "high three")
  - Rule of 85 for unreduced early retirement (changed from Rule of 82)

- Employee Pension Contribution Changes
  - Effective January 1, 2017, employee pension contributions are 7% below and 9% above the YMPE (changed from current rate of 7% below and 7% above the YMPE)
  - Effective January 1, 2018, employee pension contributions are 8% below and 10% above the YMPE

- Employee Lump Sum Payments :
  - Lump sum payment of 1.0% of salary as of January 1, 2017, provided the individual is still an employee of IESO as of January 1, 2017, and contributing to the Pension Plan
  - January 1 of each year 2018 – 2033: 2.0% of salary to employees who were contributing to the pension plan as of January 1, 2017, and are still employed by the IESO

AMPCO INTERROGATORY 10

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-10

INTERROGATORY

Ref: Exhibit A-2-2, Page 11

Preamble: The evidence indicates the proposed fee includes absorbing the higher costs associated with the recent Society of Energy Professionals arbitration award and the settlement with the Power Workers Union.

(a) Please provide the cost impacts of the above.

RESPONSE

Please see the response to AMPCO Interrogatory 9, at Exhibit I, Tab 1.3, Schedule 2.9 for the annual labour contract increases for the current Society of Energy Professionals ("Society") and Power Workers Union ("PWU") contracts.

As part of the award and settlement referenced above, general wage increases result in approximately $1.1 million in additional compensation expense for the IESO on an annual basis.

Total compensation and benefit increases in each year of the planning period include annual compensation escalations according to present collective agreements, as well as updated estimates of annual pension and post-retirement benefits costs.

The merger of the IESO and the OPA effective January 1, 2015 was expected to bring synergy savings of $5.3 million annually (based on the former OPA and IESO combined core operating budget of $190.2 million), resulting in budgeted expenses of $184.6 million for the business planning period.

In 2014 and 2015, the IESO incurred additional costs as a result of collective agreements with the Society and PWU. The Ministry of Energy directed IESO to achieve a "net zero" outcome in these collective agreements such that any wage and other compensation increases were to be offset by other savings.

Within its business plan, the IESO met its commitment to achieving the planned synergy savings of $5.3 million by the end of 2015 as well as to achieving the net zero result as directed by the Minister.

AMPCO INTERROGATORY 11

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-11

INTERROGATORY

Ref: Exhibit A-2-2, Page 12, 2016 Financial Review

(a) Please provide a further breakdown of compensation and benefits for the years 2015 to 2018, to show salary, benefits, pension, incentives and any other staff-related costs separately.

RESPONSE

Please see the response to VECC Interrogatory 4, at Exhibit I, Tab 1, Schedule 10.04 for compensation and benefits information.

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AMPCO INTERROGATORY 12

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-12

INTERROGATORY

Ref: Exhibit A-2-2, Page 13, Staffing

(a) Please provide a breakdown of total FTEs based on the number of Regular, Temporary and Student FTEs for the years 2014 and 2015 (budget and actuals) and forecast for the years 2016 to 2018.

(b) Please provide a breakdown of the type of FTEs in the categories in part (a) that correspond to each of the seven business units identified at Exhibit B-1-1 Attachment 3, Page 18 and the CEO's office.

(c) Please provide a breakdown of the number of executive management, senior management, management, non-union and union FTEs for the years 2014 to 2018.

(d) Please explain the incentive components included in the compensation package for executives, management, and other staff.

RESPONSE

a) The breakdown of total FTEs based on the number of Regular and Temporary FTEs for the years 2014 and 2015 (budget and actuals) and budget for the years 2016 to 2018 are as follows:

2014 Headcount (Former IESO and Former OPA)

2014 Headcount						
Division	2014 Actuals			2014 Budget		
	Regs	Temps	Total	Regs	Temps	Total
Chief Executive Officer	5	-	5	5	-	5
Markets & Finance	73	9	82	85	1	86
Corporate & Employee Relations	63	5	68	63	1	64
Information & Technology Services	121	9	130	128	5	133
Operations	175	17	192	190	-	190
Market Assessment & Compliance	14	-	14	14	-	14
Power System Planning	32	1	33	35	1	36
Electricity Resources	59	19	79	61	20	81
Conservation	55	0	56	59	-	59
Business Strategies & Solutions	37	8	45	37	2	39
Legal Aboriginal & Regulatory Affairs	20	3	23	23	1	24
Total	**654**	**71**	**725**	**699**	**31**	**730**

2015-2018 Headcount (Merged IESO)

Divisions	2015 Actuals (Dec 31'st)			2015 Budget			2016 Budget			2017 Budget			2018 Budget		
	Regs	Temps	Total	Regs	Temps	Total	Regs	Temps	Total	Regs	Temps	Total	Regs	Temps	Total
CEO & Internal Audit	8	-	8	8	-	8	8	-	8	8		8	8		8
Market and System Operations	176	14	190	190	-	190	190	-	190	190		190	190		190
Market and Resource Development	78	12	90	84	16	100	82	16	98	82	16	98	82	16	98
Conservation and Corporate Relatio	88	-	88	90	-	90	90	-	90	90		90	90		90
Information and Technology Service	133	17	150	138	8	146	138	8	146	138	8	146	138	8	146
Planning, Law and Aboriginal Relati	57	1	58	58	1	59	60	1	61	60	1	61	60	1	61
Corporate Services	77	7	84	83	-	83	80	-	80	80		80	80		80
MACD	13	-	13	14	-	14	15	-	15	15		15	15		15
Others	-	-	-	4	-	4	-	-	-	(4)	-	(4)	(8)		(8)
Total	**629**	**51**	**680**	**669**	**25**	**694**	**663**	**25**	**688**	**659**	**25**	**684**	**655**	**25**	**680**

b) For the breakdown of the type of FTEs in the categories in part (a) that correspond to each of the seven business and the CEO's office units identified at Exhibit B-1-1, Attachment 3, page 18, please see the table above.

c) The breakdown of the number of executives, represented and non-represented FTEs for the years 2014 to 2018 is as below:

Type	2014 Actuals	2015 Actuals	2016 Budget	2017 Budget	2018 Budget
Executive	12	7	7	7	7
Non-Represented	130	111	111	111	111
Represented	583	562	570	566	562
Total	**725**	**680**	**688**	**684**	**680**

d) The IESO's variable pay plan is limited to executive positions only. Management and other staff are not eligible to participate in the IESO's variable pay plan.

In order to promote a results orientation in the executive team, the variable pay plan forms part of the total compensation of executives. The variable compensation awards for the CEO and the Vice-Presidents are capped at 10% of fixed compensation. The plan provides for awards below the capped amount depending on the performance results achieved.

The IESO Board of Directors annually establishes a robust set of corporate performance measures, which are evaluated each year.

In addition to the corporate performance measures, each executive has an individual set of measures and targets for the year. These individual measures and targets are aligned with the corporate performance objectives and the IESO's business priorities. The individual measures are also evaluated each year.

The IESO Board assesses the corporate performance results and the CEO's individual performance results. The CEO assesses the performance of the Vice-Presidents, which are also reviewed by the Board.

The assessment of corporate and individual achievements against the established measures and targets determine each executive's annual variable pay award.

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AMPCO INTERROGATORY 13

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-13

INTERROGATORY

Ref: Exhibit B-3-2, Page 2

(a) As of December 31, 2015, please explain the increase in temporary staff from a budget of 25 to actuals of 51 and the business units impacted.

(b) How many of the 26 incremental temporary staff are students?

(c) How many of the incremental 26 temporary staff have left the organization?

(d) In 2016, the IESO intends to hire to budgeted levels. Please provide the Regular and Temp Staff budgeted levels for 2016.

(e) Please explain the work the new hires will undertake by business unit.

RESPONSE

a) The increase in temporary staff from a budget of 25 to the actuals of 51 and the business units impacted as at December 31, 2015 is shown in the table below:

Business Units	Actuals	Budget	Variance
Market and System Operations	14	-	14
Market and Resource Development	12	16	(4)
Information and Technology Services	17	8	9
Planning, Law and Aboriginal Relations	1	1	-
Corporate Services	7	-	7
Total	**51**	**25**	**26**

A significant component of the overage in temporary staff was used to backfill vacancies in regular roles.

b) None of the 26 incremental temporary staff are students.

c) Generally the IESO retains temporary resources to backfill regular vacancies. In the course of this practice, temporary staff join and depart the IESO on a regular basis. The IESO tracks headcount by position and not by individual staff.

d) Please see the response to AMPCO Interrogatory 12, at Exhibit I, Tab 1.3, Schedule 2.12 for budgeted headcount levels for 2016.

e) As a part of the business planning process, the IESO assesses its priorities and allocates resources across the organization in each planning cycle to enable the delivery of its mandate. These planned resources are deployed accordingly to enable the IESO to achieve its strategic goals and objectives. Both existing and newly hired resources are focused on specific work prioritized within their business unit.

AMPCO INTERROGATORY 14

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-AMPCO-14

INTERROGATORY

Ref: Exhibit A-2-2, Page 13, Staffing

(a) Please provide the number of vacant positions in 2014, 2015 and current number of vacant positions.

(b) Please provide the average length of time it took to fill vacancies in 2014 and 2015.

(c) Please provide the vacancy rate for the years 2014 to 2018.

RESPONSE

(a) The predecessor organizations tracked FTEs vs plan on a different basis so the consolidated data for the requested timeframe is not available. Further, due to impacts of the merger on hiring and the focus of the new organization on integration activities in 2015, vacancy rates varied widely during this timeframe.

(b) The following table illustrates the average length of time to fill vacancies:

2014		**Time to Fill in Days**	**Parameters**
	OPA	30[1]	date (Requisition Approved) to date (Candidate signs offer)
	IESO	50[2]	date (Posting Closed) to date (Candidate's start date)
2015		**Time to Fill in Days**	**Parameters**
	IESO	41[3]	date (Requisition Approved) to date (Candidate signs offer)

(c) Please see (a) above. The IESO does not develop projections of vacancy rates for future periods.

[1] Includes 3 types of vacancies: regular, temporary and agency
[2] Includes 3 types of vacancies: regular, temporary and agency
[3] Includes 3 types of vacancies: regular, temporary and agency

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BOMA INTERROGATORY 25

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.3 Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3-BOMA-25

INTERROGATORY

Ref. Compensation, Financial Statement 2016, Page 35

Please explain what measures IESO has taken, or can take, to reduce or eliminate the variable pay in the event milestones and other performance measures are not met.

RESPONSE

The IESO undertakes a rigorous assessment process which begins with quarterly monitoring and reporting of progress towards achievement of the annual targets. The final year end assessment is undertaken across the business with input and feedback taken from subject matter experts and then validated by the IESO's Executive Leadership Team.

The final assessment is presented to the IESO's Audit Committee for approval. The results of the final year-end report may influence the determination of the variable compensation component for the IESO's Executive Leadership Team members.

In order to promote a results orientation in the executive team, the variable pay plan forms part of the total compensation of executives. The variable compensation awards for the CEO and the Vice-Presidents are capped at 10% of fixed compensation. The plan provides for awards below the capped amount depending on the performance results achieved.

The IESO Board of Directors annually establishes a robust set of corporate performance measures, which are evaluated each year.

In addition to the corporate performance measures, each executive has an individual set of measures and targets for the year. These individual measures and targets are aligned with the corporate performance objectives and the IESO's business priorities. The individual measures are also evaluated each year.

The IESO Board assesses the corporate performance results and the CEO's individual performance results. The CEO assesses the performance of the Vice-Presidents, which are also reviewed by the Board.

The assessment of corporate and individual achievements against the established measures and targets determine each executive's annual variable pay award.

SOCIETY INTERROGATORY 1

Issue 1.3: Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3 Society#1

INTERROGATORY

Reference: Exhibit A-2-2, Page 13 of 20, Staffing Budget table

Staffing Budget	2015	2016	2017	2018
Core FTE	694	688	684	680
Smart Metering, Enforcement & Education	36	36	36	36
Total FTEs	**730**	**724**	**720**	**716**

(a) Please provide this table with actual staff levels for 2014 and 2015 i.e. provide an updated table with values for 2014 through to 2018.

RESPONSE

a) Please refer to the following table:

FTEs	2014 Actuals	2015 Actuals	2016 Budget	2017 Budget	2018 Budget
Core FTE	725	680	688	684	680
Smart Metering, Enforcement & Education	32	33	36	36	36
Total	**757**	**713**	**724**	**720**	**716**

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SOCIETY INTERROGATORY 2

Issue 1.3: Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3 Society#2

INTERROGATORY

In Exhibit A-2-2, Page 13 of 20, it is stated that:

The demographics of the workforce also need to be addressed. With approximately 15 percent of Operations staff eligible for retirement by the end of 2018, knowledge transfer through operational training and development as well as succession planning will be a heightened priority in the Operations area.

(a) Please revise the table provided in response to 1.3 Society#1 to include for each of 2014 to 2018 the total number of staff eligible for retirement by the end of the year and the number of staff who have or are forecast to retire in each year. Please also include the % these two sets of numbers represent of Total FTE's in each year.

(b) Please explain the strategy employed by IESO to backfill for retirements e.g. lead time for new hires, is there any overlap before an individual retires to allow for knowledge transfer etc.

(c) Has this hiring strategy discussed in answer to part b) changed at all since IESO's EB-2013-0381 application? If it has changed please explain why and how it has changed. If it has not changed, please explain why it has not changed.

RESPONSE

a) Retirement – # Eligible (E), # Actual (A), Actuals as % FTE's[1]

2014				2015				2016 (to date)				2017				2018			
FTE's	**E**	**A**	**%**	**FTE's**	**E**	**A**	**%**	**FTE's**	**E[2]**	**A**	**%**	**FTE's**	**E**	**A**	**%**	**FTE's**	**E**	**A**	**%**
680	-	10	1.5%	654	-	10	1.5%	663	44	10	1.5%	659	12	-	-	655	9	-	-

[1] The data that is readily available and is provided in this chart includes all regular staff in both the Core and Smart Metering groups.

[2] Regular employees who are currently eligible to retire with eligibility dates occurring in the years up to, and including 2016.

Although the IESO does not formally forecast impending retirements, historical trends show that members that reach their unreduced retirement date prior to age 65 (i.e. at 82 or 84 points), on average, retire approximately 4 years after reaching the unreduced date.

b) Typically, employees provide the IESO with either 3 (Society and PWU) or 4 (Management Group) months' notice of their planned retirement date and, upon receiving notice, the IESO commences replacement planning immediately. Depending upon the jurisdiction and other considerations, the position will be posted or succession plans may be activated. The IESO makes every reasonable effort to ensure that the replacement is in place prior to the retiree's retirement date to allow for knowledge transfer.

c) Upon review of the IESO's EB-2013-0381, we do not find any references to hiring strategy. We do find a reference to planned staffing levels in certain parts of the former IESO. Staffing levels for the new, merged IESO were set prior to the amalgamation of the IESO and the OPA, and were determined by actual staffing levels at that time and mandated merger objectives.

SOCIETY INTERROGATORY 3

Issue 1.3: Are the IESO's projected compensation costs and staffing levels appropriate and reasonable?

1.3 Society#3

INTERROGATORY

1.3 Society#3

a) Please update the table provided in response to 1.3 Society#2 to include the actual and forecast annual attrition levels excluding retirements for each of 2014 to 2018.

b) What is the basis of the forecast attrition levels provided in response to part a)?

RESPONSE

a) The IESO does not formally forecast annual attrition rates. However, based upon attrition rates at the predecessor organizations and attrition rates since the merger, IESO experiences a relatively low level of voluntary (V) and involuntary (IV) turnover.

2014 (IESO and OPA combined)				**2015**				**2016 (to date)**			
FTE's	**V**	**IV**	**%**	**FTE's**	**V**	**IV**	**%**	**FTE's**	**V**	**IV**	**%**
680	19	10	4.3%	654	17	1	2.8%	663	9	1	1.5%

b) The IESO does not formally forecast annual attrition rates. However, based upon the rate of voluntary and non-voluntary turnover since the merger on January 1, 2015, the IESO's attrition rates have decreased versus the combined rate for the two predecessor organizations.

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BOMA INTERROGATORY 27

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.4 Is the IESO's capital expenditure budget for Fiscal Year 2016 appropriate?

1.4-BOMA-27

INTERROGATORY

Ref Exhibit B, Tab 1, Schedule 1, Page 2

Please provide the basis for the forecast for revenue of $1 million for 2016. What is the actual fee revenue received to date (June 30, 2016)? What was the actual fee revenue received in 2015?

RESPONSE

The forecast revenue of $1 million for 2016 was arrived at by forecasting $0.5 million (1,000 applications estimated x $500 application fee) for FIT fees and $0.5 million (50 applications estimated x $10,000 application fee) for Large Renewable Procurement fees.

The actual fee revenue received year-to-date to the end the second quarter of 2016 is approximately $9,000. Additional fees are forecasted to be collected in the second half of 2016 which aligns with the expected procurement window timeframes for the FIT and Large Renewable Procurement programs.

The actual registration fee revenue received in 2015 was $2.2 million, which is included in the total surplus of $9.6 million that was identified to be returned to ratepayers.

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OSEA INTERROGATORY 2

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.4 OSEA 2

INTERROGATORY

Reference: Exhibit B, Tab 2, Schedule 1, Page 2

The IESO has forecast registration fees revenue of $1 million for 2016. The IESO expects this revenue to be collected from LRP and FIT programs based on the IESO's expectations of the applications and submissions it will receive in 2016.

(a) Please explain how IESO forecasted the registration fees revenue for 2016, including but not limited to the number of Large Renewable Procurement and Feed-in-Tariff applications IESO expects to receive in 2016. Please provide calculations, if available.

(b) If available, please provide the actual registration fees collected to-date for 2016.

(c) Does IESO expect Ontario's Climate Change Action Plan and/or cap and trade program to affect the number of applications for Feed-in-Tariff and Large Renewable Procurement?

(d) Please explain how the registration fees will be used by IESO.

RESPONSE

a) and b) Please see the response to BOMA Interrogatory 27, at Exhibit I, Tab 1.4, Schedule 3.27.

c) The details of the implementation of Ontario's Climate Change Action Plan, and specifically any support provided for renewable energy projects, are unknown at this time. As such, the IESO is unable to comment on the impact of either the Climate Change Action Plan or the cap and trade program on the number of applications that may be received under the Feed-in Tariff and Large Renewable Procurement programs.

d) The use of registration fees is common in other jurisdictions running competitive processes for the procurement of electricity generation, and serves as a tool to focus IESO resources on

applicants who are committed to the procurement process. While the IESO charges registration fees to assist in offsetting a portion of the costs associated with processing and reviewing submissions, the procurement group is not dependent on registration revenue only as a source of its operating costs. Rather, revenue generated through registration fees is offset against IESO's general operating expenses, and any surplus operating revenue remaining is returned to ratepayers.

AMPCO INTERROGATORY 15

1.5 Is the IESO's capital expenditure budget for Fiscal Year 2016 appropriate?

1.5-AMPCO-15

INTERROGATORY

Ref: Exhibit A-2-2 Page 17 IESO Capital Budgets

(a) Please explain the criteria used to determine the capital project priorities.

(b) Please explain how the capital priorities compare to the capital priorities identified in EB-2013-0321 and EB-2013-0381.

(c) Please discuss if any projects listed have forecast spending beyond 2018.

(d) Please identify any capital work delayed form 2015 to 2016.

(e) Please provide a high level description of the "Other Capital Projects" (i.e. projects totalling less than 15 $1M) for the years 2015 to 2018.

RESPONSE

a) The following four criteria are used to determine capital project priorities:

1) What Strategic Corporate goal does the project support?

i. **Providing Public Value** – Identifying and creating public value in our operations – such as cost-effective conservation and efficient system and market operations. This criteria also considers working with stakeholders and government on what could or should be done, and how the IESO can proactively shape public discussion of issues and opportunities in our sector. Pursuing public value requires the IESO to clearly identify the publicly valuable goals and outcomes it is choosing to focus resources on.

ii. **Building Corporate Resilience** - ensuring that we have the employee resources and skills, technologies, and financial and organizational capabilities to achieve the public value outcomes on which we are focused.

iii. **Respecting and Valuing Our Communities, Customers and Stakeholders** - Ongoing outreach and commitment to our stakeholder engagement processes

2) Why is this project required?

i. Required to meet Regulatory/Government directive requirements
ii. Required to sustain IESO Service
iii. Required to increase efficiency and reduce operational cost

3) What customers or users will receive benefits from the outcome of this project?

i. Market Participants including LDCs (External Users)
ii. IESO

4) Does the project directly support the mitigation of a Corporate Key Risk or Low/Modest tolerance event?

A team of Directors/Senior Managers (representing each of the Business Unit-VPs and CEO) review the existing and proposed capital projects at least quarterly and as appropriate, reprioritizes. The team considers both capital projects to support the evolving needs of the business and those projects which are necessary to sustain the current capabilities of the business. With respect to sustaining the current capabilities of the business, it is necessary to reinvest in the IESO's information technology assets on an on-going basis. The IESO utilizes a lifecycle management approach for information technology assets which monitors the life cycle of those information technology assets from implementation to the conclusion of their useful life, and indicates when projects which would result in their renewal should take place.

b) Please note that the IESO confirmed with AMPCO that the document "EB-2013-0321" was mistakenly referenced above, and it should instead be read as EB-2013-0326.

In comparing the IESO's capital priorities to those identified in the OPA and IESO's prior revenue requirement submissions (EB-2013-0326 and EB-2013-0381, respectively), it is important to remember that the current priorities reflect the priorities of the merged organization, while the capital priorities identified in EB-2013-0326 and EB-2013-0381 reflect the priorities of only the former OPA and former IESO. The IESO's 2016 capital priorities criteria aligns with the capital priorities identified in EB-2013-0381. The capital priorities criteria have been further elaborated from the priorities documented in EB-2013-

0381 at A-1-1, pages 3 and 4, and incorporating former OPA key government directive related initiatives such as FIT, microFIT and conservation programs.

c) Yes, the following capital projects from Exhibit A-2-2, page 17 will have forecast spending beyond 2018:

Infrastructure refresh (building services, software licenses and computer hardware)
Capacity Auction
Settlement Replacement
Some projects from the "Other" capital projects category

d) The following capital projects from the "Other Capital Projects" category work was deferred from 2015 to 2016. A discussion of the IESO's reprioritization is in part a) above:

Forms development Framework
Video Conferencing
FIT and microFIT re-platform
KRONOS (Payroll) upgrade
Portal refresh

e) Other capital projects include initiatives to support and enhance operating and software applications, as well as to ensure that the underlying infrastructure is kept current in order to meet the needs of the business and mitigate the risk of cyber related events and component failures.

Examples of projects to ensure the IESO's underlying infrastructure is maintained include: firewall upgrades, data warehouse replacement, backup infrastructure refresh, corporate file server refresh, dispatch service refresh, CRM platform upgrades, server upgrades, portal replacements and the replacement of wall board display components.

Examples of projects to support business objectives and process enhancements include: business expense automation, business intelligence system, consolidated corporate website, an energy planning tool, as well as contract management and settlement solutions.

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BOMA INTERROGATORY 22

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.5 Is the IESO's capital expenditure budget for Fiscal Year 2016 appropriate?

1.5-BOMA-22

INTERROGATORY

Ref. Ibid, Priority Projects

Given that we are now halfway through 2016, please describe each "priority project" referred to, and for each project, provide the budget and whether the original budget has been revised, the timeline for completion, whether the project will be completed on time. If the project extends beyond 2016, please provide a proposed completion schedule.

RESPONSE

The IESO's approved capital expenditure budget for Fiscal year 2016 is appropriate to complete the 2016 "Prioritized projects". The IESO continues to have an ongoing need for reprioritization of initiatives it undertakes, and accordingly, the business planning process is not used as a mechanism for capital project approval. Rather, through business planning, an appropriate capital envelope is established for future years, with capital commitments approved individually on an ongoing basis. The IESO project team is working towards project completion and anticipates that milestones for priority projects will be met.

1 The following table provides information on priority projects:

Prioritized Projects Title	2016 Plan Original Budget ($millions)	Completion timeline	Does project extend beyond 2016?
Energy Management System (EMS) Refresh	4.7	Q3-2016	
Market Information Management (MIM) Refresh	0.4	Q3-2016	
Registration Automation	Closed		
Outage Management replacement and redesign	0.8	Q4-2016	
NERC Critical Infrastructure Protection projects	1.0	Q3-2016	
Market Information System (MIS) Refresh	2.5	Q1-2018	Yes
Demand Response Auction	2.5	Q4-2016	
Enterprise Cyber Security Management Refresh	0.5	Q2-2017	Yes
Enterprise Cybersecurity Enhancement	1.0	Q4-2016	
Microsoft Exchange	0.5	Q1-2017	Yes

2

BOMA INTERROGATORY 23

1.0 Revenue Requirement, Operating Costs and Capital Spending

1.5 Is the IESO's capital expenditure budget for Fiscal Year 2016 appropriate?

1.5-BOMA-23

INTERROGATORY

Ref.Ibid

Describe each of the deliverables referred to in its approved budget (with any amendments), the head count required to complete the deliverables, and any milestones for the completion, and whether IESO expects the milestone will be met, or not met.

RESPONSE

Please note that the IESO has assumed that the term "project" rather than 'deliverables' should have been used in this interrogatory as the Issues List reference is "Ibid" and the Issues List reference in BOMA's Interrogatory 22 is "Ibid, Priority Projects".

The "Prioritized Project" list with head-count required and project completion milestone is shown below.

#	**Prioritized Projects Title**	**Average monthly FTEs required to complete the project**	***Project Completion**
1	Energy Management System (EMS) Refresh	2.5	Q3-2016
2	Market Information Management (MIM) Refresh	1	Q3-2016
3	Registration Automation	Closed	
4	Outage Management replacement and redesign	2	Q4-2016
5	NERC Critical Infrastructure Protection projects	1	Q3-2016
6	Market Information System (MIS) Refresh	2.1	Q1-2018
7	Demand Response Auction	4.5	Q4-2016
8	Enterprise Cyber Security Management Refresh	1	Q2-2017
9	Enterprise Cybersecurity Enhancement	1	Q4-2016
10	Microsoft Exchange	1	Q1-2017

* *The IESO project team is working towards meeting the project completion milestone and does not anticipate that the milestones will not be met.*

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