

UNDERTAKING JT2.1

Undertaking

To provide additional information with respect to Environmental Defence interrogatory 5, issue 4.7, as set out in Mr. Elson's letter.

Response

OPG provides the following in response to Mr. Elson's letter of April 14, 2014.

- a) Management's "high confidence" estimate of the total cost of the DRP, including interest and escalation is \$12.9B as stated in Ex D2-2-1 Attachment 5, page 2 of 47. This is the expected expenditure in nominal dollars or dollars of the year. The table below provides a breakdown of the estimate in 2013 and 2014\$.

	2013\$	2014\$
High Confidence Estimate	\$10.0B	\$10.2B
Escalation	\$1.5B	\$1.3B
Interest	\$1.4B	\$1.4B
Total	\$12.9B	\$12.9B

- b) Confirmed

- c) i) No, it is not OPG's position that it can finance DRP for an after tax return of 7%. Please note that in Mr. Elson's letter, discount rate and rate of return are used interchangeably, which is not correct. The 7% referenced is the discount rate OPG applied in its calculation of the DRP LUEC. For rate of return (on equity), see response to ED IR#005. OPG believes 7% is the appropriate discount rate to evaluate the DRP. In EB-2010-008, OPG explained that it assesses differences in risk through cash flows rather than through the discount rate. OPG continues to maintain that risks have been adequately accounted for in the project cash flows. Mr. Elson's letter references the 2005 CIBC World Markets report and quotes the Bruce Power LP cost of equity to have been assessed by CIBC at between 13.7% and 18% and incorrectly implies that this rate should be compared to OPG's 7% discount rate. Again the cost of equity and discount rates for use in LUEC calculations are different things. Generally speaking rate regulation is lower risk than power purchase contracts. And, in the rate regulated environment in which OPG operates, the ratepayers benefit from this lower risk through a lower cost of financing.

- ii) OPG does not have explicit commitments from the Ontario Electricity Financial Corporation to provide financing for the DRP. OPG expects to finance DRP through corporate debt issued to the Ontario Electricity Financial Corporation which is addressed in Section 3.2 Corporate Long-Term Debt Issues and Section 4.3 Planned Corporate Long Term Debt Issues, Exh. C1-1-2. OPG's sources of equity are its retained earnings and equity investment from its Shareholder.

Refiled: 2014-06-04

EB-2007-0905

Exhibit L

Tab 1

Schedule 1

Page 2 of 2

1

2 d) OPG's response to Ex. L-04.7 ED-005 (f) has provided the requested information.

3 The total cost of the DRP is the basis of the estimate of 3.2 cents/kWh shown in the

4 table provided. The LUEC calculation includes interest and escalation (see also

5 responses to L-04 7.1 Staff-031 and L-04 10-17 SEC-055).

UNDERTAKING JT2.2**Undertaking**

To provide additional information with respect to Environmental Defence interrogatory 11, issue 4.12, as set out in Mr. Elson's letter.

Response

a) The table below provides the requested break-out based on the amounts included in Exhibit D2-2-1, Attachment 5 for OPG's high confidence estimate (excluding interest and escalation) in 2013 and 2014 dollars.

\$M		2013\$	2014\$
RFR	OPG Project Management	690	704
	Contractor Cost		
	Contingency		
Fuel Handling	OPG Project Management	83	85
	Contractor Cost		
	Contingency		
Steam Generators	OPG Project Management	63	64
	Contractor Cost		
	Contingency		
Turbine Generator	OPG Project Management	195	199
	Contractor Cost		
	Contingency		
Balance of Plant	OPG Project Management	216	220
	Contractor Cost		
	Contingency		
Other Costs	Islanding		
	System Shutdown		
	Operations & Maintenance Support	863	880
	Facilities & Infrastructure	560	571
	Waste Management	10	10
	New Fuel	132	135
	Insurance	114	116
	Regulatory, i.e. ISR, EA, IIP	80	82
	Licensing (CNSC Fees)	73	74
	Contingency		
	Retube Waste Containers (Provision)	220	224
	Management Reserve	828	845
		\$10,000	\$10,200

Notes:

1. 2013\$ estimate based on Exhibit D2-2-1, Attachment 5
2. 2014\$ assumed 2% inflation
3. OPG Project Management includes both Program and Project level

1 b) At a 50% cost overrun, applied to the selected projects, and through the
 2 application of the contract model used in each of the contracts, the estimated
 3 point-estimate for the DRP, is less than \$10.0 billion due to contingency and
 4 management reserve contained within OPG's high confidence estimate. At a
 5 100% cost overrun, the project related contingency and management reserve
 6 are exhausted resulting in a projected cost overrun of \$200 million above
 7 OPG's high confidence estimate. Note that for all scenarios, OPG maintains
 8 approximately ██████████ in Program level contingency (as noted in note 3 of
 9 Part C) of IR ED-011).

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 11 c) Cost overrun scenarios including interest and escalation are provided below.
 12

	Total DRP Cost			Total LUEC (1)	
	2013\$B	2014\$B	Incl. Interest & Esc.(\$B)	2013\$ ¢/kWh	2014\$ ¢/kWh
50%	10.0	10.2	12.9	7.8	7.9
100%	10.2	10.4	13.1	7.9	8.0
150%	11.1	11.3	14.3	8.1	8.2
200%	12.1	12.3	15.5	8.4	8.5
250%	13.1	13.3	16.8	8.7	8.9

13 Notes:

- 14 1. LUEC excludes fixed Corporate Overheads for Pension and Other Post
 15 Employment Benefits, base estimate is 7.8 ¢/kWh (2013\$) or 7.9 ¢/kWh (2014\$).
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UNDERTAKING JT2.3**Undertaking**

To provide a percentage breakout of contract values by fixed price, target price and any other structure in the contracts for the table provided in response to GEC Interrogatory 2.

Response

The following table provides, by major project, life cycle contractor estimates based on the overall estimate as provided in Ex. D2-2-1, Attachment 5.

		2013 \$M	%
RFR	Tooling (Fixed Price)	357	
	Mock-up (Fixed Price)	38	
	Owner Specified Materials (Cost Plus)	165	
	Definition Phase (Target Price/ Fixed Fee)	142	
	Execution Phase (Target Price/ Fixed Fee)		
Fuel Handling	Defueling - Engineering Services (Fixed/Firm Price)	16	
	Defueling – Eng. Services (Misc. Reimbursables)	2	
	Fuel Handling (Target Price)		
Steam Generators	Fixed Price	60	54
	Target Price/ Fixed Fee	30	27
	EPC Other	21	19
Turbine Generator	Eng. Services & Equipment Supply (Fixed Price)	200	
	Eng. Services & Equipment Supply (Target Price)	142	
	Installation - Definition Phase (Target Price/ Fixed Fee)	29	
	Installation – Execution Phase (Target Price/ Fixed Fee)		
	EPC Other	33	
Balance of Plant	EPC Time and Material/Target Price		

UNDERTAKING JT2.4

Undertaking

To obtain cost information with respect to other environmental budgetary programs, in addition to any monitoring already identified in the existing interrogatory response.

Response

The estimated 2014 - 2015 costs for environmental programs at Darlington, incremental to the monitoring identified in interrogatory response L-4.9-12 LOW-001, is provided in the table below.

Environmental Program Costs*	Total Estimate \$M 2014-2015
Refurbishment environment support (labour)	2.1
Environmental governance and compliance management	1.1
Waste, effluent, and chemical management	1.2
Groundwater monitoring	0.3
Sampling and analysis for chemical waste, groundwater wells	0.8
Biodiversity studies and monitoring	0.2
Chemistry laboratory support for environmental monitoring	2.2
Stack and filter testing emission verification	0.4
Radiological Environmental Monitoring Program (per CSA N288.4-10)	1.0
Total	9.2

In addition to the above, each contractor working on the DRP is required to implement an Environmental Management plan applicable to their work activities. These plans are developed by the contractor based on the Nuclear Projects – Environmental Requirements Guideline (N-GUID-09701-10013) and reviewed and accepted by OPG staff. Each contractor’s plans will include applicable monitoring requirements to ensure their activities conform to the environmental effluent and emission limits for Darlington NGS. OPG cannot provide the additional amounts to protect the environment, associated with these contracts, as they are included within the general costs of the particular project.

UNDERTAKING JT2.5

Undertaking

To provide an anticipated date for conclusion of talks with the Department of Fisheries.

Response

Work is currently underway to submit an application for an authorization to Fisheries and Oceans Canada in support of the Darlington Refurbishment project and the continued operation of the facility. It is anticipated that this application will be submitted by the end of June, 2014. Once submitted, Fisheries and Ocean Canada will assess the application and define any offsets which may be required to compensate for any residual effects. It is our understanding that Fisheries and Oceans Canada have up to 90 days from the date they deem our application complete to issue an authorization with any terms and conditions. If the authorization identifies the need for offset, OPG will build the requirements into our business planning process and develop implementation plans accordingly.

1 **UNDERTAKING JT2.6**

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3 **Undertaking**

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5 To explain the discrepancy between budgeted and actual amounts for Darlington
6 refurbishment project, definition phase.

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9 **Response**

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11 The Definition Phase Planning Activities capital cost for 2013 is \$92.3M below the 2013
12 budget of \$422.0M. Major contributors include the delay of Retube and Feeder
13 Replacement ("RFR") Mock up and Tooling milestones into 2014, deferred work across
14 other major contracts to align with project approvals and contract awards; partially offset
15 by higher engineering costs related to Integrated Safety Report follow up activities,
16 Component Condition Assessment reviews and Modification Design Report support.

1 **UNDERTAKING JT2.7**

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3 **Undertaking**

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5 To provide a summary report or other available internal data regarding details of
6 component condition assessments.
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9 **Response**

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11 As part of the DRP feasibility assessment and scope definition process, OPG assessed
12 the condition and aging management practices of all significant safety-related and
13 production-related systems.
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15 A total of 2,841 CCAs have been completed. These 2,841 CCAs resulted in the
16 identification of 704 scope items, 98 of which are included in the DRP scope.
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18 The attached table lists all 704 CCA based scope items.

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
1	20000	TS0510-1	000076	DNGS Structures: Perform Inspections for Reactor Building Structure	OPEN	Refurb
2	20000	TS0510-2	000077	DNGS Structures: Perform Inspections for the Reactor Buidling Internal Structures	OPEN	Refurb
3	20000	TS0510-3	000083	DNGS Structures: Perform Inspections for the Civil Structures Located in Central Service Area-Nuclear	OPEN	Refurb
4	20000	TS0510-4	000086	DNGS Structures: Perform Inspections for Civil Structures Located in Central Control Area	OPEN	Refurb
5	20000	TS0510-6	000090	DNGS Structures: Perform Inspections on Pumphouse	OPEN	Refurb
6	20000	TS0510-8	000094	DNGS Structures: Inspections on EPS Buildings	OPEN	Refurb
7	20000	TS0510-9	000084	DNGS Structures: Perform Inspections For Turbine Hall and Turbine Auxiliary Bay	OPEN	Refurb
8	20000	TS0510-10	000085	DNGS Structures: Perform Inspections for Central Service Area	OPEN	Refurb
9	20000	TS0510-11	000078	DNGS Structures: Perform Inspections for the Civil Structures in the Reactor Auxiliary Bay (RAB)	OPEN	Refurb
10	20000	TS0510-12	000079	DNGS Structures: Perform Inspections for the Civil Structures in Fuelling Facilities Auxiliary Areas (FFAA)	OPEN	Refurb
11	20000	TS0510-14	000080	DNGS Structures: Perform Inspections for Irradiated Fuel Area	OPEN	Refurb
12	20000	TS0510-15	000081	DNGS Structures: Perform Inspections for Fuel Handling and Service Area	OPEN	Refurb
13	20000	TS0510-16	000076	DNGS Structures: Repair/Replacement of Reactor Building Structures (Contingency)	OPEN	Refurb
14	20000	TS0510-17	000077	DNGS Structures: Repair/Replacement of Reactor Building Internal Structures (Contingency)	OPEN	Refurb
15	20000	TS0510-22	000090	DNGS Structures: Repair/Replacement of Damaged Items in Pump-House for all Four Units (Contingency)	OPEN	Refurb
16	20000	TS0510-24	000094	DNGS Structures: Repair or Replacement of the Items Found to be Unacceptable in EPS Building	OPEN	Refurb
17	20000	TS0510-28	000080	DNGS Structures: Repair/Replacement of Civil Structures Located in Irradiated Fuel Area (Contingency)	OPEN	Refurb
18	20000	TS0510-29	000081	DNGS Structures: Repair/Replacement of Civil Structures Located in Fuel Handling and Service Area (Contingency)	OPEN	Refurb
19	20000	TS1710-2	000087	Repair or Replacement of Turbine Support Structure Spring Sets - Trombik Supports (contingency)	OPEN	Refurb
20	22000	TS0510-5	000087	DNGS Structures: Perform Inspections for Turbine Supporting Structure in All 4 Units	OPEN	Refurb
21	27140	TS0510-7	000092	DNGS Structures: Perform Inspections on Pipes, Ducts Encasements Structures	OPEN	Refurb
22	27140	TS0510-23	000092	DNGS Structures: Repair/Replacement of Pipes, Ducts, and Encasements (Contingency)	OPEN	Refurb
23	32000	TS1070-3	000023	Moderator & Auxiliaries System-Part 2: Replacement of Isolating Valves	OPEN	Refurb
24	32100	TS1450-1	000013	OVERHAUL SEAT RING AND DISK FOR MODERATOR CHECK VALVES	OPEN	Refurb
25	32100	TS0080-4	000012	Replace DELORO Disc Hard Facing w/STELLITE 6 for MV20, 27 & 29 in All Units	OPEN	Refurb
26	32100	TS0080-10	000003	Contingency - Moderator Pumps	OPEN	Refurb
27	33100	TS0090-1	001148	Overhaul and Inspect Select Main HT Pumps	OPEN	Refurb
28	33100	TS0090-7	001198	Replace Cable Associated w/PHT Trip Pressure Switches	OPEN	Refurb
29	33100	TS0320-1	001149	Refurbish All PHT Pump Motors	OPEN	Refurb
30	33100	TS0090-2	001156	Inspect Two Representative PHT Loop Isolation/Interconnect MOVs	OPEN	Refurb
31	33100	TS0090-12	001148	Contingency - Refurbish All PHT pumps	OPEN	Refurb
32	33100	TS0090-9	001156	Repack all PHT Loop Isolation/Interconnect MOVs	OPEN	Refurb
33	33100	TS0090-13	001156	Contingency - Overhaul / replace PHT loop/interconnect MOVs	OPEN	Refurb

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
34	33300	TS0100-5	000162	DNGS Primary Heat Transport Pressure and Inventory Control: Replace Non-Return Valve 33840-NV21 in All Units	OPEN	Refurb
35	33300	TS0100-2	000156	DNGS Primary Heat Transport Pressure and Inventory Control: U2 Bleed Cooler	OPEN	Refurb
36	33300	TS0100-6	000153	DNGS Primary Heat Transport Pressure and Inventory Control: Extend Inspection of Pressurizers (Contingency)	OPEN	Refurb
37	33300	TS0100-7	000153	DNGS Primary Heat Transport Pressure and Inventory Control: Clean Sludge Deposits from Pressurizer	OPEN	Refurb
38	33300	TS0100-8	000156	DNGS Primary Heat Transport Pressure and Inventory Control: Repair/Replace Bleed Cooler	OPEN	Refurb
39	33400	TS0110-2	001467	Inspect Representative SDC MOVs	OPEN	Refurb
40	33400	TS0110-8	001471	Repack Manual Valves (x32)	OPEN	Refurb
41	33400	TS0110-7	001467	Repack All MOVs (x52)	OPEN	Refurb
42	33400	TS0110-13	001467	Contingency for MOVs	OPEN	Refurb
43	33400	TS0110-15	001471	Contingency for Manual Valves	OPEN	Refurb
44	33800	TS0090-4	001233	Inspect Collection Tank, Vent Condenser Tank, and Collection Tank Coolers on U2	OPEN	Refurb
45	33800	TS0090-14	001233	Contingency - Extend Collection Tank Inspection to the Rest of the Units	OPEN	Refurb
46	34100	TS0070-3	000797	Contingency - End Shield Cooling Expansion Tanks	OPEN	Refurb
47	34100	TS0070-1	000797	Inspect End Shield Cooling Expansion Tanks	OPEN	Refurb
48	34300	TS0150-2	001441	Inspect Civil Structure of Emergency Coolant Injection Storage Tank	OPEN	Refurb
49	34300	TS0150-8	001441	Contingency - ECI Water Storage Tank	OPEN	Refurb
50	34410	TS0460-13	002741	DNGS Irradiated Fuel Bay Systems: Replacement of HX's for LE	OPEN	Refurb
51	35220	TS0400-8	002608	Reactor Area Bridges and Carriages: Replace all Power Cables for RA Bridges and Carriages	OPEN	Refurb
52	35220	TS0400-9	002609	Reactor Area Bridges and Carriages: Replace all Signal Cables for RA Bridges and Carriages	OPEN	Refurb
53	35220	TS0400-11	002613	Reactor Area Bridges and Carriages: Coarse Bridge Motor and Coarse Carriage Motor Replacement	OPEN	Refurb
54	35220	TS0400-12	002615	Reactor Area Bridges and Carriages: Limit Switches used in Conjunction w/RA Bridge and Carriage Equipment	OPEN	Refurb
55	35220	TS0400-13	002903	Reactor Bridges and Carriages: Replacement of Ball Screws and Jack Assemblies	OPEN	Refurb
56	35220	TS0400-14	002914	Reactor Area Bridges and Carriages: Carriage Speed Reducers	OPEN	Refurb
57	35220	TS0400-19	002920	Reactor Area Bridges and Carriages: RAB Cross Shaft and Pillow Block Bearings	OPEN	Refurb
58	35220	TS0400-22	002909	Reactor Area Bridges and Carriages: Replacement of X and Y Drive Components	OPEN	Refurb
59	35700	TS0430-8	002718	FH Trolley: Replace all PTK Chains, PTK Cables, and All Support Rolls	OPEN	Refurb
60	38300	TS0290-5	001017	Vapour Recovery Valves	OPEN	Refurb
61	38300	TS1370-2	001011	Vapour Recovery - Part 3: Refurbish/Overhaul all the Dryers	OPEN	Refurb
62	41800	TS0680-1	000585	Moisture Separator Reheater: Internal Inspection of System MOVs	OPEN	Refurb
63	41800	TS0680-4	000583	Moisture Separator Reheater: Overhaul Non-Return Valves	OPEN	Refurb
64	44100	TS0610-2	001505	Main Condensate System: Baseline Inspection of One Bank of LP Heaters	OPEN	Refurb
65	44100	TS0610-3	001510	Main Condensate System: UT Inspection of the Condenser Support Struts	OPEN	Refurb
66	44100	TS0610-17	001505	Main Condensate System: LP Heaters - expanded inspections with repair as required (Contingency)	OPEN	Refurb

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
67	44100	TS0610-18	001510	Main Condensate System: FAC of all condenser support struts in Unit 2 Refurb outage - repair as required and expand inspections to subsequent units as appl.	OPEN	Refurb
68	44100	TS0610-22	001510	Main Condensate System: Deflection Plate Installation on support struts around CSDVs (Contingency)	OPEN	Refurb
69	49200	TS0480-1	003524	Replace EPG2 Degraded Gas Generator	OPEN	Refurb
70	50000	TS0980-2	002050	Low and Medium Voltage Cables Replacement: Perform Aging Assessment for Selected Low Voltage Cables	OPEN	Refurb
71	51500	TS0570-20	001296	Main Power Output System: For the MOT Transformers - Overhaul/Replacement of the MOT 500kV Bushings (Unit 2 only)	OPEN	Refurb
72	51500	TS0570-21	001296	Main Power Output System: MOT Transformers - Possibility of Additional Work Required in the Transformer	OPEN	Refurb
73	51500	TS0570-22	001305	Main Power Output System: UST Transformers - Complete Inspection at Beginning of Refurb Outage	OPEN	Refurb
74	51500	TS0570-23	001296	Main Power Output System: MOT Transformers - Actions to remanufactre the Transformers (Contingency)	OPEN	Refurb
75	51500	TS0570-24	001305	Main Power Output System: UST Transformers - Actions to remanufactre the Transformers (Contingency)	OPEN	Refurb
76	51500	TS0570-7	001323	Main Power Output System: Replace multiple components for the MOT, UST and SST at the transformer terminal & switchyard (Unit 2 only - see the component list below)	OPEN	Refurb
77	53300	TS0170-1	000337	Emergency Power System: Replacement of the Motor Starters Feeding the Vault Coolers for Unit 2 only	OPEN	Refurb
78	53500	TS0540-1	000049	Class II Power System: Perform a Normal MCC Clean Test	OPEN	Refurb
79	57000	TS0990-1	003160	Electrical Penetration (Signal and Power) Modules Replacement: Critical Containment Penetrations Locations	OPEN	Refurb
80	63700	TS0220-5	000304	Darlington Reactor Regulating: Replace All RRS Flux Detectors	OPEN	Refurb
81	63700	TS0220-15	000402	Darlington Reactor Regulating: Reactivity Worth Check	OPEN	Refurb
82	68200	TS0240-7	000779	Replacement of Flow Elements	OPEN	Refurb
83	68200	TS0350-5	003439	SDS1 Trip Computer Modification	OPEN	Refurb
84	68200	TS0350-7	003441	SDS1 Display / Test Computer Modification	OPEN	Refurb
85	68231	TS0240-10	000785	Shutdown System 1 Process: Replace All 228 Vertical Flux Detectors	OPEN	Refurb
86	68300	TS0260-8	000847	Shutdown System 2 Process: Replace all SDS2 In-Core Flux Detectors	OPEN	Refurb
87	68300	TS0350-6	003440	SDS2 Trip Computer Modification	OPEN	Refurb
88	68300	TS0350-8	003442	SDS2 Display / Test Computer Modification	OPEN	Refurb
89	69000	TS0360-2	000729	I/O Subsystem Cabling and Transfer of Control Relay Condition Assessment	OPEN	Refurb
90	69000	TS0360-8	003461	Replace WIBA terminal connectors (Contingency)	OPEN	Refurb
91	72000	TS0630-3	000557	Service Water System: Replacement of LPSW NV's during VBO	OPEN	Refurb
92	72000	TS0880-25	001964	Bundled Commodity Group: Emergency Service Water System - Replacement of FP 4000 and Bristol Canada 5453 Series	OPEN	Refurb
93	72800	TS0180-1	002726	Replacement/Repair of Buried Piping on Service Water Systems	OPEN	Refurb
94	73200	SI0040-1	002458	Powerhouse Steam Venting System	OPEN	Refurb
95	73720	TS0280-1	002192	Vault Cooler Coil Refurbishment	OPEN	Refurb
96	75100	TS0650-3	002503	Compressed Air System: Manual Disphragm Valves	OPEN	Refurb
97		TS1570-1	003485	VAULT COOLING FAN MOTOR REPLACEMENT	OPEN	Refurb
98		TS2250-1	000014	32110-NV37 / 32510-NV11 INSPECTION	OPEN	Refurb
99	9000	TS0950-13	000393	Minor Modifitcations: AA/CA/SA Logic Module Modification	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
100	9000	TS0950-14	000393	Minor Modifitcations: AA/CA/SA Logic Module Modification	OPEN	Station
101	20000	TS0510-18	000078	DNGS Structures: Repair/Replacement of Civil Structures Located in Reactor Auxiliary Bay (RAB) (Contingency)	OPEN	Station
102	20000	TS0510-19	000083	DNGS Structures: Repair/Replacement of Civil Structures Located in Central Service Area (Contingency)	OPEN	Station
103	20000	TS0510-20	000087	DNGS Structures: Repair or Replacement of Turbine Supporting Structures for All 4 Units	OPEN	Station
104	20000	TS0510-25	000079	DNGS Structures: Repair/Repalcement of Civil Structures Located in Fuelling Facilities Auxiliary Areas (Contingency)	OPEN	Station
105	20000	TS0510-26	000084	DNGS Structures: Repair/Replacement of Civil Structures Located in Turbine Hall and Turbine Auxiliary Bay (Contingency)	OPEN	Station
106	20000	TS0510-27	000085	DNGS Structures: Repair/Repalcement of Civil Structures Located in Central Service Area (CSA) Buildings	OPEN	Station
107	20000	TS0510-30	000086	DNGS Structures: Repair/Replacement of Civil Structures Located in Central Control Area (Contingency)	OPEN	Station
108	21000	TS0120-4	000167	Darlington Airlocks And Transfer Chambers: Replacement of All the Flow Regulating Valves	OPEN	Station
109	21000	TS0120-5	000244	Darlington Airlocks And Transfer Chambers: Replacement of the Pressure Regulating Valves	OPEN	Station
110	21000	TS0120-6	000246	Darlington Airlocks And Transfer Chambers: Replacement of Pneumatic Actuators	OPEN	Station
111	21000	TS0120-7	000258	Darlington Airlocks And Transfer Chambers: Repalcement of Control Valves	OPEN	Station
112	21000	TS0120-8	002057	Darlington Airlocks And Transfer Chambers: Replacement of Check Valves	OPEN	Station
113	21000	TS0120-1	002050	Darlington Airlocks and Transfer Chambers: Inspection/Assessment of the Power and Control Cables	OPEN	Station
114	21000	TS0120-9	002052	Darlington Airlocks and Transfer Chambers: Inspection/Assessment of the Power and Control Cables (Contingency)	OPEN	Station
115	22000	TS0510-21	000084	DNGS Structures: Re-Roofing for the Whole Powerhouse	OPEN	Station
116	22000	TS1710-1	000087	Inspect Turbine Support Structure Spring Sets - Trombik Supports	OPEN	Station
117	31810	TS0240-3	000762	Shutdown System 1 Process: Replace the Seals and Sealant for 32 Shutoff Rods in 4 Units	OPEN	Station
118	32000	TS0080-1	000003	Inspect One Moderator Pump	OPEN	Station
119	32000	TS0080-2	000063	Inspect Temperature Elements	OPEN	Station
120	32000	TS0080-3	000713	Remove and Inspect One CG Recombiner Outlet Cooler	OPEN	Station
121	32000	TS0080-5	000721	Replace Level Switches LS254/255/256/257 on All Units	OPEN	Station
122	32000	TS0080-6	000104	Replace Pressure Regulating Valve 63230-PRV4	OPEN	Station
123	32000	TS0080-7	000041	Replace the U3 and U4 Recombination Units	OPEN	Station
124	32000	TS0080-8	000059	Repace MCR/SCA Handswitches Associated w/Moderator System	OPEN	Station
125	32000	TS0080-9	000715	Refurbish Valves V39 and V40 on All Units	OPEN	Station
126	32000	TS1070-1	000111	Moderator and Auxiliaries System - Part 2: Repalce Obsolete Moderator Auxiliary Pump Set Vibration Monitoring Transmitters	OPEN	Station
127	32100	TS0880-8	000063	Bundled Commodity Group: Moderator Auxiliaries System - Replacement of Temperature Elements	OPEN	Station
128	33000	TS0880-44	001128	Bundled Commodity Group: Primary Heat Transport Pressure Inventory Control - Continue Replacement of SGM Signal Converters	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
129	33100	TS0090-6	001225	Inspect One MOV on PHT Purification Circuit	OPEN	Station
130	33100	TS0090-10	001154	Replace Gaskets and Replace Balance Line Orifice Plates as Required in All 4 Units	OPEN	Station
131	33100	TS0090-11	001420	Perform Reverse Engineering for Bach Simpson PHT Level Indicators	OPEN	Station
132	33100	TS1030-1	001424	Primary Heat Transport and Auxiliaries System - Part 2: Replace Helium Cover Gas	OPEN	Station
133	33100	TS1030-2	001152	Primary Heat Transport and Auxiliaries System - Part 2: Replace PHT Pump Motor Filters	OPEN	Station
134	33100	TS1030-3	001208	Primary Heat Transport and Auxiliaries System - Part 2: Resolve Obsolescence Issue for PHT Pump Motor Vibration Signal Conditioning Modules	OPEN	Station
135	33100	TS1030-4	001151	Primary Heat Transport and Auxiliaries System - Part 2: Test the PHT Jacking Oil Pump Motors, Replace Bearing, and Perform Minor Refurbishment Every 15 years	OPEN	Station
136	33100	TS1030-5	001207	Primary Heat Transport and Auxiliaries System - Part 2: PE/CE Resolve Obsolescence of PHT Pump Vibration Transducers	OPEN	Station
137	33100	TS1030-6	001260	Primary Heat Transport and Auxiliaries System - Part 2: Complete PE Evaluation for Replacement PHT Pump Motor Speed Transmitter	OPEN	Station
138	33300	TS0100-4	000161	DNGS Primary Heat Transport Pressure and Inventory Control: Inspection of System AOVs	OPEN	Station
139	33300	TS0100-1	000153	DNGS Primary Heat Transport Pressure and Inventory Control: Characterize The Sludge Pressurizer	OPEN	Station
140	33300	TS1090-1	000283	Primary Heat Transport Pressure and Inventory Control - Part 2: Replace PIC Pressureizer Heaters	OPEN	Station
141	33300	TS1090-2	000228	Primary Heat Transport Pressure and Inventory Control - Part 2: Implement PMO Recommendations for PIC Pressureizer PIC Controllers	OPEN	Station
142	33320	TS0490-1	000154	Bleed Condenser Inspection	OPEN	Station
143	33330	TS0330-1	000284	Replace All Pressurizer Heaters Rectifiers	OPEN	Station
144	33330	TS0340-1	000283	Replace All Pressurizer Heaters	OPEN	Station
145	33400	TS0880-18	001478	Bundled Commodity Group: Shutdown Cooling System - Replacement of Hand Controllers	OPEN	Station
146	33400	TS0880-20	001489	Bundled Commodity Group: Shutdown Cooling System - Replacement of Temperature Controllers	OPEN	Station
147	33400	TS0880-30	001475	Bundled Commodity Group: Shutdown Cooling - Replacement of Vibration Transducers	OPEN	Station
148	33410	TS0110-5	003094	Instrument Tubing for Shutdown System	OPEN	Station
149	33410	TS0110-6	001489	Replacement of Temperature Controllers	OPEN	Station
150	33410	TS0110-9	001475	Replacement of Transducers	OPEN	Station
151	33410	TS0110-10	001478	Replacement of Hand Controllers	OPEN	Station
152	33410	TS0110-11	001479	Replace D10A Hand Switches in MCR	OPEN	Station
153	33410	TS0110-12	003494	Replace the Vibration Monitoring Instrumentation	OPEN	Station
154	33410	TS0110-16	001465	Contingency for HX	OPEN	Station
155	33800	TS0880-2	001420	Bundled Commodity Group: Primary Heat Transport Auxiliaries System - Replacement of Bach Simpson PHT Level Indicators	OPEN	Station
156	34100	TS1550-1	000803	CCA 803 End Shield Cooling - Replace/Inspect 34110-PV50 & PV51	OPEN	Station
157	34200	TS0210-15	000366	Negative Pressure Containment: Rebuild or Replace All 3 Pumps (Contingency)	OPEN	Station
158	34200	TS0210-17	000371	Negative Pressure Containment: Replace NPC Vacuum System TK 1-3 (Contingency)	OPEN	Station
159	34200	TS0210-1	000364	Negative Pressure Containment: Inspection of Main Vacuum Pumps	OPEN	Station
160	34200	TS0210-2	000366	Negative Pressure Containment: Inspection of Vacuum System Recirculation Pump	OPEN	Station
161	34200	TS0210-3	000370	Negative Pressure Containment: Inspect HX2 in the Next 5 Years	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
162	34200	TS0210-4	000371	Negative Pressure Containment: Inspect the Internals of TK1-4 using a Fibrescope	OPEN	Station
163	34200	TS0210-9	000449	Negative Pressure Containment: Initiate ECR for Containment Activity Monitor Replacement	OPEN	Station
164	34200	TS0210-13	000485	Negative Pressure Containment: Upgrade Containment Leakage Rate Test Equipment	OPEN	Station
165	34200	TS0210-19	000375	Negative Pressure Containment: Inspect All Type I and Type II Diaphragms	OPEN	Station
166	34200	TS0880-17	000446	Bundled Commodity Group: Negative Pressure Containment - One Time Replacement of Hand Switches	OPEN	Station
167	34200	TS1170-1	003202	Negative Pressure Containment - Part 2: Replacement of Equipment	OPEN	Station
168	34200	TS1170-2	000377	Negative Pressure Containment - Part 2: Repalce Lower Seal Ring	OPEN	Station
169	34300	TS0150-5	003491	Inspection of NVs < 3"	OPEN	Station
170	34300	TS0150-14	001600	Contingency for ECI Equipment Room Sump Pit	OPEN	Station
171	34300	TS0880-1	001558	Bundled Commodity Group: Emergency Coolant Injection	OPEN	Station
172	34300	TS0880-31	001670	Bundled Commodity Group: Emergency Coolant Injection - Replacement of Hand Switches	OPEN	Station
173	34320	TS0150-1	001456	Internal Inspection 10 Representative Valves	OPEN	Station
174	34320	TS0150-3	001600	Inspection of the Sump Pit	OPEN	Station
175	34320	TS0150-6	001454	Motor Replacement for Heating Water Cooling Pump	OPEN	Station
176	34320	TS0150-9	001452	Replace Lubricating Pump/Motor Set	OPEN	Station
177	34320	TS0150-10	001534	Clean The Filter and Replace It	OPEN	Station
178	34320	TS0150-11	001558	Replacement of All Indicators	OPEN	Station
179	34320	TS0150-12	001670	Replace Handswitches	OPEN	Station
180	34320	TS0150-13	001683	Replacement - Replacement of All Temperature Transmitters	OPEN	Station
181	34320	TS1120-1	002093	Emergency Coolant Injection - Part 2: Update HPU Overhaul PM for ECI System	OPEN	Station
182	34320	TS1120-2	002094	Emergency Coolant Injection - Part 2: Update the HPU Overhaul PM to Replace the ECI System ACC's	OPEN	Station
183	34400	TS0880-39	003227	Bundled Commodity Group: DNGS Irradiated Fuel Bay Systems - Replacement of Temperature Controllers	OPEN	Station
184	34400	TS0880-40	003214	Bundled Commodity Group: DNGS Irradiated Fuel Bay Systems - Replacement of Bach Simpson Flow Indicators	OPEN	Station
185	34400	TS0880-41	003216	Bundled Commodity Group: DNGS Irradiated Fuel Bay Systems - Replacement of Flow Transmitters and Temperature Transmitters	OPEN	Station
186	34400	TS0880-42	003229	Bundled Commodity Group: DNGS Irradiated Fuel Bay Systems - Replacement of Bach Simpson Temperature Meters	OPEN	Station
187	34410	TS0460-1	002738	DNGS Irradiated Fuel Bay Systems: Inspection of Filter Units (Contingency)	OPEN	Station
188	34410	TS0460-2	002739	DNGS Irradiated Fuel Bay Systems: Inspection of Current Condition of the Flexible Gasket (Contingency)	OPEN	Station
189	34410	TS0460-3	002742	DNGS Irradiated Fuel Bay Systems: Inspection of Current Condition of the Flexible Gasket - Next Walkdown of IFB System	OPEN	Station
190	34410	TS0460-4	003227	DNGS Irradiated Fuel Bay Systems: Procure Replacements for Temperature Controllers	OPEN	Station
191	34410	TS0460-5	002745	DNGS Irradiated Fuel Bay Systems: Replacement of all Pump Motors for LE	OPEN	Station
192	34410	TS0460-6	003213	DNGS Irradiated Fuel Bay Systems: Identify and Procure Replacement of Flow Meters	OPEN	Station
193	34410	TS0460-7	003214	DNGS Irradiated Fuel Bay Systems: Identify replacements for the Flow Indicators	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
194	34410	TS0460-8	003216	DNGS Irradiated Fuel Bay Systems: Conduct a Study to Identify Replacements for Flow Transmitters	OPEN	Station
195	34410	TS0460-9	003220	DNGS Irradiated Fuel Bay Systems: Procure 4 Spare Check Valves	OPEN	Station
196	34410	TS0460-10	003229	DNGS Irradiated Fuel Bay Systems: Procure Replacements for the Bach Simpson Model-1624 Temperature Meters	OPEN	Station
197	34410	TS0460-11	002738	DNGS Irradiated Fuel Bay Systems: Possibility of Replacement of all the Filter Units (Contingency)	OPEN	Station
198	34410	TS0460-12	002739	DNGS Irradiated Fuel Bay Systems: Possibility of Replacement of IX Columns (Contingency)	OPEN	Station
199	34410	TS0460-14	002744	DNGS Irradiated Fuel Bay Systems: MMOD Required to Modify P3 P6	OPEN	Station
200	34410	TS0460-15	002739	DNGS Irradiated Fuel Bay Systems: Preparation of the Ion Exchange Column	OPEN	Station
201	34410	TS0460-16	002745	DNGS Irradiated Fuel Bay Systems: Procure 1 Spare Motor for EOL for Each CID	OPEN	Station
202	34710	TS0260-3	000853	Shutdown System 2 Process: Replace LISS Poison Tank Ball Position Level Alarm System	OPEN	Station
203	34800	TS0200-3	000438	Liquid Zone Control System: Replace the Recombination Units	OPEN	Station
204	34800	TS0200-6	000187	Liquid Zone Control System: Replacement of Some Valves (Contingency)	OPEN	Station
205	34800	TS0880-5	000190	Bundled Commodity Group: Liquid Zone Control System - Replacement of Rosemount Transmitters	OPEN	Station
206	34810	TS0200-1	000190	Liquid Zone Control System: Replace Rosemount Transmitters	OPEN	Station
207	34810	TS0200-2	000414	Liquid Zone Control System: Complete Aging Assessment of Zone Control Units	OPEN	Station
208	34880	TS1250-1	000292	Annulus Gas System - Part 2: Moisture Probe Replacements	OPEN	Station
209	35000	TS0950-36	003227	Minor Modifications: Replacement Of Irradiated Fuel Bay Temperature Controllers	OPEN	Station
210	35100	TS0380-1	002022	New Fuel Transfer: Electric Motor Operated Actuators	OPEN	Station
211	35100	TS0380-5	001828	New Fuel Transfer: Motor Operated Valves	OPEN	Station
212	35100	TS0380-6	002022	New Fuel Transfer: Obtain Spares	OPEN	Station
213	35210	TS0450-2	002681	FM Head: Charge Tube Axial Assembly and Charge Tube Axial Input Drive	OPEN	Station
214	35210	TS0450-3	002683	FM Head: Ram Assembly and Ram Input Drive	OPEN	Station
215	35210	TS0450-8	002684	FM Head: Fuelling Machine Head Magazine and Drives	OPEN	Station
216	35210	TS0450-9	002685	FM Head: Fuelling Machine Head Homing and Locking Assembly	OPEN	Station
217	35210	TS0450-10	002840	FM Head: Motors Mounted on the Fuelling Machine Head	OPEN	Station
218	35210	TS0450-12	002373	FM Head: Inspect all Ancillary Ports (Contingency)	OPEN	Station
219	35220	TS0400-10	002610	Reactor and Service Area Bridges and Carriages: Perform an Engineering Study of the Junction Box Assemblies	OPEN	Station
220	35220	TS0400-16	003122	Reactor and Service Area Bridges and Carriages: Perform an Obsolescence Study and Procure and Replace all Relays	OPEN	Station
221	35220	TS0400-17	002614	Reactor and Service Area Bridges and Carriages: Replace and Procure General Purpose Relays Used for Bridge Control Units	OPEN	Station
222	35220	TS0400-20	002610	Reactor and Service Area Bridges and Carriages: Inspect JB's and Replace All Liquid Connectors	OPEN	Station
223	35220	TS0400-23	002903	Service Area Bridges and Carriages: Replacement of One SAB Ball Screw and Jack Assembly	OPEN	Station
224	35230	TS0410-1	002601	D2O Auxiliaries: Several Types (3 Cat ID's) of Solenoid Valves	OPEN	Station
225	35230	TS0410-2	003056	D2O Auxiliaries: Replace Air Actuated Valve	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
226	35230	TS0410-3	003166	D2O Auxiliaries: One Type of Solenoid Valves	OPEN	Station
227	35230	TS0410-4	002555	D2O Auxiliaries: D2O Cooler (Contingency)	OPEN	Station
228	35230	TS0410-5	002555	D2O Auxiliaries: Tube Replacement May Be Required (Contingency)	OPEN	Station
229	35230	TS0410-6	002570	D2O Auxiliaries: Replace 24 Pumps/Seals/Motors	OPEN	Station
230	35230	TS0410-7	002592	D2O Auxiliaries: Trolley Power Cabling to the D2O/Air/FI Equipment (Contingency)	OPEN	Station
231	35230	TS0410-8	002592	D2O Auxiliaries: Cable Replacement May Be Required (Contingency)	OPEN	Station
232	35230	TS0410-9	002593	D2O Auxiliaries: Performance Testing of the Trolley Control Cabling	OPEN	Station
233	35230	TS0410-10	002593	D2O Auxiliaries: Cable Replacement May Be Required (Contingency)	OPEN	Station
234	35250	TS0390-3	003058	FH Air Auxiliary: Trolley Based Mechanical Air Dryer Including Towers	OPEN	Station
235	35250	TS0390-4	003057	FH Air Auxiliary: Air Compressor/Motors	OPEN	Station
236	35250	TS0390-5	003059	FH Air Auxiliary: Replacement of Aftercoolers	OPEN	Station
237	35260	TS0440-1	002605	FH Flow Injection: Flow Control Valves in the Flow Injection Circuit	OPEN	Station
238	35260	TS0440-2	002606	FH Flow Injection: Actuator Motors for Remote Connectors on the Flow Injection System	OPEN	Station
239	35260	TS0440-3	003061	FH Flow Injection: Air Operated Valves on the Flow Injection System	OPEN	Station
240	35260	TS0440-4	003063	FH Flow Injection: Non Return Valves on the Flow Injection System	OPEN	Station
241	35260	TS0440-5	003064	FH Flow Injection: Physical Inspection of Fixed Connectors	OPEN	Station
242	35260	TS0440-6	003064	FH Flow Injection: Refurbishment of Fixed Connectors (Contingency)	OPEN	Station
243	35320	TS0470-1	002019	IF Transfer: Disassemble and Inspect the Defected Conveyors	OPEN	Station
244	35320	TS0470-2	002019	IF Transfer: Replacement of Speed Reducers	OPEN	Station
245	35320	TS0470-3	001870	IF Transfer: Disassemble the Air Actuated Valve, Check Condition, and Replace the O-Ring and Seals	OPEN	Station
246	35320	TS0470-4	002021	IF Transfer: Replace all Actuators and Speed Reducers	OPEN	Station
247	35320	TS0470-5	002026	IF Transfer: Interbay Door - Inspect the Sprocket, Door, Door Guide Rails, and Wheel for Wear and Damage	OPEN	Station
248	35320	TS0470-6	002026	IF Transfer: Perform Overhaul of the Interbay Doors	OPEN	Station
249	35320	TS0470-7	002699	IF Transfer: Port Pressure Switch for the Fuel Reception Bay	OPEN	Station
250	35320	TS0470-8	002900	IF Transfer: Leak Collection Tanks (Contingency)	OPEN	Station
251	35320	TS0470-9	001860	IF Transfer: Purchase Life Time Spare Parts and Valve from ITT	OPEN	Station
252	35320	TS0470-10	001899	IF Transfer: Replacement of all Check Valves	OPEN	Station
253	35320	TS0470-11	002024	IF Transfer: Replacement of Shuttle Cylinders	OPEN	Station
254	35320	TS0470-12	002900	IF Transfer: Replacement of all Leak Collection Tanks (Contingency)	OPEN	Station
255	35700	TS0430-1	002712	FH Trolley: Fixed Power Cables	OPEN	Station
256	35700	TS0430-2	002713	FH Trolley: Perform a Visual Inspection and Megger Testing on Cables and Connections	OPEN	Station
257	35700	TS0430-5	002931	FH Trolley: Trolley Catenary Supports	OPEN	Station
258	35700	TS0430-9	002710	FH Trolley: Procure and Replace all Terminal Blocks in the Trolley	OPEN	Station
259	35700	TS0430-15	002930	FH Trolley: Replacement of Catenary Mechanical Components (Contingency)	OPEN	Station
260	35700	TS0430-3	002905	FH Trolley: Powertrack Cable Riser and Coupling Frame Assembly	OPEN	Station
261	35700	TS0430-4	002930	FH Trolley: Mechanical Components of the Catenary	OPEN	Station
262	35700	TS0430-6	002712	FH Trolley: Change Fixed Power Cables from Trolley (Contingency)	OPEN	Station
263	35700	TS0430-7	002713	FH Trolley: Fixed Signal Cables (Contingency)	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
264	35700	TS0430-10	002716	FH Trolley: Source and Replace Trolley Coarse, Fine and Lock Motors	OPEN	Station
265	35700	TS0430-11	002717	FH Trolley: Change Rectifier Assembly	OPEN	Station
266	35700	TS0430-14	002905	FH Trolley: Repair and/or Reinforce the Riser and Coupling Frame Welds (Contingency)	OPEN	Station
267	35700	TS0430-16	002931	FH Trolley: Inspection of the Frame and Attachment Hardware for Corrosion (Contingency)	OPEN	Station
268	35700	TS0430-17	002938	FH Trolley: Replace Trolley Drive Wheels and Coarse and Fine Drive Gear Box	OPEN	Station
269	35700	TS0430-18	002712	FH Trolley: Replace all Catenary Power Cables	OPEN	Station
270	35700	TS0430-19	002713	FH Trolley: Replace all Catenary Signal Cables	OPEN	Station
271	35710	TS1330-1	003533	FH Trolley Additional Scope: Rails which the Fuelling machine Trolleys Drive	OPEN	Station
272	36100	TS0670-3	001004	Main Steam	OPEN	Station
273	36100	TS1150-1	000995	Main Steam - Part 2: Flowscan and Overhaul Boiler Blowdown	OPEN	Station
274	36100	TS1150-2	001004	Main Steam - Part 2: Inspection of Boiler Steam Isolation Valves	OPEN	Station
275	36400	TS0670-5	000593	Main Steam: Overhaul/Replace Containment Isolation Valves	OPEN	Station
276	36700	TS0270-5	002135	Steam Generator Emergency Cooling System (SGECS): Overhaul/Replace 367110-NV23, NV28 and 72800-NV136, NV138 (Contingency)	OPEN	Station
277	36700	TS0880-3	002126	Bundled Commodity Group: Steam Generator Emergency Cooling System - Replacement of Existing Bach Simpson Indicators	OPEN	Station
278	36700	TS0880-6	002129	Bundled Commodity Group: Steam Generator Emergency Cooling System - Replacement of Main Steam Temperature Transmitters	OPEN	Station
279	36700	TS0880-15	002112	Bundled Commodity Group: Steam Generator Emergency Cooling System	OPEN	Station
280	36700	TS0880-27	002115	Bundled Commodity Group: Steam Generator Emergency Cooling System - Replacement of all Main Steam Pressure Alarm Units	OPEN	Station
281	36710	TS0270-1	002112	Steam Generator Emergency Cooling System (SGECS): Replace Hand Switches	OPEN	Station
282	36710	TS0270-2	002115	Steam Generator Emergency Cooling System (SGECS): Replace All Main Steam Pressure Alarm Units	OPEN	Station
283	36710	TS0270-3	002126	Steam Generator Emergency Cooling System (SGECS): Replace the Existing Bach Simpson Indicators	OPEN	Station
284	36710	TS0270-4	002129	Steam Generator Emergency Cooling System (SGECS): Replace Main Steam Temperature Transmitters	OPEN	Station
285	36710	TS0270-6	002135	Steam Generator Emergency Cooling System (SGECS): Inspect 36710-NV23, NV28 and 72800-NV136, NV138	OPEN	Station
286	38300	TS0290-4	001138	Vapor Recovery: Repalce Limit Switches	OPEN	Station
287	38300	TS1220-1	001132	Vapour Recovery - Part 2: Replace Vapour Dryer Heater Components	OPEN	Station
288	38300	TS1220-2	001015	Vapour Recovery - Part 2: Replace 012/034-38350-PV3/4/14/15, and 1/2/3/4-38310-PV2/21/19/129 w/A New Design	OPEN	Station
289	38300	TS1220-3	001019	Vapour Recovery - Part 2: Monitor Performance of New Moisture Elements	OPEN	Station
290	41800	TS0680-6	000585	Moisture Separator Reheater: Expand Scope of Inspection of MOVs and Repair as Required	OPEN	Station
291	43000	TS0590-17	000698	Boiler Feedwater System: Pressure Regualting Valves	OPEN	Station
292	43000	TS0880-23	000656	Bundled Commodity Group: Boiler Feed Water System - Replacement of Flow Controllers	OPEN	Station
293	43000	TS0590-1	000148	Boiler Feedwater System: Pneumatic Pressure Controllers	OPEN	Station
294	43000	TS0590-2	000210	Boiler Feedwater System: Lube Oil Pumps for ABFPs	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
295	43000	TS0590-3	000671	Boiler Feedwater System: Internal Inspection of Gland Seal Strainers (Contingency)	OPEN	Station
296	43000	TS0590-5	000755	Boiler Feedwater System: Overhaul of Actuators Not Being Upgraded	OPEN	Station
297	43000	TS0590-6	000756	Boiler Feedwater System: Perform Internal Inspection of a Representative Sample of 43000-NVs	OPEN	Station
298	43000	TS0590-9	000937	Boiler Feedwater System: MBFP Auxiliary Oil Pumps	OPEN	Station
299	43000	TS0590-10	000937	Boiler Feedwater System: Pump Motor Bearings	OPEN	Station
300	43000	TS0590-11	000938	Boiler Feedwater System: Gland Seal Water Pumps	OPEN	Station
301	43000	TS0590-12	000939	Boiler Feedwater System: BFP Main Lube Oil Pumps	OPEN	Station
302	43000	TS0590-13	003177	Boiler Feedwater System: Replace Level Switches That Provide Logic Input for the Boiler Feedwater Gland Seal Water Collection Tank	OPEN	Station
303	43000	TS0590-15	000677	Boiler Feedwater System: MCR and SCA Hand Switches	OPEN	Station
304	43000	TS0590-16	000678	Boiler Feedwater System: Alarm Unit Switches	OPEN	Station
305	43000	TS0590-19	000680	Boiler Feedwater System: BFP Speed Transducers	OPEN	Station
306	43000	TS0590-20	000753	Boiler Feedwater System: Main Boiler Feed Pumps	OPEN	Station
307	43000	TS0590-21	003200	Boiler Feedwater System: Air Check Valves	OPEN	Station
308	43000	TS0590-23	000871	Boiler Feedwater System: Manual Bypass Valves	OPEN	Station
309	43000	TS0590-27	000938	Boiler Feedwater System: Overhaul Gland Seal Water Pumps	OPEN	Station
310	43000	TS0590-28	000755	Boiler Feedwater System: Overhaul and Replacement of MOVs	OPEN	Station
311	43000	TS0590-29	000755	Boiler Feedwater System: Upgrade Obsolete Limitorque SMC Actuators	OPEN	Station
312	43000	TS0590-31	000939	Boiler Feedwater System: Replace Pumps and Couplings	OPEN	Station
313	43200	TS0590-18	000131	Boiler Feedwater System: Replace All Heat Exchangers	OPEN	Station
314	43200	TS0590-22	000671	Boiler Feedwater System: Gland Seal Strainer Replacement (Contingency)	OPEN	Station
315	44000	TS0610-1	001502	Main Condensate System: Internal Inspection of a Sample of NVs (Contingency)	OPEN	Station
316	44000	TS0610-16	001502	Main Condensate System: Overhaul/Replacement of Main CE Pump Discharge Check Valves	OPEN	Station
317	44000	TS0880-24	001567	Bundled Commodity Group: Main Condensate System - Replacement of Electronic Controllers	OPEN	Station
318	44000	TS0610-4	001511	Main Condensate System: Main Condensate CEP Isolation Valves	OPEN	Station
319	44000	TS0610-5	001647	Main Condensate System: Replace Heater Drains Level Switches	OPEN	Station
320	44000	TS0610-6	002439	Main Condensate System: Replacement of Valves Before Restart of Refurbishment	OPEN	Station
321	44000	TS0610-7	002790	Main Condensate System: Condition Assessment of Valves for Both Dearator Relief Valves and Feedwater	OPEN	Station
322	44000	TS0610-8	001539	Main Condensate System: Change Request for Bearing Replacements and Motor Operator Overhauls	OPEN	Station
323	44000	TS0610-9	001619	Main Condensate System: Replace all Electronic Controller 64453 PC90 (D/A Pressure Control)	OPEN	Station
324	44000	TS0610-10	001567	Main Condensate System: Replace all Electronic Controller	OPEN	Station
325	44000	TS0610-11	002444	Main Condensate System: Replace Unit 4 Heater Gaskets	OPEN	Station
326	44000	TS0610-12	002448	Main Condensate System: Obtain Spares for Obsolete Transmitters	OPEN	Station
327	44000	TS0610-13	002871	Main Condensate System: Overhaul/Replacement of all Elastomers for MV4	OPEN	Station
328	44000	TS0610-19	001511	Main Condensate System: Replace all 36 CEP/MVs	OPEN	Station
329	44000	TS0610-20	002790	Main Condensate System: Replace/Repair DA and Heater AOVs	OPEN	Station
330	44000	TS1060-1	001645	Main Condensate System - Part 2: Main Condensate Heater Drains Level Control Valves	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
331	44500	TS0880-26	001619	Bundled Commodity Group: Main Condensate System - Replacement of Electronic Controllers	OPEN	Station
332	48100	TS1080-2	000566	Moisture Separator Reheater - Part 2: MSR Crit 1 2 Solenoid Valves	OPEN	Station
333	48100	TS1080-3	003521	Moisture Separator Reheater - Part 2: Level Controllers in MSR	OPEN	Station
334	49100	TS0580-1	003525	DNGS Standby Generators	OPEN	Station
335	49100	TS0580-2	001383	DNGS Standby Generators: Update Bill of Materials w/An Available Pressure Switch	OPEN	Station
336	49100	TS0580-3	001354	DNGS Standby Generators: Replace Bladder in the Accumulator	OPEN	Station
337	50310	TS0530-2	000141	Darlington Class I Power: Re-Enable The MCR Annunciation and Repair/Replace the MDS	OPEN	Station
338	50320	TS0540-2	000047	Class II Power System: UPS Replacement	OPEN	Station
339	50320	TS1050-1	000057	Class II Power System - Part 2: Replace Class II 45 VDC Group 1 Power Supplies	OPEN	Station
340	50330	TS0550-1	001531	Class III Power System: OH180 Recommended Maintenance	OPEN	Station
341	50340	TS0560-6	003244	Class IV Power System: Complete the Tapchanger Bypass Modification	OPEN	Station
342	50340	TS0560-2	000204	Class IV Power System: Fuses in 13.8kV VT and in 120/208 VAC FDP-s	OPEN	Station
343	50340	TS0560-3	001732	Class IV Power System: Revise NK38-CMI-53230-10001	OPEN	Station
344	50340	TS0560-4	000245	Class IV Power System: Implement the OH180 Recommended Maintenance	OPEN	Station
345	50340	TS0560-5	003126	Class IV Power System: Replace the Pressure Devices on the Transformer and Revise Model Work Order 1971220 Used for the Transformer Maintenance	OPEN	Station
346	50340	TS0560-8	000201	Class IV Power System: Create inspection of These Blocking Switches	OPEN	Station
347	50390	TS0170-2	003044	Emergency Power System: Replacement of the Hand Switches	OPEN	Station
348	51000	TS0570-1	000073	Main Power Output System: Concrete Dykes for Tranformers (Contingency)	OPEN	Station
349	51000	TS0570-3	001296	Main Power Output System: Implement Recommendation of the Dielectric Study of the MOT Transformers	OPEN	Station
350	51000	TS0570-5	001305	Main Power Output System: Tranformer Oil Coolers	OPEN	Station
351	51000	TS0570-6	001313	Main Power Output System: Implement Recommendation of the Dielectric Study of the Transformers	OPEN	Station
352	51000	TS0570-8	001287	Main Power Output System: Replace all IPB Cooling Dampers	OPEN	Station
353	51000	TS0570-9	001312	Main Power Output System: Replace all UST and SST VT Fuses	OPEN	Station
354	51000	TS0570-10	001314	Main Power Output System: Replace All IPB Pneumatic Cylinders	OPEN	Station
355	51000	TS0570-11	001315	Main Power Output System: Replace All IPB Solenoid Valves	OPEN	Station
356	51000	TS0570-12	001316	Main Power Output System: Replace All IPB Temperature Switches	OPEN	Station
357	51000	TS0570-13	001317	Main Power Output System: Replace All IPG Position Switches	OPEN	Station
358	51000	TS0570-14	001318	Main Power Output System: Order Set of Spares for the Generator Auto Synchronizing Unit and Replace All 600 Volt Fuses on the VTs	OPEN	Station
359	51000	TS0570-15	001320	Main Power Output System: Replace All LPSW to IPB Flow Switches	OPEN	Station
360	51000	TS0570-16	001322	Main Power Output System: Replace All IPB Pressure Switch	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
361	51000	TS0570-17	000073	Main Power Output System: Repair Dyke Area and Rail Tracks Based on the Inspection (Contingency)	OPEN	Station
362	51000	TS0570-19	001292	Main Power Output System: Replace all Voltage Transformers	OPEN	Station
363	52500	TS0570-25	001313	Main Power Output System: SST TRANSFORMERS - Midlife Overhaul/Replacement of 500kV Bushings and Intrusive Inspection	OPEN	Station
364	52500	TS0570-26	001313	Main Power Output System: SST Transformers - Actions to remanufactre the Transformers (Contingency)	OPEN	Station
365	53200	TS0560-9	001732	Class IV Power System: Replace the Control Cabinet on the Side of the Transformer	OPEN	Station
366	56000	TS1200-1	003529	Building Electrical Serices - Part 2: Replace Existing Fluorescent Lighting	OPEN	Station
367	56100	TS0910-1	003529	Fluorescent Lamp Fixtures	OPEN	Station
368	60215	TS0730-1	002617	Public Address Equipment System	OPEN	Station
369	60215	TS0920-1	002617	Replace PA System	OPEN	Station
370	60252	TS0140-1	000507	Emergency Communications System: Replacement of 2 Battery Chargers	OPEN	Station
371	60252	TS0140-2	000760	Emergency Communications System: Upgrade/Replacement of Emergency Communications System	OPEN	Station
372	62100	TS0120-2	000134	Darlington Airlocks And Transfer Chambers: Replacement of non EQ Pressure Switches on Containment Airlocks, Transfer Chamber, and Confinement Bulkheads	OPEN	Station
373	63106	TS0130-1	002850	Replacement of Impulse Line Tubing	OPEN	Station
374	63500	TS0420-2	002382	FH Control: Replace the FH Control Computer	OPEN	Station
375	63500	TS0420-3	002382	FH Control: Perform Study on Need of Computer Replacement to Reach Life Extension Target of 2050	OPEN	Station
376	63500	TS0420-4	002384	FH Control: Replace The Power Supplies of FH Control Computer (FHCC)	OPEN	Station
377	63500	TS0420-5	002384	FH Control: Replacement of All Power Supplies (FH ACE System, I/O System, FHCC, etc.)	OPEN	Station
378	63500	TS0420-6	003531	FH Control: FH Control Computer - Interprocessor Communication	OPEN	Station
379	63500	TS0420-7	003531	FH Control: Replace all Ethernet Interface and Associated Components	OPEN	Station
380	63500	TS0420-8	003532	FH Control: Review the Spare Situation for Peripheral Interface	OPEN	Station
381	63500	TS0420-9	003532	FH Control: Repair Defective Spares or Purchase Modules Not Covered by Project 16-33815 (Contingency)	OPEN	Station
382	63500	TS0420-10	003532	FH Control: Replacement of Various Peripheral Devices	OPEN	Station
383	63500	TS0420-11	003532	FH Control: Perform Study on Need to Replace Various Peripheral Devices (Contingency)	OPEN	Station
384	63500	TS0420-12	003532	FH Control: Repalce Various Peripheral Devices (Contingency)	OPEN	Station
385	63500	TS0420-13	002383	FH Control: Replace the I/O Subsystem and Associated Components and Cables	OPEN	Station
386	63500	TS0420-14	003083	FH Control: Replair the Defective ACE MFMs	OPEN	Station
387	63500	TS0420-15	003083	FH Control: Reprogram FPGA of All FH ACE Multi-Function Modules	OPEN	Station
388	63500	TS0420-18	002381	FH Control: Identify and Purchase Replacement Control Relays	OPEN	Station
389	63500	TS0420-19	003531	FH Control: Procurement of Life-Time Spares for DZ11 Serial Multiplexer Module for Interprocessor Communication	OPEN	Station
390	63500	TS0420-21	002383	FH Control: Procurement of Life-Time Spares for the Multiplexer	OPEN	Station
391	63500	TS0420-22	003083	FH Control: Procurement of Life-Time Spares for FH ACE	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
392	63500	TS0420-23	003531	FH Control: Procurement of Life-Time Spare for the Ethernet Interface Module	OPEN	Station
393	63700	TS0220-7	000393	Darlington Reactor Regulating: Replace all Logic Control and 'Too Many Adjusters Driving Out' Modules	OPEN	Station
394	63700	TS0220-10	000409	Darlington Reactor Regulating: Replace Control Absorber Clutch Power Supplies	OPEN	Station
395	63700	TS0220-11	000407	Darlington Reactor Regulating: Existing PM's to Replace Subcomponents	OPEN	Station
396	67989	TS0740-1	003490	Radiation Monitors and Samplers: Replace Labserco Tritium	OPEN	Station
397	67989	TS0740-2	003493	Radiation Monitors and Samplers: Replace Liquid Effluent Monitoring System	OPEN	Station
398	67989	TS0740-3	000489	Radiation Monitors and Samplers: Replace Radiation Monitors and Detectors	OPEN	Station
399	67989	TS0740-4	000490	Radiation Monitors and Samplers: Replace Computers and Modicons for the Stack Monitor System	OPEN	Station
400	67989	TS0740-5	000494	Radiation Monitors and Samplers: Annual Calibration for 16 Liquid Effluent Gamma Monitor	OPEN	Station
401	67989	TS0740-6	002272	Radiation Monitors and Samplers: Panel Gas Chromatograph	OPEN	Station
402	67989	TS0740-7	002641	Radiation Monitors and Samplers: Replace R22 Devices	OPEN	Station
403	68000	TS0350-2	003435	Replacement of the SDS2 Trip Computer (Item #1)	OPEN	Station
404	68000	TS0350-3	003436	Replacement of the SDS2 Trip Computer (Item #1)	OPEN	Station
405	68000	TS0350-4	003437	Replacement of the SDS2 Trip Computer (Item #1)	OPEN	Station
406	68200	TS0240-2	002789	Shutdown System 1 Process: Replace Shutoff Rod Clutch Power Supplies on all Units	OPEN	Station
407	68200	TS0240-4	000777	Shutdown System 1 Process: Replace and Procure Ion Chamber Detectors for Life Extension	OPEN	Station
408	68200	TS0240-5	000790	Shutdown System 1 Process: Replace Relay Cards and Diodes	OPEN	Station
409	68200	TS0240-9	000783	Shutdown System 1 Process: Replace Ion Chamber Amplifiers	OPEN	Station
410	68300	TS0260-4	000856	Shutdown System 2 Process: Replace all Electronic Amplifiers	OPEN	Station
411	68300	TS0260-7	002942	Shutdown System 2 Process: Identify an Acceptable Replacement for the LISS Flow Indicators	OPEN	Station
412	69000	TS0360-1	003459	DC&M Computer Spares - High Priority Miscellaneous Equipment Replacement	OPEN	Station
413	69000	TS0360-4	000709	DC&M Computer Spares - Class II ATS Relay Replacement	OPEN	Station
414	69000	TS0360-5	000732	DC&M Computer Spares - Keyboards and Electronics Assessment	OPEN	Station
415	69000	TS0360-6	003467	DC&M Computer Spares - Miscellaneous Equipment	OPEN	Station
416	69000	TS0360-9	003462	DC&M Computer Spares - Keyboard and Electronics Replacement	OPEN	Station
417	69100	TS0360-3	000710	Computer Spares Acquisition Strategy and Implementation: Replace the DCC, CP, and SEM CPUs	OPEN	Station
418	71000	TS0600-1	000910	Circulating Water System: Perform CCW Screen Was Pumps Condition Assessment (Contingency)	OPEN	Station
419	71000	TS0600-2	000972	Circulating Water System: Inspection of Vacuum Priming Tanks (Contingency)	OPEN	Station
420	71000	TS0600-3	000916	Circulating Water System: Vacuum Priming Pump Condition Assessment (Contingency)	OPEN	Station
421	71000	TS0600-4	000999	Circulating Water System: Inspect CD Waterbox Isolation MOVs	OPEN	Station
422	71000	TS0600-5	001000	Circulating Water System: Performance Engineering, Water Management Section to Evaluate a Successful Execution of WO 2106838 (Contingency)	OPEN	Station
423	71000	TS0600-10	001000	Circulating Water System: Frazil Ice Recirculation Protection Gate (Contingency)	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
424	72000	TS0630-4	000558	Service Water System: Replacement of LPSW Check Valve 0-72100-NV409	OPEN	Station
425	72000	TS0630-5	003151	Replacement of copper lines on Service Water Systems	OPEN	Station
426	72100	TS0630-1	003142	Service Water System: Inspections on PULSW Motorized Bypass Valve (Contingency)	OPEN	Station
427	72100	TS0630-2	000609	Service Water System: Inspect and Reassess LPSW Travelling Screens (Contingency)	OPEN	Station
428	72200	TS0620-1	000517	Recirculating Cooling Water System	OPEN	Station
429	72300	TS0630-9	003142	Service Water System: Overhaul/ Replacement of MV51 (Contingency)	OPEN	Station
430	72800	TS0180-7	002090	Overhaul of Valves/Actuators	OPEN	Station
431	72800	TS0180-8	002667	Overhaul or Replace EWS Steam Generator Injection Valves	OPEN	Station
432	72800	TS0180-2	002726	Investigate New Technologies in Industry for Pipe Repair	OPEN	Station
433	72800	TS0180-4	002038	Resolve Obsolescence of Vibration Transducers for ESW Pumps	OPEN	Station
434	72800	TS0180-5	002038	Replace Vibration Monitoring System	OPEN	Station
435	72800	TS0180-6	001964	Replace Pressure Controllers	OPEN	Station
436	72800	TS0180-9	002735	Overhaul of 012-72800-MV112, 034-72800-MV292 and 1 to 4-72800-MV129, MV131 Actuators	OPEN	Station
437	72800	TS1270-1	001965	Emergency Service Water - Part 2: Replace Unit 0 Supply Pressure Control PCVs and Their Isolating Valves	OPEN	Station
438	72800	TS1270-2	001966	Emergency Service Water - Part 2: Inspect/Replace the TRV Temperature Element	OPEN	Station
439	73100	TS0690-1	003495	Powerhouse Heating And Construction Boiler: Copmprehensive Inspection of the Deaerator	OPEN	Station
440	73100	TS0690-2	003508	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement of Level Control Components	OPEN	Station
441	73100	TS0690-3	003512	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement/Refurbishment of the Entire Boilerhouse Building Structure	OPEN	Station
442	73100	TS0690-4	003516	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Repalcement of All Heat Tracing Lines	OPEN	Station
443	73100	TS0690-5	003520	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Initiate PM Program for Transformer Oil Samples	OPEN	Station
444	73100	TS0690-6	002322	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Overhaul and Ensure Fully Functional Valves	OPEN	Station
445	73100	TS0690-7	002330	Powerhouse Heating And Construction Boiler	OPEN	Station
446	73100	TS0690-8	002325	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement of Piping	OPEN	Station
447	73100	TS0690-9	002329	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement of PCs	OPEN	Station
448	73100	TS0690-10	003517	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement of All Pipe Supports/Brakcets	OPEN	Station
449	73100	TS0690-11	003518	Powerhouse Heating And Construction Boiler: Boilerhouse Project Construction - Replacement of Steam Trap Internals	OPEN	Station
450	73100	TS0880-9	002187	Bundled Commodity Group: Reactor Vault Fuelling Duct Atmosphere Cooling - Replacement of all TEs	OPEN	Station
451	73100	TS1180-1	002320	Powerhouse Heating and Construction Boiler - Part 2: Inspect Steam MOVs	OPEN	Station
452	73100	TS1180-2	002320	Powerhouse Heating and Construction Boiler - Part 2: Overhaul/Replace Valves (Contingency)	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
453	73200	TS0700-3	002527	Powerhouse Heating and Ventilation: Inspection of Select Dampers	OPEN	Station
454	73200	TS0700-1	002517	Powerhouse Heating and Ventilation: Conduct Inspection/Replacement to Quantify Degradtion of the Outage Replacement Dampers	OPEN	Station
455	73200	TS0700-2	002526	Powerhouse Heating and Ventilation: Replacement of ACUs	OPEN	Station
456	73200	TS0700-4	002547	Powerhouse Heating and Ventilation: Update Related PMs and Procedures	OPEN	Station
457	73200	TS0700-5	002541	Powerhouse Heating and Ventilation: Overhaul/Replacement of all the PRVs	OPEN	Station
458	73200	TS0700-6	003312	Powerhouse Heating and Ventilation: Conduct Inspection of the Morotized Dampers	OPEN	Station
459	73200	TS0700-7	002521	Powerhouse Heating and Ventilation: Inspections on Select Dampers (Contingency)	OPEN	Station
460	73200	TS0700-8	003320	Powerhouse Heating and Ventilation: Reaplace Signal Selectors)	OPEN	Station
461	73200	TS0700-9	002517	Powerhouse Heating and Ventilation: Replacement of Dampers (Contingency)	OPEN	Station
462	73200	TS0700-10	002527	Powerhouse Heating and Ventilation: Replacement of Dampers (Contingency)	OPEN	Station
463	73200	TS0700-11	003312	Powerhouse Heating and Ventilation: Contingency for Item #6	OPEN	Station
464	73200	TS0700-12	003320	Powerhouse Heating and Ventilation: Replacement of Dampers (Contingency)	OPEN	Station
465	73220	TS1240-1	002458	Powerhouse Ventilation-B (PSVS) - Part 2: Refurbishment of Dampers	OPEN	Station
466	73700	TS0880-21	002193	Bundled Commodity Group: Reactor Vault Fuelling Duct Atmosphere Cooling - Replacement of all TCs	OPEN	Station
467	73700	TS0880-22	003473	Bundled Commodity Group: Reactor Vault Fuelling Duct Atmosphere Cooling - Replacement of all TCs	OPEN	Station
468	73720	TS0280-8	003071	Reactor Vault And Fuelling Duct Atmosphere Cooling: Perform Investigation on Components	OPEN	Station
469	73720	TS0280-2	002193	Reactor Vault And Fuelling Duct Atmosphere Cooling: Replace all TCs in all Units	OPEN	Station
470	73720	TS0280-3	002187	Reactor Vault And Fuelling Duct Atmosphere Cooling: Replace all Temperature Elements (TE)	OPEN	Station
471	73720	TS0280-4	002191	Reactor Vault And Fuelling Duct Atmosphere Cooling: Replace, Calibrate, and Function Test the Temperature Trnasmitters	OPEN	Station
472	73720	TS0280-6	003071	Reactor Vault And Fuelling Duct Atmosphere Cooling: Address Limit Switches on Dampers and Inspect Mechanical Linkages in Dampers	OPEN	Station
473	73720	TS0280-9	003071	Reactor Vault And Fuelling Duct Atmosphere Cooling: Repalcement of All Back Draft Dampers	OPEN	Station
474	73750	TS0160-1	000310	Emergency Filtered Air Discharge System: Inspect Motor Operated Valves	OPEN	Station
475	73750	TS0160-2	000360	Emergency Filtered Air Discharge System	OPEN	Station
476	73750	TS0160-3	000350	Emergency Filtered Air Discharge System: Update PMO for Maintenance Strategy	OPEN	Station
477	73750	TS0160-4	000703	Emergency Filtered Air Discharge System: Update PMO Database to Include Maintenance Strategy	OPEN	Station
478	73750	TS0160-5	000332	Emergency Filtered Air Discharge System: Setup Maintenacne Activities and Update PMO	OPEN	Station
479	73750	TS0160-6	000339	Emergency Filtered Air Discharge System: Replacement of 4 Moisture Probes and Transmitters for EFADS	OPEN	Station
480	73750	TS0160-7	000701	Emergency Filtered Air Discharge System: Setup Maintenacne Activities and Update PMO	OPEN	Station
481	73750	TS0160-8	002071	Emergency Filtered Air Discharge System: Initiate ECR to Replace EFADS Computer and Associated Components	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
482	73750	TS0160-9	000310	Emergency Filtered Air Discharge System: Overhauling or Replacement for the MOVs (Contingency for Item #1)	OPEN	Station
483	73800	TS0710-12	002274	Air Conditioning System-Miscellaneous Buildings: Inspection/Replacement of the Dampers (C 1/2 Equip Rms) (Contingency)	OPEN	Station
484	73800	TS0710-13	002275	Air Conditioning System-Miscellaneous Buildings: Inspection/Replacement of the Dampers (RB A/C Systems) (Contingency)	OPEN	Station
485	73800	TS0710-1	002285	Air Conditioning System-Miscellaneous Buildings: Flammable Storage Building	OPEN	Station
486	73800	TS0710-2	002286	Air Conditioning System-Miscellaneous Buildings: Control Valve Pneumatic Dampers (Contingency)	OPEN	Station
487	73800	TS0710-3	002287	Air Conditioning System-Miscellaneous Buildings: Safety Related ACU LPSW/Glycol Control Valves (Contingency)	OPEN	Station
488	73800	TS0710-4	002266	Air Conditioning System-Miscellaneous Buildings: Moisture Switches	OPEN	Station
489	73800	TS0710-5	002290	Air Conditioning System-Miscellaneous Buildings: Moisture Switches	OPEN	Station
490	73800	TS0710-6	002261	Air Conditioning System-Miscellaneous Buildings: Inspection and Functional Checks for TSs	OPEN	Station
491	73800	TS0710-7	002253	Air Conditioning System-Miscellaneous Buildings: Replacement of ACU	OPEN	Station
492	73800	TS0710-8	002264	Air Conditioning System-Miscellaneous Buildings: Control Equipment Under SCI 73940 (RB A/C Systems)	OPEN	Station
493	73800	TS0710-9	002267	Air Conditioning System-Miscellaneous Buildings: Replace Obsolete Moisture Transmitters	OPEN	Station
494	73800	TS0710-10	002262	Air Conditioning System-Miscellaneous Buildings: Implement PMIDs for Temperature Controllers	OPEN	Station
495	73800	TS0710-11	002276	Air Conditioning System-Miscellaneous Buildings: Digital Output Controller (CI 1/2 Equip Rms)	OPEN	Station
496	73800	TS0710-14	002285	Air Conditioning System-Miscellaneous Buildings: Replace/Refurbish Dampers (Contingency)	OPEN	Station
497	73800	TS0710-15	002286	Air Conditioning System-Miscellaneous Buildings: Replace/Refurbish Dampers (Contingency)	OPEN	Station
498	73800	TS0710-16	002266	Air Conditioning System-Miscellaneous Buildings: Replace/Refurbish Dampers (Contingency)	OPEN	Station
499	73800	TS0710-17	002274	Air Conditioning System-Miscellaneous Buildings: Replace/Refurbish Dampers (Contingency)	OPEN	Station
500	73800	TS0710-18	002274	Air Conditioning System-Miscellaneous Buildings: Replace/Refurbish Dampers (Contingency)	OPEN	Station
501	73800	TS0720-1	002227	Miscellaneous Building And Structures Heating And Ventilation: Replace Modulating Dampers for EPS Building	OPEN	Station
502	73800	TS0720-2	002229	Miscellaneous Building And Structures Heating And Ventilation: Replace Control Valve	OPEN	Station
503	73800	TS0720-3	002233	Miscellaneous Building And Structures Heating And Ventilation: Replace the Air Intake Balancing Dampers for EPS EWS Control Equipment Rooms	OPEN	Station
504	73800	TS0720-4	002234	Miscellaneous Building And Structures Heating And Ventilation: Replace the Fire Dampers Serving the Flammable Storage Area	OPEN	Station
505	73800	TS0720-5	002232	Miscellaneous Building And Structures Heating And Ventilation: Replace Control Relays	OPEN	Station
506	73800	TS0720-6	002238	Miscellaneous Building And Structures Heating And Ventilation: Replace Transformers on the Power Supply	OPEN	Station
507	73800	TS0720-7	002982	Miscellaneous Building And Structures Heating And Ventilation: Position Switches of Fire Dampers and Ventilation Dampers	OPEN	Station
508	73800	TS0720-8	002986	Miscellaneous Building And Structures Heating And Ventilation: Inspections on Dampers	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
509	73800	TS0720-9	002986	Miscellaneous Building And Structures Heating And Ventilation: Replacement of Dampers in Chlorination Room in the WTP (Contingency)	OPEN	Station
510	73900	TS0190-3	001842	Darlington HVAC System For Main Control Room & Secondary Control Area: Sample Inspection/Replacement to Quantify Degradations and Determine Scope of Outage Replacement	OPEN	Station
511	73900	TS0190-2	002396	Darlington HVAC System For Main Control Room & Secondary Control Area: Inspection and Cleaning of 0-73930-HX4	OPEN	Station
512	73900	TS0190-4	001864	Darlington HVAC System For Main Control Room & Secondary Control Area: 12-year Replacement PM Implemented for the PRV's	OPEN	Station
513	73900	TS0190-5	001867	Darlington HVAC System For Main Control Room & Secondary Control Area: Sample Inspection/Replacement to Quantify Degradations and Determine Scope of Outage Replacement	OPEN	Station
514	73900	TS0190-6	001878	Darlington HVAC System For Main Control Room & Secondary Control Area: MV Component Numbers	OPEN	Station
515	73900	TS0190-8	001978	Darlington HVAC System For Main Control Room & Secondary Control Area: Sample Inspection/Replacement to Quantify Degradations and Determine Scope of Outage Replacement	OPEN	Station
516	73900	TS0190-9	002240	Darlington HVAC System For Main Control Room & Secondary Control Area: Return Humidification System Returned to Service	OPEN	Station
517	73900	TS0190-10	002396	Darlington HVAC System For Main Control Room & Secondary Control Area: Humidification System Returned to Service	OPEN	Station
518	73900	TS0190-11	002396	Darlington HVAC System For Main Control Room & Secondary Control Area: Clean/Replace the Listed Heat Exchanger Coil Internals	OPEN	Station
519	73900	TS0190-12	002407	Darlington HVAC System For Main Control Room & Secondary Control Area: Replace Electrostatic Precipitator and Add to F1/F2 Maintenance PM Once Installed	OPEN	Station
520	73900	TS0190-13	003478	Darlington HVAC System For Main Control Room & Secondary Control Area: Replacement of All Valve Assemblies During Refurb Outage	OPEN	Station
521	73900	TS0190-14	001842	Darlington HVAC System For Main Control Room & Secondary Control Area: Replace Fire Dampers Found Degraded	OPEN	Station
522	74000	TS0640-1	000096	Water Treatment Plant: Inspection of the WTP Structure	OPEN	Station
523	74000	TS0640-2	001187	Water Treatment Plant: Inspection of 2 Tanks w/4 Immersion Heaters	OPEN	Station
524	74000	TS0640-3	001192	Water Treatment Plant: Replacement of the WTP PLCs for EOL	OPEN	Station
525	74000	TS0640-4	001184	Water Treatment Plant: Replace External Insulation and Inner Rubber Liner in Each of the Three Filters	OPEN	Station
526	74000	TS0640-5	001185	Water Treatment Plant: Internally Reline Each of the Ion Exchangers	OPEN	Station
527	74000	TS0640-6	001196	Water Treatment Plant: Replace 10 NPS C.S Overhead Exhaust Lines	OPEN	Station
528	74000	TS0640-8	001187	Water Treatment Plant: Replace Immersion Heaters	OPEN	Station
529	75100	TS0650-4	001057	Compressed Air System: Implement OH180 Recommended Maintenance as per NK38-CORR-60800-0284309	OPEN	Station
530	78000	TS0660-1	000469	Fire Protection System: Replace the Obsolete Conventional Fire Alarm Panels	OPEN	Station
531	78300	TS0660-2	000707	Fire Protection System: Replace Diaphragm of the Foam Concentraet Tanks	OPEN	Station

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
532	79700	TS0300-1	001774	Replace the Aactive Liquid Waste Collection Tank Liners	OPEN	Station
533	79720	TS1040-1	002077	Active Liquid Waste System - Part 2: CSA Active Liquid Waste Collection System Pneumatic Valves	OPEN	Station
534		TS1690-1	002608	Replacement of Power cables for the Service Area Bridges and Carriages	OPEN	Station
535		TS1690-2	002609	Replacement of Signal Cables for the Service Area Bridges and Carriages	OPEN	Station
536		TS1690-3	002909	Replacement of all X and Y drive components for Service Area Bridges and Carriages	OPEN	Station
537		TS1690-4	003026	Procurement of 4 spare motors for the Service Area Bridges and Carriages	OPEN	Station
538		TS1690-5	002903	Procurement of 4 spare Ball screw and Jack assemblies for the Reactor Area Bridges	OPEN	Station
539		TS1690-6	002903	Procurement of 8 spare Ball Screw and Jack Assemblies for the Service Area Bridges	OPEN	Station
540		TS1810-1	002257	Miscellaneous A/C: Create PM for fan function and calibration check	OPEN	Station
541		TS1860-1	001008	Negative Pressure Containment: Piping condition assessment	OPEN	Station
542		TS1910-1	001162	Main HT Hand Controllers	OPEN	Station
543		TS1920-1	001258	Main HT Pump Motor Mount Labyrinth Air Pressure Switches	OPEN	Station
544		TS1960-1	000526	Service Water: Initiate PM for LPSW Pump Motors	OPEN	Station
545		TS1980-1	000863	SDS2: Prepare NICR for Conductivity Analyzer	OPEN	Station
546		TS2000-1	002580	Startup Instrumentation: PE evaluation for alarm module	OPEN	Station
547		TS2040-1	002711	FH Trolley: Clean, inspect and adjust brakes	OPEN	Station
548		TS2100-1	002749	IFB: Inspect strainers	OPEN	Station
549		TS2260-1	001535	Inspect nozzles of 0-34330-HX1 and HX2	OPEN	Station
550		TS2280-1	003085	DUCTWORK INSPECTION DURING COIL REPLACEMENT	OPEN	Station
551	21000	TS0120-3	000142	Darlington Airlocks And Transfer Chambers: Replacement of Seals on Emergency Doors	CLOSED	
552	30000	TS0880-4	001683	Bundled Commodity Group: Emergency Coolant Injection - Replacement of Temperature Transmitters	CLOSED	
553	31700	TS0210-12	000466	Negative Pressure Containment: Replacement of All Reactivity Mechanism Deck (RMD) Seals	CLOSED	
554	31770	TS0220-16	000402	Darlington Reactor Regulating: Inspection of Worm Gear Boxes	CLOSED	
555	32000	TS1070-2	000023	Moderator and Auxiliaries System - Part 2: Inspection of Manual Valves	CLOSED	
556	32000	TS0880-10	000721	Bundled Commodity Group: Moderator an Auxiliary System - Replace Level Switches	CLOSED	
557	32000	TS0880-12	000059	Bundled Commodity Group: Moderator an Auxiliary System - Replace MCR/SCA Hand Switches	CLOSED	
558	32000	TS0880-32	000104	Bundled Commodity Group: Moderator Auxiliaries System - Replacement of Pressure Regulating Valve	CLOSED	
559	33000	TS0880-43	001253	Bundled Commodity Group: Primary Heat Transport Auxiliaries System - Replacement of Hand Switches	CLOSED	
560	33000	TS0880-46	000285	Bundled Commodity Group	CLOSED	
561	33100	TS0100-3	002844	DNGS Primary Heat Transport Pressure and Inventory Control: One-Time Inspection of Piping System	CLOSED	
562	33100	TS0090-5	001156	Inspect MOV Inter-Gate Overpressure Lines	CLOSED	
563	33100	TS0090-15	001225	Contingency - Overhaul/Replace MOVs	CLOSED	
564	33200	TS0090-3	001276	Inspect One Representative PHT Purification Strainer	CLOSED	
565	33300	TS0100-9	002844	DNGS Primary Heat Transport Pressure and Inventory Control: Replacement of Pipe Sections for 33310 - L62, L37, and 33320	CLOSED	
566	33300	TS0100-10	000161	DNGS Primary Heat Transport Pressure and Inventory Control: Replacement of Select AOVs	CLOSED	
567	33400	TS0110-4	003075	Inspect Flow Orifices (x28)	CLOSED	
568	33400	TS0880-14	001479	Bundled Commodity Group: Shutodwn Cooling System	CLOSED	

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
569	33410	TS0110-1	001465	Video Inspection of Shell Side	CLOSED	
570	33410	TS0110-3	001468	Internal Inspection of 4 Representative Check Valves	CLOSED	
571	33410	TS0110-14	001468	Contingency for Check Valves	CLOSED	
572	34100	TS0070-2	000860	Inspect Piping of End Shield Cooling System	CLOSED	
573	34100	TS0070-4	000860	Contingency - Piping Associated with End Shield Cooling	CLOSED	
574	34200	TS0210-5	000450	Negative Pressure Containment: Inspection of NVs	CLOSED	
575	34200	TS0210-6	000462	Negative Pressure Containment: Inspection of the Flow Indicator	CLOSED	
576	34200	TS0210-7	000375	Negative Pressure Containment: Replace All Type I and II Diaphragms	CLOSED	
577	34200	TS0210-10	003481	Negative Pressure Containment: Performance Test on Pumps	CLOSED	
578	34200	TS0210-11	000413	Negative Pressure Containment: Replacement of O-Ring and Gasket in Vacuum Ducts (VD)	CLOSED	
579	34200	TS0210-14	000364	Negative Pressure Containment: Overhaul Other 2 Pumps (Contingency)	CLOSED	
580	34200	TS0210-16	000370	Negative Pressure Containment: Overhaul All HXs	CLOSED	
581	34200	TS0210-18	003481	Negative Pressure Containment: Overhaul Pumps Based on Performance Test (Contingency)	CLOSED	
582	34200	TS0880-28	000383	Bundled Commodity Group: Negative Pressure Containment - Replacement Current Alarm Units	CLOSED	
583	34200	TS1390-1	000446	Negative Pressure Containment - Part 2: Replace Handswitches in MCR/SCA	CLOSED	
584	34300	TS0150-7	003491	Contingency - Check Valves < 3"	CLOSED	
585	34300	TS0150-15	001456	Contingency - Check Valves > 3"	CLOSED	
586	34320	TS0150-4	001675	Inspection for All the Junction Boxes of ECI	CLOSED	
587	34320	TS0770-1	001696	ECI Pressure Breakdown Flow Elements	CLOSED	
588	34710	TS0260-1	002964	Shutdown System 2 Process: Perform Video/Visual Inspection on 1-34710-TK4	CLOSED	
589	34800	TS0200-4	000187	Liquid Zone Control System: Replace 34810-V152 in All Units w/Valve Qualified for Pressure Boundary Use	CLOSED	
590	34800	TS0200-5	000414	Liquid Zone Control System: Replace Liquid Zone Units (Contingency)	CLOSED	
591	35100	TS0380-2	002023	New Fuel Transfer: DC Motor Controllers	CLOSED	
592	35100	TS0380-3	002034	New Fuel Transfer: Cable Carrier Power Cable	CLOSED	
593	35100	TS0380-4	002035	New Fuel Transfer: Cable Carrier Signal Cable	CLOSED	
594	35210	TS0450-1	002403	FM Head: Perform a Fatigue Analysis of the Suspension Assembly	CLOSED	
595	35210	TS0450-4	002894	FM Head: Perform an Analysis to Determine if the Operating Cycles are Exceeded	CLOSED	
596	35210	TS0450-5	002371	FM Head: Cal Facility Electrical Components	CLOSED	
597	35210	TS0450-6	002894	FM Head: Replacement of Pressure Boundary Components of All FM's (Contingency)	CLOSED	
598	35210	TS0450-7	002373	FM Head: Replace Ancillary Ports Components	CLOSED	
599	35210	TS0450-13	002403	FM Head: Replacement of Suspension Assembly (Contingency)	CLOSED	
600	35220	TS0400-1	002613	Reactor and Service Area Bridges and Carriages: Coarse Bridge Motors and Coarse Carriage Motors - Inspection of One Motor (Contingency)	CLOSED	
601	35220	TS0400-2	002903	Reactor and Service Area Bridges and Carriages: Inspection of Ball Screws and Rebuild Jack Assembly	CLOSED	
602	35220	TS0400-3	002914	Reactor and Service Area Bridges and Carriages: Obsolescence Investigation and Disassembly of One Speed Reducer	CLOSED	
603	35220	TS0400-4	002906	Reactor and Service Area Bridges and Carriages: Fatigue Analysis on Steel Structures of RAB and SAB Columns	CLOSED	
604	35220	TS0400-5	002909	Reactor and Service Area Bridges and Carriages: Inspection of RAB Interconnecting Shafts, RAB Column Encoder and X Drive Racks, SAB Column Encoder Racks and Carriage Drive Pinions (Contingency)	CLOSED	

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
605	35220	TS0400-6	002920	Reactor and Service Area Bridges and Carriages: Replacement of All Pillow Block Bearings in One Unit (Contingency)	CLOSED	
606	35220	TS0400-7	003026	Reactor and Service Area Bridges and Carriages: Y Drive SAB Motors; Brakes not Included (Contingency)	CLOSED	
607	35220	TS0400-15	002906	Reactor and Service Area Bridges and Carriages: Steel Structures of RAB and SAB Columns (Contingency)	CLOSED	
608	35220	TS0400-21	003026	Reactor and Service Area Bridges and Carriages: Procure Replacement Motors (Contingency)	CLOSED	
609	35250	TS0390-1	003059	FH Air Auxiliary: Aftercooler Unit in the Air Auxiliary System (Contingency)	CLOSED	
610	35250	TS0390-2	003060	FH Air Auxiliary: Reciever in the Air Auxiliary System (Contingency)	CLOSED	
611	35250	TS0390-6	003060	FH Air Auxiliary: Air Receivers (Contingency)	CLOSED	
612	35700	TS0430-12	003082	FH Trolley: Replace 4 Motors that Drive 4 Shielding Doors in the FFAA Areas	CLOSED	
613	35700	TS0430-13	002938	FH Trolley: Inspect all Trolley Drive Wheels, Coarse and Fine Drive Gear Box (Contingency)	CLOSED	
614	35700	TS0430-20	002905	FH Trolley: Visually Inspect the Coupling Frame Bumper Bars for Wear (Contingency)	CLOSED	
615	36100	TS0670-1	000595	Main Steam: Internal Inspection on Non-Return Valve	CLOSED	
616	36100	TS0670-4	000595	Main Steam: Overhaul/Repalce Non-Return Valve	CLOSED	
617	36400	TS0670-2	000593	Main Steam: Inspection of Steam Generator Containment Isolation PVs	CLOSED	
618	38300	TS0290-1	001017	Vapor Recovery: Inspect a Sample of Vapor Recovery Valves	CLOSED	
619	38300	TS1370-1	001011	Vapour Recovery - Part 3: Replace all the Dryers	CLOSED	
620	38300	TS1370-3	001016	Vapour Recovery - Part 3: Inspect, Test, and Overhaul/Repalce AOVs	CLOSED	
621	41800	TS0680-2	003479	Moisture Separator Reheater: Internal Inspection of Two Moisture Separator Drain NVs	CLOSED	
622	41800	TS0680-3	000574	Moisture Separator Reheater: Internal Inspection of One Strainer per Unit	CLOSED	
623	41800	TS0680-5	000584	Moisture Separator Reheater: Replace Manual Valves (Contingency)	CLOSED	
624	41800	TS0680-7	003479	Moisture Separator Reheater: Extend Scope of Inspection of NVs and Repair as Required	CLOSED	
625	41800	TS0680-8	000574	Moisture Separator Reheater: Expand Scope of Strainers to Include Inspection of the Other Strainer	CLOSED	
626	41800	TS0680-9	000584	Moisture Separator Reheater: Expand Scope of Valve Replacement	CLOSED	
627	43000	TS0590-4	000755	Boiler Feedwater System: Internatl Inspection of MOVs (Contingency)	CLOSED	
628	43000	TS0590-7	000871	Boiler Feedwater System: Internal Inspection of Manual Bypass Valves (Contingency)	CLOSED	
629	43000	TS0590-8	000893	Boiler Feedwater System: Internal Inspection of Manual Gate Valves (Contingency)	CLOSED	
630	43000	TS0590-14	003194	Boiler Feedwater System: Internal Inspection of Internal NVs	CLOSED	
631	43000	TS0590-24	000893	Boiler Feedwater System: Manual Gate Valves	CLOSED	
632	43000	TS0590-26	003194	Boiler Feedwater System: Refurbishment/Replacements of 43000-NVs (RS)	CLOSED	
633	43000	TS0590-30	000755	Boiler Feedwater System: Replace Obsolete Guelph Engineering Valve Bodies/Yokes	CLOSED	
634	43000	TS0880-11	000678	Bundled Commodity Group: Boiler Feedwater System	CLOSED	
635	43000	TS0880-16	000677	Bundled Commodity Group: Boiler Feedwater System (SGECS) - Replacement of MCR and SCA Hand Switches	CLOSED	
636	43000	TS0880-45	000687	Bundled Commodity Group: Boiler Feedwater System (SGECS) - Replacement of Analog Position Transmitter	CLOSED	
637	44000	TS0610-15	002870	Main Condensate System: Vacuum Breaker Valves	CLOSED	

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
638	44000	TS0610-21	002444	Main Condensate System: Replacement of all Heater Gaskets (Contingency)	CLOSED	
639	44300	TS0610-14	001498	Main Condensate System: Replacement of Lube Oil Coolers for CEP Motors	CLOSED	
640	48100	TS1080-1	000585	Moisture Separator Reheater - Part 2: Inspection of Each Moisture Separator Reheater MOV Type	CLOSED	
641	48100	TS1080-4	000585	Moisture Separator Reheater - Part 2: Overhaul/Replace Isolation Valves (Contingency)	CLOSED	
642	50000	TS0980-1	002050	Low and Medium Voltage Cables Replacement: Assess Potential Locations	CLOSED	
643	50310	TS0530-3	000144	Darlington Class I Power: Replace DSBYS Based on Inspection Results (Contingency)	CLOSED	
644	50340	TS0560-1	000201	Class IV Power System: Replace Corroded Blocking Switches on All 4 Units	CLOSED	
645	50340	TS0560-7	000201	Class IV Power System: Replace All Blocking Switches	CLOSED	
646	51000	TS0880-7	001318	Bundled Commodity Group: Main Power Output System - Replacement of all 600 Volt Fuses on the VTs	CLOSED	
647	51500	TS0570-2	001292	Main Power Output System: Replace all De-Ionizing Grids on the Isolated Phase Bus	CLOSED	
648	51500	TS0570-4	001301	Main Power Output System: Replace Entire Cooling Control System on the MOT, UST and SST transformers	CLOSED	
649	51500	TS0570-18	001292	Main Power Output System: Replace Surge Arrestors	CLOSED	
650	53000	TS0880-38	003044	Bundled Commodity Group: Emergency Power System - Replacement of Hand Switches	CLOSED	
651	53500	TS0540-3	000048	Class II Power System: Obtain Loading Data for Item (4) Transformers	CLOSED	
652	53500	TS0540-4	000048	Class II Power System: Replace Item (4) Transformers	CLOSED	
653	55400	TS0530-1	000144	Darlington Class I Power: Physical Examination of DSBYS	CLOSED	
654	63106	TS0130-2	002854	Replacement of All FINCH Venturi Flow Elements	CLOSED	
655	63500	TS0420-16	003083	FH Control: Replacement of the FH ACE System and Associated Components and Cables	CLOSED	
656	63700	TS0220-1	000308	Darlington Reactor Regulating: Inspection of the Spiroid Gear Set	CLOSED	
657	63700	TS0220-2	000402	Darlington Reactor Regulating: Replace Gear Boxes Based on Results of D1111 (Contingency)	CLOSED	
658	63700	TS0220-13	000308	Darlington Reactor Regulating: Replace Spiroid Gear Set (Contingency)	CLOSED	
659	63700	TS0220-4	000308	Darlington Reactor Regulating: Review the Phase I Outputs of COG Project on Cladria Vessels	CLOSED	
660	63700	TS0220-6	000308	Darlington Reactor Regulating: Replace Adjuster Rods Sealant and Seals	CLOSED	
661	63700	TS0220-8	000402	Darlington Reactor Regulating: Replace All O-Ring	CLOSED	
662	63700	TS0220-9	000402	Darlington Reactor Regulating: Replace Control Absorber Rods Seals	CLOSED	
663	63700	TS0220-12	000412	Darlington Reactor Regulating: Replace All Electronic Amplifiers for Both In-Core Flux Detectors and Ion Chambers	CLOSED	
664	63700	TS0220-14	000308	Darlington Reactor Regulating: Review the Phase I Outputs of COG Project	CLOSED	
665	66100	TS0370-2	001212	Legacy HFE Issues in the MCR	CLOSED	
666	68000	TS0350-9	003444	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
667	68000	TS0350-10	003446	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
668	68000	TS0350-11	003447	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
669	68000	TS0350-12	003449	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
670	68000	TS0350-13	003450	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
671	68000	TS0350-14	003451	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
672	68000	TS0350-15	003453	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
673	68000	TS0350-16	003454	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
674	68000	TS0350-17	003455	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	
675	68000	TS0350-18	003456	Replacement of the SDS2 Trip Computer (Item #1)	CLOSED	

CCA Field Activities

	SCI	DSR	CCA	Field Activity	Current Status	Current Owner
676	68200	TS0240-1	002037	Replacement of Instrument Lines during Refurbishment	CLOSED	
677	68200	TS0240-6	000776	Shutdown System 1 Process: Replace all Rod Ready Switches	CLOSED	
678	68200	TS0240-8	000766	Shutdown System 1 Process: Replace Flux Detector Amplifiers	CLOSED	
679	68300	TS0260-9	002964	Shutdown System 2 Process: Repalce 34710-TK4 (Contingency)	CLOSED	
680	68300	TS0260-2	000861	Shutdown System 2 Process: Replace all SDS2 Orifice Flow Elements	CLOSED	
681	68300	TS0260-5	003037	Shutdown System 2 Process: Recommended Actions of SDS2 Intrument Tubing	CLOSED	
682	68300	TS0260-6	000886	Shutdown System 2 Process: Replacement of All SDS2 Ion Chamber Detectors	CLOSED	
683	69000	TS0360-10	003463	Misc Computor Equipment (Item #1)	CLOSED	
684	69000	TS0360-11	003464	Misc Computor Equipment (Item #1)	CLOSED	
685	69000	TS0360-12	003465	Misc Computor Equipment (Item #1)	CLOSED	
686	69000	TS0360-13	003466	Misc Computor Equipment (Item #1)	CLOSED	
687	69000	TS0360-14	003467	Misc Computor Equipment (Item #1)	CLOSED	
688	69000	TS0360-15	003468	Misc Computor Equipment (Item #1)	CLOSED	
689	69000	TS0360-16	003469	Misc Computor Equipment (Item #1)	CLOSED	
690	71000	TS0600-6	000910	Circulating Water System: Screen Wash Pumps (Contingency)	CLOSED	
691	71000	TS0600-7	000972	Circulating Water System: Vacuum Priming Tanks	CLOSED	
692	71000	TS0600-9	000999	Circulating Water System: CD Waterbox Isolation MOVs	CLOSED	
693	71000	TS0600-11	000916	Circulating Water System: Replace Vacuum Priming Pumps (Contingency)	CLOSED	
694	72000	TS0880-13	000517	Bundled Commodity Group: Recirculating Cooling Water System	CLOSED	
695	72100	TS0630-10	000609	Service Water System: Overhaul/Replacement of Screens (Contingency)	CLOSED	
696	72800	TS0180-3	002032	Perform an Internal Inspection of ESW Piston Check Valves	CLOSED	
697	73720	TS0280-5	002209	Reactor Vault And Fuelling Duct Atmosphere Cooling: Rebuild all Dampers	CLOSED	
698	73720	TS0280-7	002192	Reactor Vault And Fuelling Duct Atmosphere Cooling: Install Chillers for LPSW to the Vault Coolers	CLOSED	
699	75100	TS0650-1	001089	Compressed Air System: Repalce Breathing Air System NVs	CLOSED	
700	75100	TS0650-2	002429	Compressed Air System: Repalce Dryers	CLOSED	
701	79700	TS0310-1	001778	Internal Inspection of ALW Ion Exchange Columns	CLOSED	
702	79700	TS0310-2	001779	Perform Internal Inspection of ALW Filtration	CLOSED	
703	79700	TS1040-3	001573	Active Liquid Waste System - Part 2: Repalce the ALW PV Solenoid Valves	CLOSED	
704		TS1380-1	000446	BUNDLED COMMODITY - PART 2	CLOSED	

UNDERTAKING JT2.8

Undertaking

To provide, on a confidential basis, the calculation that resulted in a 5 percent reduction in contingency in the response to Board Staff interrogatory 31(b).

Response

Please refer to page 34, Table C1 and pages 36 - 38 of OPG's Confidential Filing of Ex. D-2-2-1, Attachment 5. Table C1 shows that the contingency amount in the 2009 BCS was [REDACTED] (2013\$) and in the 2013 BCS was [REDACTED] (2013\$). Subtracting the two numbers yields a difference of [REDACTED] which when divided by the original [REDACTED] yields a difference of [REDACTED]

More detail on the contributors to the contingency amounts in the 2013 BCS can be found on page 37, Table C3 of OPG's Confidential Filing of Ex. D-2-2-1, Attachment 5, and, for the 2009 BCS on page 27, Table 2 of OPG's Confidential filing of Ex. D-2-2-1, Attachment 4, filed in EB 2010-008. Comparing the 2009 contingency amounts (converted to 2013\$) and the 2013 contingency amounts allocated to each of the categories, the following is noted:

- Cost Estimate Uncertainty declined by [REDACTED] (2013\$) or almost [REDACTED] as would be expected, because of increasing certainty in the estimates as progress in issuing contracts and other estimate development progresses in the definition phase.
- Contingent Work, which in the 2009 BCS was labeled "Potential Scope Increase due to ISR, EA Gaps, and Other Regulatory", has remained virtually unchanged, i.e., a very slight decline of [REDACTED] or [REDACTED]. While significant certainty has been gained in ISR, EA and Other Regulatory scope, the detailed development of the scope during the definition phase has resulted in many additional items of contingent work being identified and probabilities being assigned to this work. Some of this contingent work is dependent on the completion of inspections in the pre-refurbishment period in order to confirm whether the scope will or will not need to be executed during refurbishment.
- Labour and Materials Uncertainty increased by [REDACTED] (2013\$) or [REDACTED]. While OPG has staffed up its Program Support and Program Management functions, experience to date with certain of the contractors has been that there is severe competition for qualified resources, most acutely felt currently in the engineering disciplines. The publication of the LTEP and the potential that Bruce Power may be refurbishing Bruce Units 4, 3 and 5 in parallel with the Darlington Refurbishment indicates a potential for this severe competition for qualified resources to continue.

- 1 • Discrete Risks Contingency has increased by ██████████ (2013\$) or ██████████ This is
2 because of two primary factors:
3
4 ○ As the Definition Phase has progressed, there has been a significant increase in
5 the level of detailed risk identification and assessment, in particular for the major
6 contracts such as Re-tube and Feeder Replacement, Steam Generator, Turbine
7 Generator, Fuel Handling and Defueling. This is a normal expectation during a
8 project's development cycle. It would be expected that some portion of these
9 Discrete Risks would be mitigated or eliminated as the definition phase progress.
10
11 ○ Between 2009 and 2013, OPG reclassified the risks associated with the costs of
12 OPG work in support of the project scope from cost estimate uncertainty to
13 Discrete Risks. This second change accounts for the majority of the increase in
14 Discrete Risks.
15
16 • Schedule Uncertainty has decreased by ██████████ (2013\$) or ██████████ This is because of
17 increasing certainty about the duration, particularly higher certainty about the critical
18 path work as a result of further project definition.

1 **UNDERTAKING JT2.9**

2

3 **Undertaking**

4

5 To confirm whether a breakout of contingencies, management reserve, interest and

6 escalation from the total Darlington budget is shown in the business case, and if not, to

7 make best efforts to provide it.

8

9

10 **Response**

11

12 OPG confirms that the \$10B (2013\$) high confidence estimate includes the Contingency

13 and Risk Amounts Total of ██████ (2013\$) at the 90% confidence level as shown in Table

14 C3 on page 37 of the Confidential Filing of Ex. D-2-2-1, Attachment 5. As can also be

15 seen on page 34 of the Confidential Filing of Ex. D-2-2-1, Attachment 5, the total (90%

16 confidence) estimate, including contingency is ██████ OPG considers the additional

17 ██████ (2013\$) difference between ██████ and \$10B to be management reserve.

18

19 OPG confirms that the business case also includes interest and escalation. Please refer

20 to the response to interrogatory L-47-6 ED-005. Information on interest and escalation

21 included in the estimate is also provided in Ex. D-2-2-1, Attachment 5, page 34.

UNDERTAKING JT2.10

Undertaking

To provide a version of the table in response to CCC interrogatory 20 showing regulated operations only.

Response

The correct reference is to the table in response to CCC 22 (Ex. L-6.8-4 CCC-022). Ex. L-6.8-4 CCC-022 shows the calculation of the estimated \$700M savings resulting from the headcount reduction target of 2,000 employees, for all of OPG, by the end of the test period.

A version of the Ex. L-6.8-4 CCC-022 table based on the target reduction of 1,300 employees by the end of the test period applicable to regulated operations only is shown below.

	Actual		BP 2013 - 2015			Total
	2011	2012	2013	2014	2015	
Headcount reductions	348	275	216	249	222	1,310
(\$M)						
2011 Savings	27	54	54	54	54	243
2012 Savings		21	43	43	43	150
2013 Savings			17	34	34	85
2014 Savings				19	39	58
2015 Savings					17	17
Total	27	75	114	150	187	553

Under the BT initiative, OPG has a staff reduction target of approximately 1,300 employees for the regulated operations by the end of 2015 (excluding DRP and new nuclear). The estimated cost savings are approximately \$150M and \$187M in the test period and the corresponding headcount reductions are 249 and 222 respectively.

1 **UNDERTAKING JT2.11**

2
3 **Undertaking**

4
5 To identify the changes to survey methodology made as a result of stakeholder input
6 between the first and last surveys.

7
8
9 **Response**

10
11 Ex. L-6.8-17 SEC 114 provided the following link to information regarding the Terms of
12 Reference and stakeholder consultations:

13
14 <http://www.opg.com/about/regulatory-affairs/stakeholder-information/Pages/payment-amounts.aspx>

15
16
17 At that link, under the headings, “OPG Application for 2013 - 2014 Payment Amounts”
18 and “Stakeholder Comments”, the document *Response to Stakeholder Comments* lists
19 stakeholder comments on the Terms of Reference for the study and Aon’s response.

20
21 As can be seen from that document, there were only minor changes made to the terms
22 of reference in response to stakeholder comments. These changes are identified in
23 Section 2.6 on page 5 and in Section 3.6 on page 8 of that document.

1 **UNDERTAKING JT2.12**

2
3 **Undertaking**

4
5 To explain why the review of pension and benefits plans has no impact on amounts
6 requested for the test period.

7
8
9 **Response**

10
11 The review referred to was originally requested in Ex L-6.8-17 SEC 118. It is provided as
12 Attachment 1 to this undertaking response.

Ontario Power Generation

CHRC Briefing

December 14, 2011

This record (as that term is defined in the Freedom of Information and Protection of Privacy Act (Ontario)) is or was prepared, maintained or used by or on behalf of OPG in relation to: (a) meetings, consultations, discussions or communications about labour relations or employment-related matters in which OPG has an interest; and/or (b) negotiations or anticipated negotiations relating to labour relations or to the employment of a person by OPG between OPG and a person or a bargaining agent. In addition, this record contains: (a) positions, plans, procedures, criteria or instructions to be applied to any negotiations carried on or to be carried on by or on behalf of OPG; and/or (b) plans relating to the management of personnel or the administration of OPG that have not yet been put into operation or made public.

Executive Summary

- The analysis confirms the belief and quantifies the extent to which OPG's P&B plans are unsustainable
 - Under the status quo the threshold levels for all metrics chosen to assess sustainability are exceeded
- Initial set of six interventions analyzed have potential to provide significant financial benefit (growing to roughly 3% of Gross Revenue; \$1.3B cumulative over 15 years) but do not move P&B plans to a fully sustainable position
 - Three interventions are within management control and are being pursued for implementation through the BTS
 - Further three interventions requiring negotiation are being used to influence labour negotiation strategies
 - Beneficial effect of additional interventions identified by the work teams are being evaluated
- Consistent with prior CHRC discussions, significant changes to P&B design and program management will be required to improve sustainability
 - Long term strategy will require aggressive pursuit of significant design changes through a variety of channels, supported by critical cost reduction approaches through plan management

Pension and Benefit Sustainability Project Update

● Overview

- 5 Work Teams: Program Design, Program Management, Business Model, Stakeholder Management and Sustainability
- Programs in scope: Registered Pension Plan, Supplemental Pension Plan, Active Benefits and Post-Retirement Benefits

● Work Completed

- Developed a stochastic financial model to assess current state
- Defined a set of measures and thresholds against which to evaluate and monitor sustainability
- Considered business impact of exceeding the thresholds
- Obtained feedback and positioning from work teams and project sponsors
- Assessed impact on sustainability of a set of potential program interventions
 - Integrating implementation of program management interventions into related Business Transformation Strategy (BTS) initiatives
 - Using program design interventions that require negotiated solutions to influence Labour strategies

Defining “Sustainability” Measures and Thresholds

The following financial metrics were determined to be the most appropriate, most transparent and comparable to available benchmarks:

1 P&B Cash should not exceed 10% of Gross Revenue

- Cost of P&B trending well above upper threshold and further increases must be limited
- Significant P&B cash requirements is drawing funds away from core business needs

\$1 of Gross Revenue (less Fuel)

2 P&B Cash should not exceed 40% of Operating Cash Flow before CapEx ⁽¹⁾

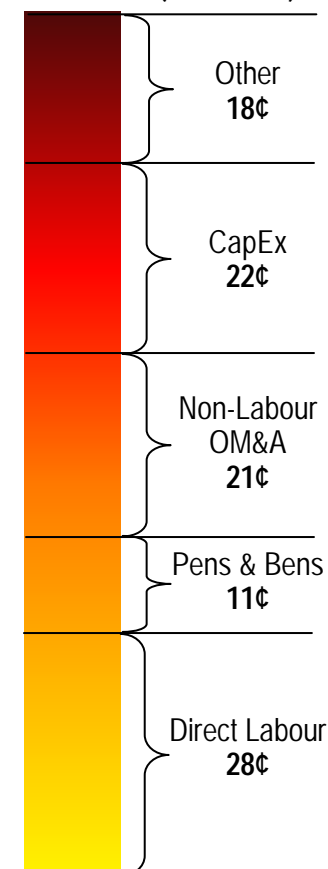
- Cannot allow P&B cash requirements to impair CapEx spend; tested on a three-year average to allow for ebbs and flows in business financials
- 40% is an upper end limit – external proxy analysis indicates majority of companies in lower range of 5% to 40% (OPG cash requirements currently above 50%)

3 P&B Expense should not exceed 35% of EBIT ⁽¹⁾

- P&B expense is currently well above 35%, but expected to decline to 30-35%
- 35% selected as upper end limit based on current business plan approach

4 P&B Expense should not exceed \$50K per active employee (constant 2011 \$)

- From stakeholder (OEB, public, union, employee) perspectives, an easy-to-follow metric
- Management of per capita P&B costs may be a critical means of demonstrating progress
- \$50,000 selected as a level in line with current costs and as a point where further increases in average costs would be viewed adversely by broader publics (OPG has crossed \$50,000)
- Additional metrics defined which may be used to better illustrate sustainability thresholds depending on stakeholder audience provided in Appendix A



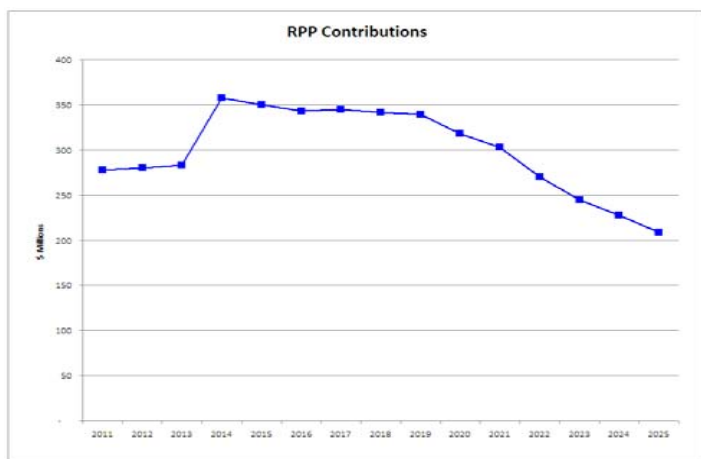
2010

Notes:

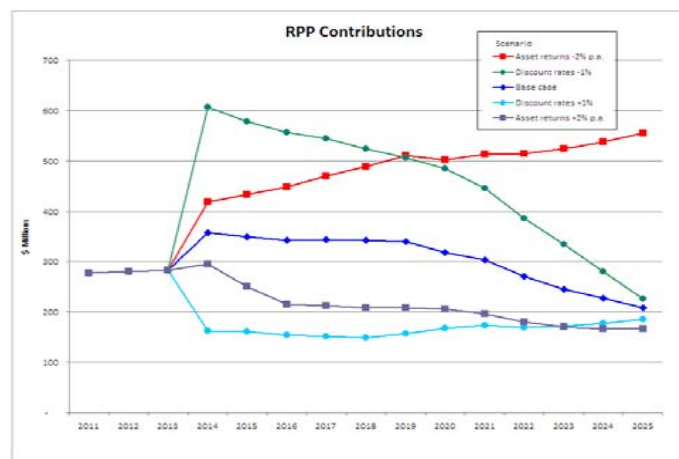
⁽¹⁾ For purposes of the P&B Review, the terms “Operating Cash Flow Before CapEx” and “EBIT” above are determined before the direct financial effect of the P&B program costs (that is, they represent the value in the absence of P&B plans) – in OPG financials, these values are determined after adjusting for P&B program costs.

Approach to Building Stochastic Projection Model

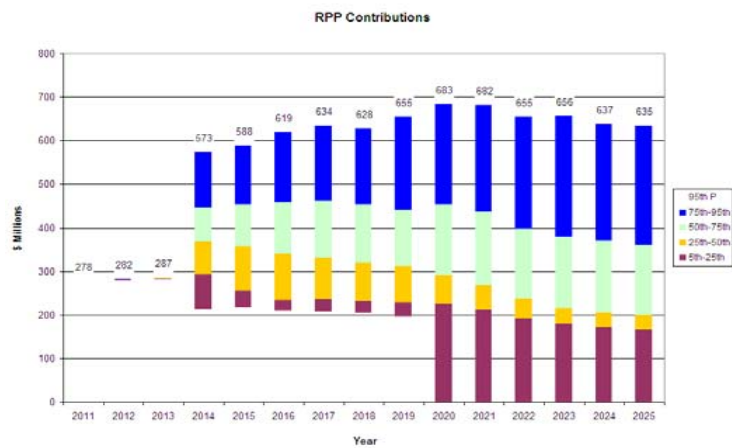
Basic Deterministic Pension Model (Business Plan)



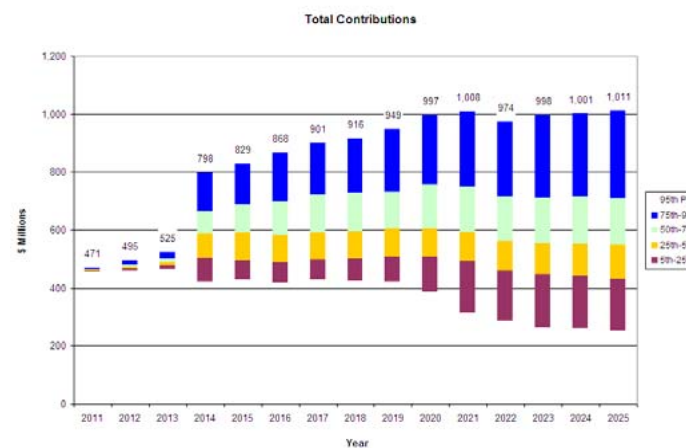
Alternative Deterministic Pension Scenarios



Stochastic Pension Forecast

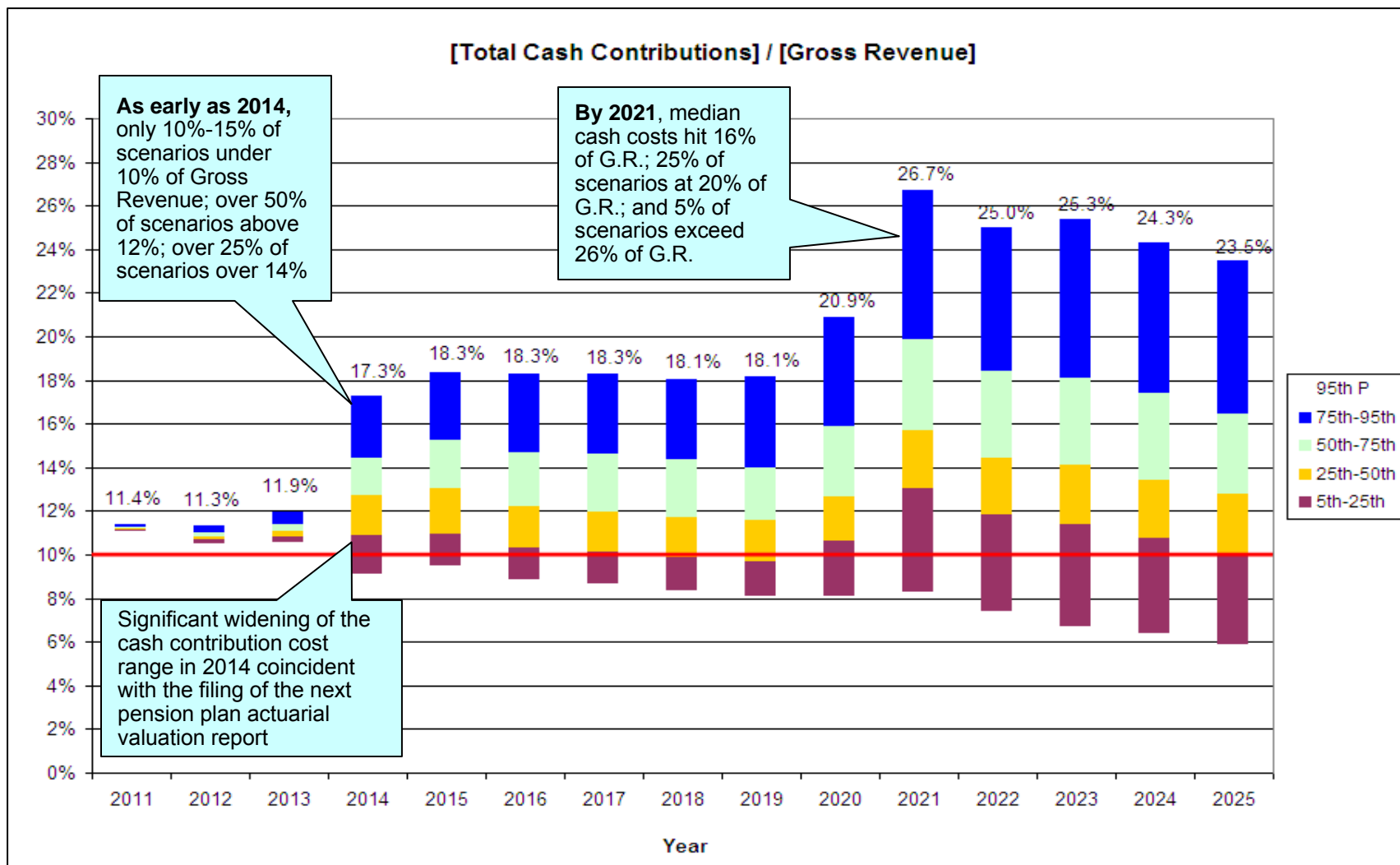


Extend Stochastic Forecast to All P&B Programs



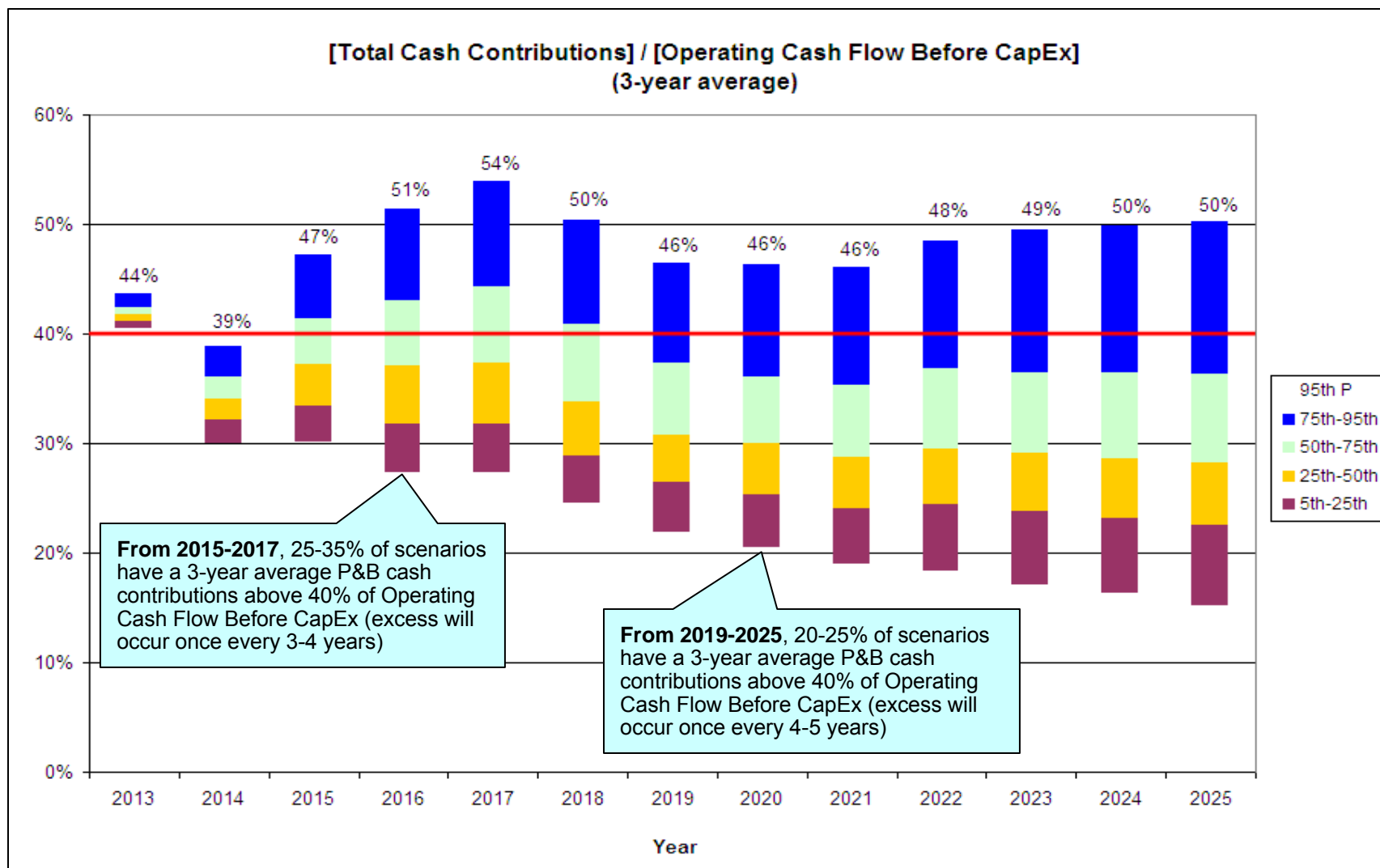
Metric #1 – P&B Cash Should Not Exceed 10% of Gross Revenue

- Starting in 2014 (after next pension valuation), more than 75% of scenarios show cash contribution requirements above 10% of gross revenue each year



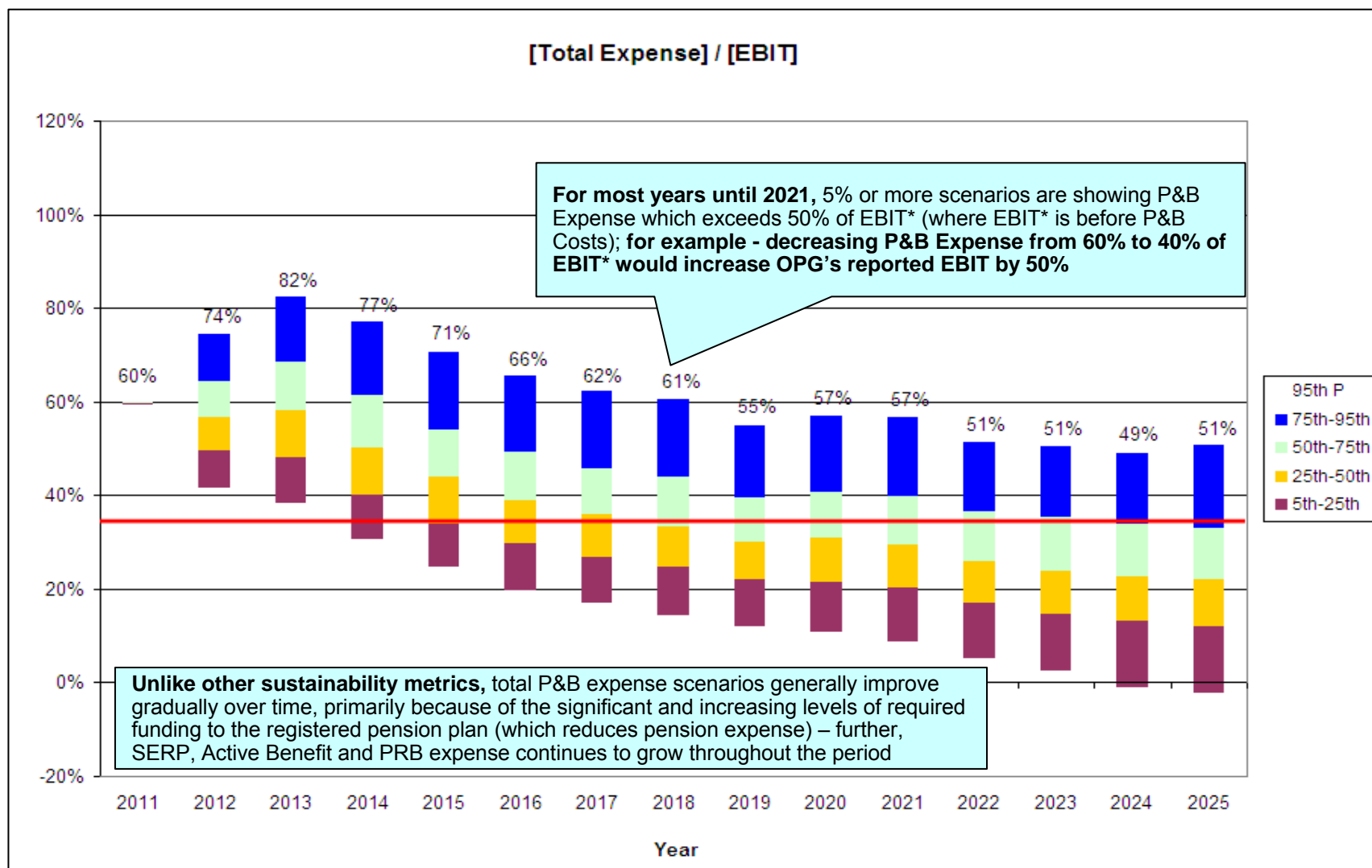
Metric #2 – P&B Cash Should Not Exceed 40% of Operating Cash Flow Before CapEx

- Cash contributions represents over 40% of Operating Cash Flow before CapEx in 20-35% of scenarios for entire projection period



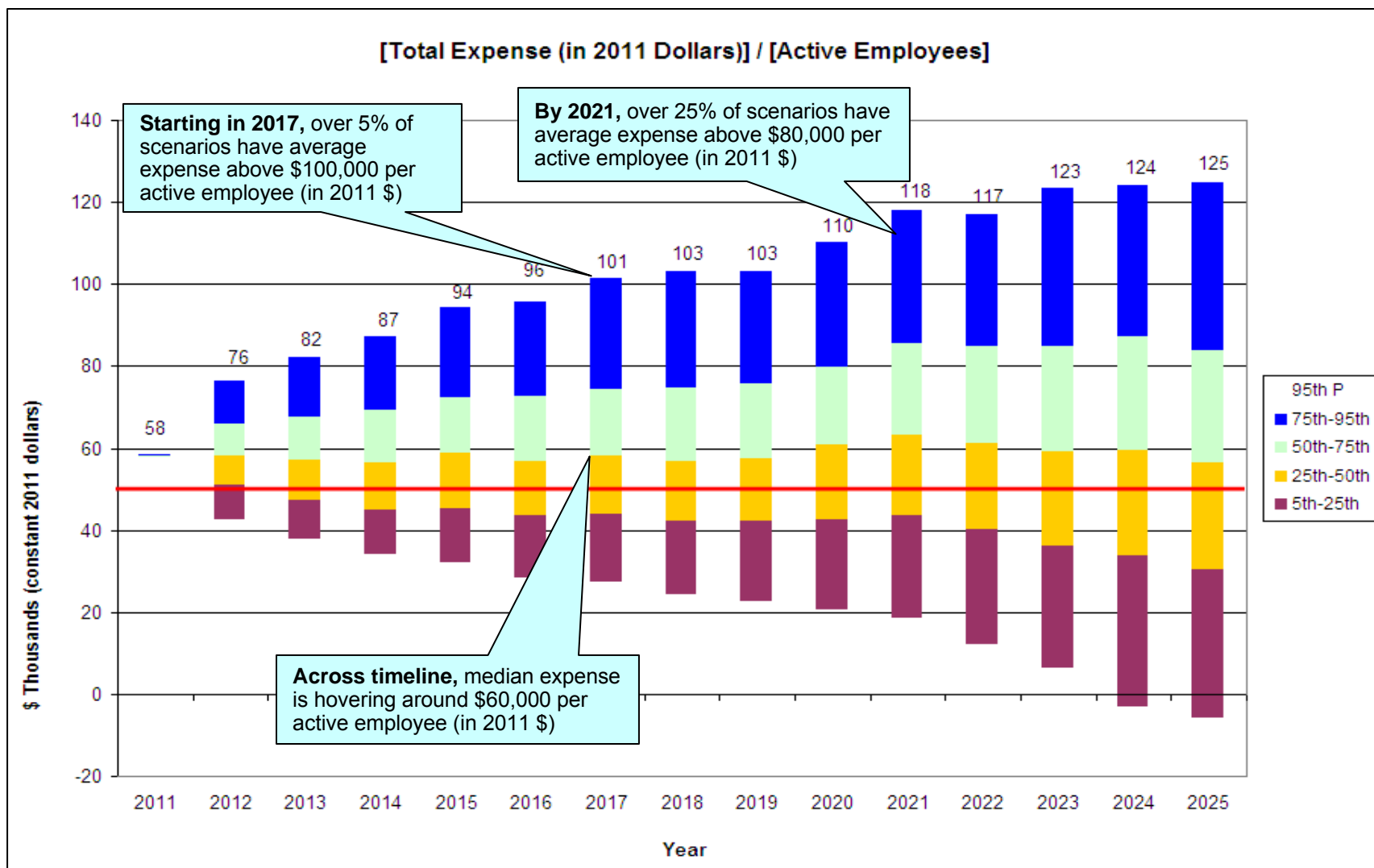
Metric #3 – P&B Expense Should Not Exceed 35% of EBIT

- Projected ratio of P&B expense to EBIT is expected to gradually reduce over time, primarily due to significant contributions to pension plan



Metric #4 – P&B Expense Should Not Exceed \$50K Per Active Employee (const. 2011 \$)

- Median per capita expense stays at \$60,000 for projection period, with 25% of scenarios having per capita expense above \$80,000 (constant 2011 dollars)



Business Alternatives if Cost Thresholds Exceeded

- Non-P&B alternatives to address financial shortfalls were reviewed and found to be insufficient – certain options may provide short-term tactical relief

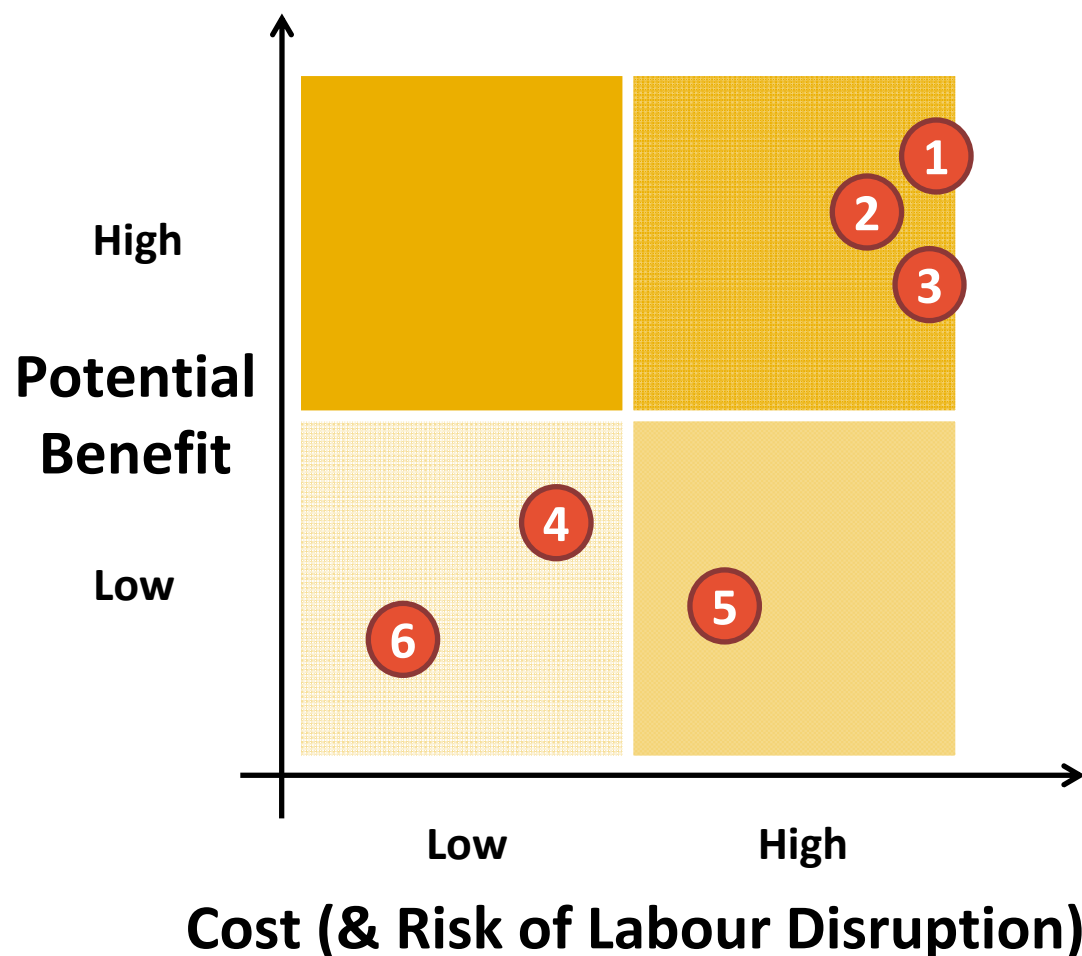
Alternative	Assessment/Impact on OPG's Business
Reduce Capital Expenditures	<ul style="list-style-type: none"> • CapEx includes sustaining and developmental expenditures (other than significant builds/refurbishments) – reductions would impair future power generation and/or value of OPG assets; not viable to reduce CapEx and deliver on OPG business strategy • Supplemental CapEx funds would require OEB approval (cost borne by rate payers)
Obtain Additional Capital via Shareholder	<ul style="list-style-type: none"> • Notwithstanding a common belief by many employees and other stakeholders that the government will backstop all financial shortfalls at OPG, Ontario government has provided no explicit commitment for any such funding
Increase Level Of External Financing	<ul style="list-style-type: none"> • Potential adverse implications on OPG's credit rating (and total cost of credit) • Credit rating agencies would expect increased levels of Free Cash Flow to maintain higher coverage ratios and support higher debt servicing costs (not in current OPG business plan)
Earn Better Fund Returns / Revise Pension Asset Mix	<ul style="list-style-type: none"> • Market movements and/or significant correction will not provide sustained financial support • Asset mix changes to generate higher expected returns would significantly increase risk/volatility • Incremental fund returns provides no relief for SERP, PRB and Active Benefits
Implement Workforce Reduction	<ul style="list-style-type: none"> • Longer term cash costs and expense can be reduced with reduced headcount; however, implementation costs usually exceed savings in the first year or two years • Reduction programs constrained by collective bargaining agreements • Limitation to total cost savings which can be achieved by workforce reduction before business is impaired (reduction of headcount in regulated segments also affects revenue)
Eliminate Certain Internal Non-Labour Programs	<ul style="list-style-type: none"> • Limitation to total cost savings which can be achieved by reducing/eliminating internal non-labour programs (significant amount of re-evaluation already implemented)
OEB Rate Increase	<ul style="list-style-type: none"> • Roughly \$200M p.a. of additional revenue equates to roughly 70¢ increase in average monthly consumer hydro bill; OPG faces significant challenges in getting new OEB increases approved
Asset Sales / Service Spinoffs / Shutdown	<ul style="list-style-type: none"> • If counterparties exist, could sell/spin off certain services or power generation assets; significant asset sales/shutdowns will have workforce implications and will adversely affect future OPG revenue stream

Recap of Current State

- A number of current cost levels exceed the thresholds which OPG views as necessary to maintain a sustainable business (across all key measures)
- The risk of costs escalating far beyond an affordable level is very plausible
- OPG is operating within a period of relative P&B cost stability until the next pension plan actuarial valuation report is filed in 2014
 - This provides a limited window to achieve selected changes in program management and plan design as the first phase of an overall strategy to reign in P&B costs
- Overall change strategy needs to recognize the reality of labour negotiation dynamics and related bargaining capital required for implementing changes
- Negotiation strategies and mandates must carefully evaluate impacts on P&B costs

Pension and Benefit Interventions

- Set of initial interventions analyzed/evaluated to assess their impact on sustainability



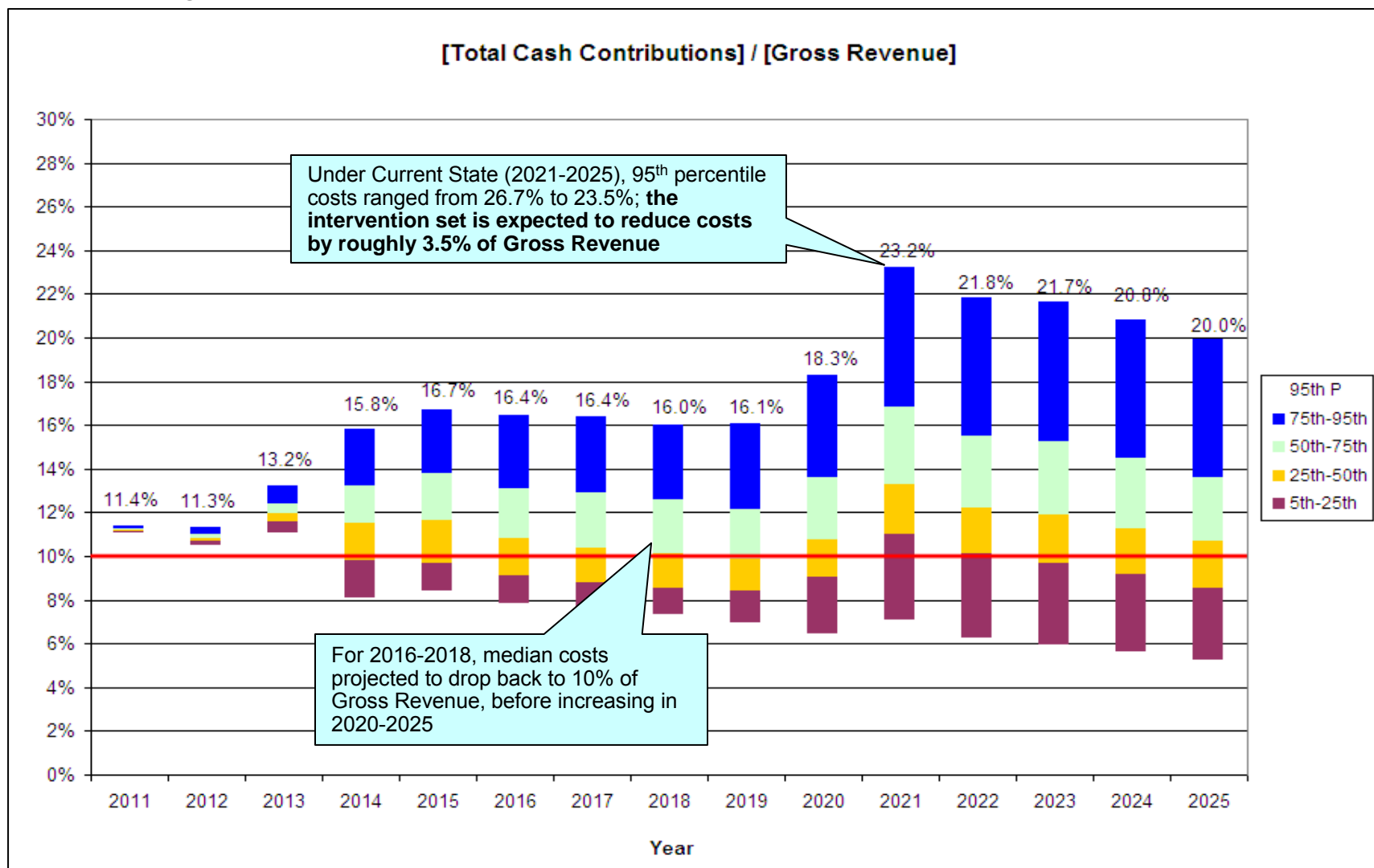
Legend (N → Negotiation Required)	
1	Program Management: Exclude portion of future wage increases from pensionable earnings N
2	Benefits Design: Implement changes to benefit program to generate savings in active/PRB cost structure N
3	Pension Design: Change 82/84 Points Rule to instead require 55 with 90 Points to collect unreduced pension N
4	Program Management: Implement more efficient Rx delivery methods/networks
5	Program Management: Voluntary settlements for post-retirement benefits
6	Program Management: Reduce vendor costs and obtain more accurate/efficient claim adjudication

Notes:

(1) For purposes of this phase of the P&B Review, all interventions were assumed to take effect January 1, 2013 in respect of past and future service for all members; in practice, certain provisions would need to be negotiated and/or may require notice to unions and members; grandfathering rules may also be required.

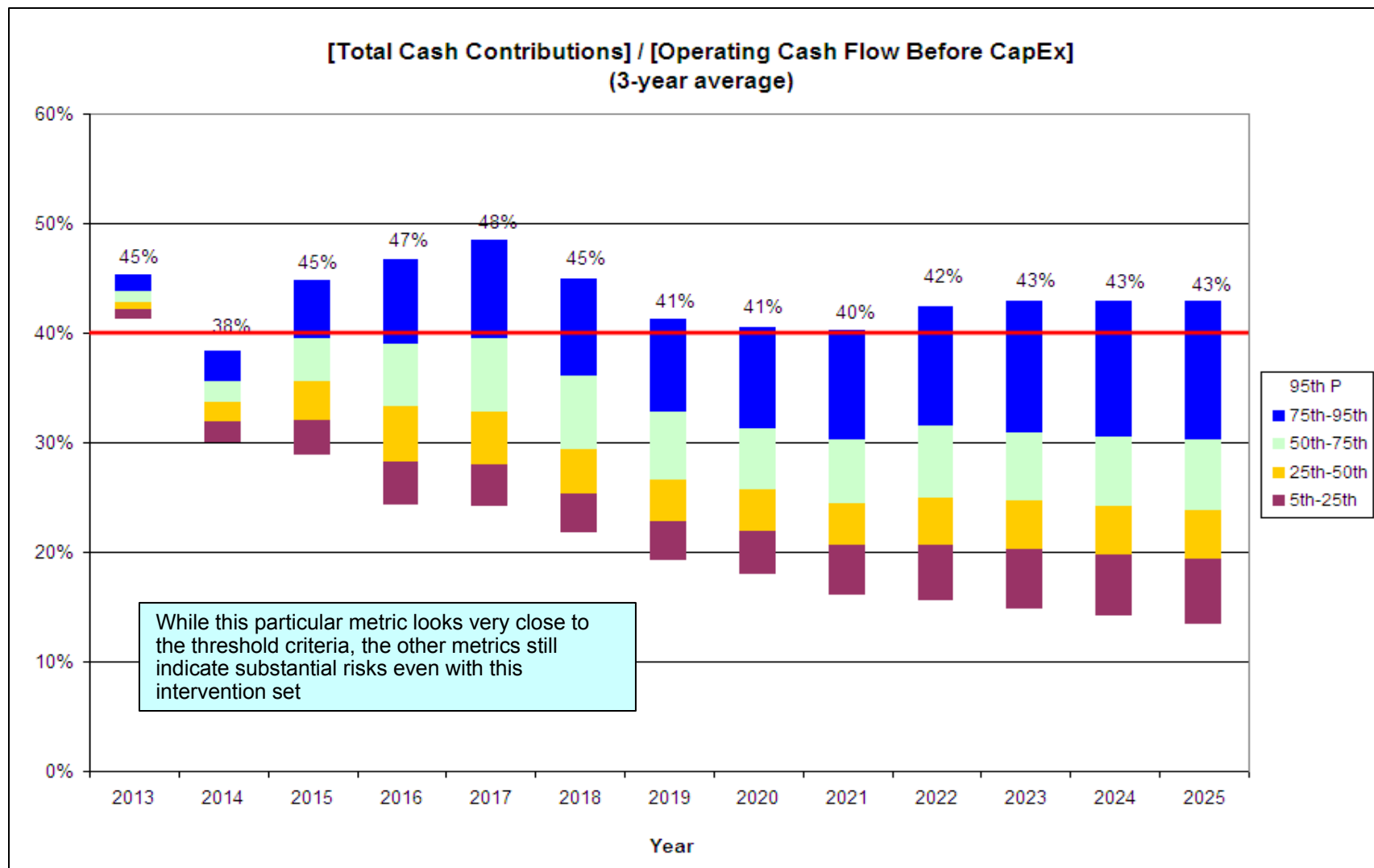
Metric #1 – P&B Cash Should Not Exceed 10% of Gross Revenue (with Initial Interventions)

- While 95th percentile cost ratio is still above 20% over long term, median costs are approaching the 10% level



Metric #2 – P&B Cash Should Not Exceed 40% of Operating Cash Flow Before CapEx (with Initial Interventions)

- 95th percentile ratios moved from 46-50% to 40-43% for most years



Dashboard and Assessment of Initial Intervention Set

- At 95% confidence, initial intervention set expected to generate cost reduction of 2-3% of Gross Revenue (5-7% of Operating Cash Flow Before CapEx)
- Further analysis required to augment intervention set

Pension & Benefits Dashboard		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
1 -- Total P&B Cash Contributions < 10% Gross Revenue														Threshold: 10%		
95th P	Current State	11%	11%	12%	17%	18%	18%	18%	18%	18%	21%	27%	25%	25%	24%	23%
95th P	Alternative	11%	11%	13%	16%	17%	16%	16%	16%	16%	18%	23%	22%	22%	21%	20%
75th P	Current State	11%	11%	11%	14%	15%	15%	15%	14%	14%	16%	20%	18%	18%	17%	16%
75th P	Alternative	11%	11%	12%	13%	14%	13%	13%	13%	12%	14%	17%	16%	15%	15%	14%
2 -- Total P&B Cash Contributions < 40% Operating Cash Flow before CapEx (3-Year Average)														Threshold: 40%		
95th P	Current State				39%	47%	51%	54%	50%	46%	46%	46%	48%	49%	50%	50%
95th P	Alternative				38%	45%	47%	48%	45%	41%	41%	40%	42%	43%	43%	43%
75th P	Current State				36%	41%	43%	44%	41%	37%	36%	35%	37%	37%	36%	36%
75th P	Alternative				36%	39%	39%	40%	36%	33%	31%	30%	31%	31%	30%	30%
3 -- Total P&B Expense < 35% of EBIT														Threshold: 35%		
95th P	Current State	60%	74%	82%	77%	71%	66%	62%	61%	55%	57%	57%	51%	51%	49%	51%
95th P	Alternative	60%	75%	70%	68%	61%	56%	52%	51%	45%	47%	45%	42%	43%	42%	42%
75th P	Current State	60%	64%	68%	61%	54%	49%	46%	44%	40%	41%	40%	37%	35%	34%	33%
75th P	Alternative	60%	65%	56%	54%	47%	42%	38%	36%	32%	33%	32%	28%	28%	27%	26%
4 -- Total P&B Expense < \$50,000 Per Active Employee (in constant 2011 \$)														Threshold: 50		
95th P	Current State	58	76	82	87	94	96	101	103	103	110	118	117	123	124	125
95th P	Alternative	59	77	70	77	83	82	86	87	86	91	96	96	102	104	104
75th P	Current State	58	66	68	69	72	73	74	75	76	80	85	85	85	87	84
75th P	Alternative	58	66	55	61	63	61	63	62	62	65	68	66	69	70	67

Next Steps

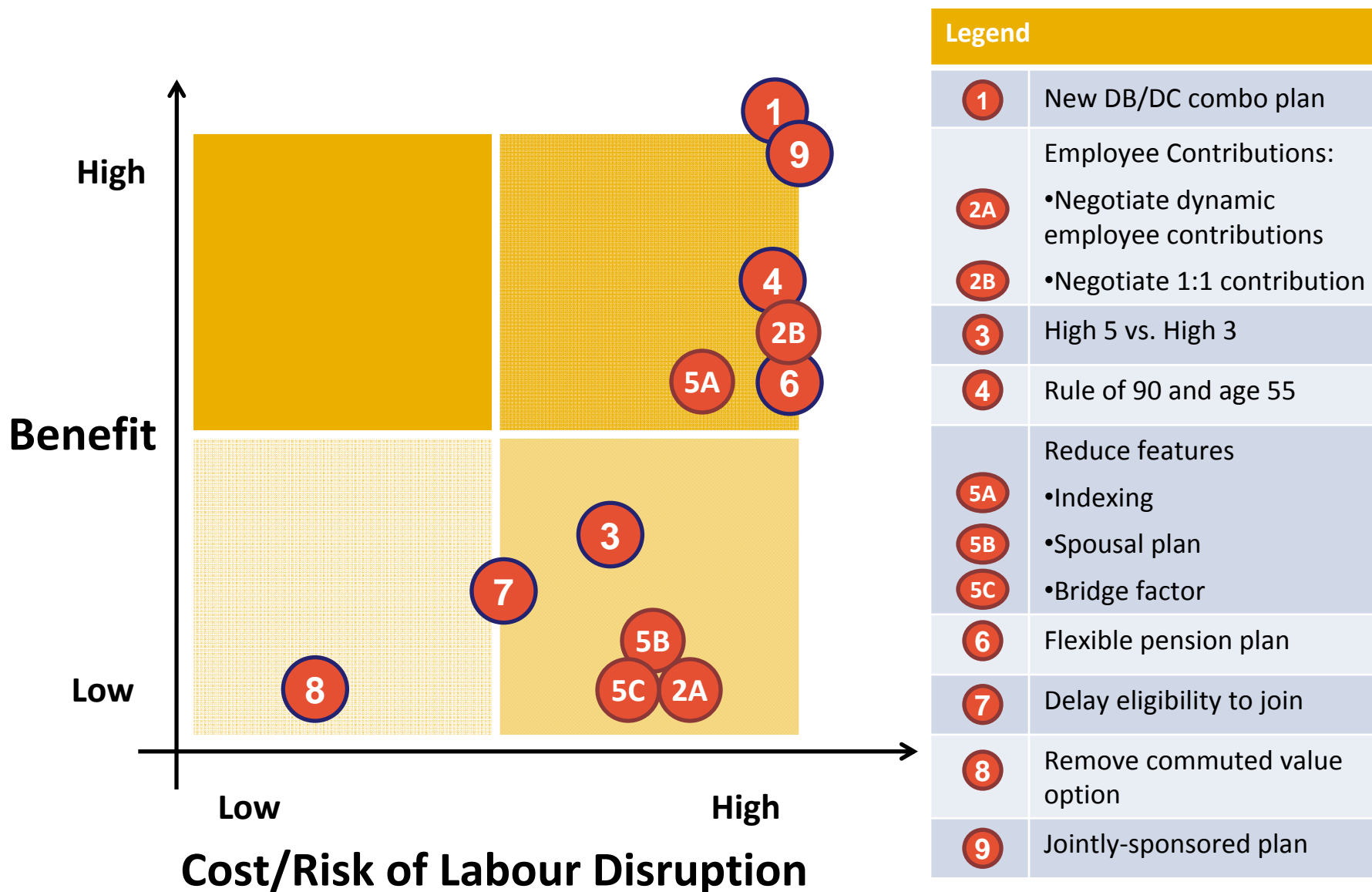
- Continue intervention evaluation through the sustainability model
 - Refine analysis of sustainability measures, thresholds, confidence levels and current state
 - Extend analysis to incorporate additional interventions with a view to identifying the most feasible set of interventions to maximize degree of sustainability
 - Estimate cost of execution for identified interventions
- Refine stakeholder management and education plan and integrate messaging with BTS
- Utilize the analysis and outcomes to influence longer term strategies
 - Coordinate sequencing, timing and impact of the three interventions within management control with other BTS initiatives
 - Inform BTS decisions around approaches to achieving staffing targets
 - Continue to manage Union attempts to improve programs over the long term
 - Use the three interventions which require negotiation to influence Labour negotiation strategy

Appendix A – Other Sustainability Measures to Monitor

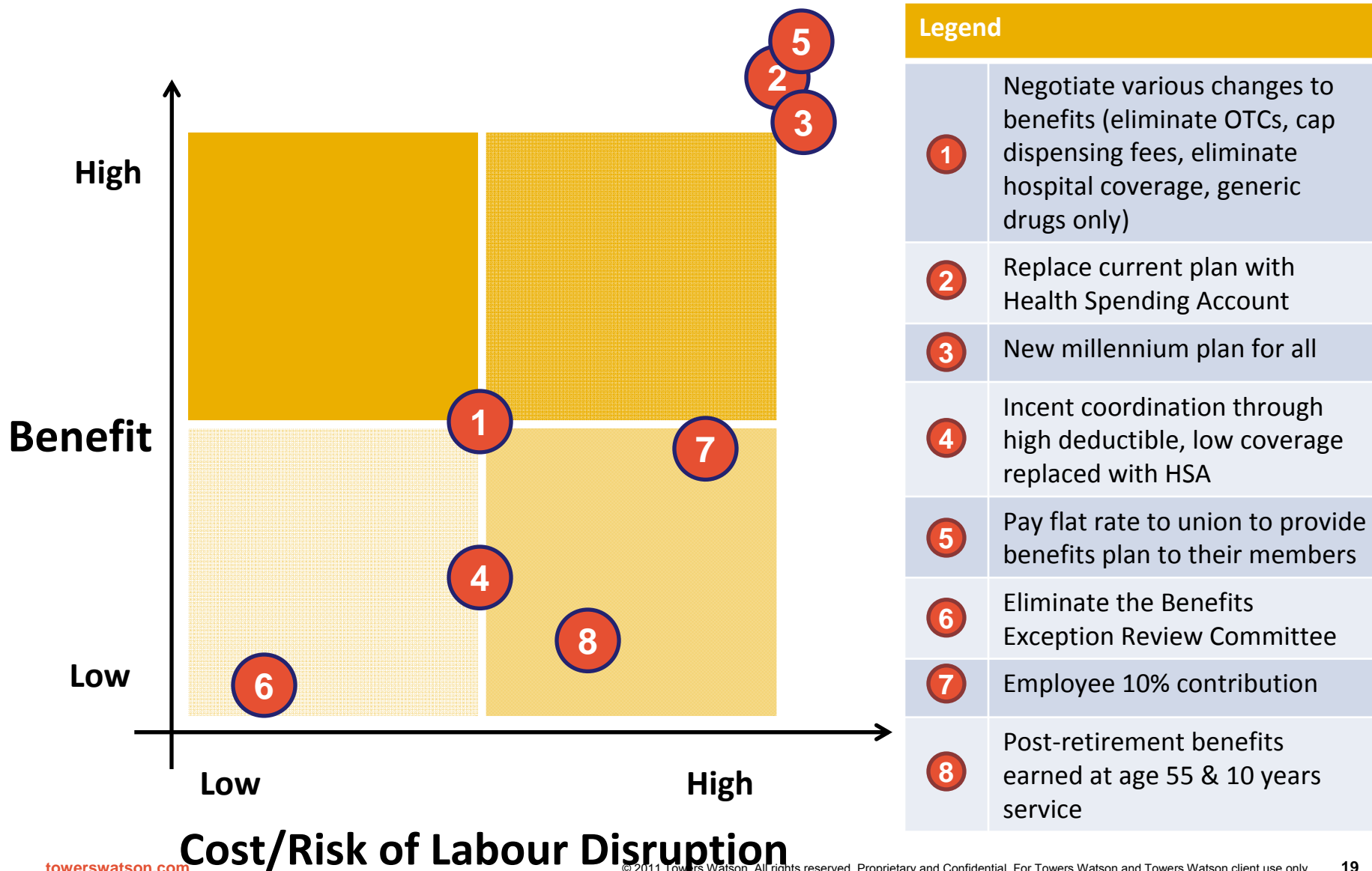
The following sustainability metrics will also be monitored and may be used in key stakeholder communications:

- **P&B Cash should not exceed 100% of Operating Cash Flow after CapEx**
 - Operating Cash Flow cannot be depleted after making for provision for CapEx and providing cash requirements for P&B
- **P&B Expense should not exceed 60% of Payroll**
 - P&B burden needs to be managed especially in conjunction with the management of overtime/etc.
- **P&B Cash should not exceed \$6M per TWh**
 - P&B program spending should remain in line with OPG's overall cost of power production
- **Pension Windup Deficit should not exceed \$5B**
 - Substantial portion of windup deficit is exempt from solvency funding under current pension law
 - Pension deficit represents a potential but crippling financial burden if the Ontario government removes current funding exemptions applicable to the OPG pension plan
- **Annual pension plan contributions should not exceed 5x employee contributions**
 - As OPG contributions exceed more than 5x employee contributions, significant concern that the basic cost-sharing relationship is impaired

Appendix B - Priority Matrix for Pension Design Interventions

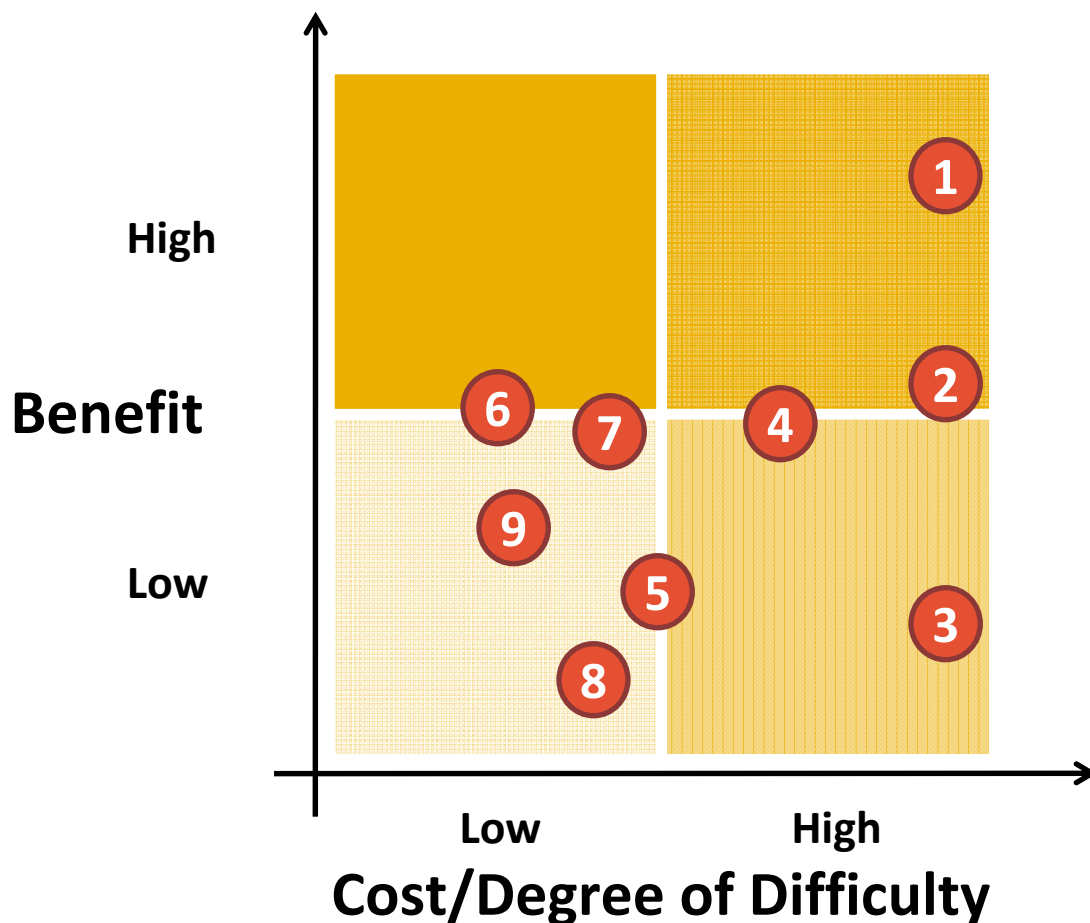


Appendix B – Priority Matrix for Benefits Design Interventions



Appendix B – Priority Matrix for Program Management Interventions

- This is an initial prioritization, to be refined
- The scale for this matrix is different than used for the design interventions



Legend	
1	Exclude portions of future wage increases from pensionable earnings
2	Increase prevalence of non-pensionable variable comp.
3	Increase cost/risk sharing (e.g., consider JSPP)
4	Voluntary settlements for post-retirement benefits
5	Voluntary settlements for disability income benefits
6	Reduce vendor costs and obtain more accurate/efficient claim adjudication
7	Implement more efficient Rx delivery methods/networks
8	Aggressively manage the disability program
9	Develop and implement a consumerism campaign

Appendix C – Confidence Levels

- When interpreting the results of a stochastic forecast (i.e., a large number of plausible scenarios), it is necessary to establish a confidence level
- **OPG selected a 95% confidence level as most appropriate measure for assessment**
 - **Threshold conditions were established at the highest level viewed as affordable for OPG**
 - **Therefore, occurrences of actual experience beyond the threshold must be minimized**
- For example, confidence levels of:
 - 50% - on average, one year in two would exceed the threshold
 - 75% - on average, one year in four would exceed the threshold
 - 90% - on average, one year in ten would exceed the threshold
 - 95% - on average, one year in twenty would exceed the threshold
- Sustainability Team spent considerable time deliberating on appropriate confidence level
 - Impossible to absolutely ensure that cash/expense will stay within specified thresholds, but concluded that should P&B costs occasionally exceed thresholds and/or exceed by small amounts, these occasional excesses can be managed by OPG
 - Viewed to be less prudent to establish a lower threshold criteria
 - With this approach, OPG would face more-frequent adverse experience above that threshold
 - With a lower threshold, the potential size of any excess amount would also be larger, bringing potentially severe consequences to OPG

UNDERTAKING JT2.13

Undertaking

To make best efforts to provide details on the company's costs for this application.

Response

Please find below an estimate of OPG's cost for the current application.

(\$k)	2010	2011	2012	2013 Bridge Year	2014 Test Year
Expert Witness costs	0	1,216	316	474	130
Legal costs	0	0	43	213	750
Consultants' costs	0	130	125	512	290
Incremental operating expenses associated with staff resources allocated to this application.	0	0	0	0	0
Incremental operating expenses associated with other resources allocated to this application. Please identify resources involved.	0	0	0	100	200
Intervenor costs	0	0	0	200	1,600
TOTAL	\$ -	\$ 1,346	\$ 484	\$ 1,498	\$ 2,970

Notes to the Table:

- (a) Costs presented in the table are associated with OPG's EB-2013-0321 rate application.
- (b) Data for Historical Years (2010, 2011 and 2012) is consistent with Ex. F3-1-3, Table 1. Actual costs are shown for 2013 and projections are shown for 2014.
- (c) External Witness costs incurred in 2011 and 2012 are associated with studies and reports that the OEB, in its EB-2010-0008 Decision with Reasons dated March 10, 2011, directed OPG to complete. These studies and reports were completed in 2011 and 2012 as OPG had originally planned to file a rate application in 2012. The 2011 costs shown in the above table are \$70.0k higher than the number shown in Ex. L-6.9-1 Staff-134 due to accruals reversal on contracts not related to the EB-2013-0321 rate application.
- (c) OPG has interpreted the phrase "incremental operating expenses associated with staff resources allocated to this application" to mean expenses incurred by Regulatory Affairs that are beyond the Regulatory Affairs Department's approved budget. As indicated in the table, no such incremental expenses were allocated to this application.
- (d) Incremental operating expenses associated with other resources allocated to this application consist of projected Section 30 expenses. Some of these expenses were accrued in 2013 as the application was filed on September 27, 2013.
- (e) Intervenor costs are projections and some of these costs were accrued in 2013 as the application was filed on September 27, 2013.

UNDERTAKING JT2.14

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Undertaking

To provide a list of benchmarking studies, surveys, reports and analysis, or explain why it cannot be provided.

Response

The requested list is provided as Attachment 1.

JT2.14

Attachment 1 – List of Major Benchmarking (2010 – 2013)

	Name of Study	Timing	Author	Purpose
1.	OPG Nuclear Benchmarking Reports	2009 - 2011	OPG /Scott Madden Management Consultants	To compare OPG Nuclear's performance to that of nuclear industry peer groups both in Canada and worldwide.
2.	Nuclear Staffing Benchmarking Analysis	2012	Goodnight Consulting Inc	To benchmark OPG nuclear staff levels against other North American nuclear operators.
3.	Uranium Procurement Program Assessment	2011	Longenecker & Associates	An external assessment of OPG's uranium procurement assessment.
4.	Corporate Executive Board General Counsel Roundtable Legal Department Spending and Staffing Benchmarking	2011		Internal review of comparative organizations to identify any gaps.
5.	Recharging Our Workforce	2011	Electricity Sector Council	To mitigate against a reality of the electricity sector in Canada losing 30% of its workforce between 2007-2012.
6.	Review of Dam Safety Program	2007- 2011	Dam Safety Advisory Panel	To provide: <ul style="list-style-type: none"> • External oversight of OPG's Dam and Public Safety Program; • An independent viewpoint into the strategic and operational risks and emerging issues regarding safety of OPG's dams; • Advice on priorities and opportunities of Dam Safety Program performance improvements.
7.	Hydroelectric Generation Benchmarking Program	on-going	Navigant Consulting Inc.	To provide: <ul style="list-style-type: none"> • Hydroelectric generation costs and performance reviews; • Opportunity to network, exchange experiences and discuss best practices.

	Name of Study	Timing	Author	Purpose
8.	Hydroelectric Productivity Committee (HPC) Database Electric Utility Cost Group	on-going	Electric Utility Cost Group (EUCG)	HPC Database is used to derive industry statistics such as operating and maintenance costs as well generating units' performance. OPG position can be established relative to that. Numerical analyses are presented during workshops and used as background for discussing methodologies, business practices, equipment repair methods, etc.
9.	OPG IT Cost Benchmarking Analysis Reports	2010	Electric Utility Cost Group (EUCG)	To review compatible peer organizations to identify gaps in IT costs.
10.	Corporate Library Benchmarking Study	2010	Primary Research Group (PRG)	To review compatible peer organizations to identify gaps in documentation storage.
11.	Market Total Compensation Review	2010	Mercer	To conduct a total compensation review for the non-union employee populations (Bands A to L) for 2010.
12.	National Utility Compensation Survey	2013	Aon Hewit	Required by OEB. Submitted in 2013 OEB Evidence.
13.	Benefit Index Report	2012	Aon Hewit	To assess the value of the OPG salaried employee pension and benefits for the PWU group as compared to a norm of values of the salaries employee benefits program of 16 companies.

1 **UNDERTAKING JT2.15**

2
3 **Undertaking**

4
5 To confirm whether a report exists related to the IT benchmarking data, and provide it or
6 explain why it will not be provided.
7

8
9 **Response**

10
11 EUCG (IT Chapter) is a voluntary group established to exchange data related to IT
12 activities and costs. EUCG does not perform studies nor does it produce any reports for
13 its member companies. It simply collects and disseminates the agreed raw data for its
14 members.
15

16 OPG IT staff have analyzed and summarized IT Cost / Employee and IT Cost / GWh for
17 the quartile information, which has been summarized in Ex F3-3-1, pp. 6 – 8 and Ex L-
18 6.9-2 AMPCO-064 c), but has not completed a report related to the information
19 contained at these references. OPG has completed an IT benchmarking report for 2010,
20 which is provided as Attachment 1 to this response.

Final OPG IT Cost Benchmark Analysis - 2010

BS&IT – Programming & Performance Improvement

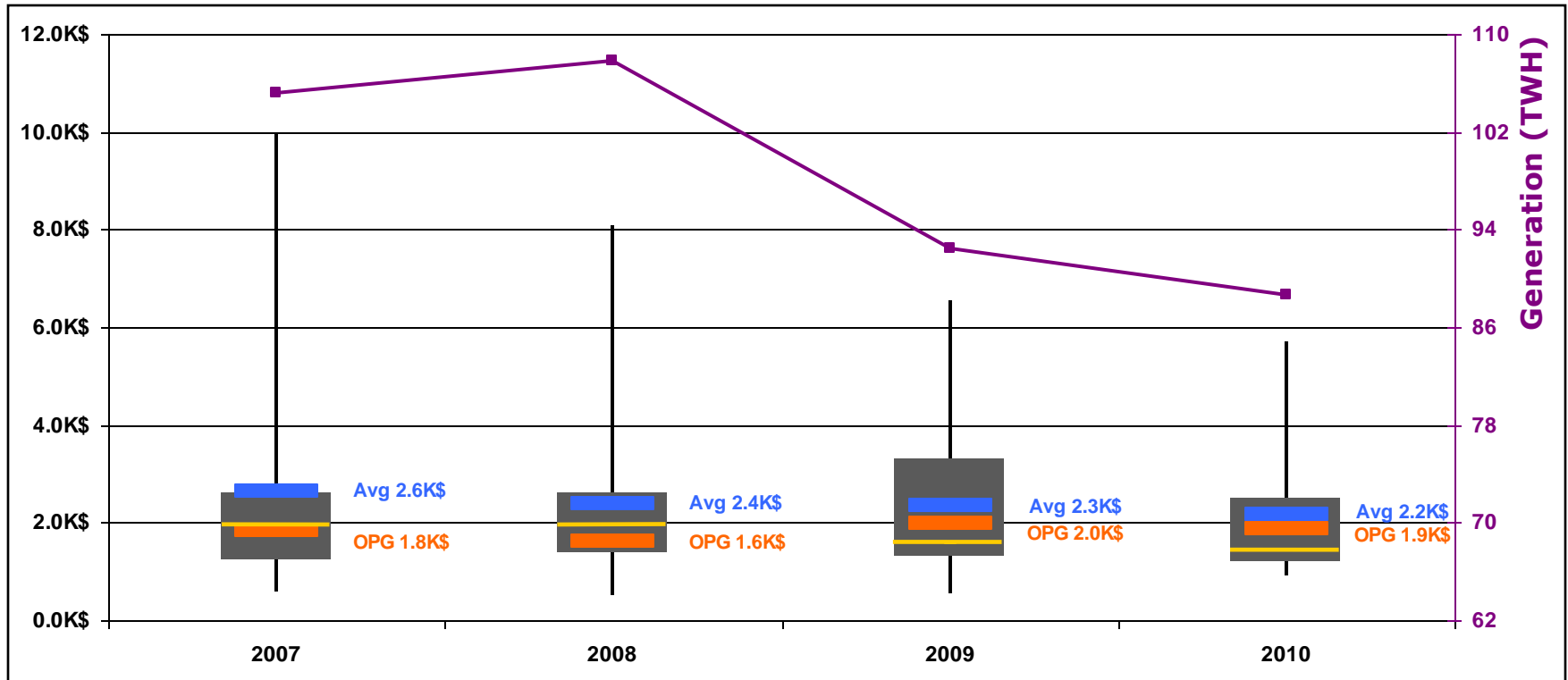
Interpretation of Reported Trends

2010 OPG Ranking / Position	Q1	Indicates OPG is at or within first quartile (≤ 25 percentile)
	Q2	Indicates OPG is at or within second quartile (≤ 50 percentile)
	Q3	Indicates OPG is at or within third quartile (≤ 75 percentile)
	Q4	Indicates OPG is within fourth quartile (> 75 percentile)
2009 vs. 2010 OPG Performance	↑	Indicates an increase in OPG's cost/service performance compared to previous year
	↓	Indicates a decrease in OPG's cost/service performance compared to previous year

IT Benchmark Methodology

- 2007-2010 year-over-year analysis compares key IT metrics (i.e. IT Spend Per GWH and IT Spend Per Employee) against EUCG peers
- Conversion rates are based on Bank of Canada's year average of exchange rates
- OPG data is excluded from the average and quartile calculations
- EUCG data is confidential and for EUCG member use only.

YOY IT Spend Per GWH

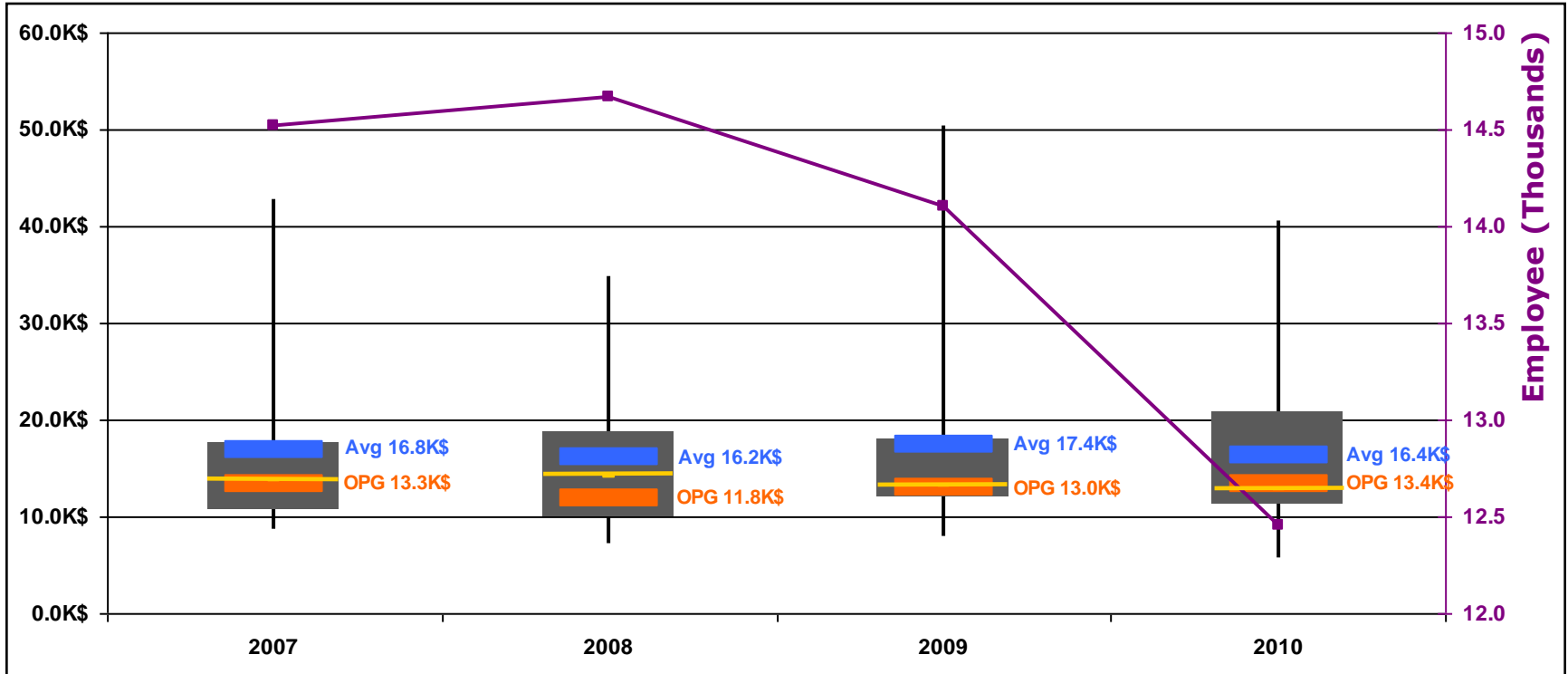


Cylinders denote the median 50% of responses

	2007	2008	2009	2010
OPG IT Spend (\$) Per GWH	1,833	1,611	1,982	1,883
OPG Actual IT Spend (M\$)	192.7	173.7	183.3	166.8
OPG Generation (GWH)	105,100	107,800	92,500	88,600
Total IT Spend (M\$) Reduction to Q1	64.83	26.07	64.81	62.18

- = Middle Quartiles
- = Median
- = OPG
- = Peer Average
- = Generation

YOY IT Spend Per Employee



Cylinders denote the median 50% of responses

	2007	2008	2009	2010
OPG IT Spend (\$) Per Employee	13,274	11,845	13,000	13,389
OPG Actual IT Spend (M\$)	192.7	173.7	183.3	166.8
OPG Total Employee	14,517	14,664	14,100	12,458
Total IT Spend (M\$) Reduction to Q1	48.06	30.08	16.54	28.33

- = Middle Quartiles
- = Median
- = OPG
- = Peer Average
- = Employee

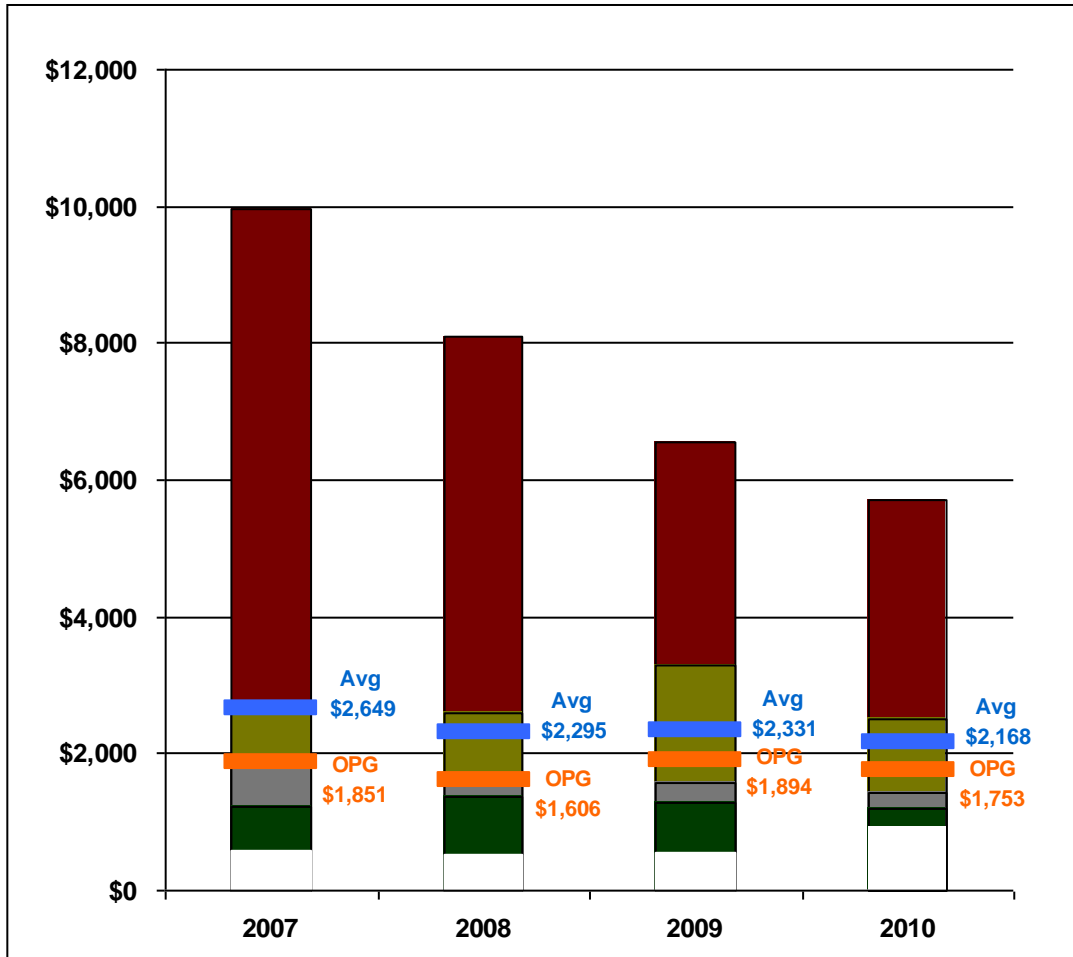
2010 Peer Group

- 2010 peer group is composed of the following North American utilities:
 - Center Point Energy
 - Energy North West
 - New Brunswick Power
 - Omaha Public Power District
 - Oncor
 - Pacific Gas & Electric
 - Pennsylvania Power & Light Corp
 - Progress Energy
 - Southern California Edison
 - Tennessee Valley Authority

IT Spend

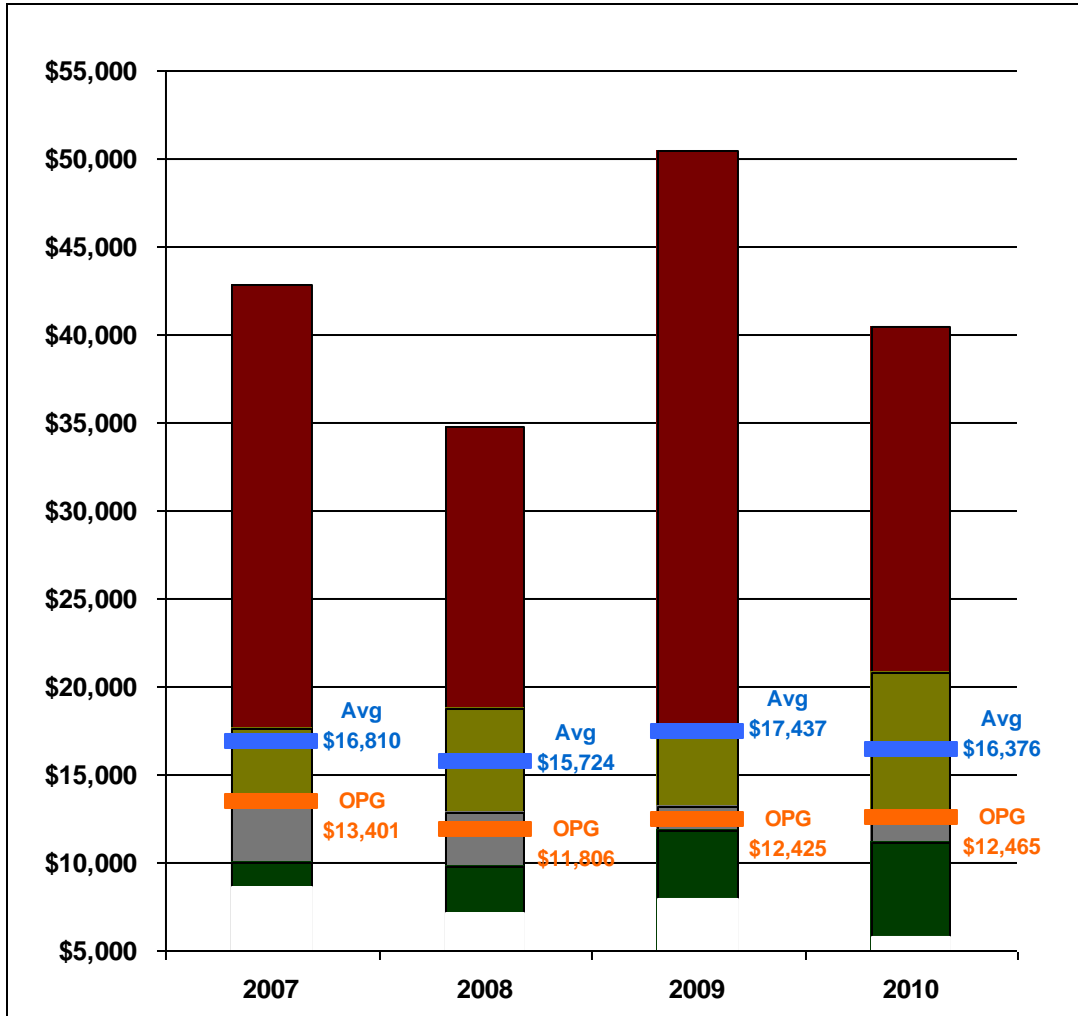
- Some IT costs were excluded to better achieve an apples-to-apples comparison. Below are some exclusions per EUCG IT Data Dictionary such as:
 - Floor space and furniture associated with the IT function
 - Process and simulator computing support
 - Remote access, SCADA network, cellular phones, radio and paging systems, whether or not part of IT organization
 - Document and records management operations (non-IT costs)
- Cost components of EUCG IT Spend include:
 - Labour Costs
 - Hardware & Software Maintenance Expenses and Depreciation
 - Circuit Costs
 - Outsourced Costs and
 - Decentralized Costs

IT Spend Per GWH



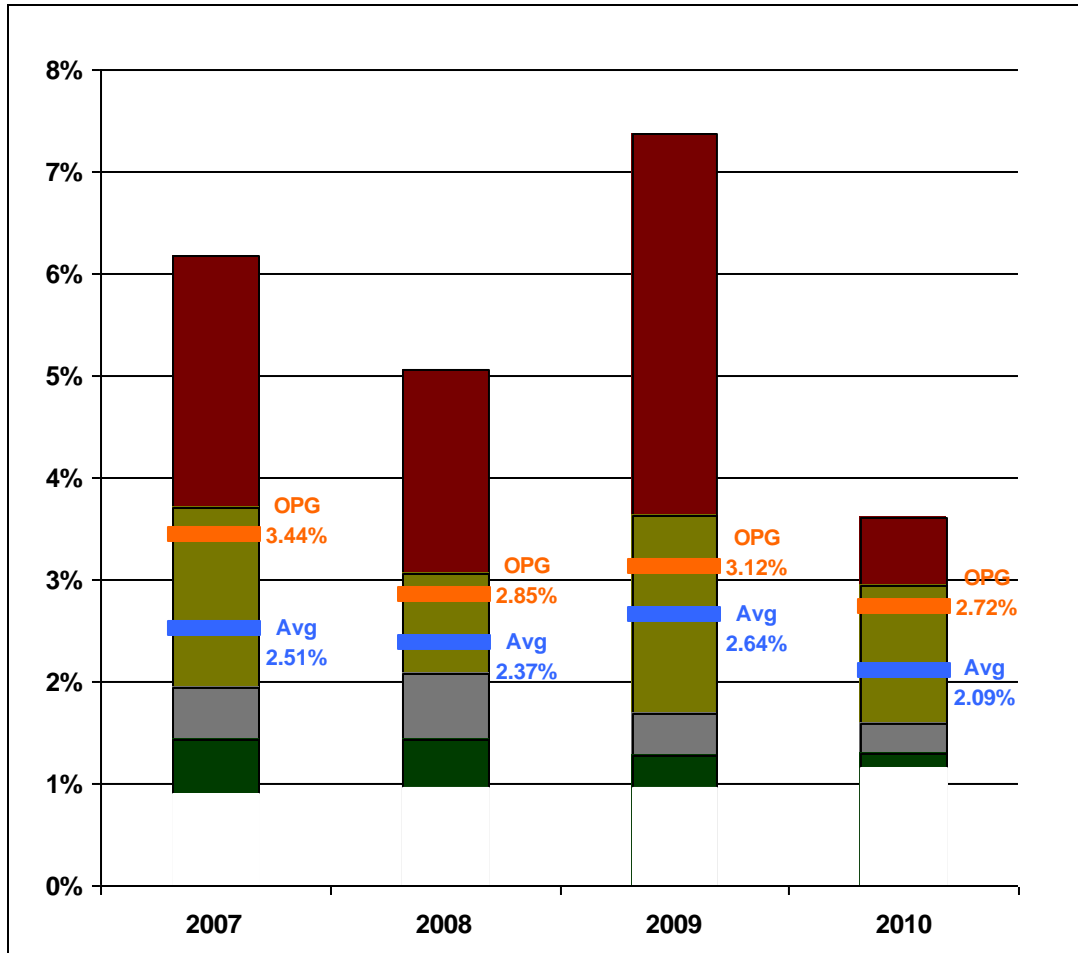
Data Source	2008	2009	2010
OPG IT Spend (M\$)	173.1	175.2	155.3
OPG Generation (GWH)	107,800	92,500	88,600
Peer Size	10	12	9
Q1 Range (\$)	523-1,369	546-1,281	924-1,181
Q2 Range (\$)	1,369-1,929	1,281-1,564	1,181-1,418
Q3 Range (\$)	1,929-2,591	1,564-3,294	1,418-2,492
Q4 Range (\$)	2,591-8,097	3,294-6,549	2,492-5,698
Benchmark Results			
OPG IT Spend (\$) Per GWH	1,606	1,894	1,753
Peer Average (\$)	2,369	2,331	2,168
Benchmark Analysis			
Reduction to Achieve Q1 (\$/GWH and %)	237	613	572
	↓15%	↓32%	↓33%
Reduction to Achieve Q2 (\$/GWH and %)	Not Required	330	335
		↓17%	↓19%

IT Spend Per Employee



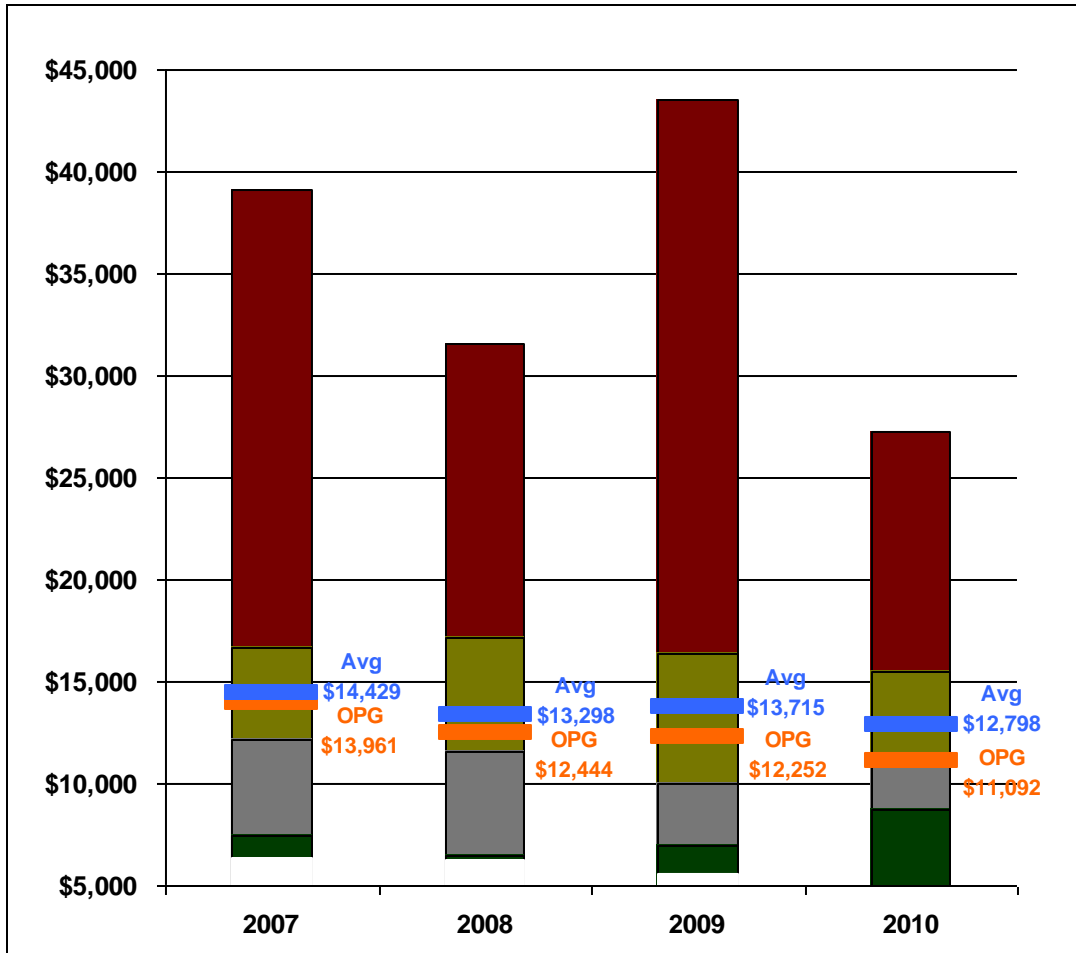
Data Source	2008	2009	2010
OPG IT Spend (M\$)	173.1	175.2	155.3
OPG Total Employee	14,664	14,100	12,458
Peer Size	10	13	10
Q1 Range (\$)	7,214-9,794	7,915-11,827	5,795-11,115
Q2 Range (\$)	9,794-14,086	11,827-13,185	11,115-12,813
Q3 Range (\$)	14,086-18,774	13,185-17,879	12,813-20,756
Q4 Range (\$)	18,774-34,803	17,879-50,411	20,756-40,487
Benchmark Results			
OPG IT Spend (\$/Employee)	11,806	12,425	12,465
Peer Average (\$)	16,157	17,437	16,376
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Employee and %)	2,012 ↓17%	599 ↓5%	1,350 ↓11%
Reduction to Achieve Q2 (\$/Employee and %)	Not Required	Not Required	Not Required

IT Spend as % of Revenue



Data Source	2008	2009	2010
OPG IT Spend (M\$)	173.1	175.2	155.3
OPG Revenue (M\$)	6,082	5,613	5,701
Peer Size	10	12	10
Q1 Range (%)	0.97-1.44	0.96-1.28	1.16-1.29
Q2 Range (%)	1.44-2.29	1.28-1.69	1.29-1.59
Q3 Range (%)	2.29-3.05	1.69-3.63	1.59-2.95
Q4 Range (%)	3.05-5.06	3.63-7.37	2.95-3.61
Benchmark Results			
OPG IT Spend Per Revenue (%)	2.85	3.12	2.72
Peer Average (%)	2.43	2.64	2.09
Benchmark Analysis			
Reduction to Achieve Q1 (%)	1.41	1.84	1.43
	↓50%	↓59%	↓53%
Reduction to Achieve Q2 (%)	0.55	1.43	1.14
	↓19%	↓46%	↓42%

IT Spend Per End User



Data Source	2008	2009	2010
OPG IT Spend (M\$)	173.1	175.2	155.3
OPG End Users	13,913	14,300	14,000
Peer Size	10	13	10
Q1 Range (\$)	6,385-6,613	5,610-6,920	4,915-8,742
Q2 Range (\$)	6,613-11,607	6,920-9,995	8,742-11,168
Q3 Range (\$)	11,607-17,114	9,995-16,338	11,168-15,500
Q4 Range (\$)	17,114-31,558	16,338-43,529	15,500-27,248
Benchmark Results			
OPG IT Spend (\$) Per End User	12,444	12,252	11,092
Peer Average (\$)	13,549	13,715	12,798
Benchmark Analysis			
Reduction to Achieve Q1 (\$/End User and %)	5,831 ↓47%	5,331 ↓44%	2,350 ↓21%
Reduction to Achieve Q2 (\$/End User and %)	836 ↓7%	2,257 ↓18%	Not Required

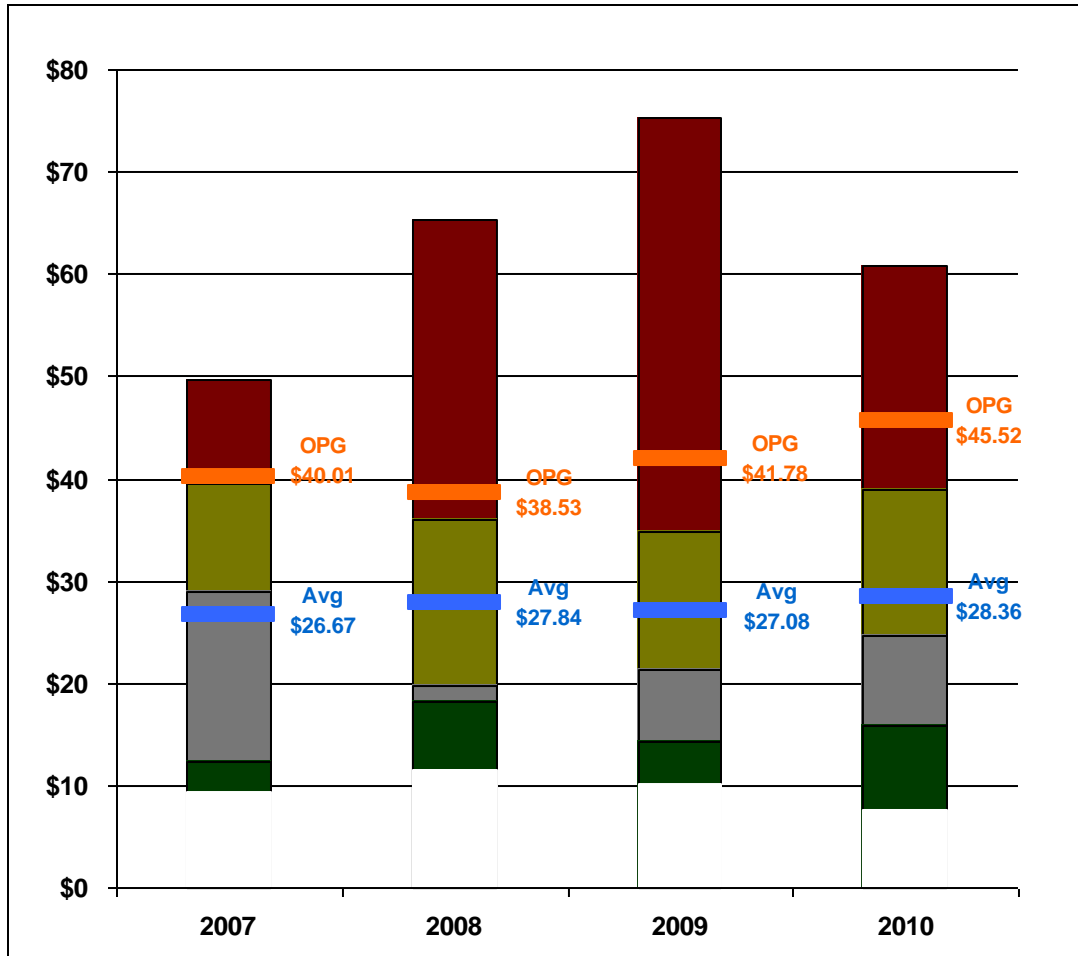
IT Spend Summary

IT Spend Metrics	2007 OPG Quartile Ranking	2008 OPG Quartile Ranking	2009 OPG Quartile Ranking	2010 OPG Quartile Ranking	2009-2010 Change
IT Spend Per GWH	Q2	Q2	Q3	Q3	↓\$141
IT Spend Per Employee	Q2	Q2	Q2	Q2	↑\$39
IT Spend as a % of Revenue	Q3	Q3	Q3	Q3	↓0.40%
IT Spend Per End User	Q3	Q3	Q3	Q2	↓\$1,160

IT Service Metrics

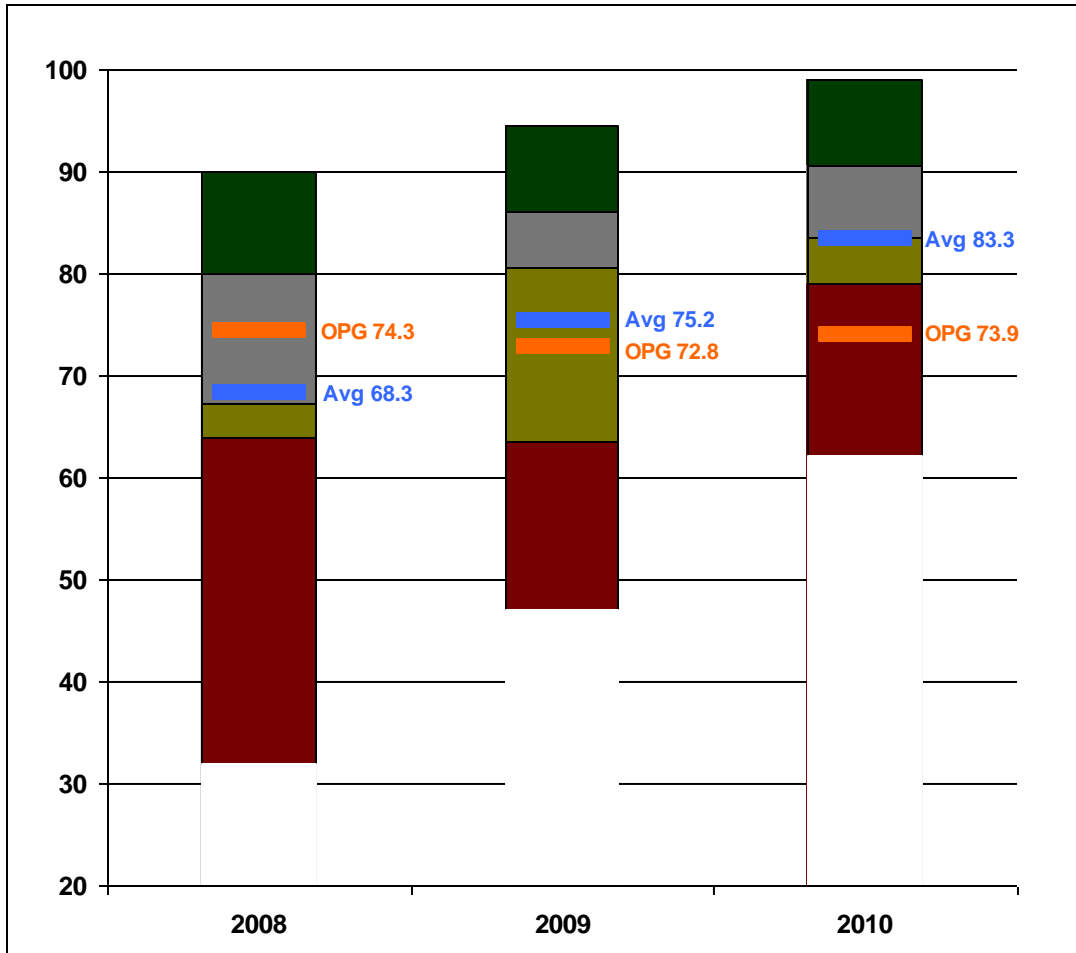
- EUCG IT Service Areas and towers are:
 - Desktop Support Services – include Desktop and Help Desk towers
 - Computing Services – include Mainframe, Unix Application Server, Wintel Application Server, and Storage towers
 - Telecommunication Services – include Voice and Network Towers
 - Application Services – include Application Development and Application Maintenance towers
 - Other – includes Admin/Back Office tower

Help Desk Cost Per Transaction



Data Source	2008	2009	2010
OPG Help Desk Cost (M\$)	6.200	6.372	6.674
OPG Annual Transactions	160,926	152,500	146,629
Peer Size	14	12	10
Q1 Range (\$)	11.59-18.20	10.13-14.22	7.59-15.90
Q2 Range (\$)	18.20-19.73	14.22-21.35	15.90-24.59
Q3 Range (\$)	19.73-35.91	21.35-34.77	24.59-38.94
Q4 Range (\$)	35.91-65.42	34.77-75.29	38.94-60.90
Benchmark Results			
OPG Help Desk Cost (\$) Per Transaction	38.53	41.78	45.52
Peer Average (\$)	27.84	27.08	28.36
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Transaction and %)	20.33 ↓53%	27.56 ↓66%	29.61 ↓65%
Reduction to Achieve Q2 (\$/Transaction and %)	18.80 ↓49%	20.43 ↓49%	20.93 ↓46%

First Call Resolution

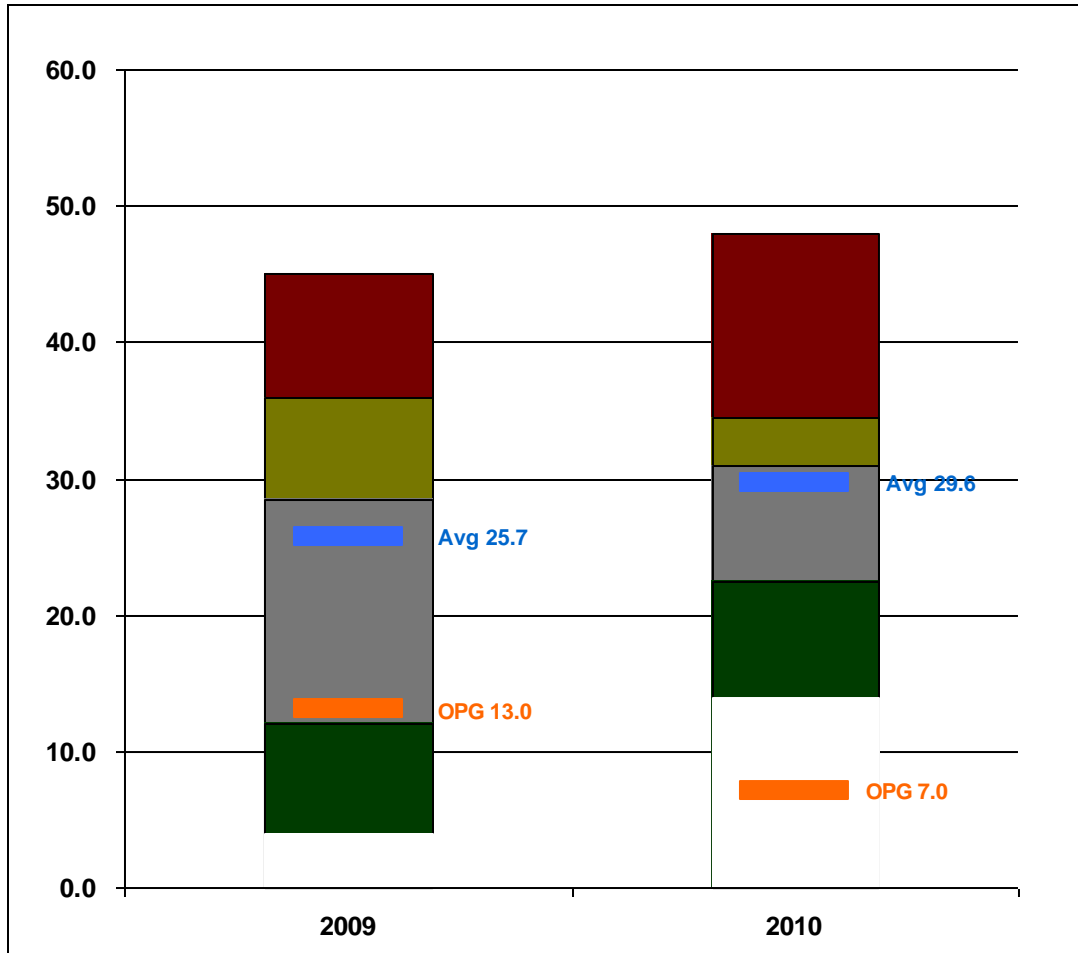


Data Source	2008	2009	2010
Peer Size	13	12	10
Q1 Range (%)	80.0-90.0	86.0-94.5	90.5-99.0
Q2 Range (%)	67.2-80.0	80.5-86.0	83.5-90.5
Q3 Range (%)	64.0-67.2	63.6-80.5	79.0-83.5
Q4 Range (%)	32.0-64.0	47.0-63.6	62.2-79.0
Benchmark Results			
OPG First Call Resolution (%)	74.3	72.8	73.9
Peer Average (%)	68.3	75.2	83.3
Benchmark Analysis			
Increase to Achieve Q1 (%)	5.7	13.2	16.6
	↑8%	↑18%	↑22%
Increase to Achieve Q2 (%)	Not Required	7.7	9.6
	Not Required	↑11%	↑13%

Note:

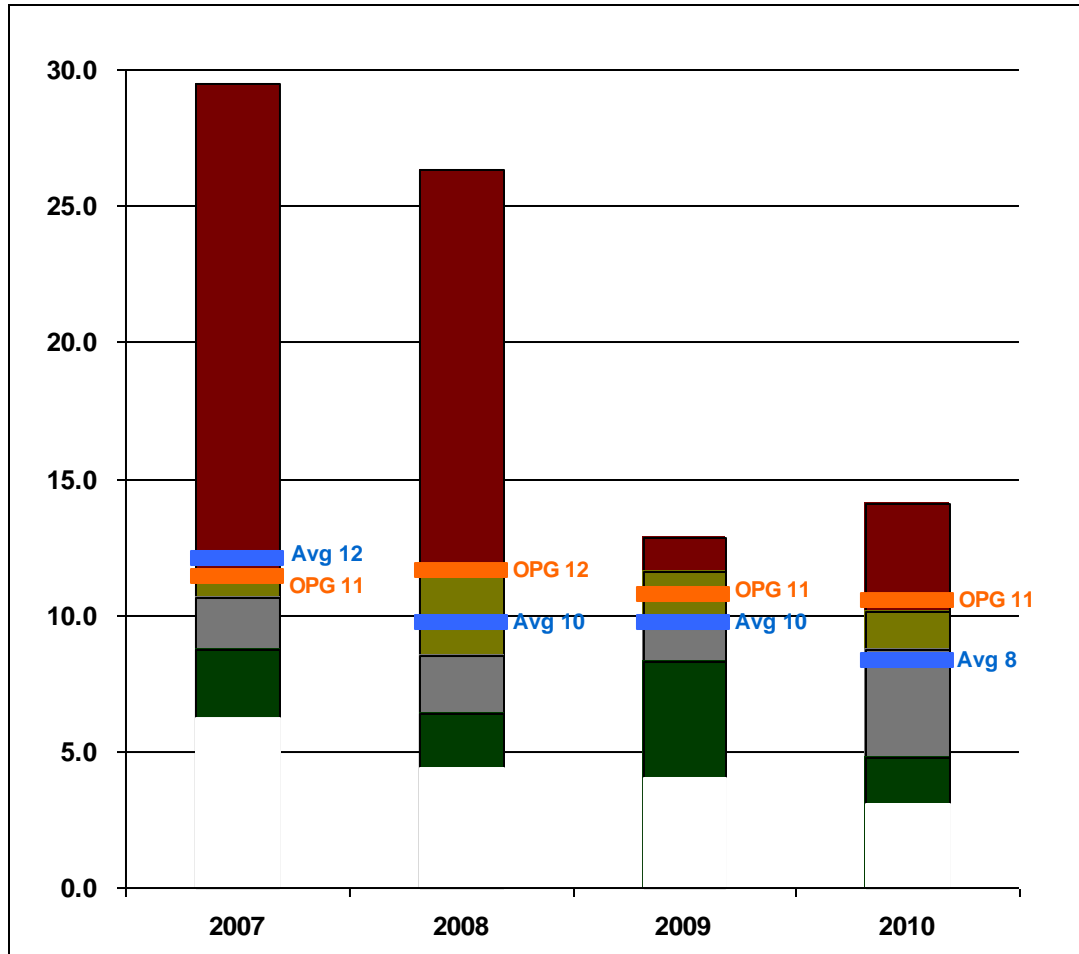
For this metric, the higher the result, the better.

Average Speed to Answer



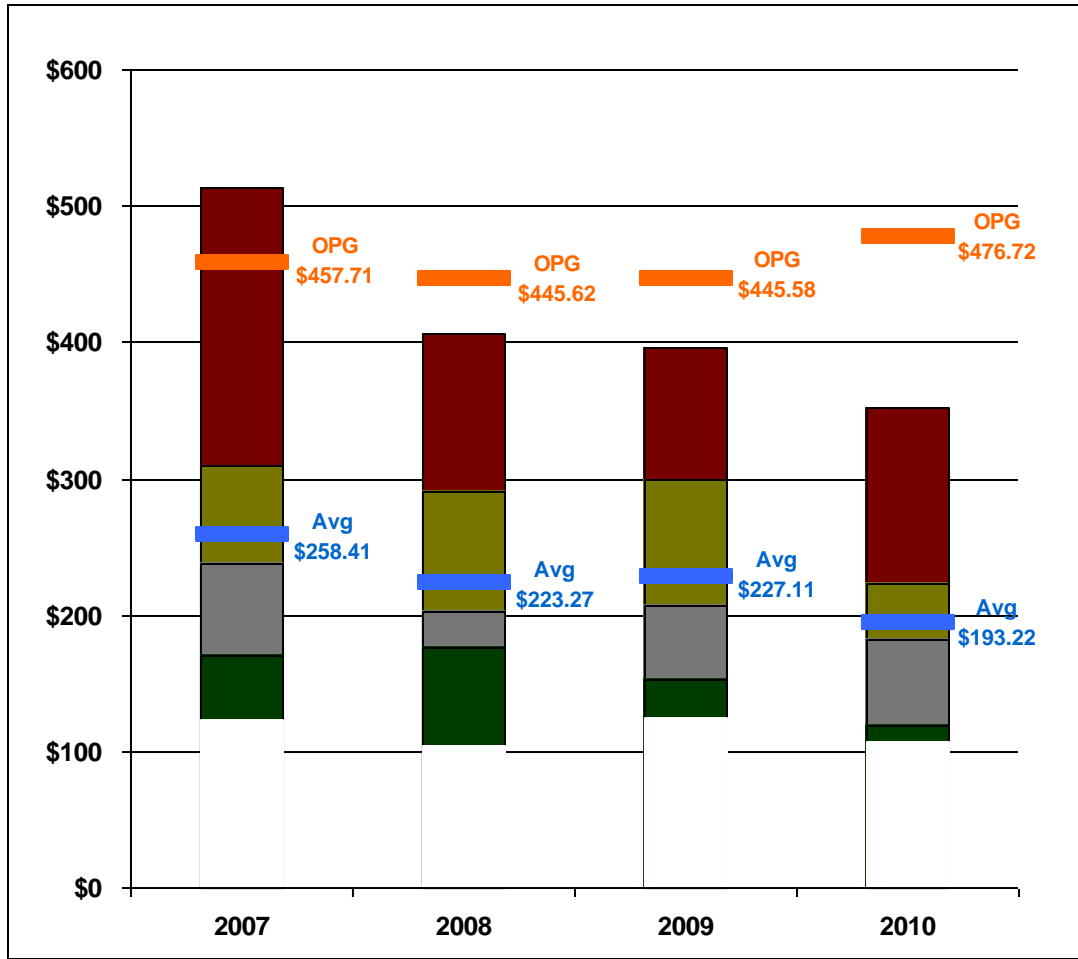
Data Source	2009	2010
Peer Size	6	7
Q1 Range (Sec)	4.0-12.0	14.0-22.5
Q2 Range (Sec)	12.0-28.5	22.5-31.0
Q3 Range (Sec)	28.5-36.0	31.0-34.5
Q4 Range (Sec)	36.0-45.0	34.5-48.0
Benchmark Results		
OPG Average Speed to Answer (Sec)	13.0	7.0
Peer Average (Sec)	25.7	29.6
Benchmark Analysis		
Reduction to Achieve Q1 (Sec and %)	1.0	Not Required
	↓8%	
Reduction To Achieve Q2 (Sec and %)	Not Required	Not Required

Help Desk Tickets Per End User



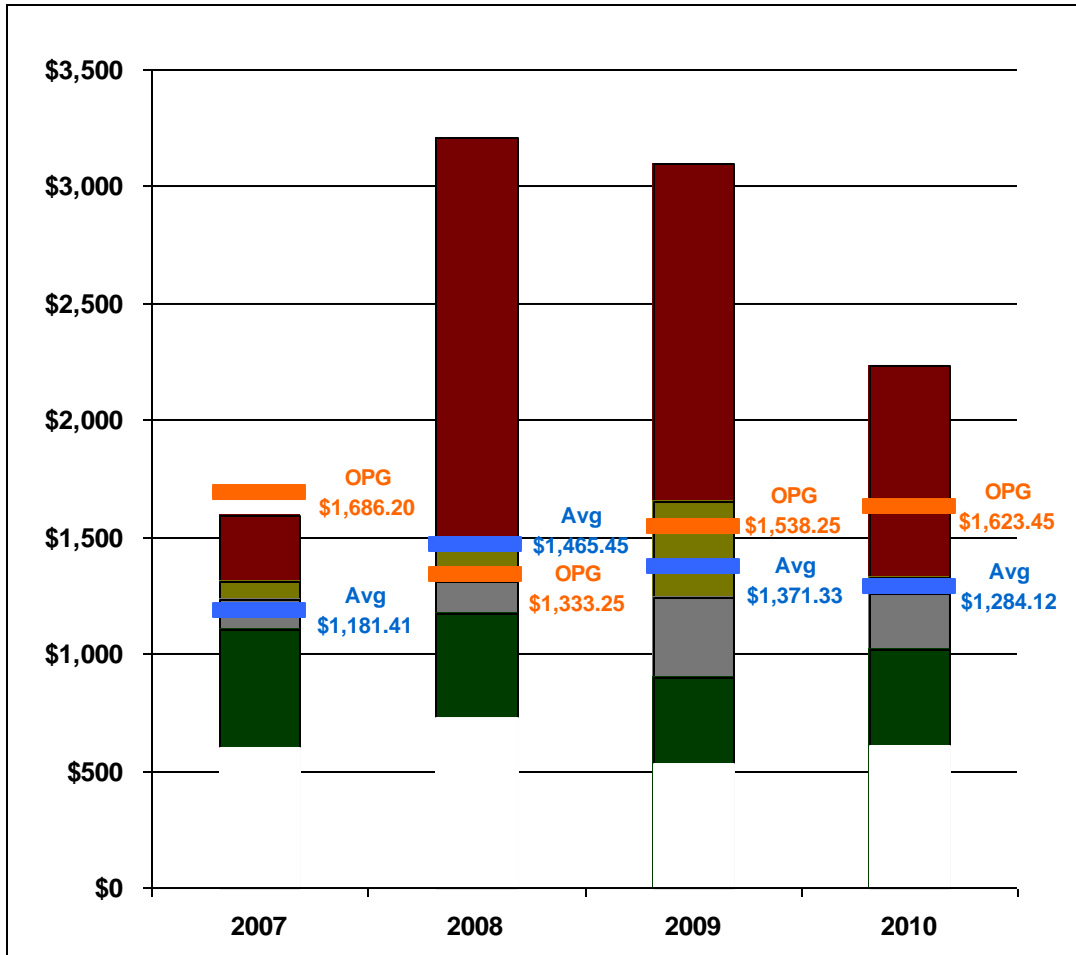
Data Source	2008	2009	2010
OPG Help Desk Annual Transactions	160,926	152,500	146,629
OPG End User	13,913	14,300	14,000
Peer Size	14	12	10
Q1 Range	4-6	4-8	3-5
Q2 Range	6-8	8-10	5-9
Q3 Range	8-12	10-12	9-10
Q4 Range	12-26	12-13	10-14
Benchmark Results			
OPG Help Desk Transactions Per End User	12	11	10
Peer Average	10	10	8
Benchmark Analysis			
Reduction to Achieve Q1 (Transaction/End User and %)	5	2	6
	↓45%	↓22%	↓54%
Reduction to Achieve Q2 (Transaction/End User and %)	3	1	2
	↓27%	↓9%	↓17%

Help Desk Cost Per End User



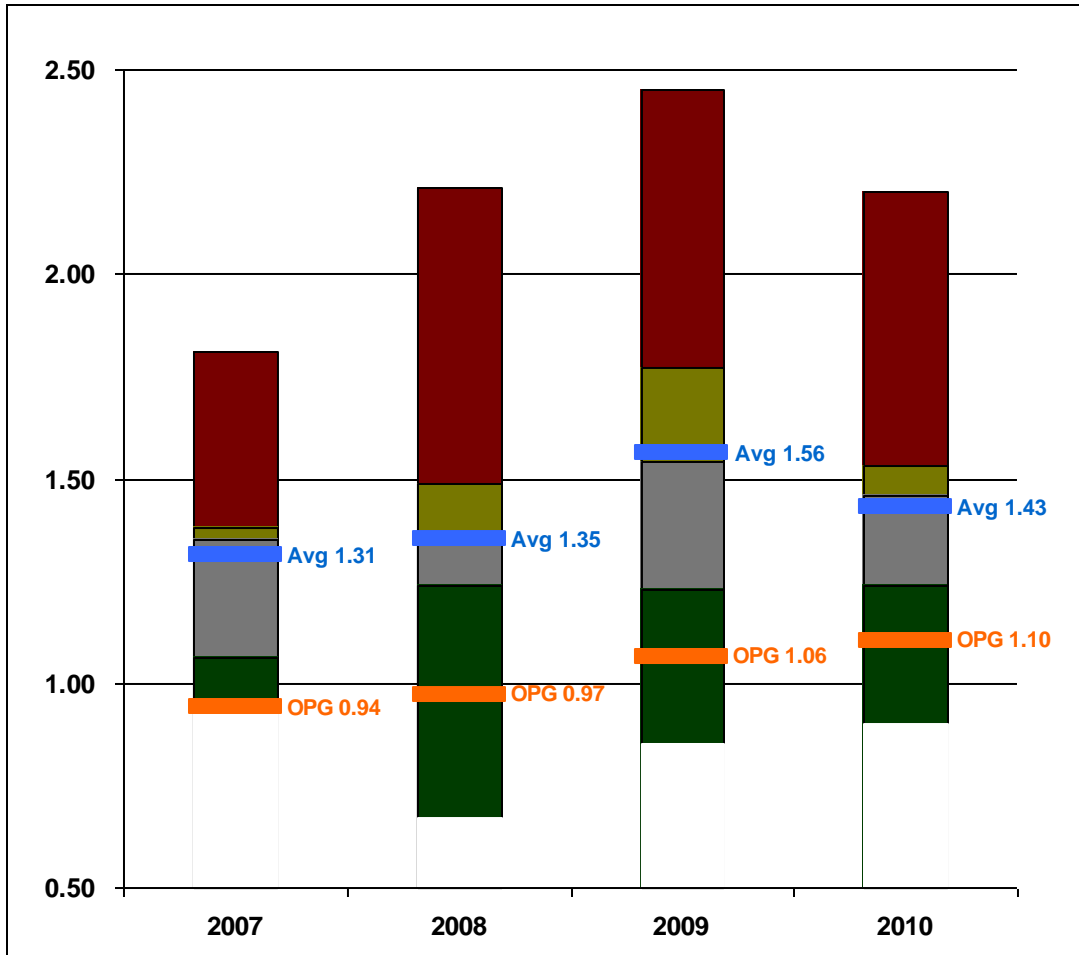
Data Source	2008	2009	2010
OPG Help Desk Cost (M\$)	6.200	6.372	6.674
OPG End User	13,913	14,300	14,000
Peer Size	14	13	10
Q1 Range (\$)	103.48-176.10	124.82-151.95	106.78-119.16
Q2 Range (\$)	176.10-202.49	151.95-207.20	119.16-181.73
Q3 Range (\$)	202.49-291.07	207.20-299.71	181.73-223.11
Q4 Range (\$)	291.07-406.44	299.71-395.40	223.11-351.63
Benchmark Results			
OPG Help Desk Cost (\$) Per End User	445.62	445.58	476.72
Peer Average (\$)	223.27	227.11	193.22
Benchmark Analysis			
Reduction to Achieve Q1 (\$/End User and %)	269.52	293.63	357.55
	↓60%	↓66%	↓75%
Reduction to Achieve Q2 (\$/End User and %)	243.13	238.37	294.99
	↓55%	↓53%	↓62%

Desktop Cost Per PC



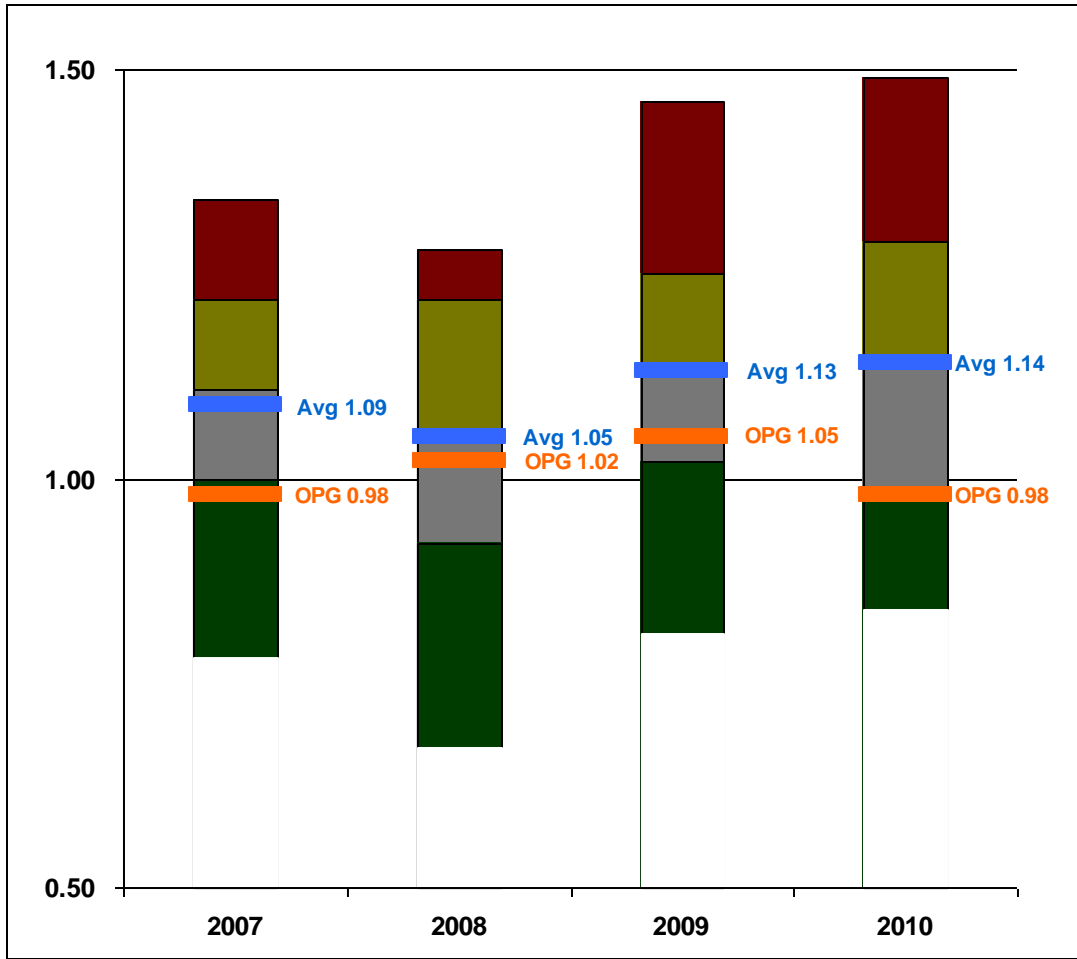
Data Source	2008	2009	2010
OPG Desk top Cost (M\$)	18.887	23.012	22.175
OPG PC Count	14,166	14,960	13,659
Peer Size	14	13	10
Q1 Range (\$)	730.99-1,171.78	534.41-899.89	611.12-1,016.97
Q2 Range (\$)	1,171.78-1,312.35	899.89-1,244.37	1,016.97-1,255.73
Q3 Range (\$)	1,312.35-1,500.56	1,244.37-1,654.14	1,255.73-1,324.93
Q4 Range (\$)	1,500.56-3,206.83	1,654.14-3,093.94	1,324.93-2,231.60
Benchmark Results			
OPG Desktop Cost (\$) Per PC	1,333.25	1,538.25	1,623.45
Peer Average (\$)	1,465.45	1,371.33	1,284.12
Benchmark Analysis			
Reduction to Achieve Q1 (\$/PC and %)	161.47 ↓12%	638.36 ↓41%	606.48 ↓37%
Reduction to Achieve Q2 (\$/PC and %)	20.90 ↓2%	293.88 ↓19%	367.72 ↓23%

PCs Per Employee



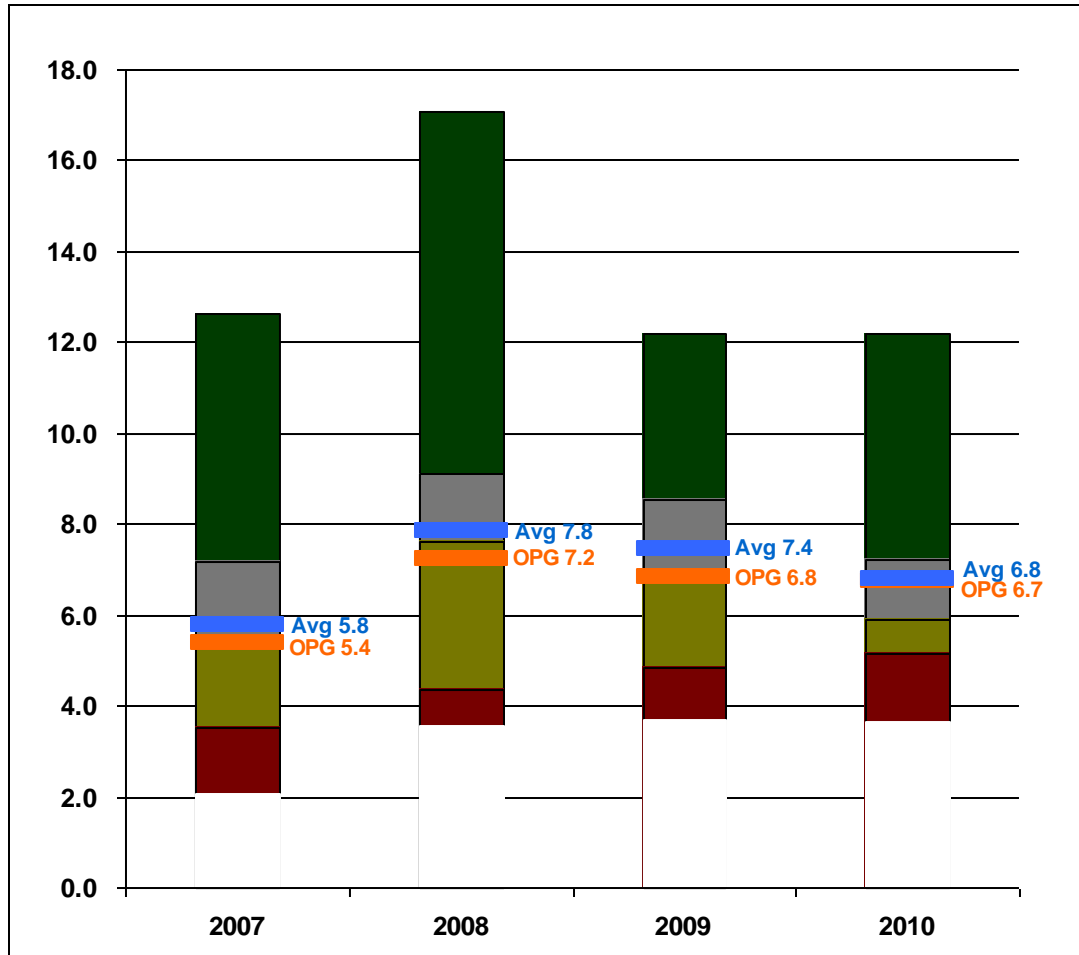
Data Source	2008	2009	2010
OPG PC Count	14,166	14,960	13,659
OPG Employee	14,664	14,100	12,458
Peer Size	14	13	10
Q1 Range	0.67-1.24	0.85-1.23	0.90-1.24
Q2 Range	1.24-1.34	1.23-1.54	1.24-1.46
Q3 Range	1.34-1.49	1.54-1.77	1.46-1.53
Q4 Range	1.49-2.21	1.77-2.45	1.53-2.20
Benchmark Results			
OPG PC Per Employee	0.97	1.06	1.10
Peer Average	1.35	1.56	1.43
Benchmark Analysis			
Reduction to Achieve Q1 (PC/Employee and %)	Not Required	Not Required	Not Required
Reduction to Achieve Q2 (PC/Employee and %)	Not Required	Not Required	Not Required

PCs Per End User



Data Source	2008	2009	2010
OPG PC Count	14,166	14,960	13,659
OPG End User	13,913	14,300	14,100
Peer Size	14	13	10
Q1 Range	0.67-0.92	0.81-1.02	0.84-0.99
Q2 Range	0.92-1.06	1.02-1.13	0.99-1.14
Q3 Range	1.06-1.22	1.13-1.25	1.14-1.29
Q4 Range	1.22-1.28	1.25-1.46	1.29-1.49
Benchmark Results			
OPG PC Per End User	1.02	1.05	0.98
Peer Average	1.05	1.13	1.14
Benchmark Analysis			
Reduction to Achieve Q1 (PC/End User and %)	0.10	0.03	Not Required
	↓9%	↓3%	
Reduction to Achieve Q2 (PC/End User and %)	Not Required	Not Required	Not Required

Users Per Network Printer



Data Source	2008	2009	2010
OPG End User	13,913	14,300	14,000
OPG Network Printer Count	1,931	2,100	2,080
Peer Size	14	13	10
Q1 Range	9.1-17.1	8.5-12.2	7.2-12.2
Q2 Range	7.6-9.1	6.9-8.5	5.9-7.2
Q3 Range	4.4-7.6	4.8-6.9	5.1-5.9
Q4 Range	3.6-4.4	3.7-4.8	3.7-5.1
Benchmark Results			
OPG End User Per Network Printer	7.2	6.8	6.7
Peer Average	7.8	7.4	6.8
Benchmark Analysis			
Reduction to Achieve Q1 (End Users/Network Printer and %)	1.9 ↓26%	1.7 ↓25%	0.5 ↓7%
Reduction to Achieve Q2 (End Users/Network Printer and %)	0.4 ↓5%	0.1 ↓2%	Not Required

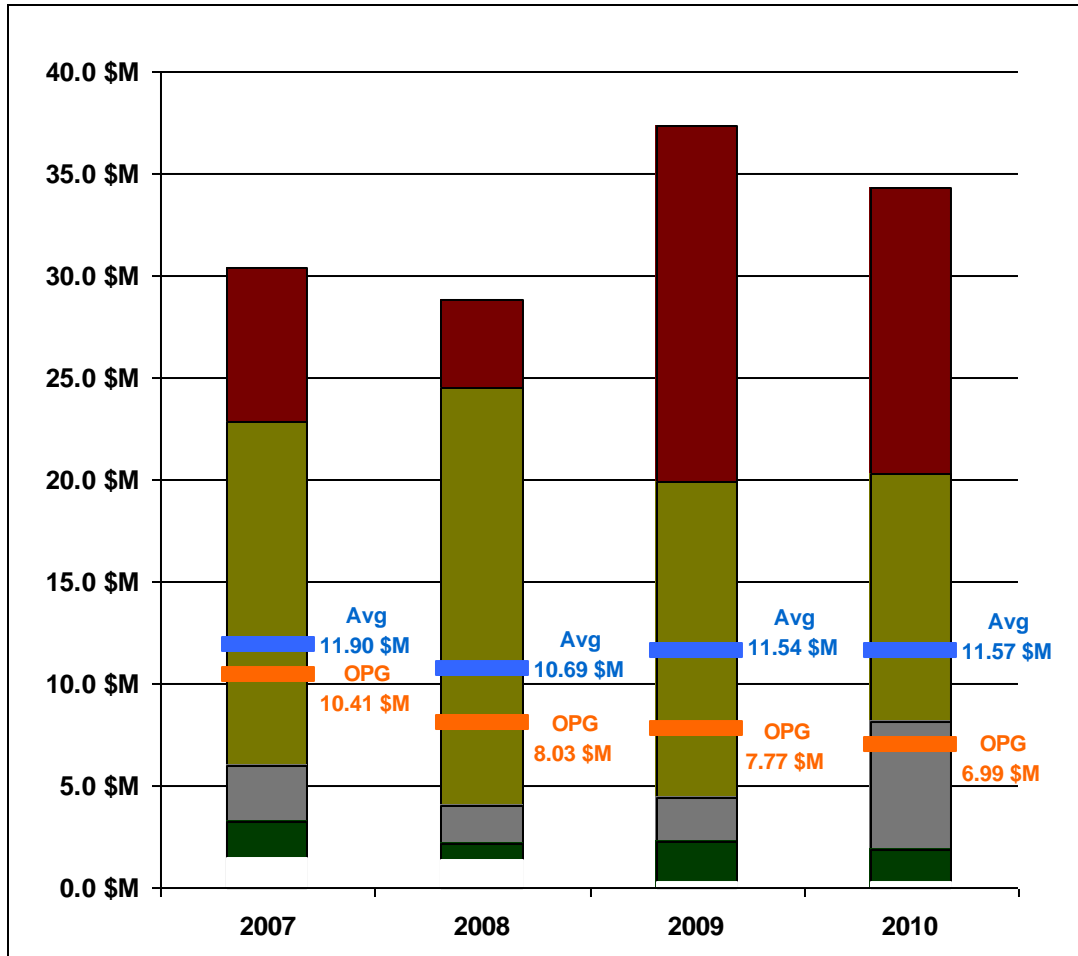
Note:

For this metric, the higher the result, the better.

OPG Desktop Support Service Metric Summary

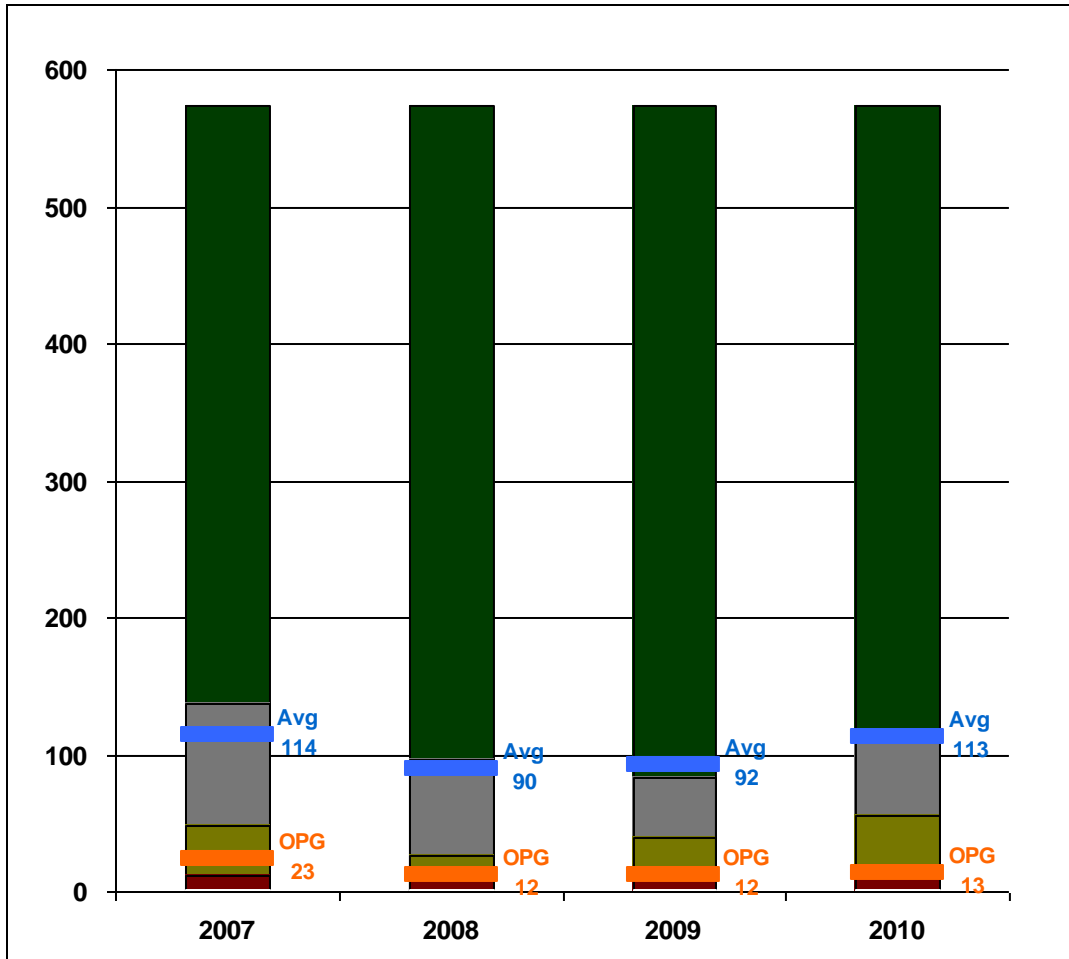
IT Service Metrics	2007 OPG Quartile Ranking	2008 OPG Quartile Ranking	2009 OPG Quartile Ranking	2010 OPG Quartile Ranking	2009-2010 Change
Help Desk Cost Per Transaction	Q4	Q4	Q4	Q4	↑\$3.73
First Call Resolution	Not available	Q2	Q3	Q4	↑1.1%
Average Speed to Answer	Not available	Not available	Q2	Q1	↓6.0 sec
Help Desk Tickets Per End User	Q3	Q3	Q3	Q4	↓0.2
Help Desk Cost Per End User	Q4	Worse than Q4	Worse than Q4	Worse than Q4	↑\$31.14
Desktop Cost Per PC	Worse than Q4	Q3	Q3	Q4	↑\$85.20
PCs Per Employee	Better than Q1	Q1	Q1	Q1	↑0.04
PCs Per End User	Q1	Q2	Q2	Q1	↓0.07
End Users Per Network Printer	Q2	Q3	Q3	Q2	↓0.08

Computing Services Cost Per Data Centre



Data Source	2008	2009	2010
OPG Computing Services Cost (M\$)	48.19	46.59	41.94
OPG Data Centre	6	6	6
Peer Size	13	13	10
Q1 Range (M\$)	1.42-2.15	0.32-2.25	0.28-1.91
Q2 Range (M\$)	2.15-4.02	2.25-4.42	1.91-8.12
Q3 Range (M\$)	4.02-24.52	4.42-19.93	8.12-20.25
Q4 Range (M\$)	24.52-28.86	19.93-37.35	20.25-34.36
Benchmark Results			
OPG Computing Services Cost (M\$) Per Data Centre	8.03	7.77	6.99
Peer Average (M\$)	10.69	11.54	11.57
Benchmark Analysis			
Reduction To Achieve Q1 (M\$/Data Centre and %)	5.89 ↓73%	5.51 ↓71%	5.08 ↓73%
Reduction to Achieve Q2 (M\$/Data Centre and %)	4.01 ↓50%	3.35 ↓43%	Not Required

IT Sites per Data Centre

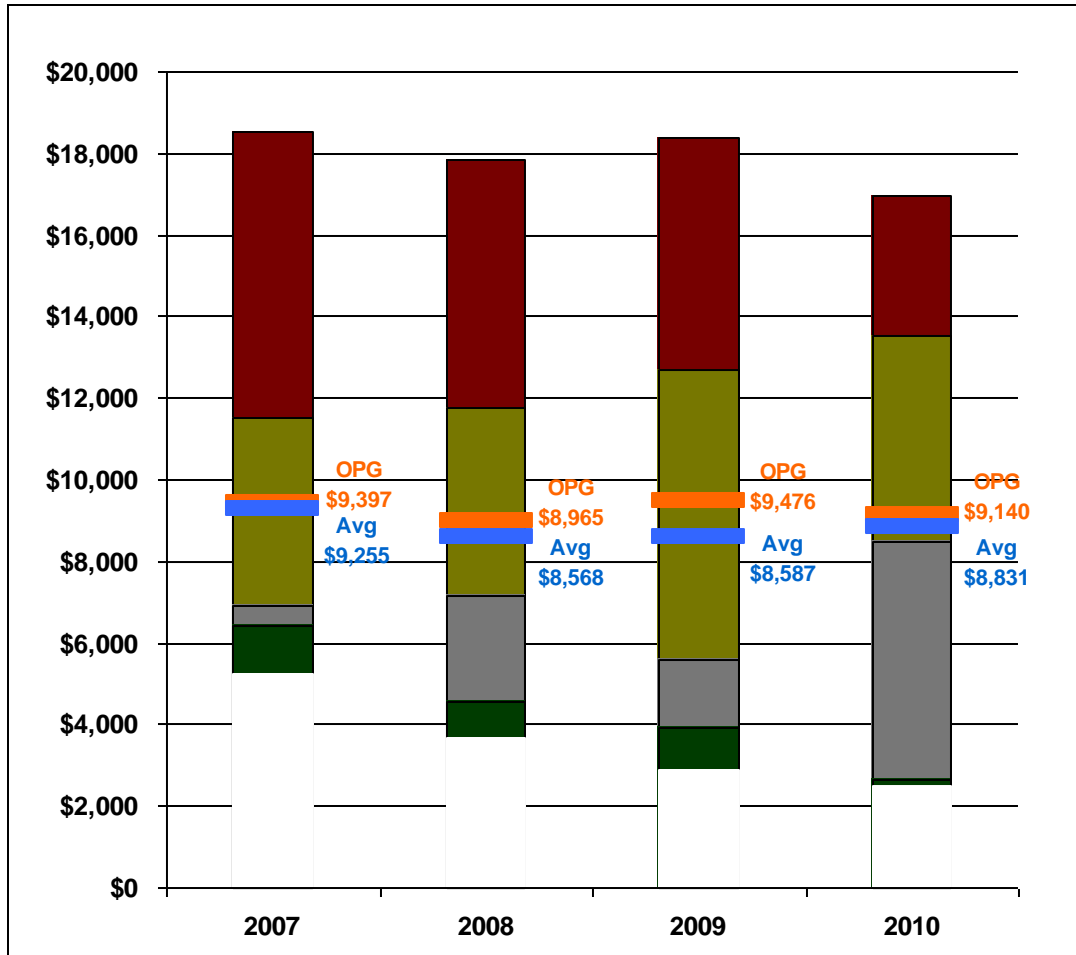


Data Source	2008	2009	2010
OPG IT Sites	73	73	77
OPG Data Centre	6	6	6
Peer Size	13	13	10
Q1 Range	96-574	83-574	117-574
Q2 Range	26-96	40-83	55-117
Q3 Range	11-26	17-40	17-55
Q4 Range	1-11	1-17	2-17
Benchmark Results			
OPG IT Sites Per Data Centre	12	12	13
Peer Average	90	92	113
Benchmark Analysis			
Increase to Achieve Q1 (IT Sites/Data Centre and %)	84	70	104
	↑689%	↑578%	↑808%
Increase to Achieve Q2 (IT Sites/Data Centre and %)	14	27	42
	↑114%	↑225%	↑327%

Note:

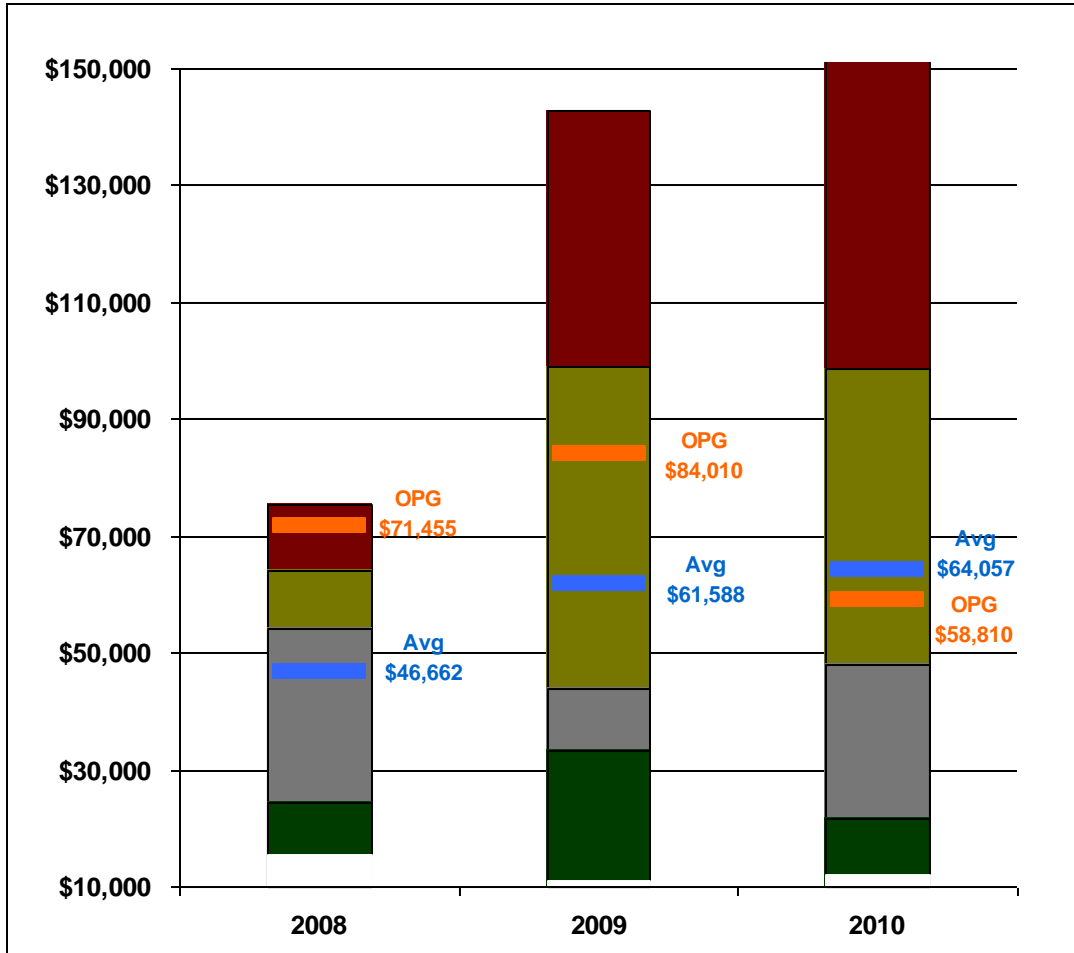
For this metric, the higher the result, the better.

Mainframe Cost Per MIPS



Data Source	2008	2009	2010
OPG Mainframe Cost (M\$)	12.058	12.318	10.045
OPG MIPS	1,345	1,300	1,099
Peer Size	8	7	5
Q1 Range (\$)	3,698-4,579	2,878-3,938	2,524-2,656
Q2 Range (\$)	4,579-7,144	3,938-5,566	2,656-8,467
Q3 Range (\$)	7,144-11,789	5,566-12,702	8,467-13,527
Q4 Range (\$)	11,789-17,822	12,702-18,382	13,527-16,984
Benchmark Results			
OPG Mainframe Cost (\$) Per MIPS	8,965	9,476	9,140
Peer Average (\$)	8,568	8,587	8,831
Benchmark Analysis			
Reduction to Achieve Q1 (\$/MIPS and %)	4,386 ↓49%	5,538 ↓58%	6,484 ↓71%
Reduction to Achieve Q2 (\$/MIPS and %)	1,820 ↓20%	3,909 ↓41%	673 ↓7%

Unix Cost Per Physical Unix Server

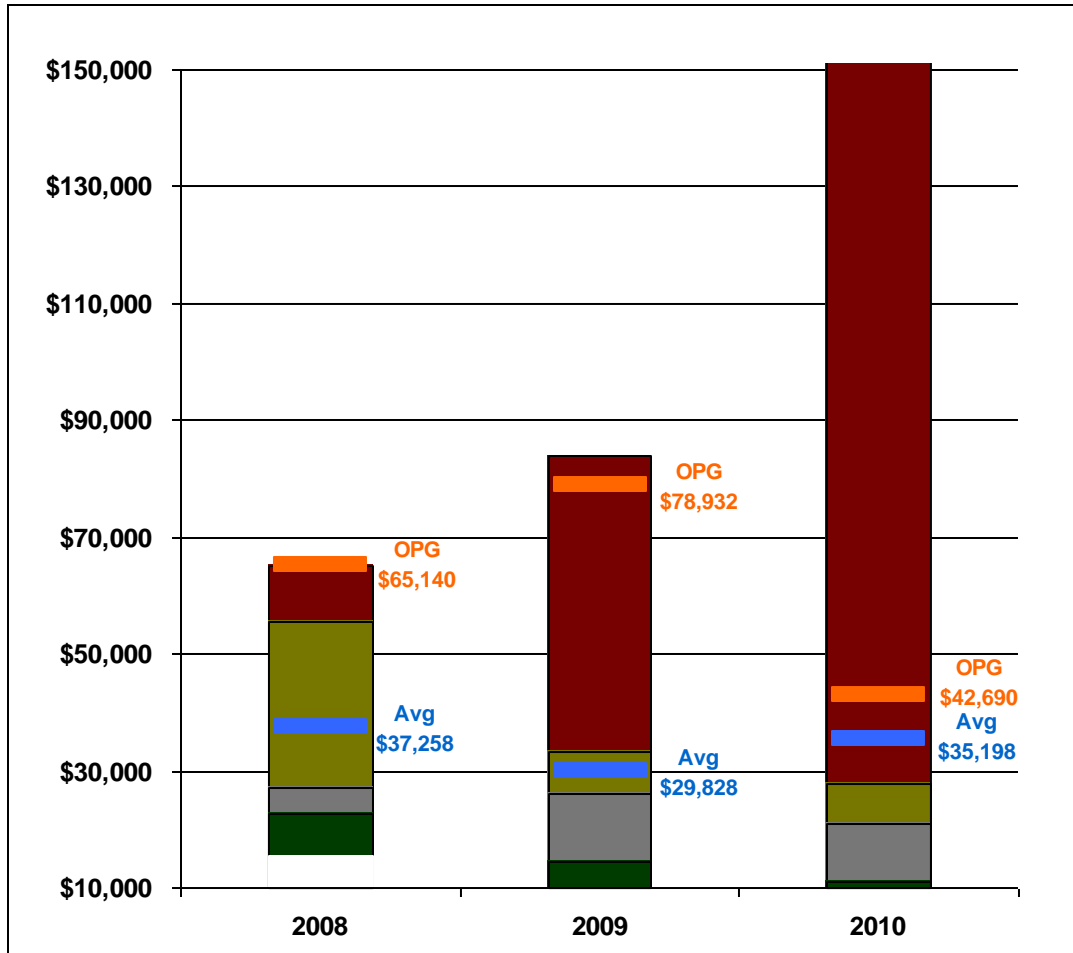


Data Source	2008	2009	2010
OPG Unix Cost (M\$)	14.005	14.366	8.410
OPG Unix Server	196	171	143
Peer Size	12	10	8
Q1 Range (\$)	15,439-24,233	11,119-33,392	12,153-21,699
Q2 Range (\$)	24,233-54,219	33,392-43,824	21,699-47,899
Q3 Range (\$)	54,219-64,133	43,824-98,863	47,899-98,609
Q4 Range (\$)	64,133-75,364	98,863-142,845	98,609-163,889
Benchmark Results			
OPG Unix Cost (\$) Per Unix Server	71,455	84,010	58,810
Peer Average (\$)	46,662	61,588	64,057
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Unix Server and %)	47,222	50,618	37,111
	↓66%	↓60%	↓63%
Reduction to Achieve Q2 (\$/Unix Server and %)	17,236	40,186	10,911
	↓24%	↓48%	↓19%

Note:

Unix Servers include physical installed non-host servers running Unix Operating Systems

Unix Cost Per Unix OS

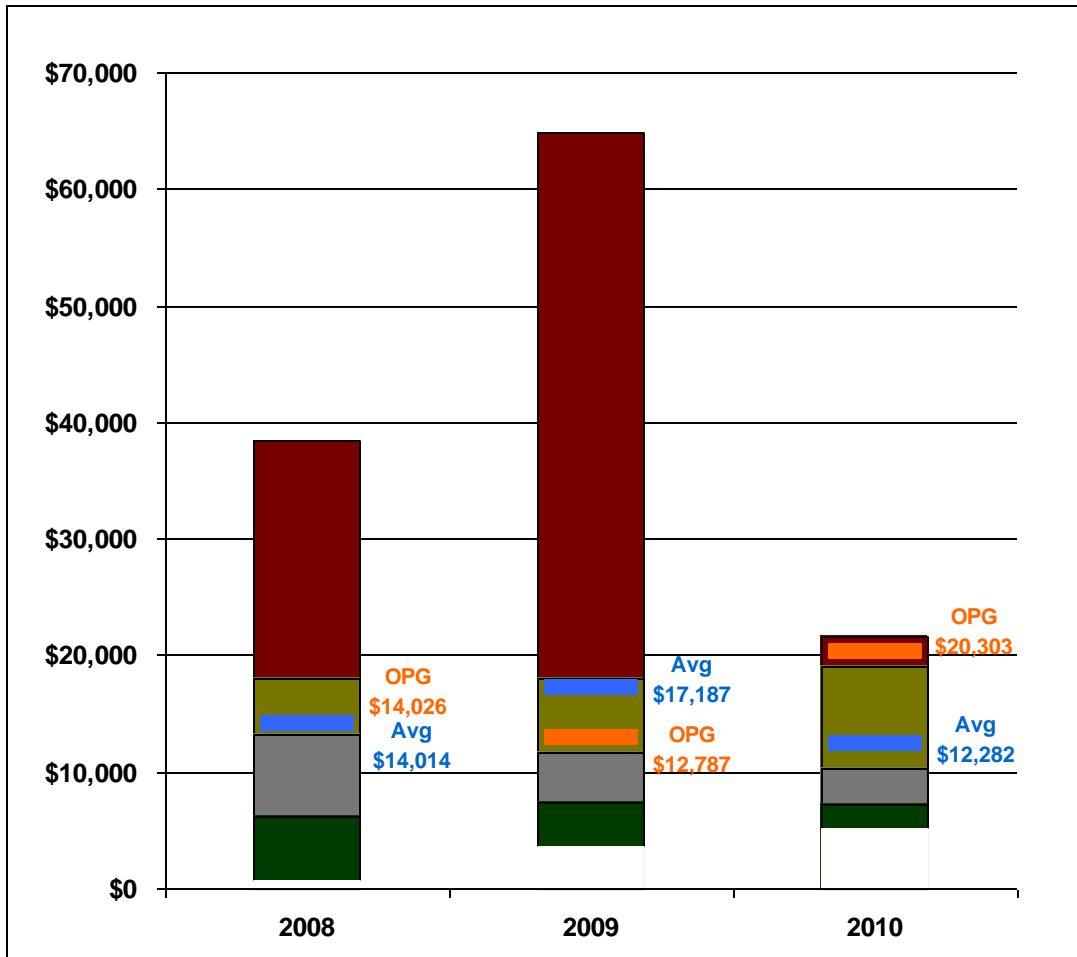


Data Source	2008	2009	2010
OPG Unix Cost (M\$)	14.005	14.366	8.410
OPG Unix OS	215	182	197
Peer Size	13	10	9
Q1 Range (\$)	15,439-22,720	8,972-14,429	7,603-11,032
Q2 Range (\$)	22,720-27,138	14,429-25,957	11,032-20,842
Q3 Range (\$)	27,138-55,545	25,957-33,392	20,842-27,779
Q4 Range (\$)	55,545-65,088	33,392-83,883	27,779-163,889
Benchmark Results			
OPG Unix Cost (\$) Per Unix OS	65,140	78,932	42,690
Peer Average (\$)	37,258	29,828	35,198
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Unix OS and %)	42,420	64,504	31,658
	↓65%	↓82%	↓74%
Reduction to Achieve Q2 (\$/Unix OS and %)	38,002	52,976	21,848
	↓58%	↓67%	↓51%

Note:

Unix OS include both physical and virtual OS instances of Unix

Wintel Cost Per Physical Wintel Server

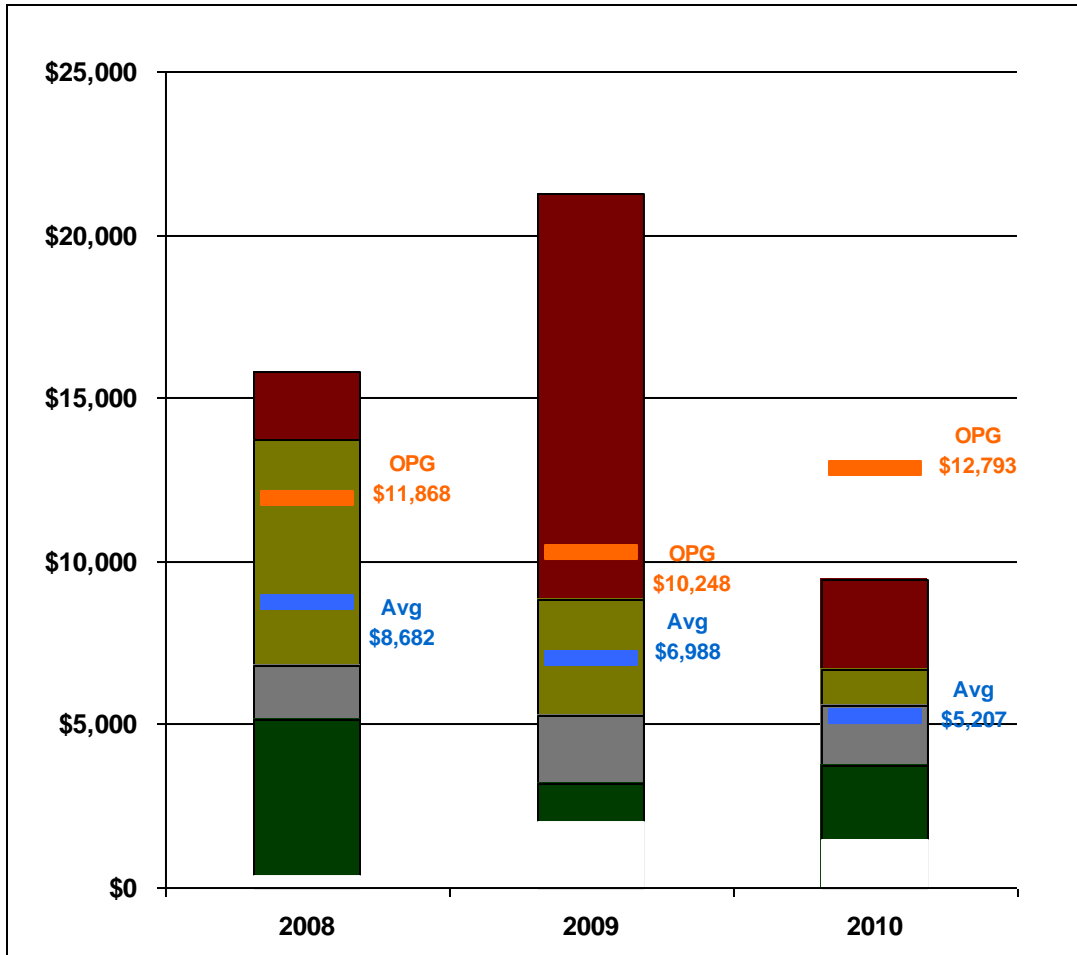


Data Source	2008	2009	2010
OPG Wintel Cost (M\$)	15.428	16.099	15.044
OPG Wintel Server	1,100	1,259	741
Peer Size	13	12	10
Q1 Range (\$)	680-6,215	3,532-7,418	5,168-7,194
Q2 Range (\$)	6,215-13,193	7,418-11,584	7,194-10,330
Q3 Range (\$)	13,193-18,075	11,584-18,029	10,330-19,093
Q4 Range (\$)	18,075-38,371	18,029-64,874	19,093-21,690
Benchmark Results			
OPG Wintel Cost (\$) Per Wintel Server	14,026	12,787	20,303
Peer Average (\$)	14,014	17,187	12,282
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Wintel Server and %)	7,811 ↓56%	5,370 ↓42%	13,109 ↓65%
Reduction to Achieve Q2 (\$/Wintel Server and %)	833 ↓6%	1,203 ↓9%	9,973 ↓49%

Note:

Wintel Servers include physical installed non-host servers running Windows Operating Systems

Wintel Cost Per Wintel OS

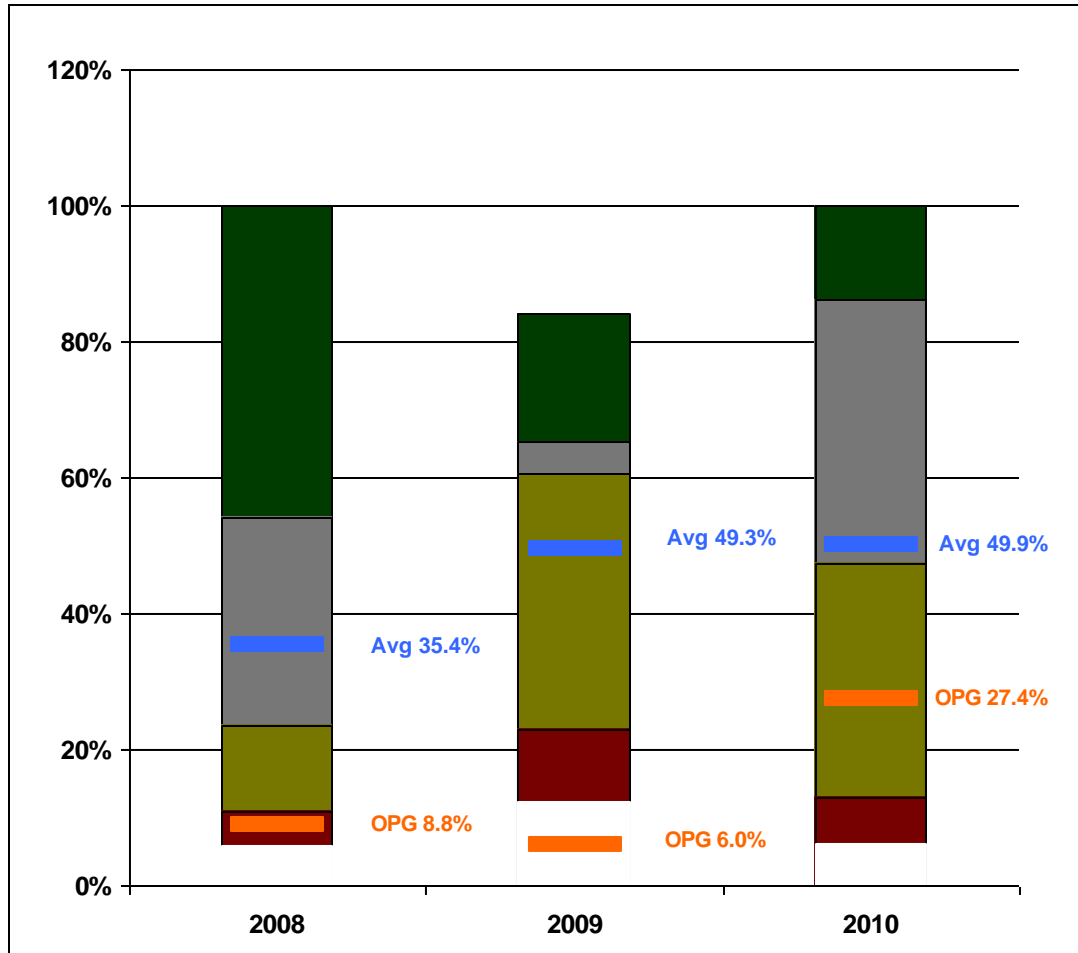


Data Source	2008	2009	2010
OPG Wintel Cost (M\$)	15.428	16.099	15.044
OPG Wintel OS	1,300	1,571	1,176
Peer Size	13	12	10
Q1 Range (\$)	383-5,171	2,034-3,182	1,487-3,714
Q2 Range (\$)	5,171-6,789	3,182-5,274	3,714-5,551
Q3 Range (\$)	6,789-13,746	5,274-8,831	5,551-6,685
Q4 Range (\$)	13,746-15,780	8,831-21,272	6,685-9,465
Benchmark Results			
OPG Wintel Cost (\$) Per Wintel OS	11,868	10,248	12,793
Peer Average (\$)	8,682	6,988	5,207
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Wintel OS and %)	6,697 ↓56%	7,066 ↓69%	9,079 ↓71%
Reduction to Achieve Q2 (\$/Wintel OS and %)	5,079 ↓43%	4,974 ↓49%	7,242 ↓57%

Note:

Wintel OS include both physical and virtual OS instances of Windows

% of Unix Virtualization



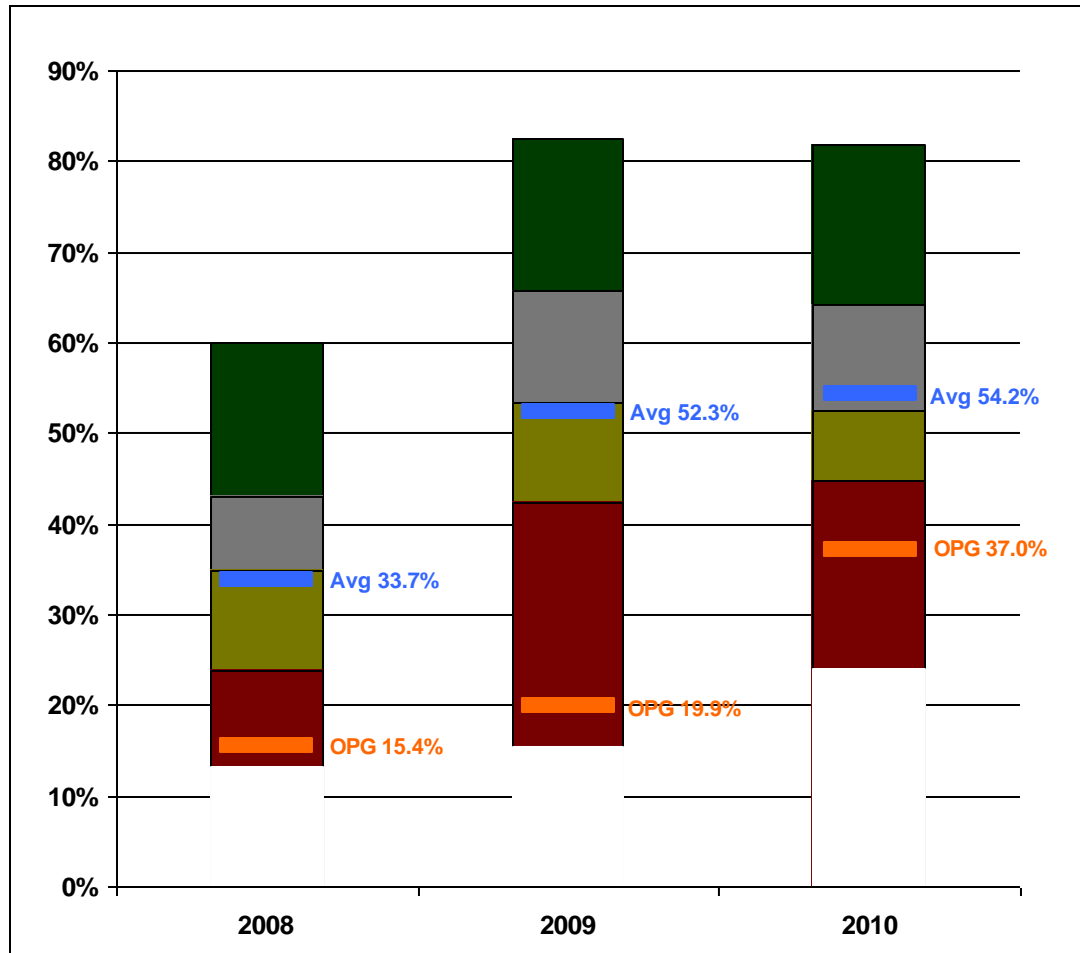
Data Source	2008	2009	2010
# of Virtual Unix OS Instances	19	11	54
Total Unix OS	215	182	197
Peer Size	8	8	8
Q1 Range (%)	54.0-100.0	65.3-84.2	86.3-100.0
Q2 Range (%)	23.6-54.0	60.5-65.3	47.3-86.3
Q3 Range (%)	10.9-23.6	23.0-60.5	13.0-47.3
Q4 Range (%)	6.0-10.9	12.5-23.0	6.2-13.0
Benchmark Results			
OPG Unix Virtualization (%)	8.8	6.0	27.4
Peer Average (%)	35.4	49.3	49.9
Benchmark Analysis			
Increase to Achieve Q1 (%)	45.2	59.2	58.9
	↑511%	↑980%	↑215%
Increase to Achieve Q2 (%)	14.8	54.4	19.8
	↑167%	↑900%	↑72%

Note:

For this metric, the higher the result, the better.

Total Unix OS is composed of virtual and physical Unix OS

% of Wintel Virtualization



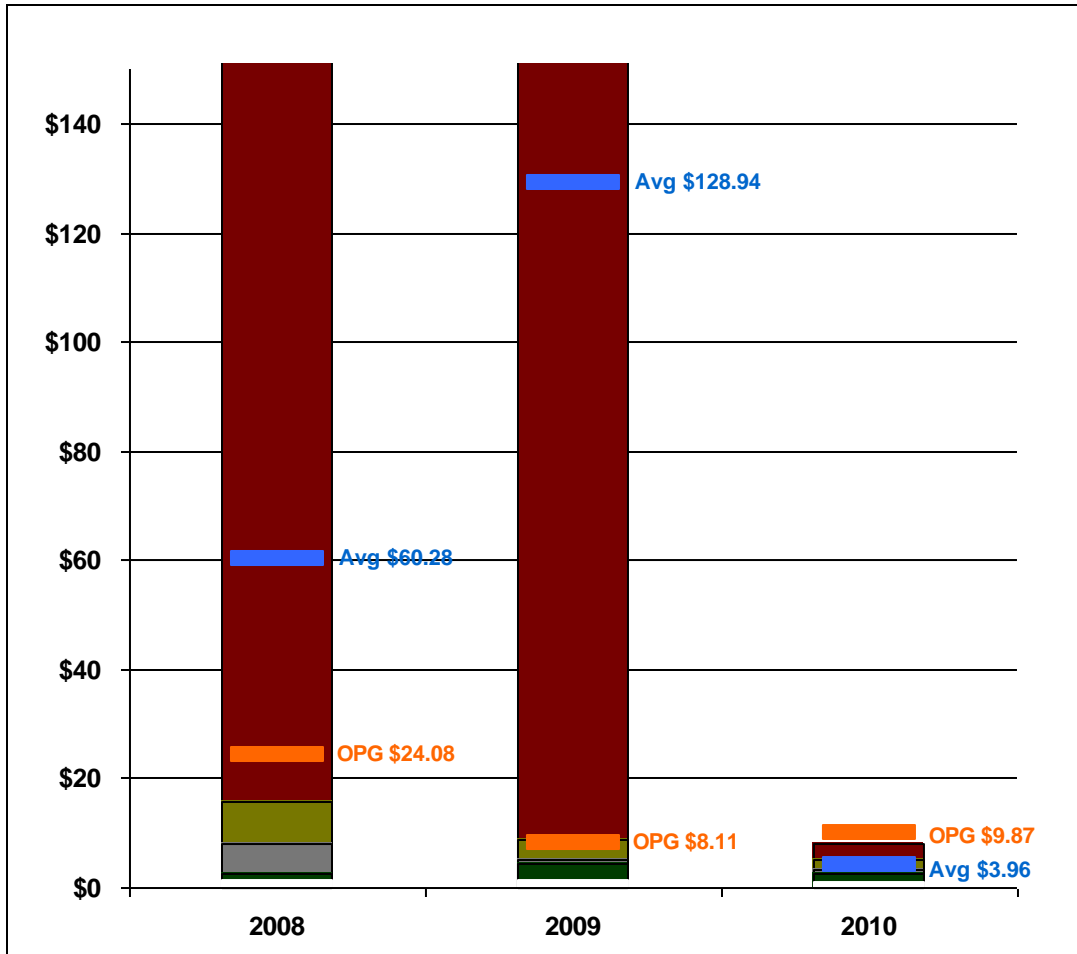
Data Source	2008	2009	2010
# of Virtual Wintel OS Instances	200	312	435
Total Wintel OS	1,300	1,571	1,176
Peer Size	13	12	10
Q1 Range (%)	43.0-60.0	65.7-82.4	64.1-81.8
Q2 Range (%)	34.8-43.0	53.4-65.7	52.6-64.1
Q3 Range (%)	23.9-34.8	42.4-53.4	44.7-52.6
Q4 Range (%)	13.3-23.9	15.4-42.4	24.1-44.7
Benchmark Results			
OPG Wintel Virtualization (%)	15.4	19.9	37.0
Peer Average (%)	33.7	52.3	54.2
Benchmark Analysis			
Increase to Achieve Q1 (%)	27.6	45.8	27.1
	↑180%	↑231%	↑73%
Increase to Achieve Q2 (%)	19.4	33.5	15.7
	↑126%	↑169%	↑42%

Note:

For this metric, the higher the result, the better.

Total Wintel OS is composed of physical and virtual Wintel OS

Storage Cost Per Gigabyte

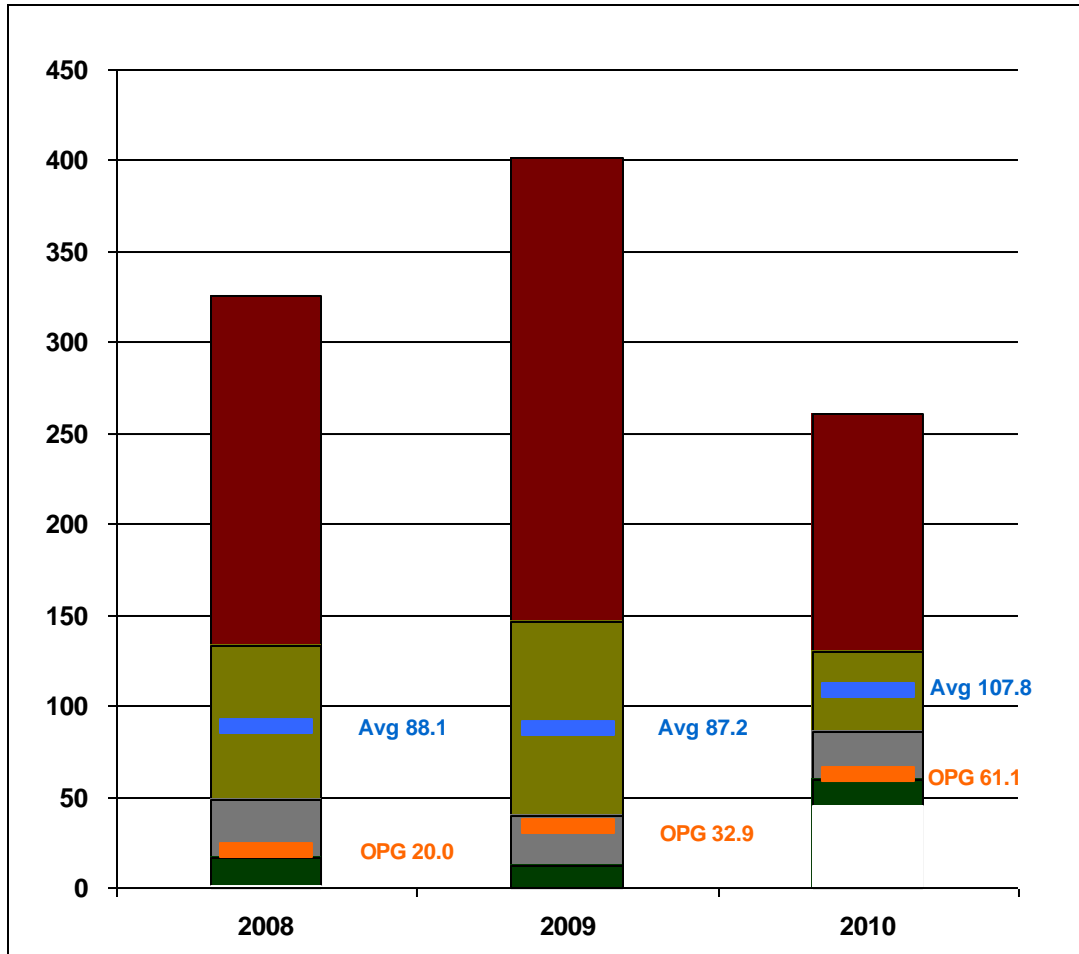


Data Source	2008	2009	2010
OPG Storage Cost (M\$)	6.694	3.810	8.441
OPG Storage Capacity (GB)	278,000	470,000	855,000
Peer Size	11	11	10
Q1 Range (\$)	1.62-2.71	1.44-4.31	1.28-2.51
Q2 Range (\$)	2.71-7.91	4.31-4.98	2.51-3.32
Q3 Range (\$)	7.91-15.76	4.98-8.93	3.32-5.17
Q4 Range (\$)	15.76-514.54	8.93-816.88	5.17-8.02
Benchmark Results			
OPG Storage Cost (\$) Per Storage Capacity	24.08	8.11	9.87
Peer Average (\$)	60.28	128.94	3.96
Benchmark Analysis			
Reduction to Achieve Q1 (\$/GB and %)	21.37	3.80	7.36
	↓89%	↓47%	↓75%
Reduction to Achieve Q2 (\$/GB and %)	16.17	3.13	6.56
	↓67%	↓39%	↓66%

Note:

2010 capacity includes Tapeless Backup

Storage Capacity Per End User



Data Source	2008	2009	2010
OPG Storage Capacity (GB)	278,000	470,000	855,000
OPG End User	13,913	14,300	14,000
Peer Size	12	13	10
Q1 Range (GB)	0.9-17.0	0.1-11.8	45.4-59.2
Q2 Range (GB)	17.0-48.6	11.8-40.1	59.2-85.4
Q3 Range (GB)	48.6-133.3	40.1-145.8	85.4-129.3
Q4 Range (GB)	133.3-325.5	145.8-401.7	129.3-260.4
Benchmark Results			
OPG Storage Capacity (GB) Per End User	20.0	32.9	61.1
Peer Average (GB)	88.1	87.2	107.8
Benchmark Analysis			
Reduction to Achieve Q1 (GB/End User and %)	3.0	21.0	1.9
	↓15%	↓64%	↓3%
Reduction to Achieve Q2 (GB/End User and %)	Not Required	Not Required	Not Required

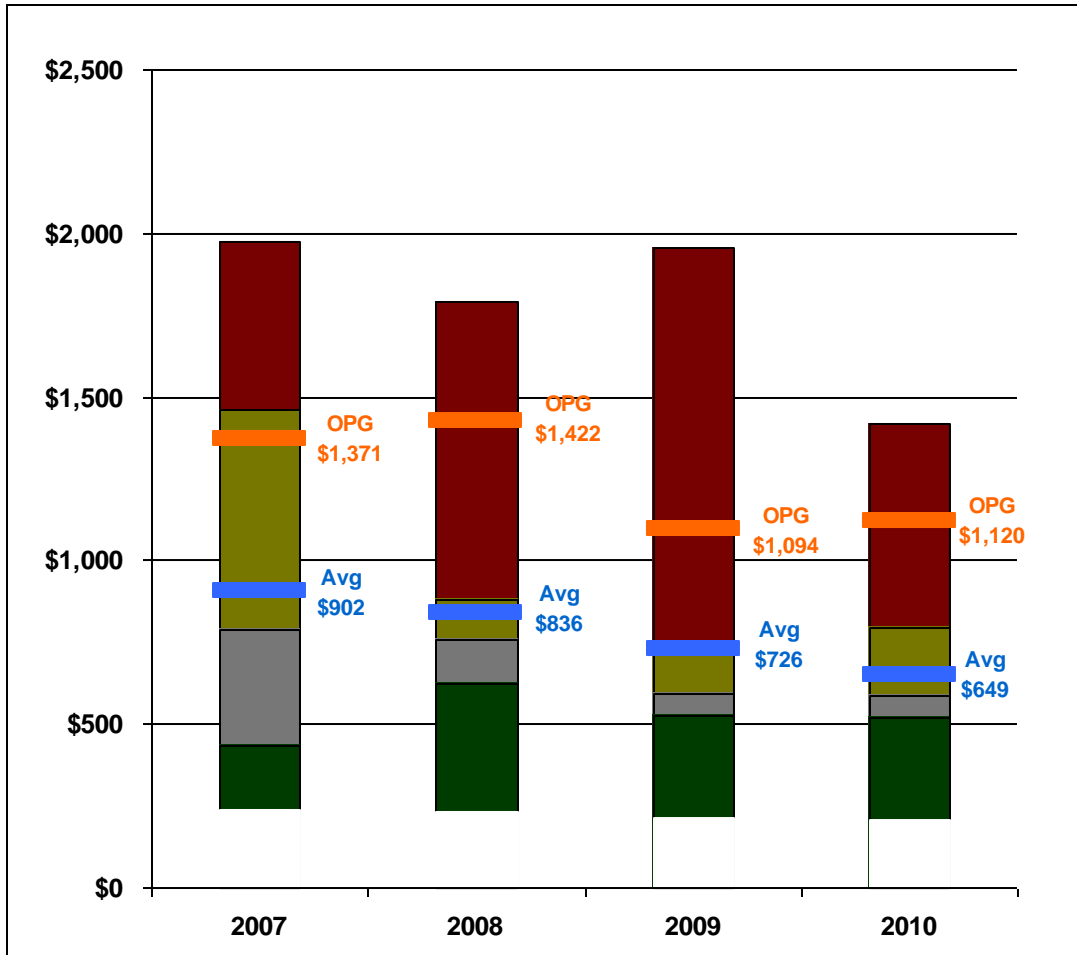
Note:

Sample size includes outliers. 2010 capacity includes Tapeless Backup

OPG Computing Service Metric Summary

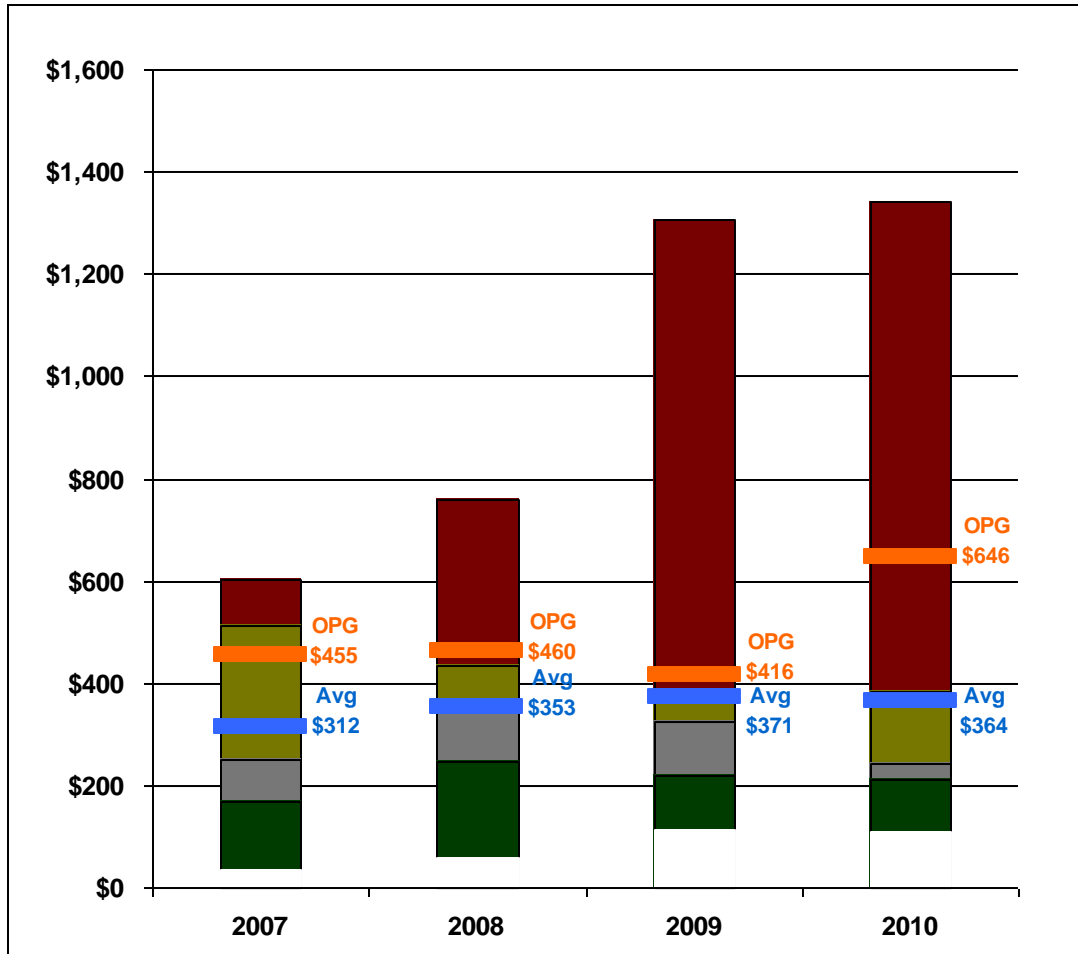
IT Service Metrics	2007 OPG Quartile Ranking	2008 OPG Quartile Ranking	2009 OPG Quartile Ranking	2010 OPG Quartile Ranking	2009-2010 Change
Computing Services Cost Per Data Centre	Q3	Q3	Q3	Q2	↓\$0.78M
IT Sites Per Data Centre	Q3	Q3	Q4	Q4	↑1
Mainframe Cost Per Installed MIPS	Q3	Q3	Q3	Q3	↓\$336
Unix Cost Per Unix OS	Not available	Q4	Q4	Q4	↓\$36,243
Unix Cost Per Physical Unix Server	Not available	Q4	Q3	Q3	↓\$25,200
Wintel Cost Per Wintel OS	Not available	Q3	Q4	Q4	↑\$2,545
Wintel Cost Per Physical Wintel Server	Not available	Q3	Q3	Q4	↑\$7,516
% Unix Virtualization	Not available	Q4	Worse than Q4	Q3	↑21.4%
% Wintel Virtualization	Not available	Q4	Q4	Q4	↑17.1%
Storage Cost Per Capacity	Not available	Q4	Q3	Worse than Q4	↑\$1.77
Storage Capacity Per End User	Not available	Q2	Q2	Q2	↑28.2 GB

Data Network Cost Per End User



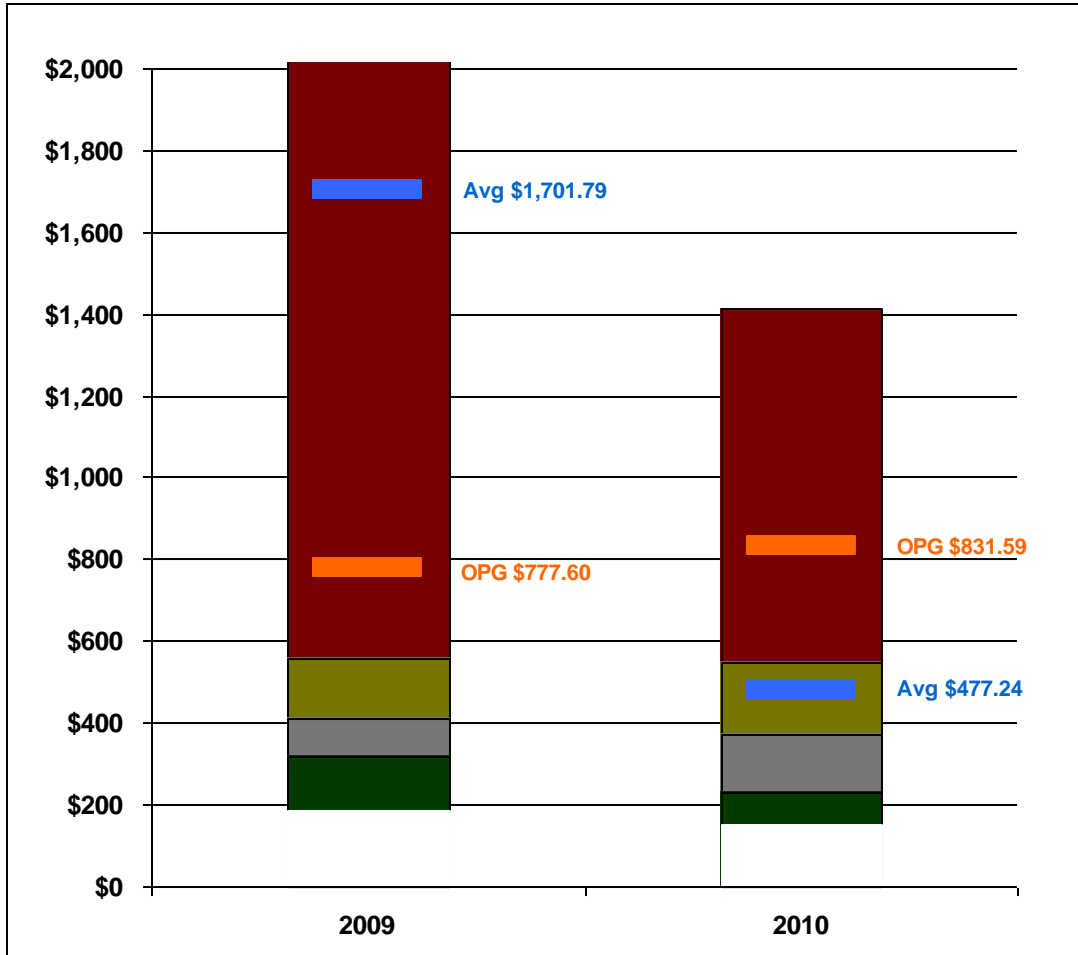
Data Source	2008	2009	2010
OPG Data Network Cost (M\$)	19.782	15.645	15.682
OPG End User	13,913	14,300	14,000
Peer Size	14	13	10
Q1 Range (\$)	234-626	214-527	208-521
Q2 Range (\$)	626-758	527-595	521-588
Q3 Range (\$)	758-883	595-727	588-792
Q4 Range (\$)	883-1,793	727-1,954	792-1,418
Benchmark Results			
OPG Data Network Cost (\$ Per End User)	1,422	1,094	1,120
Peer Average (\$)	836	726	649
Benchmark Analysis			
Reduction to Achieve Q1 (\$/End User and %)	796 ↓56%	567 ↓52%	599 ↓53%
Reduction to Achieve Q2 (\$/End User and %)	664 ↓47%	499 ↓46%	532 ↓47%

Data Network Cost Per LAN Port



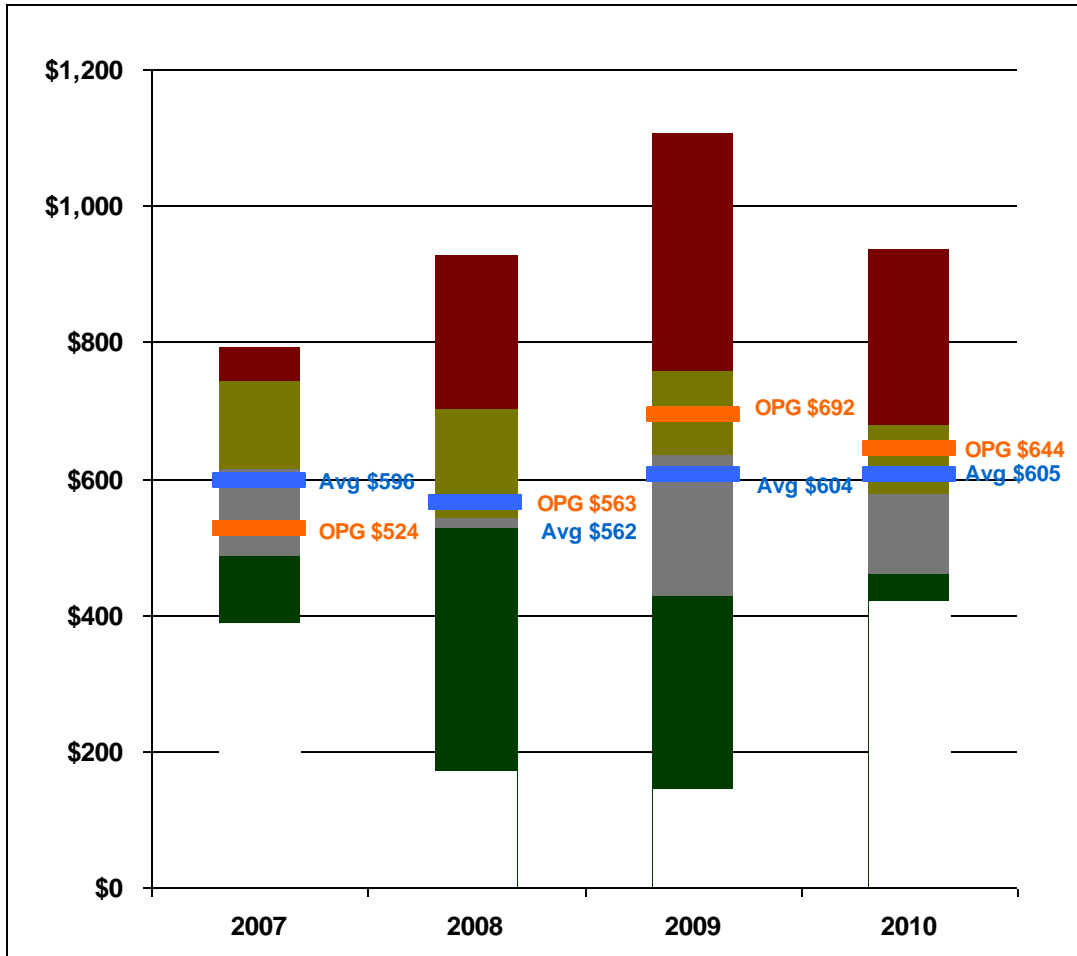
Data Source	2008	2009	2010
OPG Data Network Cost (M\$)	19.782	15.645	15.682
OPG LAN Port	43,005	37,600	24,258
Peer Size	14	13	10
Q1 Range (\$)	57-247	114-219	111-210
Q2 Range (\$)	247-345	219-325	210-242
Q3 Range (\$)	345-434	325-389	242-384
Q4 Range (\$)	434-758	389-1,306	384-1,342
Benchmark Results			
OPG Data Network Cost (\$)	460	416	646
Peer Average (\$)	353	371	364
Benchmark Analysis			
Reduction to Achieve Q1 (\$/LAN Port and %)	213	197	436
	↓46%	↓47%	↓67%
Reduction to Achieve Q2 (\$/LAN Port and %)	115	91	405
	↓25%	↓22%	↓63%

Data Network Cost Per Network Device



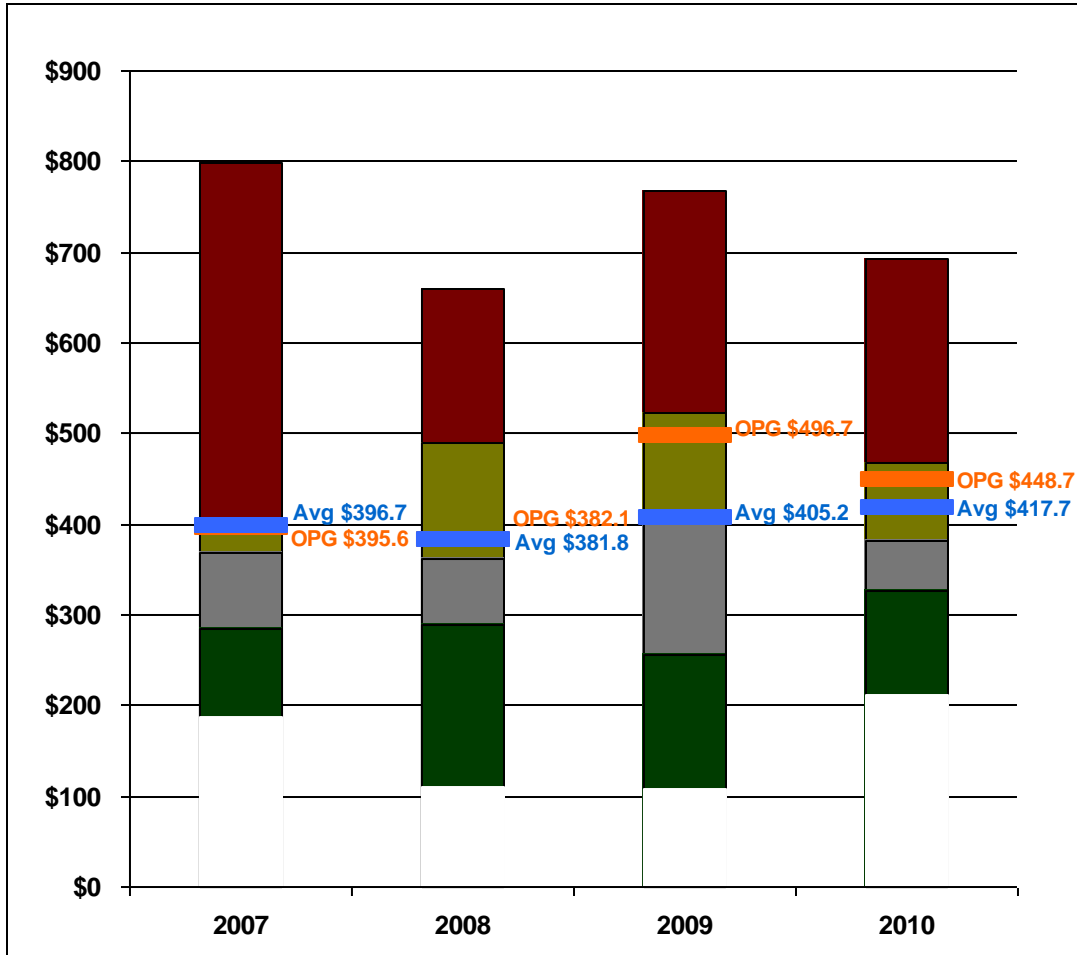
Data Source	2009	2010
OPG Data Network Cost (M\$)	15.645	15.682
OPG Network Device	20,120	18,858
Peer Size	13	9
Q1 Range (\$)	186.10-316.93	153.62-227.83
Q2 Range (\$)	316.93-410.14	227.83-372.68
Q3 Range (\$)	410.14-558.71	372.68-547.83
Q4 Range (\$)	558.71-16,758.16	547.83-1,411.53
Benchmark Results		
OPG Data Network Cost (\$) Per Network Device	777.60	831.59
Peer Average (\$)	1,701.79	477.24
Benchmark Analysis		
Reduction to Achieve Q1 (\$/Network Device and %)	460.67	603.76
	↓59%	↓73%
Reduction to Achieve Q2 (\$/Network Device and %)	367.46	458.91
	↓47%	↓55%

Voice Cost Per End User



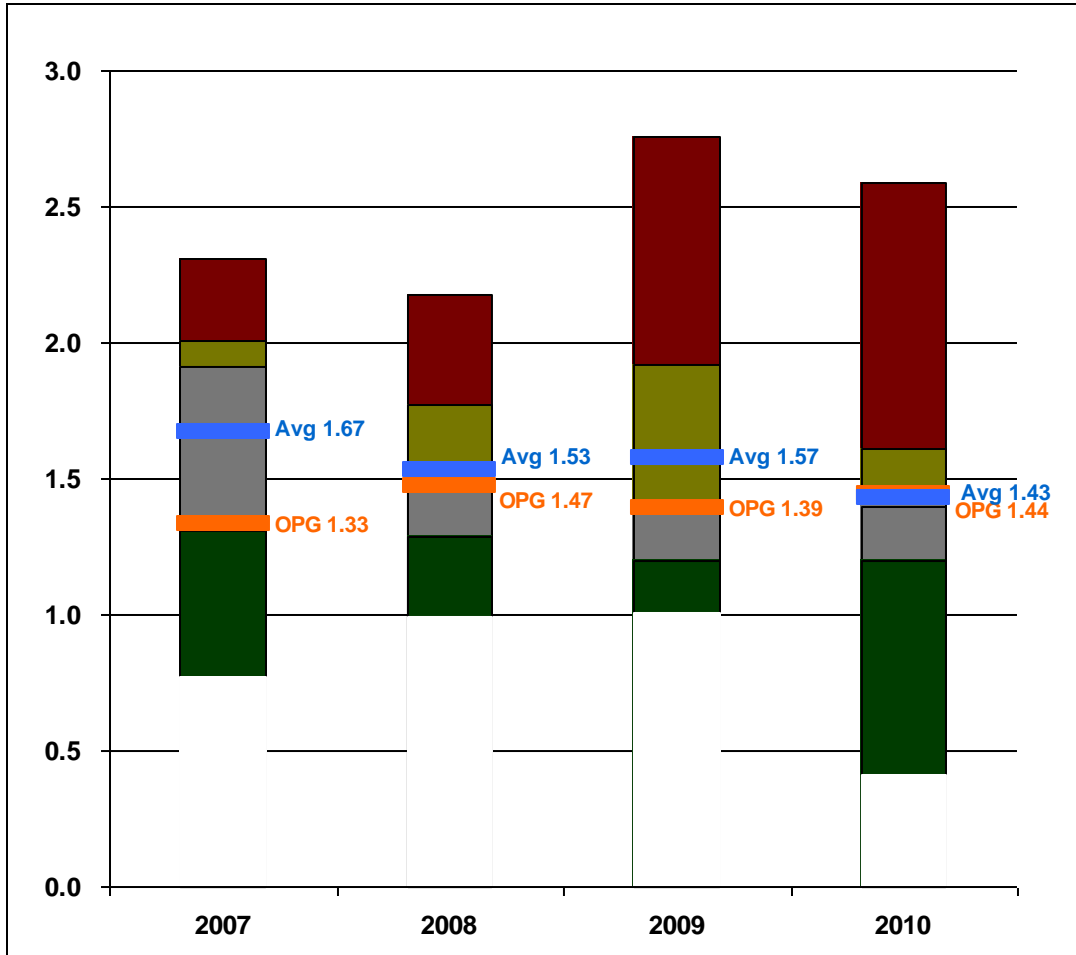
Data Source	2008	2009	2010
OPG Voice Network Cost (M\$)	7.832	9.890	9.018
OPG End User	13,913	14,300	14,000
Peer Size	13	12	9
Q1 Range (\$)	170-524	143-424	421-458
Q2 Range (\$)	524-539	424-635	458-575
Q3 Range (\$)	539-701	635-757	575-679
Q4 Range (\$)	701-927	757-1,105	679-935
Benchmark Results			
OPG Voice Network Cost (\$ Per End User)	563	692	644
Peer Average (\$)	562	604	605
Benchmark Analysis			
Reduction to Achieve Q1 (\$/End User and %)	39	267	186
	↓7%	↓39%	↓29%
Reduction to Achieve Q2 (\$/End User and %)	24	57	69
	↓4%	↓8%	↓11%

Voice Cost Per Phone Extension



Data Source	2008	2009	2010
OPG Voice Network Cost (M\$)	7.832	9.890	9.018
OPG Phone Extension	20,497	19,910	20,100
Peer Size	13	12	9
Q1 Range (\$)	110.7-289.9	107.9-255.9	211.8-326.6
Q2 Range (\$)	289.9-361.0	255.9-415.1	326.6-381.8
Q3 Range (\$)	361.0-489.0	415.1-521.8	381.8-466.9
Q4 Range (\$)	489.0-659.1	521.8-767.0	466.9-692.3
Benchmark Results			
OPG Voice Network Cost (\$) Per Phone Extension	382.1	496.7	448.7
Peer Average (\$)	381.8	405.2	417.7
Benchmark Analysis			
Reduction to Achieve Q1 (\$/Phone Extension and %)	92.3	240.8	122.1
	↓24%	↓48%	↓27%
Reduction to Achieve Q2 (\$/Phone Extension and %)	21.1	81.6	66.9
	↓6%	↓16%	↓15%

Phone Extensions Per End User



Data Source	2008	2009	2010
OPG Phone Extension	20,497	19,910	20,100
OPG End User	13,913	14,300	14,000
Peer Size	14	13	10
Q1 Range	0.99-1.29	1.01-1.20	0.41-1.20
Q2 Range	1.29-1.52	1.20-1.42	1.20-1.40
Q3 Range	1.52-1.77	1.42-1.92	1.40-1.61
Q4 Range	1.77-2.18	1.92-2.76	1.61-2.59
Benchmark Results			
OPG Phone Extensions Per End User	1.47	1.39	1.44
Peer Average	1.53	1.57	1.43
Benchmark Analysis			
Reduction to Achieve Q1 (Phone Extensions/End User and %)	0.19	0.19	0.24
	↓13%	↓14%	↓17%
Reduction to Achieve Q2 (Phone Extensions/End User and %)	Not Required	Not Required	0.04
			↓3%

OPG Telecommunication Service Metric Summary

IT Service Metrics	2007 OPG Quartile Ranking	2008 OPG Quartile Ranking	2009 OPG Quartile Ranking	2010 OPG Quartile Ranking	2009-2010 Change
Data Network Cost Per End User	Q3	Q4	Q4	Q4	↑\$26
Data Network Cost Per LAN Port	Q3	Q4	Q4	Q4	↑\$230
Data Network Cost Per Network Device	Not available	Not available	Q4	Q4	↑\$53.99
Voice Cost Per End User	Q2	Q3	Q3	Q3	↓\$47
Voice Cost Per Phone Extension	Q4	Q3	Q3	Q3	↓\$48.1
Phone Extension Per End User	Q2	Q2	Q2	Q3	↑0.04

1 **UNDERTAKING JT2.16**

2
3 **Undertaking**

4
5 To confirm whether a report exists related to the electricity utility HR metrics data, and
6 provide it or explain why it will not be provided.
7

8
9 **Response**

10
11 There is no “HR Metrics” study or report.
12

13 The Electric Utility HR Metrics Group referenced at Ex. F3-1-1, pp. 14 - 15
14 benchmarks HR Functions across utilities based on a standard definition of the
15 function. OPG participates in this HR benchmarking annually and submits data
16 electronically. The raw data from all of the submitting organizations is then
17 summarized and provided to the participating organizations along with some high
18 level analysis.
19

20 The summary allows participating organizations to review the data and report any
21 errors in the data or analysis. Reported errors are then corrected in the raw
22 blinded data and participating organizations are given access to the updated
23 database. Participating organizations are then free to use the data in the system
24 in any way they deem to be useful / appropriate.

1 **UNDERTAKING JT2.17**

2
3 **Undertaking**

4
5 To make best efforts to provide information on how BT savings integrate with drivers of
6 the deficiency.
7

8
9 **Response**

10
11 OPG cannot readily break out BT savings, which are primarily headcount related, into
12 the categories shown in the drivers of deficiency charts.
13

14 However, OPG estimates that the test period savings attributable to targeted headcount
15 reduction of 1,300 by the end of 2015 for regulated operations, to be approximately
16 \$337M (\$150M in 2014 and \$187M in 2015) as shown in Ex. JT2.10. As most of OPG's
17 staff support the nuclear business, OPG expects that most of these savings would be
18 reflected in the nuclear deficiency.

UNDERTAKING JT2.18

Undertaking

To advise what percentage of the 10,375 headcount appears on the sunshine list.

Response

There were 7,958 OPG employees reported in the 2013 Public Sector Salary Disclosure list.

$$7,958 / 10,375 = 77\%$$

Note that 10,375 is OPG's headcount target at year end 2016 and relates only to regular employees from ongoing operations, while 7,958 is a historical number as of year-end 2013 and relates to all employees of OPG.

1 **UNDERTAKING JT2.19**

2
3 **Undertaking**

4
5 To provide a reconciliation of the OPG sunshine list with the people actively employed
6 by the company at the time the list was produced.
7

8
9 **Response**

10
11 OPG has provided the requested reconciliation in the attached list which identifies
12 employees who were reported under the 2013 Public Sector Salary Disclosure Act and
13 are above \$200,000. The attached list indicates employees who are no longer with OPG
14 with an asterisk.
15

16 As of April 24th, 2014, 471 employees who were reported under the 2013 Public Sector
17 Salary Disclosure Act are no longer with OPG.
18

19 As of April 24th, 2014, 39 employees who were reported under the 2013 Public Sector
20 Salary Disclosure Act **AND** above \$200,000 are no longer with OPG.

Salary Paid	Surname	Given Name	Position
\$1,714,000.04	MITCHELL	THOMAS	President & Chief Executive Officer
\$915,850.96	* ROBBINS	WAYNE	Chief Nuclear Officer
\$903,970.54	* MURPHY	JOHN	Executive Vice President, Strategic Initiatives
\$664,974.28	* HANBIDGE	DONN W.	Senior Vice President & Chief Financial Officer
\$605,838.56	* CHIAROTTO	FRANK	Senior Advisor Joint Ventures
\$593,399.66	TREMBLAY	PIERRE F.	President Canadian Nuclear Partners
\$531,669.69	PASQUET	PAUL	Senior Vice President
\$520,591.56	ELLIOTT	WILLIAM	Senior Vice President, Nuclear Engineering & Chief Nuclear Engineer
\$514,030.50	BOLAND	BRUCE	Senior Vice President Commercial Operations & Environment
\$510,174.98	JAGER	GLENN	Chief Nuclear Officer
\$503,688.77	GRIFFITHS	MICHAEL	Control Room Shift Supervisor
\$497,344.62	KOKUS	TONY	Senior Thermal Station Engineer/Officer
\$468,892.21	KEENAN	BARBARA	Senior Vice President People, Culture & Chief Ethics
\$449,400.40	DUNCAN	BRIAN	Senior Vice President Darlington
\$449,319.04	GINTHER	CHRISTOPHER	Senior Vice President, Law & General Counsel
\$437,916.74	REINER	DIETMAR E.	Senior Vice President Nuclear Refurbishment
\$426,994.00	ALLEN	MICHAEL	Deputy Site Vice President
\$411,841.25	MARTIN	SCOTT	Senior Vice President Business & Administration Services
\$406,944.06	GRANVILLE	SEAN	Senior Vice President
\$405,533.64	HEARD	ROBIN	Vice President Finance, Chief Controller & Chief Accounting Officer
\$393,824.92	PHILLIPS	BRYCE	Senior Vice President, Pickering
\$377,063.25	* PECKHAM	MICHAEL	Vice President, Projects & Modifications
\$375,107.98	WOODS	STEVE	Vice President Fleet Operations & Maintenance
\$368,900.89	* SWEETNAM	ALBERT	Executive Vice President, Nuclear Projects
\$358,008.15	* DERMARKAR	FRED	Vice President Engineering Strategy
\$351,126.00	CLIVER	STEPHUN	Chief Supply Officer
\$349,801.85	MARTELLI	MIKE	Senior Vice President Hydro Thermal Operations
\$344,698.10	BHAGWANDIN	DANNY	Control Room Shift Supervisor
\$342,358.90	HYSON	WILLIAM	Control Room Shift Supervisor
\$339,692.42	MARCUZZI	RENZO	Vice President Electricity Sales & Trading
\$326,912.89	GUGLIELMI	FRANCESCO	Director Operations & Maintenance
\$326,489.70	* POWER	DONALD J.	Vice President Investment Planning
\$322,754.05	CROZZOLI	CARLO	Senior Vice President Corporate Business Development & Chief Risk Officer
\$320,971.60	SKREPNEK	EDWARD	Control Room Shift Supervisor
\$320,636.67	KIM	JONG DEA	Chief Information Officer
\$318,266.32	EVANS	HENRY	Authorized Nuclear Operator
\$316,743.61	WARDROP	CRAIG	Director
\$314,857.45	WILKINS	KEN	Authorization Training Supervisor
\$314,432.53	THERRIEN	PIERRE	Authorized Nuclear Operator
\$308,559.40	SHIEVER	ALAN	Vice President Learning & Development
\$306,886.97	YOUNG	CHRIS M.	Vice President Hydro Thermal Project Execution
\$305,752.02	KING	CATRIONA	Vice President Corporate Secretary & Executive Operations
\$304,471.82	ARSENAULT	IVAN	Authorization Training Supervisor
\$304,156.55	RAMJIST	STEPHEN	Director Operations & Maintenance
\$303,646.08	BARRETT	ANDREW P.	Vice President Regulatory Affairs
\$302,363.42	SIMOES	ALBERTO	Contract - Senior Advisor
\$300,879.00	RIVIERE	COLVIN	Control Room Shift Supervisor
\$300,369.41	SAVAGE	MIKE	Control Room Shift Supervisor
\$298,951.32	HOSEIN	RON	Shift Manager
\$298,587.54	BURKE	PAUL J.	Vice President Integrated Revenue Planning
\$298,380.18	KING	PETER	Manager, Operations Production
\$297,882.60	RUNKOWSKI	CHRISTIAN	Authorized Nuclear Operator
\$297,459.97	SPEKKENS	PAUL	Vice President, Science & Technology
\$297,039.33	GILBERT	KEN	Director Operations & Maintenance
\$296,962.93	LOUGHEED	MARTIN	Shift Manager
\$295,844.43	MCCORD	ROSS	Manager, Operations Production
\$295,100.00	* POLLIERI	LOU	Vice President Assurance & Chief Audit Executive
\$292,797.13	MCLACHLIN	ANDY	Authorized Nuclear Operator
\$291,890.41	FITZSIMMONS	JASON	Vice President Health, Safety, Employee & Labour Relations
\$291,005.94	GEOFROY	RICHARD	Control Room Shift Supervisor
\$290,348.15	SIRACUSA	JOE	Vice President Engineering & Technical Services
\$289,982.85	HAWLEY	CHRIS	Authorization Training Supervisor
\$288,496.05	BOUCKLEY	BARRY	Shift Manager
\$287,778.05	ARNONE	MARK	Vice President Refurbishment Execution
\$287,637.52	PARENT	GÉRALD	Shift Manager
\$286,905.12	HENRY	ROSS	Control Room Shift Supervisor
\$286,811.98	TOMPSON	KERRY	Vice President Talent Management / Business Change
\$286,592.02	SCOTT-DIXON	CHRIS	Shift Manager
\$286,371.70	MACDIARMID	DAVID	Shift Manager
\$286,327.61	WAYTOWICH	RICHARD	Shift Manager
\$284,878.00	SPENCE	CAMERON	Assistant Operations Manager

\$284,781.33	<u>QUIRT</u>	<u>CHRISTOPHER</u>	Shift Manager
\$284,611.84	<u>MOECK</u>	<u>ANDY</u>	Shift Manager
\$283,949.93	<u>ERZETIC</u>	<u>JOSEPHINA</u>	Vice President Corporate Business Development
\$283,925.46	<u>SHAVER</u>	<u>THOMAS</u>	Authorized Nuclear Operator
\$283,896.35	<u>SEGUIN</u>	<u>PAUL</u>	Assistant Operations Manager
\$283,567.33	<u>ROBINSON</u>	<u>BILL</u>	Senior Vice President, Nuclear Projects
\$283,395.46	<u>KIES</u>	<u>GORDON</u>	Authorization Training Supervisor
\$282,781.20	<u>RAMPHAL</u>	<u>MARLENE</u>	Manager, Operations Production
\$282,546.10	<u>TEMPLE</u>	<u>GLENN</u>	Vice President Real Estate & Services
\$281,631.69	<u>SPEER</u>	<u>BRIAN</u>	Shift Manager
\$281,297.04	<u>FLORIS</u>	<u>WALTER</u>	Authorized Nuclear Operator
\$280,762.94	<u>DESANTIS</u>	<u>LOUIE</u>	Authorization Training Supervisor
\$280,094.67	<u>POWELL</u>	<u>ROBERT</u>	Director, Work Management
\$280,075.85	<u>JACKOWSKI</u>	<u>ROBERT</u>	Assistant Operations Manager
\$279,772.97	<u>KHANSAHEB</u>	<u>ZARIR</u>	Manager Operations Programs
\$279,128.09	<u>NOAKES</u>	<u>JOHN</u>	Shift Manager
\$278,860.72	<u>BEVACQUA</u>	<u>VAL</u>	Senior Manager Fuel Handling
\$278,651.25	<u>SCHRYER</u>	<u>ROGER</u>	Authorization Training Supervisor
\$277,720.68	<u>MAUTI</u>	<u>JOHN</u>	Vice President Business Planning & Reporting
\$277,278.32	<u>CLAIRMAN</u>	<u>CARA L.</u>	Vice President
\$276,233.48	<u>HEPBURN</u>	<u>KENNETH</u>	Control Room Shift Supervisor
\$276,026.99	<u>EATOCK</u>	<u>JEFFREY</u>	Shift Manager
\$275,549.87	<u>LEACH</u>	<u>SEAN</u>	Authorization Training Supervisor
\$275,227.79	<u>GREGORIS</u>	<u>STEVE</u>	Manager, Operations Production
\$275,097.03	<u>SHANTZ</u>	<u>LORNE</u>	Control Room Shift Supervisor
\$274,953.41	<u>MCDONALD</u>	<u>JOHN</u>	Shift Manager
\$274,014.43	<u>SMITH</u>	<u>STEPHANIE</u>	Assistant Operations Manager
\$274,007.25	<u>CARTER</u>	<u>LES</u>	Manager Performance Engineering
\$272,947.36	<u>KNUTSON</u>	<u>MARK</u>	Director
\$271,931.70	<u>PILIARIK</u>	<u>MATT</u>	Authorized Nuclear Operator
\$271,675.58	<u>KHAN</u>	<u>ADNAN</u>	Control Room Shift Supervisor
\$271,039.29	<u>DINGLE</u>	<u>JAMES</u>	Control Room Shift Supervisor
\$270,598.57	<u>BAIRD</u>	<u>KEVIN</u>	First Line Manager, Inspection & Maintenance
\$269,174.56	<u>NAEEM</u>	<u>OMAIR</u>	Section Manager, Licensing
\$268,720.42	<u>SENIOR</u>	<u>DONALD</u>	Department Manager, Outage
\$268,532.07	<u>OWEN</u>	<u>ANDREW</u>	Control Room Shift Supervisor
\$267,177.61	<u>SHAH</u>	<u>MANISHKUMAR</u>	Electrical & Control Technician First Line Manager Assistant
\$266,537.38	<u>COLLINS</u>	<u>DAVID</u>	Authorized Nuclear Operator
\$265,926.93	<u>POWERS</u>	<u>STEPHANIE</u>	Vice President, Inspection & Maintenance Services
\$265,673.62	<u>KUNTZ</u>	<u>GARY</u>	Authorization Training Supervisor
\$265,513.26	<u>BROWN</u>	<u>RON C.</u>	Authorized Nuclear Operator
\$264,781.66	<u>SWAMI</u>	<u>LAURIE</u>	Vice President Nuclear Services
\$264,743.91	<u>HALKET</u>	<u>CRAIG</u>	Vice President Total Rewards
\$264,096.17	<u>OWENS</u>	<u>BILL</u>	Director, Work Management
\$263,576.79	<u>SICOLI</u>	<u>JOE</u>	Production Supervisor - Shift Engineer
\$261,826.46	<u>BAGSHAW</u>	<u>STEVE</u>	Authorized Nuclear Operator
\$261,264.05	<u>TIMBERG</u>	<u>MARGARET</u>	Assistant General Counsel
\$260,806.14	* <u>TULETT</u>	<u>MARTIN V.</u>	Deputy Site Vice President
\$260,633.17	<u>GRACE</u>	<u>ALLAN</u>	Control Room Shift Supervisor
\$259,993.77	<u>GRANT</u>	<u>FRASER</u>	Senior Manager Fuel Handling
\$259,967.10	<u>MILLS</u>	<u>STEPHEN</u>	Vice President Business & Services
\$259,753.80	<u>GOBIN</u>	<u>RANDOLPH</u>	First Line Manager, Control/Mechanical
\$258,996.55	<u>DROST</u>	<u>CHRISTOPHER</u>	Control Room Shift Supervisor
\$258,326.97	<u>THOMPSON</u>	<u>RUSSELL</u>	Authorization Training Supervisor
\$258,278.99	* <u>HOWARD</u>	<u>KEITH</u>	Director Design Engineering
\$257,851.53	<u>OWENS</u>	<u>DAVE</u>	First Line Manager, Control/Mechanical
\$257,850.16	<u>KARIM</u>	<u>MOHAMED</u>	First Line Manager, Control/Mechanical
\$257,413.84	* <u>SIDFORD</u>	<u>COLLEEN</u>	Vice President Chief Investment Officer
\$257,377.05	<u>JESSOP</u>	<u>RICHARD</u>	Director
\$256,836.09	* <u>TARREN</u>	<u>PETER</u>	Manager Engineering Program Integration
\$256,445.32	* <u>LAURICH</u>	<u>RALPH</u>	Shift Manager
\$256,348.13	<u>EADIE</u>	<u>BRADLEY</u>	First Line Manager, Inspection & Maintenance
\$256,167.83	<u>JAMES</u>	<u>RICHIE</u>	Unit 0 - Training Supervisor
\$255,759.04	<u>MCCARTHY</u>	<u>ERIC</u>	Vice President Commercial Contracts
\$254,708.54	<u>MATTHEWS</u>	<u>JOHN</u>	First Line Manager, Control/Mechanical
\$254,189.35	<u>MAZZA</u>	<u>MARIO</u>	Vice President Strategy & Business Support
\$253,999.61	<u>ZADEH</u>	<u>HOOSHANG</u>	Director Market Operations
\$253,898.63	<u>BUTCHER</u>	<u>NICOLLE</u>	Vice President Corporate Strategy & Planning
\$253,444.99	<u>GERRARD</u>	<u>ROBERT</u>	Director Corporate Strategy & Planning
\$252,859.02	<u>LACIVITA</u>	<u>KEN</u>	Director Trading & Origination
\$252,785.97	<u>DORAN</u>	<u>TERRY C.</u>	Vice President, Nuclear Waste Management
\$252,196.09	<u>POULIN</u>	<u>MIKE</u>	First Line Manager, Control/Mechanical

\$252,147.13	KEELING	JIM	Control Room Shift Supervisor
\$251,809.03	SINGH	CHARANJIT	Director Accounting
\$251,718.85	STEWART	JEFFREY	Authorized Nuclear Operator
\$251,693.54	REID	ALLAN	Plant Manager, Hydro
\$251,581.48	POPPE	KURT	Authorized Nuclear Operator
\$251,219.35	BULL	SCOTT	Authorization Training Supervisor
\$250,403.17	WONG	RICHARD L.	Assistant Treasurer
\$250,223.04	BANNON	GLEN	First Line Manager, Control/Mechanical
\$250,147.77	BAMBRICK	RON	Authorization Training Supervisor
\$249,761.04	PETTIFER	RUSSELL	First Line Manager, Control/Mechanical
\$249,697.54	* DOUGLAS	NEIL	Authorization Training Supervisor
\$248,789.10	SCRUTON	CHRIS	First Line Manager, Control/Mechanical
\$248,525.22	DOBRESCU	MARTIN	Authorization Training Supervisor
\$248,167.05	* RYDER	SHANE	Director Operations & Maintenance
\$247,258.82	STOCK	SANDY	Director Station Engineering
\$247,201.48	STEWART	MIKE	Authorized Nuclear Operator
\$247,164.76	AITKEN	ROBERT	First Line Manager, Control/Mechanical
\$246,807.38	FRAWLEY	ROBERT	Authorized Nuclear Operator
\$246,718.29	DOBRICH	NORM	Shift Manager
\$246,223.39	MCFARLANE	MICHAEL	Director Refurbishment Interface & Vacuum Building Outage
\$244,983.92	WONG	TOM W.	Section Manager, As Low As Reasonably Achievable
\$244,940.57	REUBER	BARBARA	Vice President Environment
\$244,930.53	QUALTROUGH	WILLIAM	Section Manager Operations Training
\$244,825.90	VAN DEN BREKEL	NICK	Manager Strategic Planning
\$244,783.10	EVERDELL	RICK A.	Director, Project Management
\$244,480.16	KUCIKS	JOHN	Field Shift Operating Supervisor
\$244,441.65	COOPER	KEN	First Line Manager, Control/Mechanical
\$243,751.62	DEVLIN	EDMUND	Control Room Shift Supervisor
\$243,620.25	GABEL	BRIAN	Work Coordinator
\$243,609.24	HAIRE	KEN	Authorized Nuclear Operator
\$242,943.95	GIORGI	SEBASTIAN	Authorization Training Supervisor
\$242,326.55	NORRAD	DAN	Senior Manager Centre-Led Functional Area Manager - Outage
\$241,887.03	ALLEN	JOHN DOUGLAS	First Line Manager, Control/Mechanical
\$241,307.31	MACKIN	ROSS	Authorized Nuclear Operator
\$241,302.79	GALUSZKA	ANDREW	Control Room Shift Supervisor
\$241,257.32	HAUSER	GARY	First Line Manager, Control/Mechanical
\$240,900.97	WYMAN	DAVID	Department Manager, Outage
\$240,877.32	ROGERS	DAVID	Shift Manager
\$240,740.04	PABANI	SHAMIM	Director, Taxation
\$240,662.88	GIGLIOTTI	TIMOTHY J.	Director
\$240,551.08	BOSS	RON	Authorization Training Supervisor
\$239,875.29	MIRSCH	MICHAEL	First Line Manager, Inspection & Maintenance
\$239,831.72	* MANN	LARRY	First Line Manager, Control/Mechanical
\$239,795.30	* MCHALE	JOHN	Authorization Training Supervisor
\$239,481.49	BRIXHE BERCIK	STEVE	First Line Manager, Control/Mechanical
\$239,192.82	KHAN	MOHAMMED H.	First Line Manager, Control/Mechanical
\$238,995.60	BONNIER	LYLE	Authorized Nuclear Operator
\$238,510.56	* STEVENS	PHILIP	Plant Manager, Lambton Generating Station
\$238,399.69	TEICHMAN	ANDREW	Vice President Corporate Strategy & Planning
\$238,361.20	LEE	JOHN S.	Vice President - Treasurer
\$238,359.29	HANRAHAN	SHAWN	First Line Manager, Inspection & Maintenance
\$238,008.67	* MCDONNELL	PAUL	Control Room Shift Supervisor
\$237,962.74	WHYTE	JAMES	Director Maintenance
\$237,752.59	BHALOO	ALNOOR	Director Station Engineering
\$237,036.42	JOHNSTON	ANTHONY	Authorized Nuclear Operator
\$236,591.42	MITCHELL	NEIL A.	Vice President
\$236,578.67	COPE	ANDY	First Line Manager, Control/Mechanical
\$236,417.00	BRENNAN	JASON	Authorization Training Supervisor
\$236,250.07	BALLAGH	SHAYN	Control Room Shift Supervisor
\$236,179.13	GILLARD	BRIAN	First Line Manager, Control/Mechanical
\$236,056.20	NEGENMAN	ANDREW	Section Manager, Outage
\$235,792.83	HEFFORD	JOHN	Plant Manager, Thermal
\$235,721.96	DANIEL	CARL	Director Station Engineering
\$235,663.73	JOHNSTONE	GORD	Authorized Nuclear Operator
\$235,645.04	MATHIAS	CARLTON	Assistant General Counsel
\$234,511.15	ROSS	GARY	Authorization Training Supervisor
\$234,492.21	CHOW	RICHARD	Inspection & Maintenance Technician First Line Manager Assistant
\$234,187.10	GRAMMELHOFER	PETER	Authorization Training Supervisor
\$234,056.63	MORELAND	JIM	Plant Manager, Hydro
\$234,050.99	* MUNSHI	VINOD	System Window Coordinator
\$233,837.38	CONNERS	BILL	First Line Manager, Control/Mechanical
\$233,645.54	MCDONALD	JORDON	First Line Manager, Inspection & Maintenance

\$233,225.86	MURRAY	PETER J.	Plant Manager, Hydro
\$233,057.49	GHINET	JOE	Control Room Shift Supervisor
\$232,995.77	HARPER	BRIAN	Authorization Training Supervisor
\$232,726.99	CARMICHAEL	CARLA	Vice President, Nuclear Finance
\$232,149.61	KUSIK	LAWRENCE	Authorized Nuclear Operator
\$232,062.97	BRAATEN	MELANIE	Vice President Business Partners
\$231,928.95	POLLETT	SHAWN	First Line Manager, Construction
\$231,824.13	GAMBLE	BRENT	Shift Emergency Response Manager
\$231,293.29	ELLISON	SCOTT	Authorized Nuclear Operator
\$231,290.09	CAREW	KATHLEEN	Control Room Shift Supervisor
\$230,797.97	DOHERTY	GERARD	First Line Manager, Control/Mechanical
\$230,561.25	MITCHELL	LAURENCE	First Line Manager, Control/Mechanical
\$230,451.09	BERNDT	BRIAN	Authorization Training Supervisor
\$230,390.23	STEEVES	TONY	First Line Manager, Control/Mechanical
\$230,139.45	BROWN	ROY	Project Director
\$230,061.87	PROCTOR	STEVEN K.	Contract - Technical Specialist
\$229,941.73	HANSEN	JEFFREY L.	Plant Manager, Nanticoke Generating Station
\$229,683.54	MCGEE	BRIAN	Deputy Site Vice President
\$229,668.67	LAM	WEI-HING	Project Manager, Field Campaigns
\$229,315.46	VIEGAS	KENNETH	Authorized Nuclear Operator
\$229,267.33	DUTTON	JEFFREY	Authorized Nuclear Operator
\$228,878.03	HEY	BRAD	Supervising Nuclear Operator First Line Manager Assistant
\$228,385.00	HOORNWEG	JACQUELINE	Vice President, Corporate Relations & Communications
\$228,248.51	NUTTALL	PATRICK	Authorization Training Supervisor
\$227,841.49	JONES	GRAHAM	Authorized Nuclear Operator
\$227,786.07	SUGIYAMA	SHIG	Supervising Nuclear Operator First Line Manager Assistant
\$227,668.56	HOLT	JAMES	Control Room Shift Supervisor
\$227,601.96	NADEAU	PAUL	Vice President Security & Emergency Services
\$227,181.24	D'SOUZA	NEELA	Control Room Shift Supervisor
\$227,137.49	KISHOR	PAHALAD	Mechanical Technician First Line Manager Assistant
\$226,975.79	MORRIS	CHRIS	Authorized Nuclear Operator
\$226,784.37	MASURKEVITCH	DAVID	Field Shift Operating Supervisor
\$226,325.24	ROB	ART	Plant Manager, Hydro
\$226,286.21	HOOD	ROB	First Line Manager, Control/Mechanical
\$226,232.96	NICHOLSON	AARON	First Line Manager, Inspection & Maintenance
\$226,163.58	HUSAIN	JAFFAR	Director
\$226,027.11	DAVIS	THOMAS	Authorization Training Supervisor
\$225,957.62	TREACY	CATHERINE	Vice President Business Partners
\$225,707.98	RANDALL	KENNETH SCOTT	Authorized Nuclear Operator
\$225,680.96	EADE	BRIAN	Authorized Nuclear Operator
\$225,633.42	* KITOWSKI	RAY	Production Supervisor - Shift Engineer
\$225,445.30	FONG	JACK	Director, Planning & Evaluations
\$225,365.82	HAY	DON	First Line Manager, Control/Mechanical
\$225,303.34	BERKERS	DAVID	Authorized Nuclear Operator
\$225,037.73	SVAROVSKY	GENE	Section Manager, Outage
\$224,986.13	NIXON	GARRY	First Line Manager, Inspection & Maintenance
\$224,723.28	BALAN	MARCEL	Unit 0 - Training Supervisor
\$224,628.75	MULLINS	KEITH	First Line Manager, Inspection & Maintenance
\$224,584.82	ST. DENIS	THOMAS A.	Authorized Nuclear Operator
\$224,551.02	BRAZIER	DONALD	Director
\$224,517.94	WOODS	PETER	Authorized Nuclear Operator
\$224,377.24	MACIEJKO	JASON	Authorized Nuclear Operator
\$224,345.76	POOLE	FRANK	Work Coordinator
\$224,341.04	DILLON	PATRICK	Contracts Coordinator
\$224,300.10	WOLFE	SHAUN	Authorized Nuclear Operator
\$224,162.49	HOFFMAN	EDWARD	Work Coordinator
\$224,143.96	DODO	MUTIZWA	Vice President Shared Financial Services
\$223,692.27	BHARDWAJ	NEERAJ	Authorized Nuclear Operator
\$223,524.22	* BAGATTO	LUIGI	First Line Manager, Control/Mechanical
\$223,509.34	* CHEVRIER	BRIAN	Trades Supervisor - Maintenance
\$223,358.31	MUTHUSWAMY	SUKUMAR	Control Room Shift Supervisor
\$223,092.57	BARNES	DOUGLAS	Authorized Nuclear Operator
\$222,933.97	SCOTT	DAVID	Authorization Training Supervisor
\$222,720.90	CAMERON	JOSEPH	Section Manager Operations Training
\$222,592.79	GRAY	SHERRI	Control Room Shift Supervisor
\$222,556.33	CORAZZA	STEPHEN	Authorized Nuclear Operator
\$222,523.62	PEARSON	DALE T.	First Line Manager, Training Programs
\$222,509.59	JARRETT	STEPHEN	Field Shift Operating Supervisor
\$222,447.34	SCRINKO	JEFFREY	Vice President Hydro Thermal Operations Finance
\$222,390.00	FRALICK	CHRISTOPHER	Plant Manager, Thermal
\$222,054.06	MARTINA	PAUL	First Line Manager, Control/Mechanical
\$221,754.81	CARON	REBECCA	First Line Manager, Inspection & Maintenance

\$221,649.35	MOSCHELLA	MIKE	First Line Manager, Construction
\$221,408.44	ST. MARTIN	AL	Authorized Nuclear Operator
\$221,397.87	BARRY	FRANCIS	Inspection & Maintenance Technician First Line Manager Assistant
\$221,263.70	LEKSINSKI	PAUL	Control Room Shift Supervisor
\$220,885.78	LALONDE	DARWIN	Field Shift Operating Supervisor
\$220,844.10	ROOPCHAN	ROBIN	Director Financial Communications & Strategy
\$220,757.83	DEHAAS	IAN	Authorized Nuclear Operator
\$220,618.97	GAULTON	RAYMOND	First Line Manager, Control/Mechanical
\$220,497.50	VALCOFF	VICTOR	Authorized Nuclear Operator
\$220,405.82	* MCRAE	ERIC	Production Supervisor - Shift Engineer
\$220,095.72	* MACMILLAN	PETER	Senior Counsel
\$220,040.19	SLOOS	KELVIN	Control Room Shift Supervisor
\$219,592.28	MCVEITY	DARLENE	Vice President Business Partners
\$219,068.16	RUSSELL	GORDON	First Line Manager, Control/Mechanical
\$218,862.02	WILLIAMS	STEPHEN K.	Authorized Nuclear Operator
\$218,689.40	MACEACHERON	RICHARD	Director Nuclear Regulatory Affairs
\$218,605.60	BHARDWAJ	ALOK	Authorized Nuclear Operator
\$218,584.38	HOLMES	KEVIN	Supervising Nuclear Operator First Line Manager Assistant
\$218,442.82	EDWARDS	BRIAN	Authorization Training Supervisor
\$218,275.55	MCPHERSON	SAMUEL	Authorized Nuclear Operator
\$218,252.73	DEPAULO	RANDY	Section Manager, Outage
\$217,991.67	BELFRY	STEVE	Authorized Nuclear Operator
\$217,960.98	* SASAKI	LAUREN	Assistant General Counsel
\$217,935.56	GALLANT	JAMIE	First Line Manager, Control/Mechanical
\$217,887.87	ROBERTS	JEFF	First Line Manager, Control/Mechanical
\$217,814.30	WINNITTOY	BRETT	Authorized Nuclear Operator
\$217,667.55	MATEU	JAUME	First Line Manager, Control/Mechanical
\$217,497.18	JOHNSON	PETER	Authorized Nuclear Operator
\$217,305.74	LADAK	LUBNA	Director Controllership
\$217,152.04	COULIS	STACY LYNN	Certified Unit "O" Control Room Operator
\$216,741.01	GOETZ	MICHAEL	Authorized Nuclear Operator
\$216,564.83	BROWN	CATHERINE	Field Shift Operating Supervisor
\$216,379.82	DUDECK	GARRY	Section Manager, Outage
\$216,352.83	GAGNON	JARRETT	First Line Manager, Control/Mechanical
\$216,284.91	OSUTEI	NARH	First Line Manager, Control/Mechanical
\$216,249.47	VIKNANEK	DAVID	Field Shift Operating Supervisor
\$216,152.61	* SMITH	RAYMOND	Authorized Nuclear Operator
\$216,104.80	LIU	QINGHUA	Electrical & Control Technician
\$216,058.02	HARRIS	KENT DOUGLAS	Vault Supervisor
\$216,040.27	CREARY	JEFF	Authorization Training Supervisor
\$215,807.92	BENNETT	RICHARD F.	Authorized Nuclear Operator
\$215,678.16	BALAZ	JOE	Field Shift Operating Supervisor
\$215,671.23	COSBURN	DOUGLAS	First Line Manager, Civil Maintenance
\$215,663.80	KEAN	SHELDON	First Line Manager, Control/Mechanical
\$215,383.06	OSBORNE	DEAN	Authorization Training Supervisor
\$215,236.52	CRICHTON	JAMES D.	System Window Coordinator
\$214,985.64	SINCLAIR	STEPHEN	Authorized Nuclear Operator
\$214,913.02	BASSAN	LOVLEEN	Director Talent & Business Change
\$214,880.61	VLCKO	ROBERT	Mechanical Technician
\$214,711.90	HORNE	CHRISTOPHER	First Line Manager, Inspection & Maintenance
\$214,667.55	DEWAR	MICHAEL	Authorized Nuclear Operator
\$214,607.93	BRANDER	WAYNE	First Line Manager, Control/Mechanical
\$214,554.80	WILLSON	JAMIE	Mechanical Technician First Line Manager Assistant
\$214,332.55	SCOTT	STEPHEN	Authorized Nuclear Operator
\$214,246.43	* KINTZI	ANDY	Senior Technical Engineer/Officer
\$214,235.49	JONES	DAN G.	First Line Manager, Control/Mechanical
\$214,150.59	GUTHRIE	SCOTT	Director
\$214,131.36	REID	STEPHEN C.	Authorized Nuclear Operator
\$214,095.62	SMITH	PAUL	First Line Manager, Control/Mechanical
\$214,028.78	CLARK	PAUL	Authorized Nuclear Operator
\$213,772.70	JARMAIN	DOUGLAS	Mechanical Technician First Line Manager Assistant
\$213,708.86	GAYMAN	WARREN	Electrical & Control Technician
\$213,689.65	AKEY	ANDRE	System Window Coordinator
\$213,604.77	MUNRO	ROBERT	Section Manager, Radiation Protection Programming
\$213,586.94	LAWRIE	JAMIE	Project Director
\$213,548.79	BENNETT	TONY	Director Dam & Public Safety
\$213,537.90	JUNOP	BLAINE	Authorized Nuclear Operator
\$213,461.50	TOOHEY	SEAN	Director, Work Management
\$213,455.98	YEUNG	WAI-MAN	Electrical & Control Technician
\$213,115.40	MATTHEWS	GLEN	Authorized Nuclear Operator
\$213,047.26	STRACEY	IAN	Shift Advisor Technical Support
\$213,026.11	WINTER	MIKE	Authorized Nuclear Operator

\$212,852.27	ARCHER	KEVIN	First Line Manager, Control/Mechanical
\$212,806.71	MCKAY	ROB	First Line Manager, Control/Mechanical
\$212,720.78	MCKENZIE	SCOTT	Work Coordinator
\$212,710.61	TETI	ROSARIO	System Window Coordinator
\$212,630.72	MCCABE	BOB	Field Shift Operating Supervisor
\$212,488.24	VAN GOG	BILL	Electrical & Control Technician
\$212,370.45	* FINDLAY	DAVE	Field Shift Operating Supervisor
\$212,361.82	BAKER	ALAN	Authorization Training Supervisor
\$212,305.60	HENDERSON	COLIN	Authorized Nuclear Operator
\$212,236.33	HAMADE	DAVID	Vice President Enterprise Risk Management
\$212,163.32	D'ALIMONTE	ENZO	Director, Fuels
\$212,066.15	WELLS	WAYNE	First Line Manager, Contract Administrator
\$211,978.32	HOHENDORF	RICHARD J.	Senior Manager Computers & Control Design
\$211,966.98	BARRADAS	JOANNE	Director Transaction Processing - Corporate Financial Processing Services
\$211,923.91	WILSON	DON	Director Inspection Maintenance Services Engineering
\$211,655.15	JAMIESON	IAN	Authorized Nuclear Operator
\$211,493.59	RIOUX	YVES	Authorized Nuclear Operator
\$211,490.36	BARBER	CHRIS	Certified Unit "O" Control Room Operator
\$211,375.39	HARRIS	JAMES	Authorized Nuclear Operator
\$211,363.89	* RADFORD	DOUGLAS	Director Centre-Led Functional Area Manager Maintenance
\$211,081.43	HOYLE	BOB	Certified Unit "O" Control Room Operator
\$210,967.49	HARRIGAN	BERNARD	Authorized Nuclear Operator
\$210,953.45	BLAKE	GREG	Authorized Nuclear Operator
\$210,749.24	JOSEPH	CARLYLE	First Line Manager, Control/Mechanical
\$210,722.32	MAHARAJ	KESHWAR	Electrical & Control Technician First Line Manager Assistant
\$210,688.25	MALONEY	RONALD	First Line Manager, Construction
\$210,547.10	SERVOS	LAWRENCE	First Line Manager, Radiation Control
\$210,382.01	TRELINSKI	MIKE	Senior Technical Expert
\$210,253.19	MORRILL	BRENT	Director, Nuclear Oversight
\$210,244.89	MAK	WILLIAM	First Line Manager, Contract Administrator
\$210,223.98	BURGER	MARTIN	System Window Coordinator
\$210,160.91	DOAN	GORD	Thermal Operating Supervisor
\$210,052.25	* MOORE	WILLIAM	Production Supervisor - Shift Engineer
\$209,978.50	TOLTON	PAUL	Director
\$209,973.45	WOOD	FLOYD	Mechanical Technician First Line Manager Assistant
\$209,958.81	KOWALSKI	ANDREW	Authorized Nuclear Operator
\$209,908.59	KRUEGER	JOHN	Authorized Nuclear Operator
\$209,821.07	RAE	CRAIG	Authorized Nuclear Operator
\$209,700.78	* ZIEMAN	JAMES	Operations Specialist
\$209,662.82	RAULJI	NARENDRASINH	Mechanical Technician First Line Manager Assistant
\$209,518.24	PETRAS	DANIEL	Unit 0 - Training Supervisor
\$209,507.62	STEVENS	ROSS	First Line Manager, Control/Mechanical
\$209,503.83	DE LACOUR	JEFFERSON	Supervising Nuclear Operator First Line Manager Assistant
\$209,333.82	PASIEKA	PAULENE	Assistant General Counsel
\$209,307.34	SWAREK	TIM	Nuclear Operator
\$209,295.95	ARTHURS	PAUL J.	Authorized Nuclear Operator
\$209,273.76	CLEMITS	IONATHAN	Certified Unit "O" Control Room Operator
\$209,150.79	STEELE	ANDREW	Authorized Nuclear Operator
\$208,958.73	LIDDLE	CLIFFORD	Authorized Nuclear Operator
\$208,721.73	ZALUSKI	CRAIG	Senior Engineer/Scientist/Technical Officer
\$208,670.77	MATTINA	NICOLO	Inspection & Maintenance Technician
\$208,647.60	LONG	MIKE	First Line Manager, Control/Mechanical
\$208,555.16	HENDERSON	PETE	Authorized Nuclear Operator
\$208,521.78	VAUTOUR	ERIC	Electrical & Control Technician First Line Manager Assistant
\$208,495.20	SUKHU	PARMANAND	First Line Manager, Control/Mechanical
\$208,489.04	BELANGER	ANDRE	Electrical & Control Supervisor
\$208,485.84	POPE	IONATHON	Authorized Nuclear Operator
\$208,482.39	HABIB	RIYAZ	Project Director
\$208,448.45	FITZGERALD	KENNETH	First Line Manager, Control/Mechanical
\$208,048.27	RANDS	ANDREW	First Line Manager, Control/Mechanical
\$207,987.49	BLAIR	PAULINE	Authorized Nuclear Operator
\$207,977.33	MUELLER	DAVID	Health Physicist
\$207,962.55	CHRISTIDIS	NICK	Mechanical Technician
\$207,870.73	MOIR	JEREMY	Authorized Nuclear Operator
\$207,864.82	WILSON	DAVID	Nuclear Operator
\$207,755.03	PRIEST	MARK	Authorized Nuclear Operator
\$207,736.34	JOHNSON	ADAM	Authorized Nuclear Operator
\$207,652.73	SCHIAFONE	DANIELE	Electrical & Control Technician
\$207,625.51	DUNBAR	GLENN C.	Authorized Nuclear Operator
\$207,523.90	MCGEACHY	KEVIN	Electrical & Control Technician First Line Manager Assistant
\$207,467.72	TALUKDAR	JIBESWAR	Project Leader
\$207,397.53	JOHNSTON	CHRIS	Manager, Plant Maintenance

\$207,381.03	BUDHLALL	DAVE	Field Shift Operating Supervisor
\$207,243.62	KENNEDY	DANA	Authorized Nuclear Operator
\$207,221.74	TRAN	THONG	Senior Design Engineer
\$207,014.96	RAMLOCHAN	FRANK	Mechanical Technician
\$206,933.01	CHOU	JACK	Real Time Markets Supervisor
\$206,909.68	MCLEOD	MARK	Authorized Nuclear Operator
\$206,699.49	ELLIOTT	PAUL	First Line Manager, Control/Mechanical
\$206,689.99	MACKIE	RICHARD	Director
\$206,405.19	HEATH	LISA	Authorization Training Supervisor
\$206,375.02	STEPHENS	TODD	First Line Manager, Control/Mechanical
\$206,244.78	* ARAUJO	ADELINO CORRIEA	Mechanical Technician
\$206,164.97	HUNSBURGER	ROB	Authorization Training Supervisor
\$206,057.57	SANASI	JAI	Project Leader
\$206,002.91	* THUOT	DENNIS	Authorized Nuclear Operator
\$205,935.45	LIVSEY	DANIEL	First Line Manager, Inspection & Maintenance
\$205,903.08	RAMSARRAN	SUNIL	Electrical & Control Technician
\$205,892.38	MONTGOMERY	ROBERT	Work Coordinator
\$205,838.90	CZAJKOWSKI	DARRYL	Inspection & Maintenance Technician First Line Manager Assistant
\$205,830.28	O'HAGAN	MICHAEL	First Line Manager, Inspection & Maintenance
\$205,681.81	STEWART	KEN	First Line Manager, Facility Services (Pickering/Darlington)
\$205,675.85	* COULAS	BRIAN	Director Refurbishment Engineering
\$205,604.62	CHETCUTI	VICTOR	First Line Manager, Radiation Control
\$205,582.14	* MORRISON	JACK	System Window Coordinator
\$205,569.33	GREGORY	HANK	Authorization Training Supervisor
\$205,538.01	WHELAN	JAMES	Authorized Nuclear Operator
\$205,431.27	PARK	JEREMY	Authorized Nuclear Operator
\$205,366.39	WILLIAMS	JOEL	Authorized Nuclear Operator
\$205,227.06	WOODWARD	SEAN	First Line Manager, Control/Mechanical
\$205,004.56	ALI	SHAZAM	Electrical & Control Technician
\$204,841.80	LEMKAY	KEVIN	Section Manager Operations Training
\$204,699.86	DE ROOSE	ADAM	Control Room Shift Supervisor
\$204,641.90	TIRABORRELLI	FRANK	Work Coordinator
\$204,611.89	FRANCE	ROB	First Line Manager, Control/Mechanical
\$204,501.90	LUI	KIN FAI	First Line Manager, Control/Mechanical
\$204,440.03	LOUGHREY	SHAWN	First Line Manager, Control/Mechanical
\$204,383.65	SHAH	SUSHIL	Director Asset & Transmission Management
\$204,266.14	CHILDERHOSE	TODD	Authorized Nuclear Operator
\$204,238.96	HENDERSON	COLE	Shift Emergency Response Manager
\$204,180.31	VAUGHAN	GEORGE	First Line Manager, Control/Mechanical
\$204,023.31	BARNES	STEPHEN	Certified Unit "O" Control Room Operator
\$204,009.75	GIANNANTONIO	FABIO	Field Shift Operating Supervisor
\$203,939.59	SEGU	JASVINDER	Field Shift Operating Supervisor
\$203,898.45	THOTTUMKAL	VINODU	First Line Manager, Control/Mechanical
\$203,813.62	WOPERIS	JIM	First Line Manager, Control/Mechanical
\$203,747.72	WAINMAN	MARK	Inspection & Maintenance Technician First Line Manager Assistant
\$203,625.07	CLINTON	STEPHEN	Supervising Nuclear Operator First Line Manager Assistant
\$203,614.11	PARKS	SABINE	Director Controllershship
\$203,595.85	PIERCE	DOUG	Certified Unit "O" Control Room Operator
\$203,315.51	ANDERSON	DAVID T.	First Line Manager, Control/Mechanical
\$203,200.80	TERRO	MAHMOD	Project Engineer/Officer
\$203,176.20	LANGEVINE	MAURICE	Electrical & Control Technician
\$203,110.98	THOMAS	STEPHEN	Field Shift Operating Supervisor
\$202,955.94	HARRISON	KENNETH	Real Time Markets Supervisor
\$202,947.31	DEWAR	STEVE	Supervising Nuclear Operator First Line Manager Assistant
\$202,923.59	* LE BLANC	BERNIE	First Line Manager, Control/Mechanical
\$202,880.06	D'SILVA	MILBURN	Mechanical Technician
\$202,638.86	GRECO	FERNANDO	First Line Manager, Control/Mechanical
\$202,625.70	LORENCEZ	CARLOS	Director
\$202,590.20	SHIEL	BRENDAN	Electrical & Control Technician First Line Manager Assistant
\$202,569.59	FAWNS	REGINALD	First Line Manager, Control/Mechanical
\$202,544.32	SCARFO	MIKE	Work Coordinator
\$202,516.99	EVANS	DOUG	First Line Manager, Inspection & Maintenance
\$202,511.32	WROBEL	MARTIN	First Line Manager, Radiation Control
\$202,454.00	MALEK	IMTIAZ	Director
\$202,444.10	REINERT	PHIL	Vice President Supply Services Ontario Power Generation Projects
\$202,399.69	POLLARD	ALAN	First Line Manager, Control/Mechanical
\$202,372.70	WALSH	DAVID P.	Authorization Training Supervisor
\$202,299.86	STONE	GARETH	Certified Unit "O" Control Room Operator
\$202,280.89	FILLIER	TIMOTHY	Authorized Nuclear Operator
\$202,139.34	LEDWARD	MICHAEL	Supervising Nuclear Operator First Line Manager Assistant
\$202,024.68	TALEVI	MICHAEL	Mechanical Technician/Technologist
\$201,894.63	RANKINE	DAVE	Training Technician - Conventional Safety

\$201,852.64	<u>LOVERIDGE</u>	<u>CHARLES</u>	Certified Unit "O" Control Room Operator
\$201,839.85	<u>SCHREIBER</u>	<u>PAUL</u>	Authorized Nuclear Operator
\$201,811.78	<u>SMITH</u>	<u>ROBIN</u>	Authorized Nuclear Operator
\$201,786.32	<u>SANKER</u>	<u>LATCHMAN</u>	First Line Manager, Control/Mechanical
\$201,727.57	<u>DESPRES</u>	<u>ARTHUR</u>	Manager Refurbishment Operations & Maintenance Programs
\$201,707.46	<u>MAINGOT</u>	<u>JAMES</u>	Authorized Nuclear Operator
\$201,467.54	<u>KUBICKI</u>	<u>TODD THOMAS</u>	Field Shift Operating Supervisor
\$201,390.10	<u>SMITH</u>	<u>CLIFFORD</u>	First Line Manager, Control/Mechanical
\$201,311.63	<u>D'SOUZA</u>	<u>BERTIE</u>	First Line Manager, Control/Mechanical
\$201,254.99	<u>PARKER</u>	<u>PAUL</u>	Mechanical Technician
\$201,225.90	<u>ARAUJO</u>	<u>JAMES</u>	First Line Manager, Radiation Control
\$201,189.40	<u>ROBERTS</u>	<u>CHARLES</u>	Director Information Technology Projects & Outsourced Services
\$201,088.53	<u>LOVELAND</u>	<u>GLENN</u>	First Line Manager, Control/Mechanical
\$201,046.27	<u>HAMMERSTROM</u>	<u>WILLIAM</u>	Authorized Nuclear Operator
\$200,943.01	<u>KETO</u>	<u>GERALD</u>	Director
\$200,937.08	<u>MARTIN</u>	<u>ROY</u>	Director - Nuclear Safety
\$200,811.05	<u>WELLER</u>	<u>BRADLEY</u>	First Line Manager, Control/Mechanical
\$200,740.25	<u>BELL</u>	<u>BRIAN</u>	Director Market Affairs
\$200,635.90	<u>BIRD</u>	<u>DAVID</u>	Shift Emergency Response Manager
\$200,390.43	* <u>DETSIKAS</u>	<u>MARY</u>	Authorized Nuclear Operator
\$200,180.20	<u>MITCHELL</u>	<u>GERRY</u>	System Window Coordinator
\$200,081.65	<u>COBER</u>	<u>JOHN</u>	Authorized Nuclear Operator
\$200,041.09	<u>DAWSON</u>	<u>JAMES</u>	Vault Supervisor

UNDERTAKING JT2.20

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Undertaking

To provide the communication plan for roll-out of BT program.

Response

See Attachment 1.



BT Engagement & Communications Overview

March 27, 2012

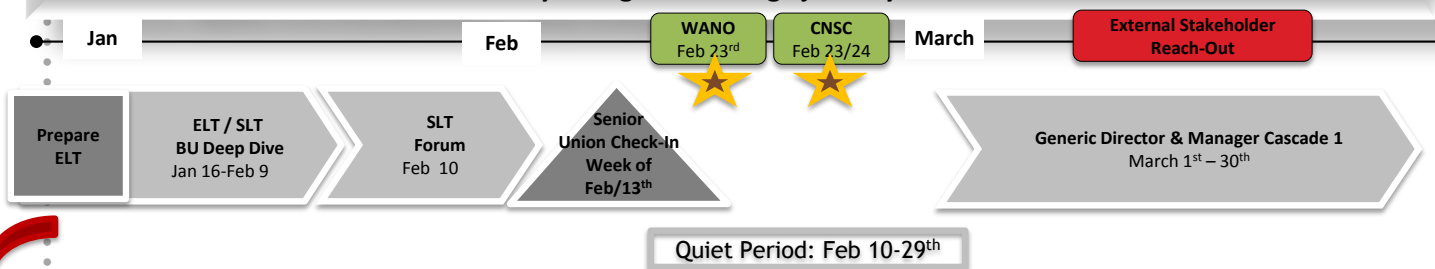


ONTARIOPOWER
GENERATION

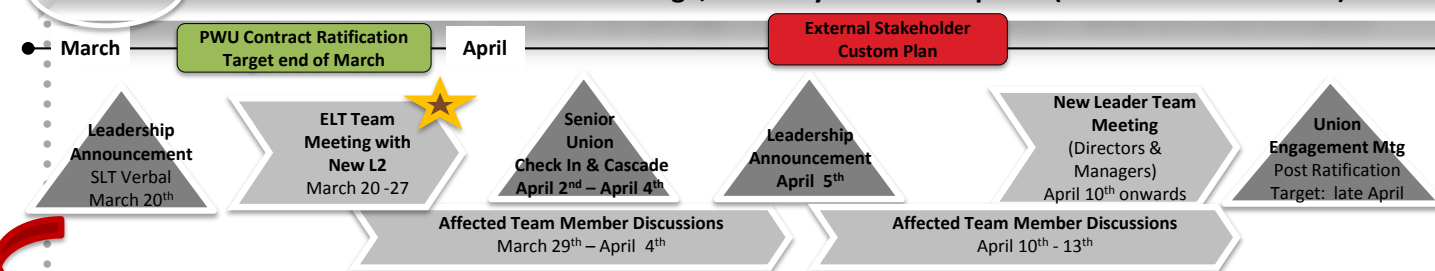
Rollout Approach: Q1 and Q2

UPDATED
 March 13th

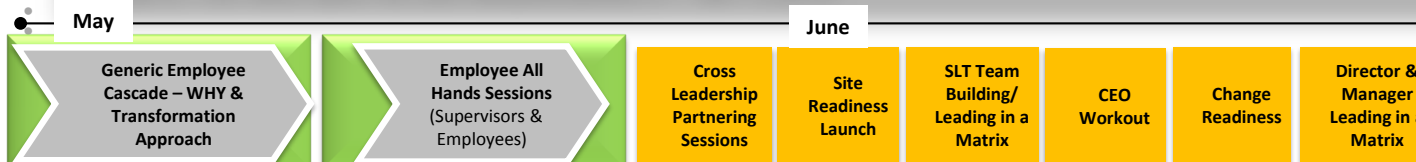
PHASE 1: BUILD THE FOUNDATION : Why change and change journey



PHASE 2: INITIATE CENTRE-LED: What is the change, and why will this help us? (New & Current Leader)



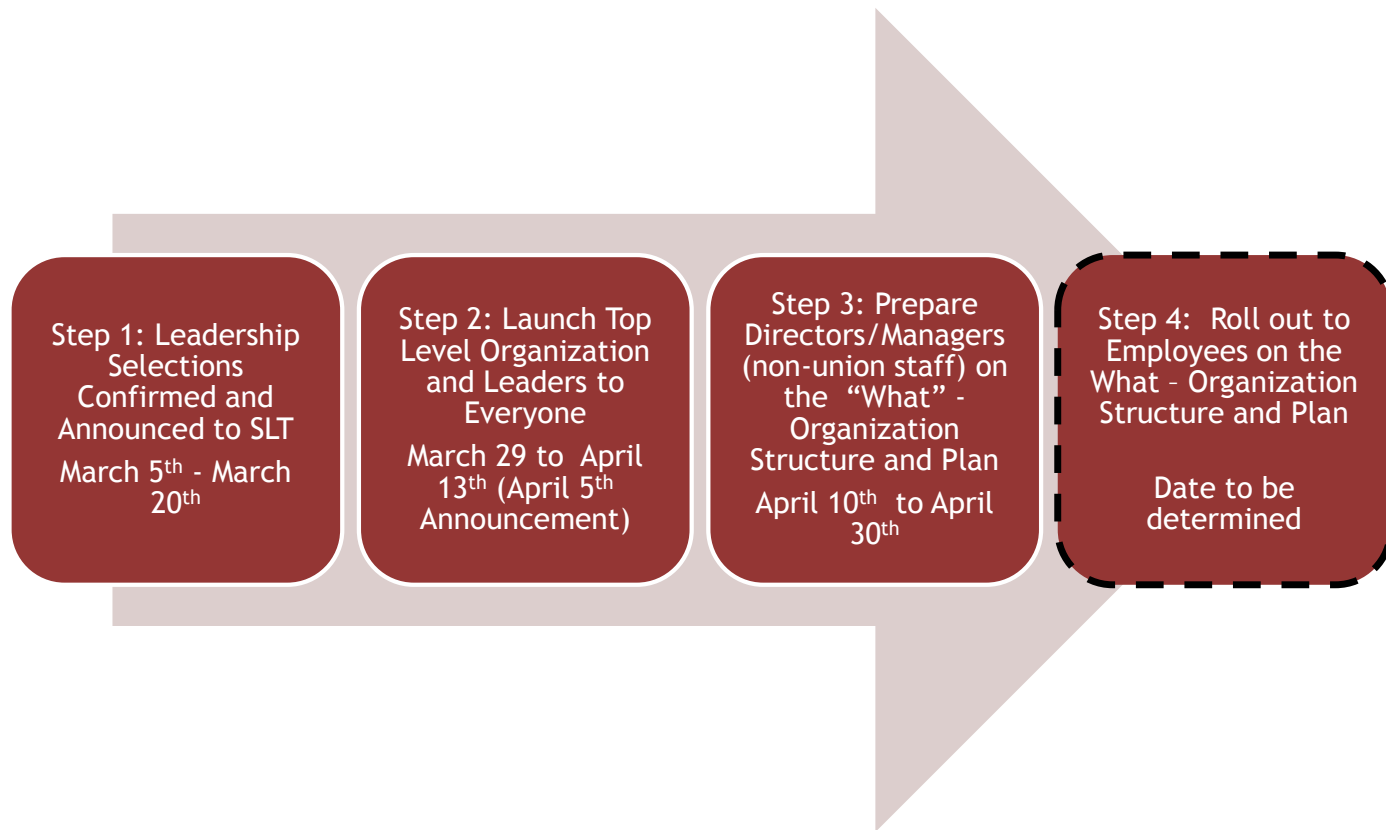
PHASE 2: INITIATE CENTRE-LED ORGANIZATION – New Leader



Building Change Capability : Transitions Workshops for Leaders (Optional)



Four Steps to Initiating Centre-Led Org



Step 2: Launch Top Level Organization and Leaders to Everyone

Timeframe: March 29th – April 13th

Objective	Tactic	Owner	Timing	Topic Areas
Finalize BU Communication Plan: Affected Team Member Discussions		HR Partner to support ELT and Builder (Support from Change & Comms)	March 27 th	<ul style="list-style-type: none"> Detailed BU communication plan for affected team member discussions (see slide 5)
Custom BU Plan for Affected Team Members: Communication to directly affected team members Principles: <ul style="list-style-type: none"> Communicate to directly affected team members before the announcement (Mon/Tues) Current leader owns the communication to their team, followed by the new leader If no individual is impact, say that and tailor cascade accordingly 	1x1's Refer to Key Messages Document	Current SLT member to impacted team leads and teams New Leader Follows up	Thurs- Wed March 29 th – April 4 th	<ul style="list-style-type: none"> Concept of a Centre-Led Organization New leaders that have been appointed to the new centre-led structure Starting to align teams under new centre-led function Organization will transition to the centre-led organization in May What is changing for them What is not changing <ul style="list-style-type: none"> The resources and teams supporting operations or plants; Accountabilities of teams at this point in time are <u>not changing</u>. Employees will continue to perform the same job duties they were performing before this change. For employees who are part of a team transitioning to centre-led, there will be no change to their accountabilities, their direct manager, or their work location. As we continue to define and refine the change initiatives to help OPG become more efficient and effective, we will work with employees and their representatives. Announcement will be sent from Tom Mitchell on April 5th New Leader will follow-up with you What you can say to your teams right now Ask to keep this information confidential



Customer BU Plan: Affected Team Leader Discussions

Developed by HR Partner to support ELT and Builder (support from change/comms)

Communicate to people *directly impacted*: Mar 29th – Apr 4th

- Current leader talks to direct reports/leaders who are transferring out
- New Leader talks with new direct reports/leaders who are transferring in
- Current L2's talk to current direct report team about changes to the team: leadership changes if any, team changes
- Transferring leaders talk to their immediate teams (not extended teams yet, unless they are small and will feel the impact. Keep discussions with broader teams/union staff to closer to announcement)

Announcement - Apr/5th

Follow-up with organizations post announcement: Apr 10th-13th

- New L2 Leader communicates with direct report team
- New L2 communicates with extended team (email/group meeting)
- L3/L4's to their teams on what it means where appropriate

Note: Communication prior to announcement should focus on those directly impacted, not extended organizations until post announcement. Communications with represented staff prior to announcement should be limited to staff who will be directly impacted as a result of the change.

• **Step 2: Launch Top Level Organization and Leaders to Everyone**
 • **Timeframe: March 29th – April 13th**

Objective	Tactic	Owner	Timing	Topic Areas
Discussion with Senior Union Leaders	Meeting	Jason	April 2 nd	<ul style="list-style-type: none"> • Overview of communication materials and April 5th announcement
Follow-up with Chief Stewards/UD's	1x1	Comms Owners (TBD)	April 3 rd and 4 th	<ul style="list-style-type: none"> • Key messages from the April 5th announcement
Announcement of new organization	Email Website Org Charts EE Q&A Submit questions	Tom	Thurs Apr 5 th	<ul style="list-style-type: none"> • Concept of Centre-Led Organization Structure and the significant functional organization changes • What is changing and what is not changing • Brief overview of quick wins/early implementation initiatives • Next steps
BU/Function Announcement	Email Template will be provided	ELT Member (Support from Builder, Comms, Change)	Post April 5 th Announcement	<ul style="list-style-type: none"> • Reinforce Corporate key messages (provided in template) • Thank teams that will be transferring out of the BU and highlight benefits now they are apart of centre-led and the continued support • Welcome teams that will be transferring in to the BU/function and highlight benefits now they are apart of centre-led and the continued support • Announce changes within the BU/function • Announce any new L3 roles • Thank leadership team who will be driving this transition forward • Provide an overview of BU specific quick wins/early implementation initiatives • Remind people again of the importance of delivering a strong 2012 business plan, deliver the commitments and continue to ensure safe, reliable operations and strong project execution
Custom BU Plan: Leaders communicate more broadly to teams	Email/ Meetings Refer to Key Messages Document	Current SLT Member New SLT Member	W/O Apr 10 th -13 th	<ul style="list-style-type: none"> • Reiterate what is changing • Emphasize what is not changing <ul style="list-style-type: none"> • The resources and teams supporting operations or plants; • Accountabilities of teams at this point in time are <u>not changing</u>. Employees will continue to perform the same job duties they were performing before this change. • For employees who are part of a team transitioning to centre-led, there will be no change to their accountabilities, their direct manager, or their work location. • As we continue to define and refine the change initiatives to help OPG become more efficient and effective, we will work with employees and their representatives. • Organization will transition to the centre-led organization in May. • Deliver a strong 2012 business plan, continue to deliver the commitments, and continue to ensure safe, reliable operations and strong project execution.

Step 3: Prepare Directors/Managers on the “What” Organization Structure and Plan (New L2 Leaders Team Meetings with Dir/Mgrs)

Timeframe: April 10th – April 30th

Objectives:

- Provide an overview of the OPG top level organization design and the benefits of moving to centre-led model.
- Overview of ALL L2 organizations by function/business unit , with a focus of key BU dependencies.
- Overview the May transition organization for the specific function, and early initiatives the function/BU will be working on
- Provide an opportunity to dialogue about what is changing, the implications, next steps and their role.

Format: Presentation/Custom design based on Business Unit/Function requirements

Employee Cascade Implications:

- Cascade may happen for employees after PWU ratification or once ELT/L2’s are notified this can happen
- In the meantime, generic Q&A for all employees and key messaging will be provided online at the time of announcement

Support: Change Support will partner with Builders and Communications to support the rollout

Common Content Areas:

- Integrated Model, Centre-led
- Top level organization structure
- L2 structure by Function/BU
- Benefits of the change
- Phases and status of the change

+

Custom Content Areas: by Business Unit / Function

- Overview to April transition org for specific function
- Address key BU dependencies
- Discuss early initiatives
- What is changing/Not & next steps
- Benefits of the change

+

L2 Specific Details: (customized by L2 leader)

- L2 initiatives
- What it means for a specific team
- Key next steps and actions



1 **UNDERTAKING JT2.21**

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3 **Undertaking**

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5 To provide or give the reference to the BT corporate scorecard.
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8 **Response**

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10 The following response was provided at the conference (see Day 2 Transcript pp. 119-
11 120):
12

13 I am just wondering, before we break, we were asked earlier about the BT
14 corporate scorecard, or the BT scorecard, and when we were dealing with
15 the subsequent question we turned it up. So that is Exhibit L, tab 1.2,
16 schedule 17, page 3 of 6. So that page within the corporate balance
17 scorecard is the BT scorecard.

UNDERTAKING JT2.22

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Undertaking

To file the document Entitled "A Leader's Guide to Culture."

Response

The subject document is provided as Attachment 1.

Power Forward: The Way We Do Things at OPG

Leader's Guide to Culture

Rev: Jul 2013

Use this resource with your team to build understanding of what it means to live our Values and Behaviours and how each of us as leaders can make a difference.

	Welcome	2
3	OPG Mission, Values and Behaviours	
	Behaviours Descriptions	4
6-10	Your Role Expectations & Tools to Use	
	Ways to Power Forward	11
12	Appendices (Tools)	

Welcome



As one of our leaders, you play a critical role in transforming our business. With your continued support, we can involve employees in making sustainable change that will build a strong future for OPG.

Our Values and Behaviours define the culture we need to be a high performing organization and achieve our Mission to be Ontario's low cost electricity generator of choice. I have said that our transformation is 90% cultural, and it will take each one of us to make a difference. Shifting our culture means everyone shifting his or her behaviours. It starts with ourselves, first and foremost. Many of you have started to take action. You may be wondering what is expected of you in a leader role to impact culture change? I have three calls to action:

- **First - Be a role model. Demonstrate our Values and Behaviours in your day-to-day work.** Understand that the expectations that people have of us as leaders is to walk our talk. Be humble, we will not always get it right but we need to be transparent on what we are learning and clear a path for others to do the same.
- **Second - Build understanding with your team.** Help your employees understand what our Values and Behaviours mean in their daily work. Have conversations with them. Point out examples and share stories of your team putting them into action.
- **Lastly - Tell me what you need from me to make this culture change.** What barriers or roadblocks are you facing in making this change and where do you need my help to make the Behaviours stick? Please share your ideas by sending me an e-mail.

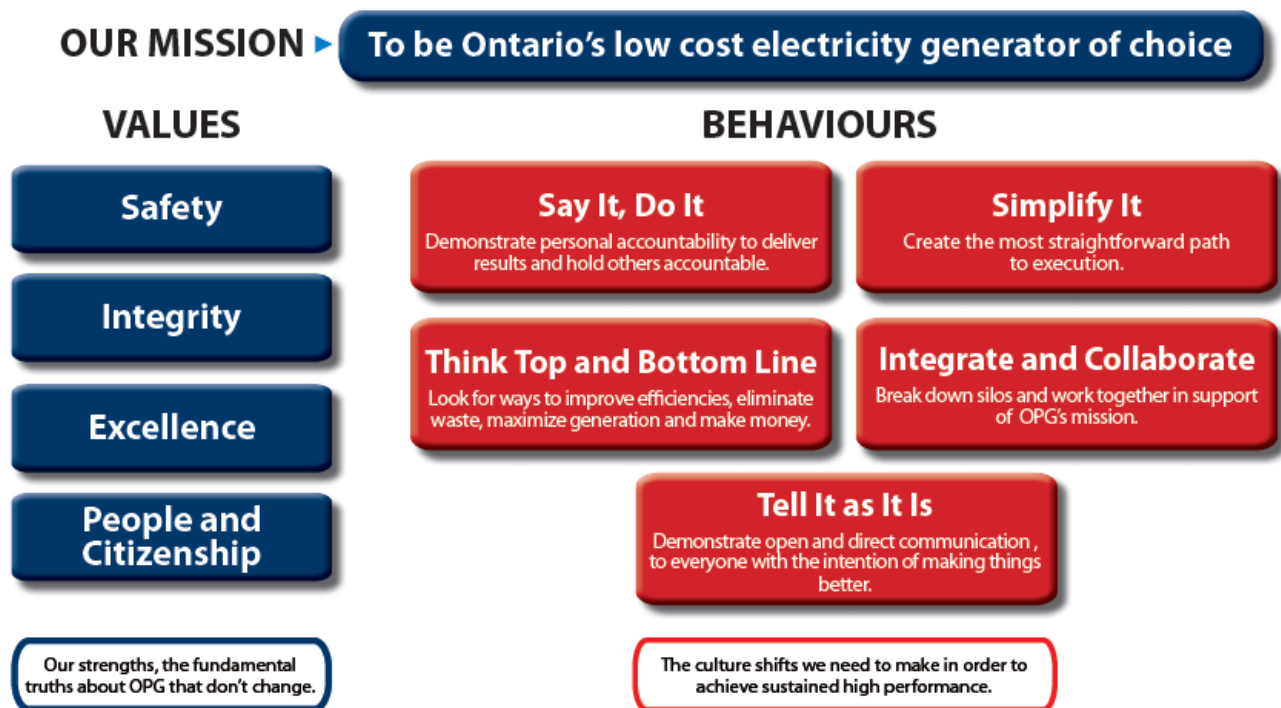
Use this leader's guide to support you in my call to action. Let's transform our culture and collectively make our Values and Behaviours the way we do things at OPG.

A handwritten signature in black ink that reads "Mitchell". The signature is written in a cursive, flowing style.

Mission, Values and Behaviours

Our Mission is to be Ontario's low cost electricity generator of choice. Safety, Integrity, Excellence, People & Citizenship are our OPG Values. They are the fundamental truths about OPG that don't change. They are our strengths that guide our behaviour and decision making, and point the way to business conduct that results in successful individuals and a successful company.

Our Behaviours are the cultural shifts we need to make to be a high performing company and continue to deliver on our Mission. These Behaviours – Say It, Do It, Simplify It, Think Top and Bottom Line, Integrate and Collaborate and Tell it As It Is – strengthen and support OPG's Values and are essential to making sustainable change at OPG.



As we transform our business, demonstrating the OPG Behaviours is critical to achieving sustained change. This guide emphasises our Behaviours, and provides ways each of us can make them real and everyday.

Behaviours Descriptions

OPG Behaviours for All Employees at OPG clarifies the expectations regardless of our role, job or group.

OPG Behaviours

the way all employees do things around here

Below are the behaviours expected from all employees regardless of role, job, or group – they guide all of us at OPG.

Say It, Do It

Demonstrate personal accountability to deliver results and hold others accountable.

✓ IT IS

- Deliver on commitments with a consistent focus on safety and quality.
- Expect others to deliver on their commitments and results.
- Surface issues and identify problems in a timely manner and recommend solutions where required.
- Own mistakes and failures, and learn from them to improve the next time.
- Understand the risks and implications of decisions and actions; ask if you don't know.

✗ IT ISN'T

- Compromise safety requirements, or eliminate the safety verification process.
- Blame others instead of owning mistakes.
- Work around people who aren't delivering on their commitments.
- Use governance as a reason for not delivering on a commitment.

Simplify It

Create the most straight forward path to execution.

✓ IT IS

- Simplify work practices and procedures within your control; input to simplify ones that aren't.
- Identify issues, barriers or perceived low value work within processes or procedures and where possible suggest solutions.
- Influence and challenge the status quo when something doesn't make sense, or is overly complex.

✗ IT ISN'T

- Compromise or sacrifice quality or safety.

Think Top and Bottom Line

Look for ways to improve efficiencies, eliminate waste, maximize generation and make money.

✓ IT IS

- Identify ways to do things better and more efficiently.
- Understand there is a limited amount of money, and act accordingly.
- Recognize that all the small costs add up to a larger overall cost.
- Understand how your actions and decisions impact operations.
- Understand the challenges of our industry and what it means for OPG.

✗ IT ISN'T

- Behave as if there is an endless pot of money and time.
- Spend money and time on "Nice to haves" vs. "Need to haves".

Integrate and Collaborate

Break down silos and work together in support of OPG's mission.

✓ IT IS

- Work collaboratively to problem solve issues, work through conflict and learn together.
- Keep others informed and ensure quality handoffs and knowledge transfer.
- Consider the impact of actions and decisions on others within and beyond the team.
- Proactively build strong working relationships across teams and geographies.

✗ IT ISN'T

- Operate in silos.
- Behave with an "Us" vs. "Them" mentality.
- Perform tasks in isolation of the bigger picture and team.
- Build your own solution without considering others' needs and impact to others.
- Solely rely on email as a key means to build working relationships.

Tell it as it is

Demonstrate open and direct communication to everyone with the intention of making things better.

✓ IT IS

- Speak the truth in a constructive, factual and respectful manner, without blame or judgement.
- Receive feedback openly from peers, direct reports and bosses.
- Deliver both good news and bad news.
- Respectfully call out others on inconsistent behaviours.

✗ IT ISN'T

- Avoid difficult discussions.
- Use a process or procedure in place of a difficult discussion.
- Use silence as a way to disagree.
- Be defensive.
- Talk behind others' backs.

VALUES

Safety • Integrity • Excellence • People & Citizenship

April 2013

ONTARIOPOWER
GENERATION

Behaviours Descriptions (cont.)

Building on the Behaviours for All Employees, there are leader expectations for those in the role of FLM/Supervisor.

OPG Behaviours

the way flm/supervisors do things around here

Building on the **all employees** behaviours, below are the added expectations for those in the critical role of **flm/supervisor** at OPG.

Say It, Do It Demonstrate personal accountability to deliver results and hold others accountable.

- ✓ IT IS**
- Set clear expectations, observe work execution, provide feedback on performance.
 - Hold others to their commitments and results, recognize when they deliver, and challenge when they don't.
 - Ensure staff have the appropriate decision authority aligned to their role.
 - Provide input to decisions, and once a decision is made, own and support the decision, and execute the plan of action.
 - Plan and organize work to ensure that work is completed efficiently, and monitor for timely and accurate completion.

- ✗ IT ISN'T**
- Make commitments that you cannot keep.
 - Do others' work rather than hold them accountable.
 - Create governance for everyone to follow because a few people aren't delivering.

Simplify It Create the most straight forward path to execution.

- ✓ IT IS**
- Work to change procedures that are perceived as barriers or low value work for staff.
 - Ask your staff only for the work necessary to get the job done; eliminate work that isn't.
 - Acknowledge and empower skill of the craft/discipline where it makes sense rather than set procedures.

- ✗ IT ISN'T**
- Be more prescriptive than required.
 - Create governance or procedures to address an exception, where there is low risk, or in response to an individual mistake.

Think Top and Bottom Line Look for ways to improve efficiencies, eliminate waste, maximize generation and make money.

- ✓ IT IS**
- Operate within your means, including budget and resources.
 - Be conscious of your team's productivity and take action to make it better.
 - Understand and demonstrate the importance of valuing and developing people.
 - Understand what it takes to maintain OPG's license to operate within each of our communities, and take actions accordingly.

- ✗ IT ISN'T**
- Cut corners that may lead to safety or other unacceptable risks.
 - Spend too much time and effort on things that have very little benefit.

Integrate and Collaborate Break down silos and work together in support of OPG's mission.

- ✓ IT IS**
- Actively work with and involve the right people in decisions and solutions affecting them, sharing early and often.
 - Break down silos to promote cross-team cooperation.
 - Define success in terms of the whole team.
 - Be visible and demonstrate that you are approachable in day-to-day interactions with others.

- ✗ IT ISN'T**
- Place your responsibility for making difficult decisions on others.
 - Refuse to make a decision until consensus is achieved.

Tell It as It Is Demonstrate open and direct communication to everyone with the intention of making things better.

- ✓ IT IS**
- Take responsibility to speak up.
 - Confront the brutal facts and sensitive issues early on.
 - Be open and honest about what you can and can't say.
 - Promote two-way discussion and test for buy-in and understanding.

- ✗ IT ISN'T**
- Sit on bad news, sugar coat the message.
 - Use feedback as an excuse to be rude or disrespectful to others.
 - Manage conflict or difficult situations by email.

VALUES
 Safety • Integrity • Excellence • People & Citizenship



Ways to Get Started

- Provide your team with copies of the All Employee What It Is and What It Isn't.
- Discuss what it means to demonstrate them in your work group.
- Build them into your meetings (formal and informal), and share examples of the Behaviours you see. Repeat often.
- Ask your team to share their ideas on practical ways to stay focused on the Behaviours in their daily work.

Your Role Expectations— Lead the Way

The things you do every day with everyone you deal with are opportunities to demonstrate our Values and Behaviours. Our Values are a source of pride from OPG, and as a leader, demonstrating this pride and continuing to live the Values are important to lead the way. Our Behaviours require us to change – employees, peers and others will watch if you are demonstrating the Behaviours and reinforcing them with others. If we all do our part, collectively we will role model what is important for how we do things at OPG.

How Can You Lead the Way?

1) By how you break it down	Have you broken down what the Behaviours mean in your team’s day-to-day work, and what they can do to demonstrate the Behaviours?
2) By how you make decisions	Do your decisions align with our Values and Behaviours?
3) By what you talk about and the questions you ask	Do you ask questions that invite open discussion of issues and opportunities and do you reinforce the Values and Behaviours in your discussion?
4) By your reactions to critical incidents	Do you stick to our Values and Behaviours when under stress and dealing with issues?
5) By what you recognize	Do you recognize people who are demonstrating our Values and Behaviours?
6) By your pride	Do you demonstrate your pride in the job well done and in working for OPG?

Tools You Can Use

The tools in this guide are designed to be used in two ways:

- On your own, to reflect on the leadership impact you are making in modeling our Behaviours.
- With your team/crew to build their understanding of what our Behaviours mean and involve them on how to implement the Behaviours in their daily work.

It is recommended you begin with using the tools to reflect personally on how you are demonstrating the OPG Behaviours and then use the tools with your team/crew.

The OPG Behaviours tools are:

1. **Progress Check** – check in on progress for making the Behaviours the way we do things at OPG.
2. **What it Looks Like** – recognize and call out our Behaviours in action.
3. **Conversation Generator** – have positive and meaningful team conversations about what the Behaviours mean.
4. **Embed in Your Work Programs** – link the Behaviours and actions required for work program success

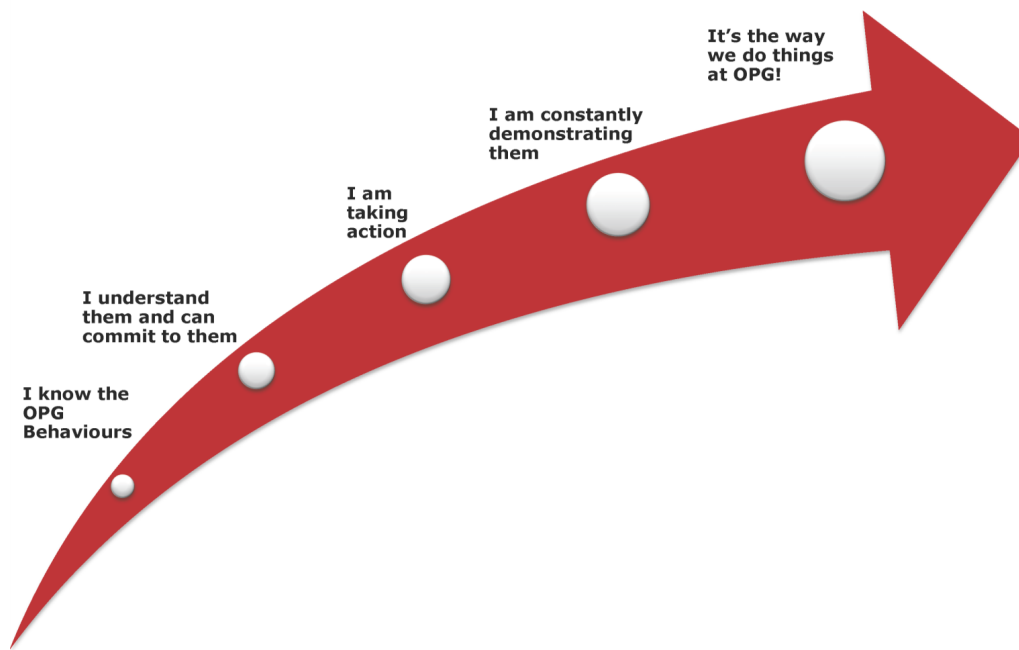
Tools You Can Use (cont.)

OPG Behaviours: Progress Check

Purpose	<ul style="list-style-type: none">▪ To reflect on your personal progress of modeling how we do things at OPG.▪ To do a progress check with your team/crew on where we are on our change journey of living our Behaviours.▪ To identify as a team/crew what we can do to place our Behaviours at the centre of the way we do things at OPG.
Materials	<ul style="list-style-type: none">▪ A copy of the OPG Behaviours, What it Is and What it Isn't▪ A copy of the Culture Change Progress Check Tool
Time Needed	<ul style="list-style-type: none">▪ 15 minutes
Steps	<ol style="list-style-type: none">1. Indicate what stage you are currently at on the culture change curve below.2. Reflect / discuss:<ol style="list-style-type: none">a. Why you think you are at this stage. What are your reasons / examples that lead you to believe this is where you are at?b. What strengths can be leveraged more? What are the gaps?c. What actions can you take to move to the next stage? What support is needed?3. Summarize the 1-2 actions you are committed to taking to move towards the next stage.

Culture Progress Check – see the Appendix for a full-page version:

CTRL + Click
Jump to
Appendix



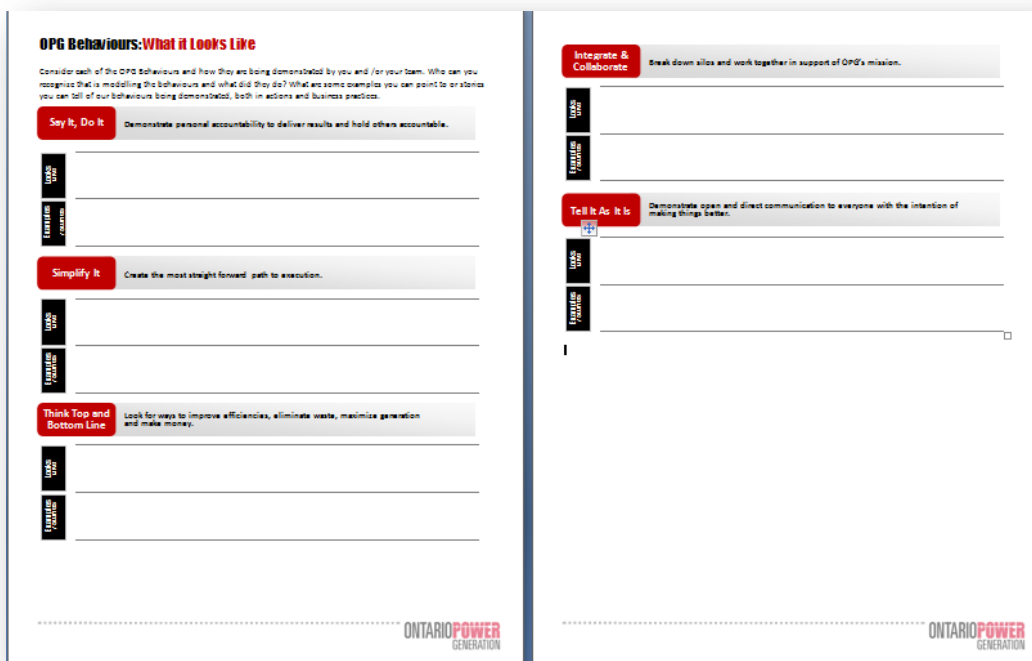
Tools You Can Use (cont.)

OPG Behaviours: What it Looks Like

Purpose	<ul style="list-style-type: none"> To identify and call out when our Behaviours are being modelled in our daily work. To point out examples and stories of our Behaviours as we recognize them in both our actions and business practices. To broaden participation and generate momentum on taking action.
Materials	<ul style="list-style-type: none"> A copy of the What it Looks Like Tool
Time Needed	<ul style="list-style-type: none"> 15 minutes
Steps	<ol style="list-style-type: none"> Choose an OPG Behaviour(s) to focus on with your team/crew. Have people individually write down who comes to mind as an example of demonstrating this Behaviour and what they specifically did. Also have them jot down any stories they have about our Behaviours being depicted both in our daily actions and in our business practices. Lead a roundtable discussion: <ol style="list-style-type: none"> Ask people to talk about who it is they would like to recognize and what they did. Encourage them to be specific on what was modelled, the situation, and the impact it had. If it is someone or a team in another department, discuss how they can recognize them outside of the meeting. Solicit stories of our Behaviours being depicted both in our daily actions and in our business practices.

What It Looks Like Tool – see the Appendix for a full-page version:

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 Appendix



Tools You Can Use (cont.)

OPG Behaviours: Conversation Generators

Purpose	<ul style="list-style-type: none"> To generate positive and meaningful conversations with your team/crew on demonstrating our Behaviours with each other. To deepen understanding of our Behaviours and share learning's that further integrate in to day-to-day actions. To coach others on making our Behaviours real every day.
Materials	<ul style="list-style-type: none"> A copy of the Conversation Generator Tool
Time Needed	<ul style="list-style-type: none"> 15 minutes
Steps	<ol style="list-style-type: none"> Pick an OPG Behaviour as a focus for conversation. Discuss the questions provided on the Conversation Generator tool or develop your own in the space provided. Summarize the 1-2 actions or insights that are important from the conversation to focus on going forward.

Conversation Generator Tool – see the Appendix for a full-page version:

**CTRL + Click
 Jump to
 Appendix**

OPG Behaviours: Conversation Generator

This tool provides key questions to use to generate conversation with your team/crew. They are linked to each OPG behaviour and there is additional space provided to develop your own.

[2]

Say it, Do it Demonstrate personal accountability to deliver results and hold others accountable.

Key Questions

- What are you accountable for in your role that you are proud of?
- What do you do to support others to deliver on their commitments?
- What's a significant learning have you had recently that had a positive impact?

Record Your Own

Simplify it Create the most straight forward path to execution.

Key Questions

- What opportunities do you see to simplify our approach?
- What low value work are we doing that we can eliminate?
- What are the issues and barriers in our path to execution?

Record Your Own

Think Top and Bottom Line Look for ways to improve efficiencies, eliminate waste, maximize generation and make money.

Key Questions

- Where are our opportunities to do things better and more efficiently?
- What smaller costs can be reduced or eliminated for an incremental gain?
- What are the "Need to haves" vs "Nice to haves"?

Record Your Own

Integrate and Collaborate Break down silos and work together in support of OPG's mission.

Key Questions

- How can we better collaborate to problem solve with other teams/departments we count on to get things done?
- What working relationships do you think you/we need to strengthen?

Record Your Own

Tell it as it is Demonstrate open and direct communication to everyone with the intention of making things better.

Key Questions

- What is your best advice to approach having difficult discussions?
- What ways can we respectfully call out others on inconsistent behaviour?
- How do you create opportunities to receive quality feedback from others?

Record Your Own

OPG INTERNAL USE ONLY

ONTARIOPOWER
GENERATION

OPG INTERNAL USE ONLY

ONTARIOPOWER
GENERATION

Tools You Can Use (cont.)

OPG Behaviours: Embed in Your Work Programs

Purpose	<ul style="list-style-type: none"> ▪ To identify which Behaviours are critically important to impact the success of a work program ▪ To identify what Behaviours to focus on and demonstrate as the leader ▪ To identify what Behaviours others need to focus on and demonstrate to impact success.
Materials	<ul style="list-style-type: none"> ▪ A copy of the OPG Behaviours, What it Is and What it Isn't ▪ A copy of the Embed in Your Work Programs Tool
Time Needed	<ul style="list-style-type: none"> ▪ 15 minutes
Steps	<ol style="list-style-type: none"> 1. Review the OPG Behaviours, What it Is and What it Isn't and your objectives for your work program. 2. Identify what Behaviours are critically important to impact success of your work program using the rating scale provided in the tool <ol style="list-style-type: none"> a. Select the top 2 Behaviours that have a high impact and are most critically needed b. Reflect / discuss what you will do differently individually and as a team to align your Behaviours to your work program success. 3. Identify what needs to be in place to ensure success.

Embed in Your Work Programs Tool – see the Appendix for a full-page version:

**CTRL + Click
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 Appendix**

OPG Behaviours: Embed in Your Work Programs

Your work programs are a practical way to ensure our Behaviours are incorporated into our day-to-day work. Use this tool when you are leading a project, change, business initiative, or process improvement. This simple assessment will help you to determine what OPG Behaviours are critically important for success in your work program and what you need to do to ensure they are demonstrated.

Name of Work Program
 (i.e. project, change, business initiative, process improvement)

Using the rating scale and gauges below, assess what impact you think each OPG Behaviour has on the success of your work program.

1. From your assessment above, prioritize what 1-2 OPG Behaviours are most critically needed for the success of your work program.

Behaviour 1:
Behaviour 2:
2. Where are there gaps in demonstrating these Behaviours? (refer to OPG Behaviours, What it Is and What it Isn't)
3. As the leader, what do you need to do differently on the Behaviour(s) to address the gap ?
4. For others important to the success of this work program, what do they need to do differently to address the gap?
5. How will you know you have achieved the Behaviours needed for this work program?
6. What needs to be in place to ensure you achieve the Behaviours? (i.e. agreed upon measures, feedback process, monitoring, reinforcing communication, training, etc)

Ways to Power Forward

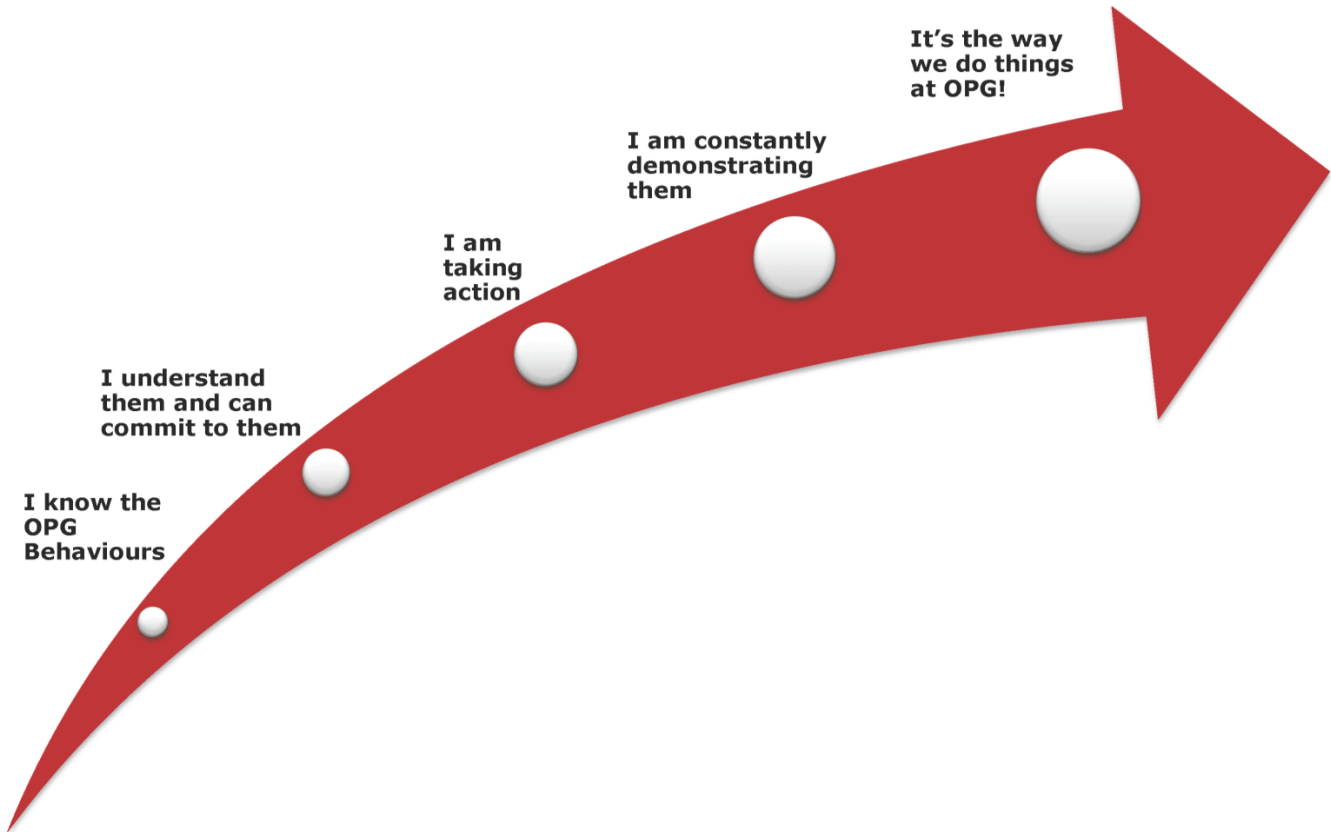
The following are suggestions for ways to get started, progress and reinforce our Behaviours with your team/crew that you can do both formally and informally on a day-to-day basis.

	Formally (i.e. 1:many, groups, public, visible, structured event)	Informally (1:few or 1:1, interpersonal, private, less visible, ongoing process)
Ways to Get Started	<ul style="list-style-type: none"> <input type="checkbox"/> Put OPG Behaviours as an agenda item and use the tools in this guide to help you with a structured process. <input type="checkbox"/> Use Behaviours as part of any meeting critique tool you use. <input type="checkbox"/> Put up OPG Behaviours posters in your work location. <input type="checkbox"/> Feature a story of someone or your team/crew modelling the Behaviours in existing communication channels. <input type="checkbox"/> Give people permission to make a change you want to see. 	<ul style="list-style-type: none"> <input type="checkbox"/> Identify and record a personal leadership commitment or action plan that that is directly focused on the Behaviour(s). <input type="checkbox"/> Add a copy of the OPG Behaviours to a highly visible spot as a regular reminder (e.g., your notebook, at your work station) <input type="checkbox"/> Engage those that show an immediate interest. <input type="checkbox"/> Encourage and give permission to debate, discuss, and disagree to shift the culture to active participation. <input type="checkbox"/> Use the language from our Values and Behaviours every day. <input type="checkbox"/> Take some risk and be uncomfortable to learn and align to the Behaviours.
Ways to Progress	<ul style="list-style-type: none"> <input type="checkbox"/> Have a team event where Behaviours are a focus/theme. <input type="checkbox"/> Create a team plan for implementing Behaviours in your work unit and integrate into your business plan. <input type="checkbox"/> Identify work programs where Behaviours play a critical role and identify actions to take to ensure behaviour change is successful. <input type="checkbox"/> Inquire into mistakes / problems / challenges / to ensure lessons learned are applied going forward. <input type="checkbox"/> Do a “stop, start, continue” assessment with your team/crew to determine what Behaviours need focus. <input type="checkbox"/> Include in performance appraisals discussions (PPR) – both “what” results (task) <i>and</i> “how” 	<ul style="list-style-type: none"> <input type="checkbox"/> Connect the dots between Behaviours and expected outcomes. <input type="checkbox"/> Get feedback from someone you respect how you are demonstrating the Behaviours and what opportunities you can work on. <input type="checkbox"/> Coach a team member using the Behaviours as a focus for development. <input type="checkbox"/> Call out Behaviour that is inconsistent or ineffective.
Ways to Reinforce	<ul style="list-style-type: none"> <input type="checkbox"/> Have a practice to recognise individual employees and/or a whole work unit for demonstrating an OPG Behaviour effectively (in a way that picks up on their preference around recognition). Follow up on PPR discussions and performance appraisals. <input type="checkbox"/> Put OPG Behaviours as an agenda item on tailboard / team meetings. <input type="checkbox"/> Provide team/crew with examples of behaviour change so they can recognize the good examples. <input type="checkbox"/> Incorporate into workplace observation and coaching. 	<ul style="list-style-type: none"> <input type="checkbox"/> Recognize someone privately for demonstrating an OPG Behaviour. <input type="checkbox"/> Catch people (employees, peers and others) doing something right around our OPG Behaviours and tell them.

Appendices: **Tools**

OPG Behaviours: Culture Progress Check

Use the continuum below to reflect on and discuss your current position on the culture change curve.



OPG Behaviours: **What It Looks Like**

Consider each of the OPG Behaviours and how they are being demonstrated by you and /or your team. Who can you recognize that is modelling the behaviours and what did they do? What are some examples you can point to or stories you can tell of our behaviours being demonstrated, both in actions and business practices.

Say It, Do It	Demonstrate personal accountability to deliver results and hold others accountable.
Looks Like	
Examples/Stories	

Simplify It	Create the most straight forward path to execution.
Looks Like	
Examples/Stories	

Think Top and Bottom Line	Look for ways to improve efficiencies, eliminate waste, maximize generation and make money.
Looks Like	
Examples/Stories	

Integrate and Collaborate	Break down silos and work together in support of OPG's mission.
Looks Like	
Examples/Stories	

Tell it as it is	Demonstrate open and direct communication to everyone with the intention of making things better.
Looks Like	
Examples/Stories	

OPG Behaviours: **Conversation Generator**

This tool provides key questions to use to generate conversation with your team/crew. They are linked to each OPG behaviour and there is additional space provided to develop your own.

Say It, Do It	Demonstrate personal accountability to deliver results and hold others accountable.
Looks Like	<ul style="list-style-type: none"> • What are you accountable for in your role that you are proud of? • What do you do to support others to deliver on their commitments? • What's a significant learning have you had recently that had a positive impact?
Examples/Stories	

Simplify It	Create the most straight forward path to execution.
Looks Like	<ul style="list-style-type: none"> • What opportunities do you see to simplify our approach? • What low value work are we doing that we can eliminate? • What are the issues and barriers in our path to execution?
Examples/Stories	

Think Top and Bottom Line	Look for ways to improve efficiencies, eliminate waste, maximize generation and make money.
Looks Like	<ul style="list-style-type: none"> • Where are our opportunities to do things better and more efficiently? • What smaller costs can be reduced or eliminated for an incremental gain? • What are the "Need to haves" vs "Nice to haves"?
Examples/Stories	

Integrate and Collaborate	Break down silos and work together in support of OPG's mission.
Looks Like	<ul style="list-style-type: none"> • How can we better collaborate to problem solve with other teams/departments we count on to get things done? • What working relationships do you think you/we need to strengthen?
Examples/Stories	

Tell it as it is	Demonstrate open and direct communication to everyone with the intention of making things better.
Looks Like	<ul style="list-style-type: none"> • What is your best advice to approach having difficult discussions? • What ways can we respectfully call out others on inconsistent behaviour? • How do you create opportunities to receive quality feedback from others?
Examples/Stories	

OPG Behaviours: **Embed in Your Work Programs**

Your work programs are a practical way to ensure our Behaviours are incorporated into our day-to-day work. Use this tool when you are leading a project, change, business initiative, or process improvement. This simple assessment will help you to determine what OPG Behaviours are critically important for success in your work program and what you need to do to ensure they are demonstrated.

Name of Work Program (i.e. project, change, business initiative, process improvement)	
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Using the rating scale and gauges below, assess what impact you think each OPG Behaviour has on the success of your work program.



1. From your assessment above, prioritize what 1-2 OPG Behaviours are most critically needed for the success of your work program.

Behaviour 1:

Behaviour 2:

2. Where are there gaps in demonstrating these Behaviours? (refer to OPG Behaviours, What it Is and What it Isn't)

3. As the leader, what do you need to do differently on the Behaviour(s) to address the gap?

4. For others important to the success of this work program, what do they need to do differently to address the gap?

5. How will you know you have achieved the Behaviours needed for this work program?

6. What needs to be in place to ensure you achieve the Behaviours? (i.e. agreed upon measures, feedback process, monitoring, reinforcing communication, training, etc)

1 **UNDERTAKING JT2.23**

2
3 **Undertaking**

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5 To provide information on final performance under each of the metrics in the 2013
6 balance scorecard, subject to confidentiality issues.

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8
9 **Response**

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11 The requested information is provided in Attachment 1, "Corporate Balanced Scorecard
12 – Projected Results as of January 20, 2014."

Corporate Balanced Scorecard – Projected Results as of January 20, 2014

Corporate 2013 Balanced Scorecard – Forecast							
<i>(Revised Jan20, 2014)</i>							
Weight	Key Performance Indicators	Threshold	Target	Maximum	Projected Y/E Results	YE Score	Weighted Score
10%	Safety, Environment, Reliability and Code of Conduct Deliver front-line/core services						
	<ul style="list-style-type: none"> AIR: All Injury rate (Target = CEA Top Quartile) 	1.57	0.89	0.36	0.61	1.26	0.00
10%	<ul style="list-style-type: none"> Safety focus areas: <ul style="list-style-type: none"> Improvement in the area of Work Protection Code Continued focus on Situational Awareness No significant events that impact OPG's reputation 	As determined by CEO			Below Threshold	0.0	
30%	Financial Performance - Reduce costs & improve OPG financial health						
7%	EBITDA (\$M) (-10%, +15%)	948	1,053	1,211	\$1,302M	1.50	0.11
5%	Headcount – Ongoing Operations (+173, -252)	10,550	10,377	10,125	10,048	1.50	0.08
15%	Operating OM&A expenditures (\$M) (+5%, -10%)	2,735	2,605	2,344	\$2,491M	1.22	0.18
3%	Support Services Operating OM&A expenditures (\$M) (+5%, -10%)	643.7	613	551.7	\$575M	1.31	0.04
35%	Fleet Operating Performance - Control costs while delivering front-line/core services						
25%	Nuclear: TW.h	45.99	47.99	48.99	44.69	0.0	0.0
2.5%	Thermal: Start Guarantee rate	85%	94%	97%	97%	1.50	0.04
7.5%	Hydro: Availability (%)	89.5%	91.6%	93.5%	91.6%	1.00	0.08
25%	Project Performance - Support Ontario's Long Term Energy plan and deliver front-line/core services						
8%	<ul style="list-style-type: none"> OPG Business Transformation Strategy 	Meet project milestones and measures specific to each project – See Attached				1.00	0.08
4%	<ul style="list-style-type: none"> Niagara Tunnel 				1.25	0.05	
4%	<ul style="list-style-type: none"> Lower Mattagami 				0.94	0.04	
2%	<ul style="list-style-type: none"> Atikokan conversion 				0.59	0.01	
7%	<ul style="list-style-type: none"> Nuclear Refurbishment 				1.06	0.07	
100%							0.77
<p>These measures form the basis on which our overall corporate performance will be assessed but the scores against these measures and overall Corporate score are not absolute. The Board and President reserve the right to determine the Corporate Score. In exercising their discretion, the Board and President may choose to make adjustments to the Corporate Score or individual scorecard items.</p>							

2013 Corporate Balanced Scorecard – Forecast Project Performance Measures

2013 Corporate Balanced Scorecard – Project Performance Measures <i>(Revised Jan 20, 2014)</i>	Threshold	Target	Maximum	Projected Y/E Results	YE Score (Below /Target/Above)
Business Transformation					1.0 – Adjusted by CEO
A. Fully Implement the Centre Led Organization (30%)	Both results are at or better than Threshold ^(Note 1)	Both results are at or better than Target ^(Note 1)	Both results are at or better than Maximum ^(Note 1)		
1. ELT acceptance of the Deployment Impact Assessment (15%)	May 31	April 30	March 31 plus CEO assessment of cross-BU collaboration	Actual completion date - March 20 th , 2013 CEO assessment confirmed max Completed May 8 th , 2013. CEO assessment confirmed target	1.25
2. ELT acceptance of Deployment Readiness Assessment (15%)	June 30	May 31	April 30 plus CEO assessment of cross-BU collaboration		
B. Transforming the way we work (50%):					
1. Key transformational initiatives meet the key milestones indicating progress on transformation. (30%) <i>* Key transformational initiatives identified by Builders' input of 1 or 2 key BT initiatives for each BU</i>	20 of 30 milestones met as scheduled	25 of 30 milestones met as scheduled	All 30 milestones met as scheduled	29 completed as scheduled.	1.4
2. Business Transformation is embedded in our business practice and culture. a) Business planning appropriately reflects BT initiatives and goals (10%) b) Transition plan in place to reduce oversight and integration aspects of BT and move key support functions of BT team back to functions and support BU's as business as usual (i.e. change mgmt, HR support) (10%)	CEO Assessment			CEO Assessment Confirmed as target	1
	Transition Plan in place for 2014 by Dec. 31, 2013	Minimized oversight of BT by Dec. 31, 2013	Transition complete by Dec. 31, 2013	Threshold - 2014 Transition plan reviewed with ELT and approved by ELT Executive sponsor on Dec 19 th 2013.	0.5
C. Effectively managing attrition (20%)					
Target represents the 2013 Business Plan headcount from ongoing operations (excludes DNNP and Refurbishment)	10,550	10,375	10,125	Current finance forecast of YE headcount: 10,048	1.5

2013 Corporate Balanced Scorecard – Project Performance Measures (Revised Jan 20, 2014)	Threshold	Target	Maximum	Projected Y/E Results	YE Score (Below /Target/Above)
Niagara Tunnel	Both results are at or better than Threshold ^(Note 1)	Both results are at or better than Target ^(Note 1)	Both results are at or better than Maximum ^(Note 1)		
A. Forecasted In-Service Date	June 30, 2013	May 15, 2013	March 31, 2013	9 Mar2013 - Max	1.25 (Based on Cost)
B. Forecasted Final Cost	\$1.55B	\$1.5B	\$1.45B	\$1.475B Above Target	
Darlington Refurbishment	All results are at or better than Threshold ^(Note 1)	All results are at or better than Target ^(Note 1)	All results are at or better than Maximum ^(Note 1)		
A. Progression of Strategic Contracts (Fuel Handling, Steam Generator, and Turbine Generators) - adherence to schedule (SPI)	0.90	1.00	1.05	1.04 – Better than Target	1.06 (based on Containment Filtered Venting System)
B. Containment Filtered Venting System (BCS approved and contract for detailed design awarded)	Sep 30	Aug 31	July 31	Complete Aug 27- Better than Target	
C. Submission of Global Assessment Report and Integrated Implementation Plan to CNSC	Dec 31	Dec 2	Nov 15	Projecting submission to the CNSC on November 15,	

2013 Corporate Balanced Scorecard – Project Performance Measures <i>(Revised Jan 20, 2014)</i>	Threshold	Target	Maximum	Projected Y/E Results	YE Score <i>(Below /Target/Above)</i>
				2013. (Maximum)	
D. Start of Mock-up Construction (date)	July 30	July 15	June 15	Achieved > 1 month ahead of plan. (Maximum)	
E. Scope Definition—All Approve Darlington Scope Requests <= Health of Scope 20 ^(Note 4)	Dec 31	Dec 2	Nov 15	All approved Darlington Scope Requests <=Health of Scope 20 achieved by November 15 (Maximum)	

Notes:

1. For these projects with multiple components, the entire project takes the score of the lowest performing component
 - If any of the tasks are below Threshold, the project does not meet Threshold
 - All tasks must be at or better than target to achieve target. If any task is below target, the project takes the score of the lowest performing task.
 - All tasks must be at or better than maximum to achieve maximum. If any task is below maximum, the project takes the score of the lowest performing task.

2. Threshold achievement for Niagara and Atikokan will be based on the October month end EPC contractor forecasts
3. Includes formwork, rebar and concrete pour, but does not include shoring removal.
4. Exceptions (approved by the EVP Nuclear Projects) are allowed for the following: Scope resulting from planned inspections or analysis scheduled during or after 2013, i.e. scope resulting from scheduled inspections in the 2015 VBO outage. Any new scope approved by: The Darlington Refurbishment Scope Review Board during or after 2013. Any new scope resulting from the CNSC’s review and approval of the EA or ISR. “Approved” Darlington Scope Requests require approval by the Darlington Refurbishment Scope Review Board.
 - The following are the Health of Scope definitions (note the lower the score, the scope is better defined):
 - 90 Scope will not be executed in Nuclear Refurbishment, DSR will be removed pending PSRB approval
 - 60 Pure engineering or procedures with no likely field work (i.e. provide CNSC with reports, update procedures, etc)
 - 50 Assessment is required to build a report for analysis
 - 40 Analyze the completed report to determine actions / path forward
 - 30 Actions to implement selected, may be a component strategy across many systems
 - 20 Work is known at the system or project level but not component
 - 10 Work is known at the component / MEL level
 - 5 DSR is adequately known such that it is ready for Work Order to be input on all Units
 - 4 All Work Orders input for DSR on all applicable Units or all work completed for DSR.

1 **UNDERTAKING JT2.24**

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3 **Undertaking**

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5 To produce OPG's amended Code of Conduct.

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8 **Response**

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10 The following response was provided at the conference (see Day 2 Transcript p. 61):

11
12 The question earlier with respect to the update of the code of conduct to
13 include transparency in the hiring practices, that is actually found in our
14 submission under SEC Interrogatory 002. So the most recent version of
15 the code of conduct is included in that -- sorry, being SEC Interrogatory
16 012.

UNDERTAKING JT2.25

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Undertaking

To identify which actions were taken in response to the Auditor General's Report and which were already underway.

Response

Please refer to Ex. JT2.26 Attachment 1.

ACTIONS - PLANNED AND UNDERWAY	Planned Completion Date	Actions in Response to AG Report	Associated Cost Savings
<p>Executive and Senior Management Staffing Levels</p> <ul style="list-style-type: none"> Decrease senior management headcount in proportion to overall headcount reductions. (Reduced by 6% since Dec. 2012). New senior executives continue to receive lower compensation than their predecessors; <p>Hiring of all director and above positions will require CEO approval.</p> <ul style="list-style-type: none"> Reduce headcount by a further 830, for a total reduction of 2,330 and \$1B savings by 2016. 	<p>2016</p> <p>Ongoing</p> <p>Ongoing</p> <p>2016</p>	<p></p> <p></p> <p>✓</p> <p></p>	<p></p> <p></p> <p>N/A</p> <p></p>
<p>Benchmarking of Staffing Levels at Nuclear Facilities</p> <ul style="list-style-type: none"> Business plans to define continuing actions to move from current 8% over benchmark to benchmark (down from 17% over in Feb. 2012). CNSC and other external peer groups confirm OPG continues to ensure strong nuclear safety and operational performance. <ul style="list-style-type: none"> NEW: Update benchmarking results to measure against changes relative to industry. NEW: Staffing level imbalances in Nuclear will be addressed through business transformation, business planning, redeployment and expected attrition. 	<p>2016</p> <p>Ongoing</p> <p>Q4 2014</p> <p>2015/16</p>	<p></p> <p></p> <p>✓</p> <p>✓</p>	<p></p> <p></p> <p>N/A</p> <p>No estimate available</p>

<p>Recruitment Practices and Requirements</p> <ul style="list-style-type: none"> Centralized recruitment function to improve controls, compliance and efficiency of hiring processes. Amend Code of Conduct to clarify expectation regarding hiring policies. Failure to follow policy will result in disciplinary action. Conduct compliance reviews for internal/external vacancies. Reviewed all groups with same addresses to ensure valid hiring process was followed.(reviewed 284 files from 2011, 2012; no documentation retained for others beyond two years; found 4 cases without proper documentation.) 	<p>Complete</p> <p>Q1 2014</p> <p>Ongoing</p> <p>Complete</p>	<p>✓</p> <p>✓</p>	<p>N/A</p> <p>N/A</p>
<p>Compensation and Incentive Awards</p> <ul style="list-style-type: none"> Implement outcomes of government legislation to regarding broader public sector executive compensation. Reduce headcount by additional 830 for total reduction of 2,330 and \$1B savings by 2016 (already achieved 1,500 reduction since Jan. 2011); Reduce all management AIP for 2013 by 10%. Board to review AIP program for 2014 and beyond Continue to seek collective agreements that reflect OPG business objectives and government compensation constraints. Reduced base salary costs for management by 9% compared to 2010. NEW: Management staff mandated to enter performance objectives into the electronic system that allows for compliance monitoring. 	<p>Contingent on government legislation</p> <p>2016</p> <p>Q1 2014</p> <p>Ongoing</p> <p>Completed. Further reductions ongoing</p> <p>Completed</p>	<p>✓</p> <p>✓</p>	<p>\$2.7M due to 2013 reduction</p> <p>N/A</p>

<p>Employee Housing and Moving Allowance</p> <ul style="list-style-type: none"> • Adopt Ontario Public Service Relocation policy for management employees. • Conduct review of practices and controls related to employee relocation, including a review of practices for guarantee house values. • Review OPS relocation policy against collective agreements to determine what if any changes are required. 	<p>Q1 2014</p> <p>Q1 2014</p> <p>Coterminous with collective bargaining</p>	<p>✓</p> <p>✓</p> <p>✓</p>	<p>No estimate available</p> <p>N/A</p> <p>N/A</p>
<p>Security Clearance Requirements</p> <ul style="list-style-type: none"> • Review security clearance requirements for non-nuclear employees to ensure appropriate levels in place. • Implement enhanced compliance monitoring method. • Implemented controls to ensure immediate security clearance compliance for new hires and ongoing compliance for existing employees. • CNSC, CSIS audits validate that OPG has an industry-leading nuclear security clearance program. All employees who require access to nuclear site or sensitive nuclear information have appropriate clearance. • All board members at the time of the AG audit now have security clearance. <p>Pensions and Benefits</p> <ul style="list-style-type: none"> • Begin implementation of Board directed management pension and benefits reforms. • Participate in Province’s review of electricity sector pension plan reforms. • Any changes to pension and benefits for unionized staff will be a matter for future rounds of collective bargaining. 	<p>Q1 2014</p> <p>Q3 2014</p> <p>Complete</p> <p>Complete</p> <p>Complete</p> <p>Q1 2014</p> <p>TBC – dependent on Ministry of Finance Coterminous with collective bargaining</p>	<p>✓</p> <p>✓</p> <p>✓</p>	<p>N/A</p>

<p>Managing Contractors and Staff Overtime</p> <ul style="list-style-type: none"> • Conduct comprehensive assessment of contractor control framework, including contract structures, time capture and approval processes and tools. • Implement time tracking system for contractors at nuclear sites. • Implemented enhanced management process approvals and controls to limit individual overtime in Nuclear. • NEW: Enhanced management processes, approvals and controls to limit individual overtime in Nuclear. Actions allowed within the current collective agreements have been implemented to bring outliers into normal practice and better manage overtime. 	<p>Q2 2014</p> <p>Q1 2014</p> <p>Completed</p>	<p>✓</p>	<p>N/A</p>
<p>Use of Non Regular Staff and Contract Resources.</p> <ul style="list-style-type: none"> • Strengthen business case requirements and approvals for hiring retirees as contractors. (NEW: Policy now in place requiring additional business case and approvals requirements for hiring contractors) • Strengthen succession planning and develop knowledge transfer plans for critical roles. 	<p>Q2 2014</p> <p>Q4 2014</p>	<p>✓</p>	<p>N/A</p>
<p>Sick Leave Trend</p> <ul style="list-style-type: none"> • NEW: Enhance the sick leave management process to identify and manage unusual sick leave pattern through the use of enhanced management and supervisory compliance monitoring metrics and reports. 	<p>Q4 2014</p>	<p>✓</p>	<p>No estimate available</p>

1 **UNDERTAKING JT2.27**

2
3 **Undertaking**

4
5 To clarify whether first-day health and dental benefits coverage applies to new
6 employees during their probationary period.

7
8
9 **Response**

10
11 Yes, health and dental benefits apply to new employees during their probationary period
12 and are effective the first day worked.

1 **UNDERTAKING JT2.28**

2
3 **Undertaking**

4
5 To provide available information on savings resulting from adoption of 24-month window
6 for filing dental and health claims.
7

8
9 **Response**

10
11 OPG expects to save approximately \$20k per year in reduced administration costs
12 related to the processing of claims greater than two years old. Older claims are more
13 difficult and time consuming to process.
14

15 In addition, OPG expects to realize cost savings associated with the adjudication and
16 grievance/arbitration processes. Claims greater than two years old often do not have all
17 of their required documentation, due to the lapse of time. This results in a challenge to
18 the claim which then has to be adjudicated.
19

20 Furthermore, limiting the claim window to two years also reduces OPG's risk of
21 fraudulent claims and brings OPG in line with the practices of other companies.
22

23 While the estimated cost savings associated with tightening the Health and Dental claim
24 window are not large, there is still value to OPG in doing so.

UNDERTAKING JT2.29

Undertaking

To make best efforts to provide information on savings resulting from change from five to four consecutive sick days permitted without medical follow-up.

Response

Based on the transcript at page 145, lines 19 – 27, the undertaking was actually to provide a graph, not “information on savings.”

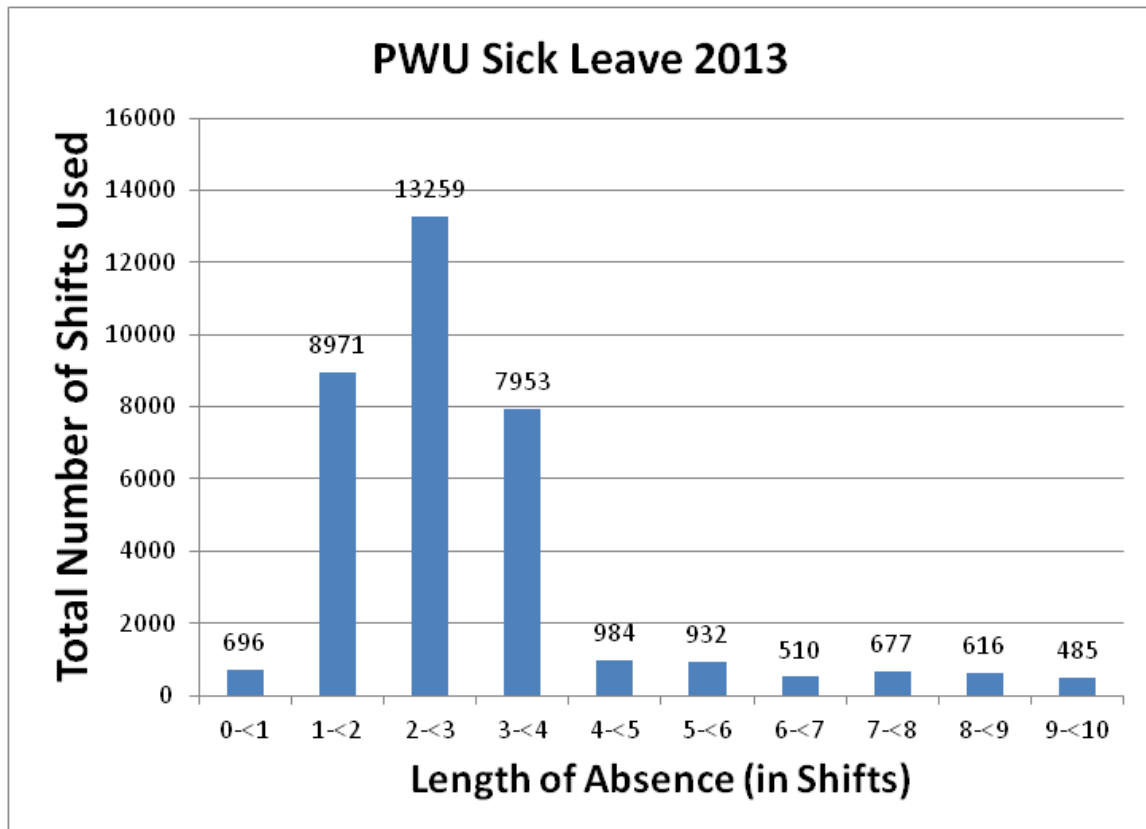
MR. CROCKER: Okay. Can you provide the same graph, or the same type of graph since you have limited it to four days?

MR. FITZSIMMONS: I would have to look at whether or not we've reproduced that graph with the imposition of this new standard.

MR. CROCKER: Okay.

MR. MILLAR: So JT2.29. I guess that is on a best-efforts basis

The requested graph is below.



1

UNDERTAKING JT2.30

2

3

Undertaking

4

5

To confirm whether overtime is included in calculation of 35-hour and 40-hour FTEs.

6

7

8

Response

9

10

Overtime is not included in the calculation of the 35-hour and 40-hour FTEs.

UNDERTAKING JT2.31

Undertaking

To confirm whether 2013 actual overtime amounts can be quantified, and advise whether they can be provided.

Response

The 2013 actual overtime amount was \$167.1M.

1 **UNDERTAKING JT2.32**

2
3 **Undertaking**

4
5 To advise whether it is possible to provide a table showing end-of-year number of
6 ongoing regulated regular employees, non-regular employees, Darlington refurb
7 employees, and new-build nuclear employees.
8

9
10 **Response**

11
12 OPG notes that this undertaking overlaps with the information requested by Board Staff
13 in Undertaking JT2.33. Accordingly, OPG will provide its response to this undertaking as
14 part of Undertaking JT2.33, which is to be provided in advance of the settlement
15 conference.

UNDERTAKING JT2.33

Undertaking

To review and confirm a table by Board Staff regarding FTEs and headcount, and provide information for missing categories as appropriate, before the settlement conference.

Response

The table on the following page shows headcount, FTE and employee costs for OPG's regulated facilities. For clarity, the following information and definitions are provided:

Headcount is defined as the number of persons employed as of December 31 of the given year, including both regular and non-regular staff.

Regular Staff are as defined in Ex F4-3-1, page 5, starting at line 20. Non-Regular Staff are as defined in Ex F4-3-1, page 5, starting at line 25.

Employee costs are total base salary and wages, overtime, incentive pay, fiscal year adjustment and total benefits including current service cost of pension and OPEB costs as noted in the notes page of Ex F4-3-1, Attachment 6.

Non-regular staff figures have not been broken down by representation (i.e. management, Society and PWU).

Nuclear staffing and employee cost data has been presented in two categories, "Nuclear Operations and Projects" and "DRP and New Nuclear" as opposed to the three categories requested by Board Staff. A breakdown of data into "Operations" and "Projects" was not possible in the time frame.

As noted in Ex L-6.8-1 Staff 100, OPG's Business Transformation headcount reduction targets are in reference to regular staff, not non-regular staff and are in reference to ongoing operations, which exclude DRP and New Nuclear. OPG has added several lines in Board Staff's table, in addition to those originally provided, in order to address undertaking JT2.32's request for "number of ongoing regulated regular employees".

As this application is based on the 2013 – 2015 Business Plan, OPG has used data consistent with the 2013 – 2015 Business Plan.

Certain simplifying assumptions were made in the allocation of headcount data and 2013 actual costs. The same labour percentages used to allocate FTEs in the preparation of Ex F4-3-1 Attachment 6 were also used to allocate headcount. For 2013 actual compensation, the same percentages for payroll burden and statutory benefits used in the preparation of Ex F4-3-1 Attachment 6's 2013 budget figures were used.

Headcount, FTE and Employee Costs for OPG's Regulated Facilities

Line #		2010	2011	2012	2013		2014	2015
		Actual	Actual	Actual	Plan	Actual	Plan	Plan
	Headcount							
1	Nuclear Operations & Projects	8,246	7,901	6,556	6,542	6,362	6,329	6,210
2	DRP and New Nuclear	153	241	227	270	198	266	276
3	Allocated Corporate Support to Nuclear	871	857	1,941	1,880	1,883	1,759	1,683
4	Previously Reg Hydro Operations	365	376	343	342	319	339	337
5	Allocated Corp Support to Previously Reg Hydro	87	79	103	102	102	102	96
6	Newly Reg Hydro Operations	609	617	589	584	571	591	573
7	Allocated Corp Support to Newly Reg Hydro	127	113	143	129	128	144	138
8	Total (Regular and Non-Regular Staff)	10,458	10,184	9,902	9,850	9,563	9,529	9,314
9	Less DRP And New Nuclear Regular Staff (Incl Allocated Corp Support)	176	283	290	365	276	367	378
10	Less All Non-Regular Staff (incl DRP & New Nuclear)	496	463	449	539	551	464	460
11	Regular Staff in Ongoing Operations	9,786	9,438	9,163	8,946	8,736	8,698	8,475
	FTE							
12	Nuclear Operations & Projects	8,292.5	7,988.6	6,536.7	6,547.8	6,353.6	6,315.6	6,243.9
13	DRP and New Nuclear	152.9	226.5	225.1	259.4	200.6	264.1	276.0
14	Allocated Corporate Support to Nuclear	875.0	876.1	2,037.2	1,903.2	1,910.6	1,790.6	1,714.1
15	Previously Reg Hydro Operations	359.7	369.4	343.8	346.8	321.5	343.1	340.9
16	Allocated Corp Support to Previously Reg Hydro	88.7	80.8	108.9	104.7	103.0	104.6	97.8
17	Newly Reg Hydro Operations	584.3	617.4	600.9	596.8	584.0	599.5	582.2
18	Allocated Corp Support to Newly Reg Hydro	127.7	115.6	152.8	132.5	129.1	148.6	140.8
19	Total (Regular and Non-Regular Staff)	10,480.8	10,274.4	10,005.5	9,891.2	9,602.5	9,566.1	9,395.6
20	Less DRP And New Nuclear Regular Staff (Incl Allocated Corp Support)	178.3	268.6	290.7	355.4	280.2	368.1	380.4
21	Less All Non-Regular Staff (incl DRP & New Nuclear)	787.2	698.6	635.0	485.9	676.2	423.8	475.4
22	Regular Staff in Ongoing Operations	9,515.3	9,307.2	9,079.8	9,049.8	8,646.0	8,774.3	8,539.8
	Headcount (regular and non regular)							
23	Management	1,067	1,039	1,015	1,108	978	1,084	1,063
24	Society	3,292	3,198	3,066	3,101	2,876	2,995	2,937
25	PWU	5,603	5,484	5,372	5,102	5,159	4,986	4,853
26	Sub Total - Regular	9,961	9,721	9,453	9,311	9,012	9,065	8,853
27	Non-Regular	496	463	449	539	551	464	460
28	Total (Regular and Non-Regular Staff)	10,458	10,184	9,902	9,850	9,563	9,529	9,314
	FTE (regular and non-regular)							
29	Management	1,101.7	1,099.2	1,095.6	1,124.5	1,091.0	1,101.0	1,076.3
30	Society	3,269.0	3,254.6	3,112.6	3,146.9	2,909.2	3,043.3	2,965.6
31	PWU	6,012.9	5,840.7	5,711.0	5,564.7	5,542.0	5,371.7	5,300.3
32	EPSCA	97.2	79.8	86.3	55.1	60.2	50.1	53.4
33	Total (Regular and Non-Regular Staff)	10,480.8	10,274.4	10,005.5	9,891.2	9,602.5	9,566.1	9,395.6
	Employee Costs (\$million)							
34	Nuclear Operations & Projects	1,274.6	1,281.5	1,135.7	1,166.1	1,202.3	1,143.6	1,163.9
35	DRP and New Nuclear	23.1	36.3	37.6	49.5	40.3	52.2	55.2
36	Allocated Corporate Support to Nuclear	122.4	129.1	268.2	297.8	291.7	290.1	280.5
37	Previously Reg Hydro Operations	50.4	54.5	51.8	57.1	53.7	58.4	59.0
38	Allocated Corp Support to Previously Reg Hydro	12.7	13.1	15.9	17.7	17.4	17.9	16.8
39	Newly Reg Hydro Operations	79.2	87.9	91.5	102.1	96.1	105.8	104.1
40	Allocated Corp Support to Newly Reg Hydro	18.6	18.7	23.0	23.6	22.5	26.4	25.3
41	Total	1,581.0	1,621.0	1,623.7	1,713.8	1,724.0	1,694.4	1,704.9
	Employee Costs (\$million)							
42	Management	222.8	230.9	220.8	238.5	233.1	238.2	233.5
43	Society	522.9	541.0	543.4	570.1	568.4	556.7	551.5
44	PWU	820.9	837.9	847.6	897.6	911.1	893.0	912.8
45	EPSCA	14.4	11.3	11.9	7.6	11.3	6.6	7.1
46	Total	1,581.0	1,621.0	1,623.7	1,713.8	1,724.0	1,694.4	1,704.9

Notes

1. Employee Costs: Total of Base Salary & Wages, Overtime, Incentive Pay, Fiscal Year Adjustment and Total Benefits
2. Plan figures for 2013, 2014 and 2015 are based on 2013-15 Business Plan
3. Headcount, FTE and Employee Cost plan figures and 2013 actuals exclude New Nuclear since the proposed revenue requirement excludes New Nuclear costs as discussed in Ex F2-8-1.

1 **UNDERTAKING JT2.34**

2
3 **Undertaking**

4
5 To provide the bottom-line number associated with the table in response to Board Staff
6 interrogatory 101.

7
8
9 **Response**

10
11 The cost of the 2.75% increase was calculated to be approximately \$21.0M year over
12 year including base rates, overtime and benefits.

13
14 The offsets in the PWU Agreement included:

- 15 • Elimination of the Goalsharing bonus
16 • Elimination of Radiation Protection Clothing
17 • Net savings in health and dental
18 • Efficiency Gains- MAR and Shift Turnover
19 • Adding “Radiation Protection Technicians” to the hiring hall
20 • Hard threshold PSA
21 • Ability to “claw back” family time taken but not repaid
22 • Extension of targeted severance provisions.

23 The aggregate value of these offsets was calculated to be approximately \$22.0M per
24 year.

25
26 The calculations associated with the net costs and savings were presented to the
27 Government to satisfy its expectation regarding “net zero” in the form attached as
28 Attachment 1, (Confidential Advice to Government), and was accepted. Attachment 1
29 contains information that may be used by OPG during the next round of collective
30 bargaining. Therefore the attachment has been provided on a confidential basis, to be
31 withheld from PWU and SEP, since its public production would prejudice OPG’s
32 negotiating position.

33
34 In its Advice to Government, OPG also included savings associated with staff reductions
35 that amounted to a large overall net savings, and a smaller saving associated with the
36 cost associated with collective bargaining by adding a third year to the collective
37 agreement. These amounts produced savings beyond the “net zero” amount.

38
39 In Ex. L-6.8-17 SEC-106, the 2013 interest arbitration between the Society of Energy
40 Professionals (“SEP”) and OPG, Arbitrator Albertyn, found that the PWU agreement
41 resulted in economic increases of 0.73% per year attributable to the compounding of
42 wages (cumulative effective year over year). The Albertyn arbitration did not consider
43 additional savings related to staff reductions and bargaining referred to in OPG’s net
44 zero calculation contained in the Advice to Government document. For strategic labour
45 relations reasons these were not put before the arbitrator by OPG. The information is
46 also not included in Ex L-6.8-1 Staff-101.

1 **UNDERTAKING JT2.35**

2
3 **Undertaking**

4
5 Provide reference to companies used in salary surveys in most recent collective
6 bargaining process.
7

8
9 **Response**

10
11 While the undertaking reads "...companies used in salary surveys in most recent
12 collective bargaining process", as per the Technical Conference Transcript (pp. 169 -
13 170), the context of the request was to point to the interrogatory response which
14 provided the list of companies being referenced in the pre-filed evidence at Ex. F4-3-1
15 (page 20) "... as reported by major salary surveys". To be clear, this section of evidence
16 was specific to management group compensation only.
17

18 The list of companies referenced at Ex. F4-3-1 (page 20) that the witness was trying to
19 locate in the exchange at the technical conference can be found at Ex. L-6.8-2, AMPCO-
20 058 (r).
21

22 Samples of salary surveys considered in collective bargaining was provided in Ex L-6.8-
23 1 Staff-002, Attachment 7, *Canada Labour and Employee Relations Network Collective*
24 *Bargaining Wage Increases – August 2012* and in Ex JT2.36, Attachment 1, *Collective*
25 *Bargaining Monitoring Overview*, and in Ex F4-3-1, Section 4.2.1, Tables 2 and 3; and
26 Section 4.2.2, Tables 4 and 5.

UNDERTAKING JT2.36

1
2
3 **Undertaking**
4

5 To provide broader Ontario public sector averages used in benchmarking analysis in
6 most recent collective bargaining process.
7

8
9 **Response**
10

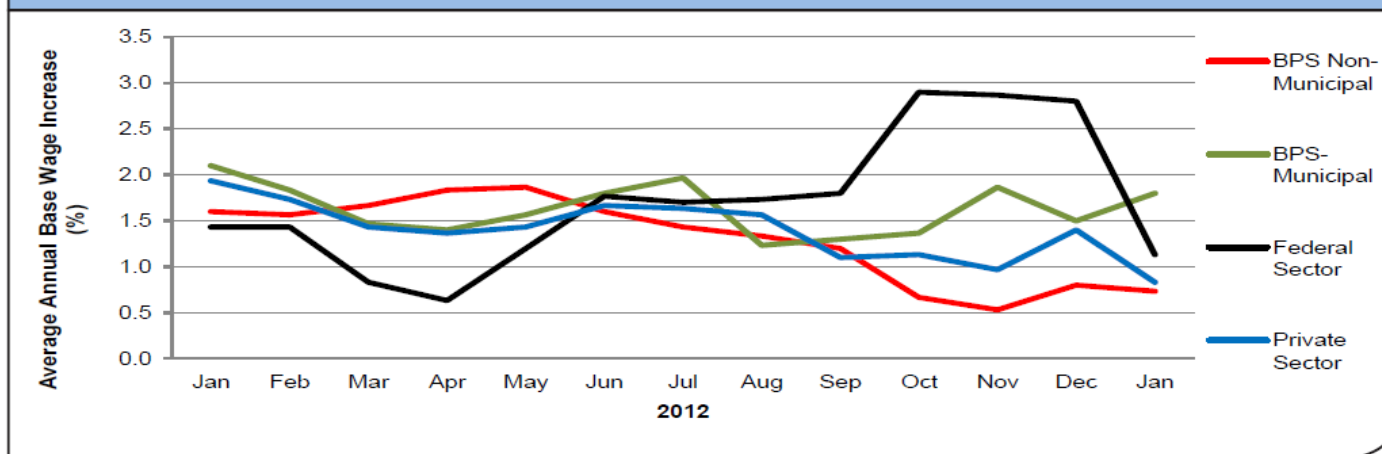
11 The requested information is provided as Attachment 1.

Collective Bargaining Monitoring Overview

January 16, 2013



Graph 1: Public and Private Sector Collective Agreement Settlement Trends as of January 16, 2013



The above graph depicts the three-month moving average annual base wage increase for agreements covering 150 or more employees in the BPS Non-Municipal, the BPS Municipal, Federal and Private sectors in Ontario.

For the period of January 2012 to January 2013, the moving average annual base wage increase for the BPS Non-Municipal has declined since May and settled at 0.73% in January 2013.

The Federal sector moving average annual base wage increase continues an upward trend, peaks in October and edges down in January 2013.

The moving average annual base wage increase for the Private Sector has been declining and reaches its lowest point (0.83%) in January 2013.

Wage Information is based on agreements covering 150 or more employees, a sample that represents 81% of all unionized employees in Ontario. Wage information is based on agreements ratified between January 1, 2012 and January 16, 2013 as of January 16, 2013. Wage information consists of an average annual base wage increase over the duration of a collective agreement and excludes lump sum payments. For the Private sector, wage information includes COLA estimates.

1 **UNDERTAKING JT2.37**

2
3 **Undertaking**

4
5 To explain how the ratio of 3:1 in response to Board Staff interrogatory 121(b) was
6 arrived at, and explain how the methodology differed from the Auditor General's.

7
8
9 **Response**

10
11 The employer/employee contribution ratio is generally calculated using employer
12 contributions to Current Service Cost and the total employee contributions. Based on the
13 OPG Pension Plan Report to Members 2012, p. 2, this ratio has been approximately 3:1
14 since 2009.

15
16 The Auditor General calculated the employer/employee contribution ratio using the
17 employer contributions to Current Service Cost + Deficit Repayment + Voluntary
18 Payment, and the total employee contributions. Including these special payments yields
19 a higher employer/employee contribution ratio, which was approximately 5:1 for 2012.

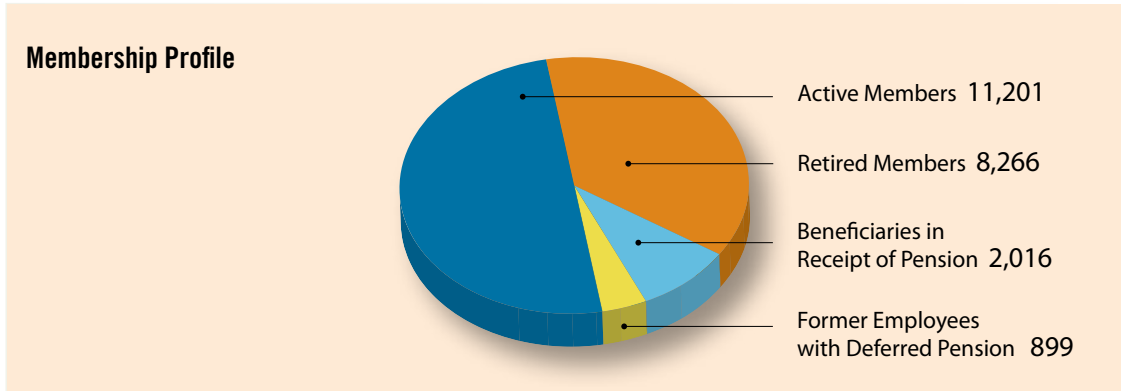
20
21 A copy of OPG's Pension Plan Report to members 2012 is provided as Attachment 1 to
22 this response.

OPG Pension Plan Report to Members 2012

The Ontario Power Generation Inc. (OPG) Pension Plan (Plan) 2012 Report to Members is intended to provide members with information about the operation and status of the Plan. This report includes information on the Plan's membership profile, funding, investment performance, and governance structure. The assets of the Plan (Fund) have performed well during the economic challenges of recent years but longer retirement periods and historically low interest rates are driving up pension liabilities. OPG is committed to keeping you informed and providing a sustainable pension throughout your retirement.

Plan Facts at a Glance

Asset Value	<ul style="list-style-type: none"> ▪ \$10.3 billion as at December 31, 2012
Rate of Return	<ul style="list-style-type: none"> ▪ One year return of 9.4% ▪ Ten year (2003 - 2012) annualized return of 7.4%



Important Notice

All the terms of the OPG registered pension plan (Plan) are set out exclusively in the Plan text, as amended and filed with the Financial Services Commission of Ontario. While this Report summarizes certain terms of the Plan, this Report does not change or supplement the Plan text in any manner whatsoever. Accordingly, the Plan text will govern exclusively in all cases should any questions or differences arise. The Plan is separate from the OPG supplementary pension plan. This Report contains no information relating to the OPG supplementary pension plan.

Funding of the OPG Pension Plan

With over \$10 billion in assets, the Plan is well positioned to pay pensions for many years. However, pension plans are required to take into consideration all obligations over a much longer time horizon. When we look at the projected asset values and pension liabilities over the long term, the Plan is in a deficit position (liabilities are larger than assets) and OPG, like many other employers, is taking steps to close the gap.

OPG analyzes the financial position of the Plan on an ongoing basis and files a valuation with the Financial Services Commission of Ontario every three years. The valuation is conducted by an external actuary. The valuation report prepared by the Plan actuary determines whether the Plan is in a surplus or a deficit position. These determinations are made using three different approaches:

- on a **going concern basis** (which assumes the Plan is continued indefinitely);

- on a **solvency basis** (which assumes a termination of the Plan and the settlement of the Plan's liabilities as at the date of the report. As permitted by applicable law, this calculation is subject to adjustments (1) to exclude the value of indexation (inflation adjustment) and (2) to take into account the changes in the values of assets and liabilities over a five year period (smoothing)); and
- on a **wind-up basis** (which assumes a termination of the Plan and the settlement of the Plan's liabilities as at the date of the report, without any adjustments).

The Plan's most recent actuarial valuation report was prepared as at January 1, 2011. That report showed that the Plan has a deficit on a going concern basis and a small surplus on a solvency basis (see table below).

The next valuation will be prepared as at January 1, 2014.

Going Concern	January 1, 2011 (\$ millions)	Solvency	January 1, 2011 (\$ millions)
Actuarial Value of Assets	\$9,638	Solvency Assets (smoothed)	\$9,283
Actuarial Liability	\$10,193	Solvency Liabilities (smoothed)	\$9,280
Unfunded Liability	(\$555)	Solvency Excess	\$3

OPG is making special contributions to the Plan of \$65 million per year, over a period of 15 years to eliminate the going concern deficit of \$555 million in accordance with applicable laws.

The law requires that contributions be made to pension plans on a going concern basis and on a solvency basis – but not on a wind-up basis. The Plan's deficit, calculated on a wind-up basis, was approximately \$5.7 billion as at January 1, 2011.

The contributions to the Plan by OPG and its employees over the five year period 2009-2013 are:

(\$millions)	2009		2010		2011		2012		2013 (est.)	
Employee Contribution	\$83		\$82		\$80		\$75		\$72	
▪ Current Year Service	\$72	25%	\$75	25%	\$74	26%	\$73	26%	\$72	24%
▪ Transfers In	\$11		\$7		\$6		\$2		n/a	
Employer Contribution	\$264		\$270		\$300		\$370		\$300	
▪ Current Service Cost	\$212	75%	\$219	75%	\$218	74%	\$225	75%	\$233	76%
▪ Deficit payment	\$28		\$28		\$65		\$65		\$65	
▪ Voluntary payment	\$24		\$23		\$17		\$80		\$2	

- *Power Workers' Union-represented employees* contribute 5% of pensionable earnings up to \$50,100, plus 7% of pensionable earnings in excess of \$50,100
- *Society of Energy Professionals-represented and Management Group employees* contribute 7% of pensionable earnings.

The payments out of the Plan over the five year period 2009-2013 are:

(\$millions)	2009	2010	2011	2012	2013 (est.)
Benefit Payments	\$346	\$360	\$387	\$420	\$440
Transfers/Lump Sum Payments	\$100	\$62	\$97	\$163	n/a
Expenses	\$32	\$33	\$36	\$35	\$36

Growth of Liabilities

As at the last valuation, OPG's pension liabilities were larger than pension assets and are growing at a faster pace than the assets. The value of the Fund's assets continually changes based on market performance. Similarly, the value of the Plan's liabilities continually changes with long term Canadian interest rates as the primary driver. If the growth of the Fund's assets matches or exceeds the growth in the Plan's liabilities, the Plan's funded status will remain stable or improve. If, however, the Plan's liabilities grow faster than the Fund's assets, the Plan's funded status will worsen.

As long term Canadian interest rates decline, as has happened steadily over the past decade, the Plan's liabilities increase (and have increased significantly over the past several years). In a declining interest rate environment, the Fund requires more assets today to pay for the Plan's future benefit payments. This situation is one of the contributing factors that has led to the Plan's deficits that we see today.

Investment Performance

% Annual Returns	2006	2007	2008	2009	2010	2011	2012	10 yr annualized
OPG Pension - Total Fund	12.3	2.0	(17.4)	15.0	12.2	6.9	9.4	7.4
Benchmark	12.7	1.7	(19.0)	16.1	12.4	5.7	9.8	7.3
Value Added	(0.4)	0.3	1.6	(1.1)	(0.2)	1.2	(0.4)	0.1

The Fund rate of return for 2012 was 9.4%, which is slightly below the benchmark target of 9.8%.

The Fund's performance is measured against the performance of a benchmark. The Fund's benchmark return reflects the returns of market indices for each asset class category in which the Fund is invested, weighted proportionally by the benchmark asset mix of the Fund. The chart above provides the investment returns compared to the established market benchmark by year.

In 2012, the Fund realized a total return of 9.4 percent, underperforming the benchmark return of 9.8 percent. This relative underperformance was primarily the result of the overweight to bonds, offset by strong results from real estate and foreign equities. On a ten-year annualized basis, the Fund is in line with its benchmark.

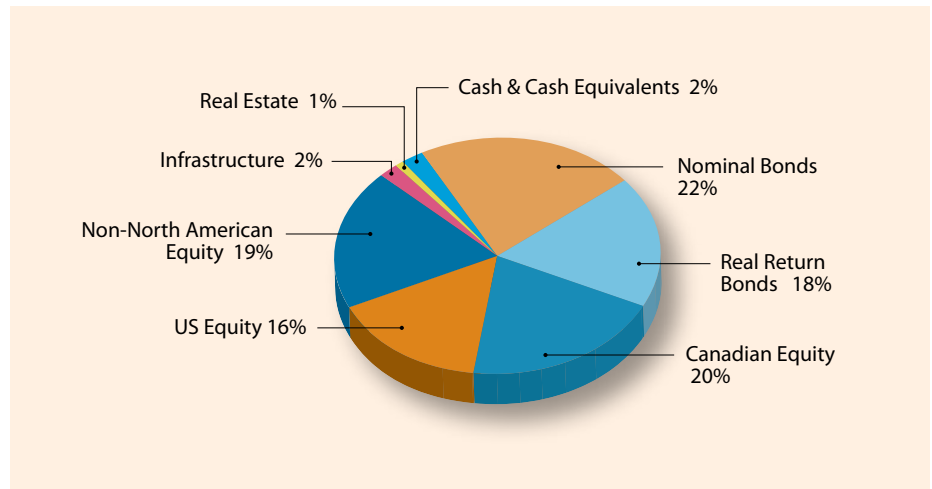
As at December 31, 2012, the Fund held approximately 18 percent of its investments in real return bonds. The vast majority of these bonds are guaranteed by the Government of Canada and the return on these bonds closely matches the rate of inflation. This matching partially protects the Plan against increases in the Plan's cost of future pension benefits due to inflation. During 2012, the Fund's bond portfolio, which consists primarily of real return bonds and long-term nominal government bonds, returned 3.9 percent.

There are a limited number of real return bonds and long-term bonds available in the market. As a result, beginning in the second quarter of 2010, the Fund implemented a bond overlay strategy. This strategy consists of entering into financial contracts in order to extend the average maturity dates in, and increase the inflation sensitivity of, the bond portfolio, thereby increasing the matching of the liabilities of the Plan with the assets in the Fund.

OPG Pension Report to Members 2012

Asset Mix

This chart shows the Plan's asset mix as at December 31, 2012. The Fund continues to invest in global infrastructure and real estate and as such, the allocations to these asset classes are expected to increase over the next several years.



Governance

The OPG Pension Plan is governed by the Ontario Pension Benefits Act, and the Federal Income Tax Act. The Plan text also forms part of the Collective Agreement for The Society and the Power Workers' Union. OPG as "**Administrator**" of the Plan acts through its Board of Directors (Board). We measure ourselves against standards for governance, internal controls and risk management that reflect best practices and the highest standards.

The governance structure defines the roles and accountabilities of those who manage the Plan. The Board has delegated various

responsibilities to:

- the Board's **Compensation and Human Resources Committee** relating to the administration of the benefits, including Plan design; and
- the Board's **Audit and Finance Committee** relating to the administration of the Plan's assets.

The Board's **Audit and Finance Committee** appoints senior OPG management to the **Pension Committee**, which has been delegated the responsibility to supervise the operations of the Plan, manage the Plan assets and implement policies and procedures.

Additional Information

2012 financial information for the Plan's assets and an electronic copy of this Report are available:

- on OPG's intranet at: **HumanResources>Benefits>PensionPlan**; and
- on the pensioners' website at <https://pensioners.opg.com>.

Pensioners and beneficiaries can obtain a password for the pensioners' website by e-mailing Pensioner Services at: pensionerservice@opg.com.

1 **UNDERTAKING JT2.38**

2
3 **Undertaking**

4
5 To confirm whether data is available to populate the table in CCC 24, attachment 5 for
6 2014 and 2015 based on forecasts, and if so, to update the table with those numbers.
7

8
9 **Response**

10
11 A forecast of the 2014 and 2015 performance incentive (“AIP”) payout cost was included
12 in the 2013 - 2015 Business Plan, which is the basis of the pre-filed evidence at Ex.
13 F4.4.1, Table 1. The attached chart has been updated to include this information.
14

15 The Nuclear Station Specific Results Bonus is not specifically broken out in the business
16 plan. OPG does not have a forecast of the total number of employees expected to earn
17 an incentive payment in the test period.

OPG Performance Incentive Payments 2009 - 2013				
Performance Year	Performance Incentive Plan	Employee Category	Total Incentive Payments	Total Number of Employees in receipt of Incentive Payments
2009	Annual Incentive Plan ("AIP")	Management Group	\$24M	1428
	Award for Performance ("AFP")	Society	\$8M	4069
	Goalsharing	PWU	\$7M	7321
	Nuclear Station Specific Results Bonus	Management Group	\$0.33M	30
	Nuclear Station Specific Results Bonus	PWU	\$1.6M	170
	Nuclear Station Specific Results Bonus	Society	\$0.88M	105
	2009 Total			\$41.81M
2010	AIP	Management Group	\$30.26M	1448
	AFP	Society	\$9.7M	4020
	Goalsharing	PWU	\$8M	7213
	Nuclear Station Specific Results Bonus	Management Group	\$0.08M	8
	Nuclear Station Specific Results Bonus	PWU	\$1.61M	179
	Nuclear Station Specific Results Bonus	Society	\$0.88M	93
	2010 Total			\$50.53M
2011	AIP	Management Group	\$28.97M	1293
	Goalsharing	PWU	\$7.9M	6929
	Nuclear Station Specific Results Bonus	Management Group	\$0.37M	36
	Nuclear Station Specific Results Bonus	PWU	\$1.76M	179
	Nuclear Station Specific Results Bonus	Society	\$0.92M	94
2011 Total			\$39.92M	8531
2012	AIP	Management Group	\$27.4M	1230
	Nuclear Station Specific Results Bonus	Management Group	\$0.44M	34
	Nuclear Station Specific Results Bonus	PWU	\$1.89M	179
	Nuclear Station Specific Results Bonus	Society	\$0.99M	90
2012 Total			\$30.72M	1533
2013	AIP	Management Group	\$19.14M	1186
	Nuclear Station Specific Results Bonus	Management Group	\$0.39M	35
	Nuclear Station Specific Results Bonus	PWU	\$1.88M	185
	Nuclear Station Specific Results Bonus	Society	\$1.11M	101
2013 Total			\$22.52M	1507
2014 PLAN	AIP	Management Group	\$29.1M	N/A
	Nuclear Station Specific Results Bonus	Management Group	N/A	N/A
	Nuclear Station Specific Results Bonus	PWU	N/A	N/A
	Nuclear Station Specific Results Bonus	Society	N/A	N/A
2014 PLAN Total			\$29.1M	0
2015 PLAN	AIP	Management Group	\$29.1M	N/A
	Nuclear Station Specific Results Bonus	Management Group	N/A	N/A
	Nuclear Station Specific Results Bonus	PWU	N/A	N/A
	Nuclear Station Specific Results Bonus	Society	N/A	N/A
2015 PLAN Total			\$29.1M	0

Notes:

Total Incentive Payments reflect the value of awards earned in the *Performance Year*, however these amounts are accrued and paid out in the following year (i.e. The 2009 Incentive Payments were actually paid out in 2010);
 AFP was suspended effective 2011;
 Goalsharing was suspended effective 2012

UNDERTAKING JT2.39

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Undertaking

To provide the two consultants' reports done after the contract renewal with NHSS.

Response

The requested reports are provided as Attachments 1 and 2.



End of Term Strategy: Market Best Practices

Ontario Power Generation

9 October, 2009

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■ Executive Summary

- Review of Current Environment
- Areas of Consideration
- Strategic Options
- End of Term Strategy Market Information
- Summary



- Over the past 29 months, OPG has been working to develop and then execute its End of Term Strategy (ETS) for its IT outsourcing agreement with NHSS. OPG and NHSS have come to an agreement for a renegotiated contract
- OPG has requested that Everest provide an assessment of the ETS that has been employed against market best practices. The deliverable is divided into two reports; the first is a narrative on ETS market best practices and the second is an assessment of OPG's ETS relative to these best practices
- As the first of the reports, this document is focused on market best practices for ETS
- As the outsourcing marketplace has matured and the need to develop strategies around an end of term event has become more frequent, Everest has developed a Best Practice framework that is applied to assist a Buyer in developing its ETS
- The ETS Development Framework provides a structured method for creating a strategy based on both market and Buyer-specific information which includes:
 - An assessment of the existing outsourcing environment
 - The major objectives and areas of consideration for an ETS
 - The options that should be reviewed as the possible strategies
- Our analysis includes market based research on commonly employed strategies in the outsourcing industry and Buyer behaviours, including when and how these strategies are being employed



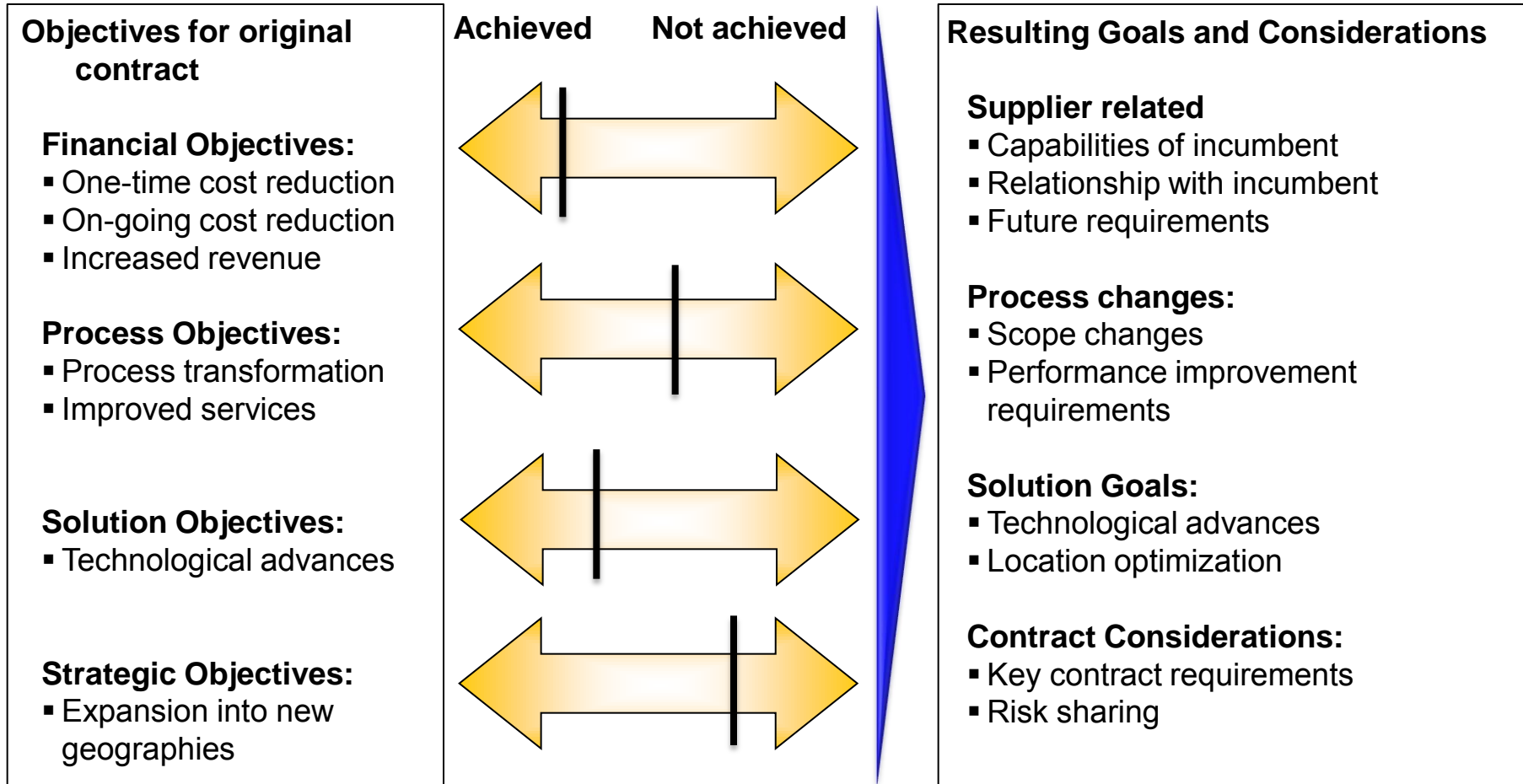
- Executive Summary
- **Review of Current Environment**
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When beginning to assess an ETS, there is a need to develop an understanding of the current outsourcing environment



- The factors that influenced the development of the original contract will have changed over time. The Buyer needs to explore the following factors in order to understand which ETS is the best fit for its organization
 - The existing outsourcing relationship needs to be assessed to understand if it achieved the original objectives
 - The existing outsourcing relationship needs to be review against the current marketplace to understand if it is achieving its value potential
 - The changes and evolutions within the marketplace need to be considered for the value they might bring to the Buyer
 - The Buyer needs to review its organizational strategies to understand any constraints that might impact the ETS

The assessment of the achievement of the original objectives will inform the potential goals and considerations for the ETS





To understand the cost savings and efficiencies that could be unlocked through an ETS, the current outsourcing agreement must be assessed to market

Market Comparables

ITO comparable selection methodology: Infrastructure
 There are many contextual factors lead to a price being at the high or low ends of the market comparable range

A buyer's ability to reach the Low range of the market comparable prices will be driven by many factors:

General

- Buyer
- Supplier
- Supply
- Improvement
- Supplier
- Client
- Competition
- Buyer
- Location
- Size
- Na
- Contract
- Allocation
- Brand

ITO comparable selection methodology: Infrastructure
 The "best" market comparable is the market data point for a buyer that most closely resembles BUYER

The "best" market comparable was selected based on a number of parameters that were compared to

ITO market comparables selection process overview: Infrastructure
 Market comparables were used to assess the initial opportunity for savings

BUYER vs. Best Market Comparable (MC):
 By Tower

Market Comparables:
 By Tower

Legend: Projects (Yellow), Base Price (Blue)

1. Recommended best compromise determined by assessing market context and comparing with 8 near bids. This data points to the best selection of the lowest price should be to BUYER.

2. Lower end value is the highest market compromise from the data set multiplied by BUYER volume.

3. Lower end value is the lowest market compromise from the data set multiplied by BUYER volume.

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Service Level analysis

BUYER should seek improvements in several areas of the existing Agreement

Workstream

A. Service structures and security

Description of targeted improvements!

- Critical services: Definition of "critical services" that be clearly to mechanisms for service level credits
- Access management for SaaS/Passport, other security

Examples of specific opportunity areas

Proposed improvements: Service level agreement

Service level framework - Definition of SL measurement methods

Buyer should seek to refine the calculation of minimum service levels as current definitions may conceal instances of deficient service quality due to averaging out over a measurement period. Everest recommends defining time-based service levels as 70% outcomes within 90 seconds) as opposed to "averages of all outcomes". This method also helps parties focus on specific problems or incidents, in the spirit of continuous improvement.

Service Level assessment

Helpdesk

Service element	BUYER performance standards	SUPPLIER performance	Market comparable performance standards
Average speed of answer	<ul style="list-style-type: none"> Lower: < 80 seconds Upper: < 40 seconds Incentive: < 20 seconds 	<ul style="list-style-type: none"> Ranges between 16 to 30 seconds 	<ul style="list-style-type: none"> 80% within 20 seconds 50% within 20 seconds 100% within 20 seconds
Call abandonment rate	<ul style="list-style-type: none"> Lower: 15% Upper: 10% Incentive: 5% 	<ul style="list-style-type: none"> Ranges between 4% and 12% 	<ul style="list-style-type: none"> 5% or less of all received calls are abandoned 5% 5%
FIRST CALL Resolution	<ul style="list-style-type: none"> Lower: 80% Upper: 60% Incentive: 70% 	<ul style="list-style-type: none"> Ranges between 70% and 75% 	<ul style="list-style-type: none"> 80% of all first calls 70% of all first calls 80% of all first calls

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Contract analysis

Contract Analysis

- Term
- Termination
- Asset ownership
- Etc....

A review of these three areas against market standards will identify opportunities to achieve further value in 1) Pricing 2)Service Improvements and 3) Contract Terms. These will factor in the selection of the ETS that best achieve this value

The evolution of the outsourcing market has critical implications for Buyers at the end of an existing agreement



- Maturation of the outsourcing marketplace over the last five years
 - Large number of suppliers with proven capabilities
 - All of the major suppliers have grown rapidly in terms of scale and capabilities, example:
 - TCS and Infosys have over 110K and 90K FTEs respectively
 - IBM and Accenture have over 175K FTEs with more than 50K FTEs in India
 - Expanded IT enabled service offerings
 - Global delivery footprint with suppliers having capabilities to deliver services from all continents, leveraging unique location advantages
 - Major suppliers now have delivery locations in India, China, Central and Eastern Europe, South America and Central America
- Componentization of service delivery enables buyers to buy certain pieces of service or end-to-end transformational service
 - Buyers are moving up the complexity chain, procuring high value analytical and knowledge based services
- Consolidation of the supplier market
 - Industry maturity has led to mergers, acquisitions and consolidations
 - Suppliers have also acquired shared service/captive operations from the buyer community

Source: Everest Webinar October 2008



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Review of the agreement and the market changes a four dimension framework to develop detailed objectives and constraints



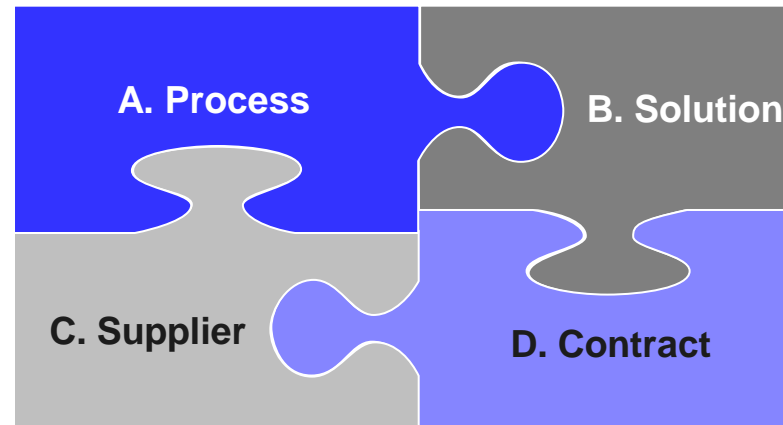
Dimensions of current agreement review

Process review sub-dimensions:

- Scope
- Performance management
- Operational infrastructure
- Transition

Solution review sub-dimensions:

- Technology
- Global sourcing
- Governance



Supplier review sub-dimensions:





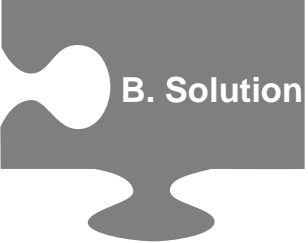



- Supplier portfolio
- Supplier strategy and focus
- Supplier capability

Contract review sub-dimensions:

- Contract size and duration
- Pricing
- Key terms and conditions



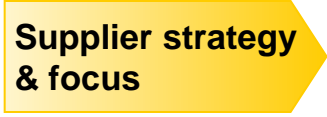





Assess outsourced Process maturity and review the current Solution to identify major gaps and levers to expand value



Dimension	Sub dimension	Brief description
 <p>A. Process</p>	 <p>Scope</p>	Assessing the process coverage and degree of outsourcing to identify opportunities for evolution
	 <p>Performance management</p>	Assessment of type and purpose of metrics, number of SLAs, performance levels, and enforcement strategy
	 <p>Transition</p>	Review of transition methodology, resources, engagement modes, and timelines/cost
 <p>B. Solution</p>	 <p>Technology</p>	Assessing the underlying technology solution in terms of ownership, fragmentation, and deployment options
	 <p>Global sourcing</p>	Comparing the global sourcing adoption to the global sourcing market maturity from process and delivery location perspectives
	 <p>Governance</p>	Assessing the governance structure in place to address operational and strategic aspects

Evaluate Supplier profile and Contract elements to identify evolution themes for next stage of relationship



Dimension	Sub dimension	Brief description
 <p>C. Supplier</p>	 <p>Supplier portfolio</p>	<p>Assessment of Buyer's overall supplier portfolio strategy in terms of having a single-supplier strategy versus multi-supplier strategy</p>
	 <p>Supplier strategy & focus</p>	<p>Examining current supplier's strategy in the market and assessing its alignment with client's objectives</p>
	 <p>Supplier capabilities</p>	<p>Evaluating current supplier's capability across key parameters (such as scale, scope, technology capabilities, and delivery footprint) and its positioning as compared to other suppliers in the market</p>
 <p>D. Contract</p>	 <p>Contract size & duration</p>	<p>Comparison of contract size and duration with market average in view of the stage of the relationship</p>
	 <p>Pricing</p>	<p>Assessment of the pros and cons of current pricing structure and indicative overall pricing levels along with pricing evolution opportunities</p>
	 <p>Terms & conditions</p>	<p>Coverage of key terms and conditions with potential key additions to formalize in the next stage of relationship</p>



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Developing an ETS should be a collaborative, comprehensive, and non-threatening process designed to identify how to best leverage the different ETS options by process



Renew	Renegotiate	Restructure	Re-compete	Repatriate
Re-sign existing contract terms with minimal changes	Modify one or a limited number of elements of an outsourcing contract, e.g., price and service levels	Re-think the structure of key contract provisions and key business terms, and re-think in-scope processes	Terminate existing contract and enter into competitive bid process with potential suppliers to evaluate and select one or multiple suppliers to replace the current services agreement	Terminate current outsourcing contract and bring previously outsourced services back in-house

Buyers should take six key questions under consideration in choosing their sourcing option

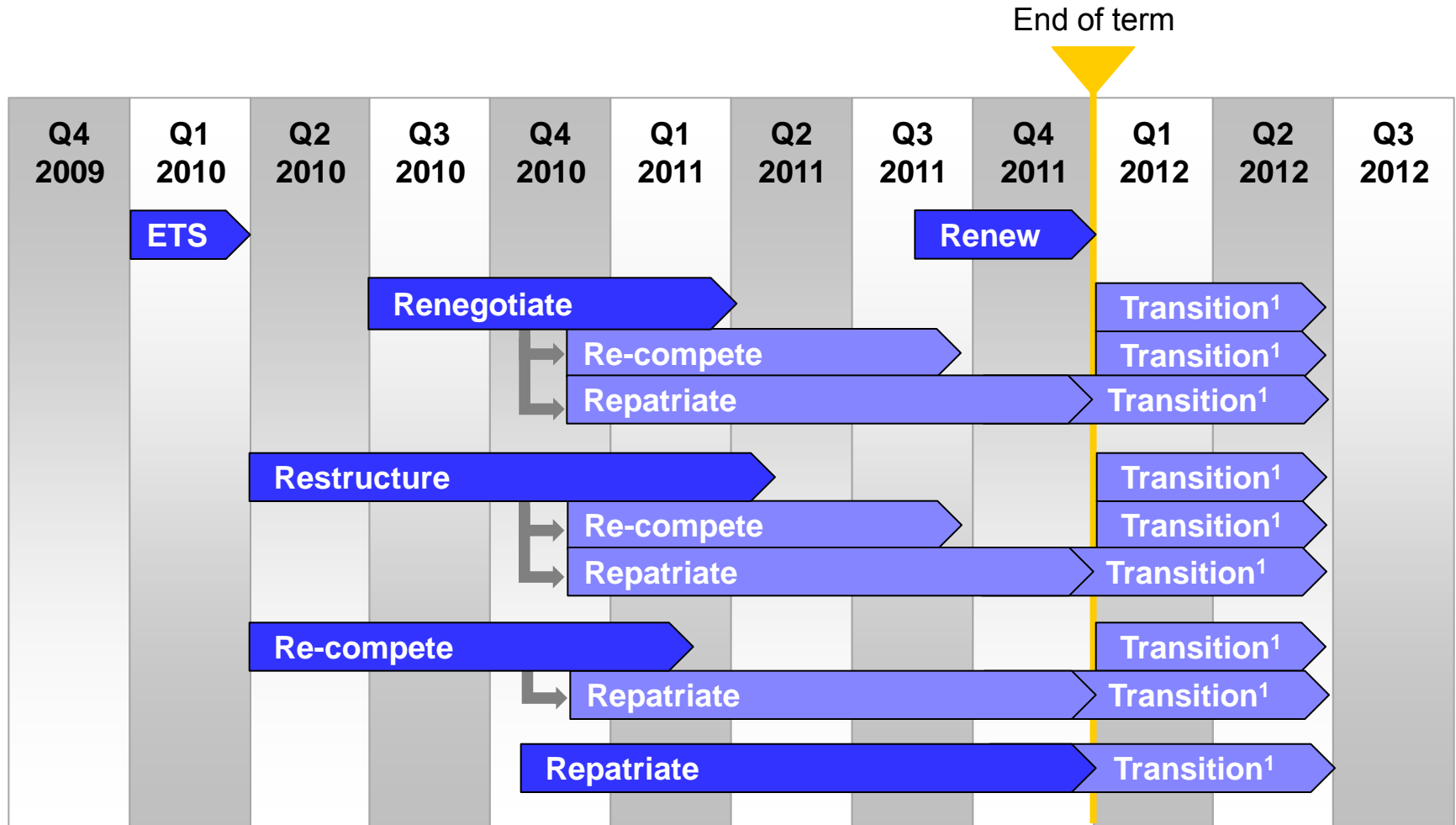
1. To what degree will each sourcing option lead to lower ongoing costs and equal or improved services?
2. What is the approximate one-time cost of each sourcing option?
3. What is the risk of executing each option?
4. What is the effort and duration of implementing each option?
5. How can a client maximize its negotiating leverage?
6. To what extent is the sourcing option strategically aligned?

The optimal sourcing approach is one that is most likely meet a buyer's targeted outcomes

Examples of outcomes:

- Financial return
- Service quality
- Legal and compliance
- Acceptable risk

Buyers should initiate an ETS at least two years before the end of current contract term, earlier if inclusive of transition assistance period



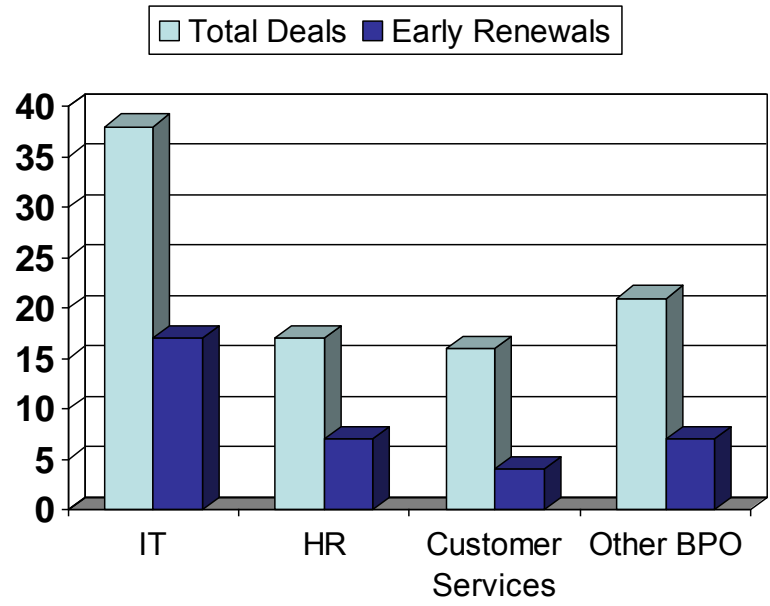
1 Example assumes current agreement contains provision for transition and transition assistance



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Approximately 80% of ending IT outsourcing contracts have been renegotiated with the incumbent supplier; a significant portion of those being early renewals¹

- 38% of those agreements studied decided to renew their contract before then end-date²
- Almost 50% of IT and HR deals renewed early²



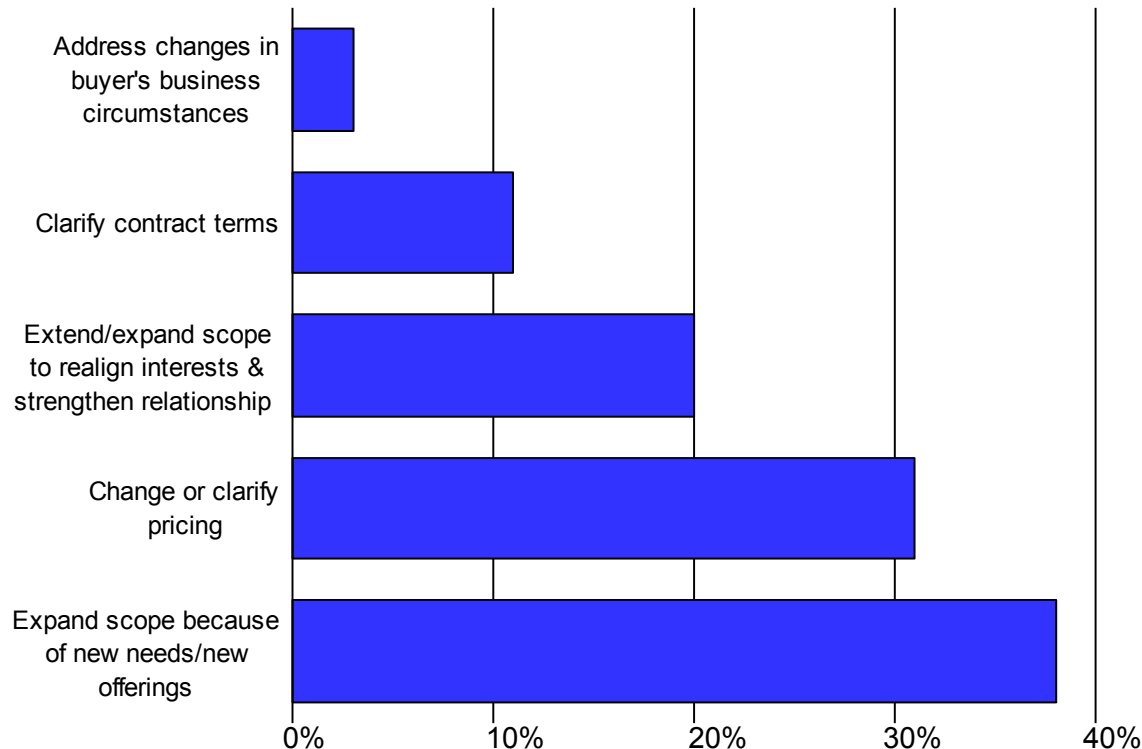
“IT” includes infrastructure and ADM.
“HR” includes single- and multi-function HR deals as well as recruitment (RPO)
“Other BPO” includes multi-tower deals as well as single-process BPO deals that had fewer than five relationships that had outsourced a particular business process.

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Source: 1: Everest Research Institute, based on statistically significant sample of the 8000 ITO transactions in the Everest Transaction Intelligence Database
Source 2: Everest Outsourcing Journal February 2009

The majority of buyers studied stated that they renewed their deals because of new needs or new offerings from the supplier

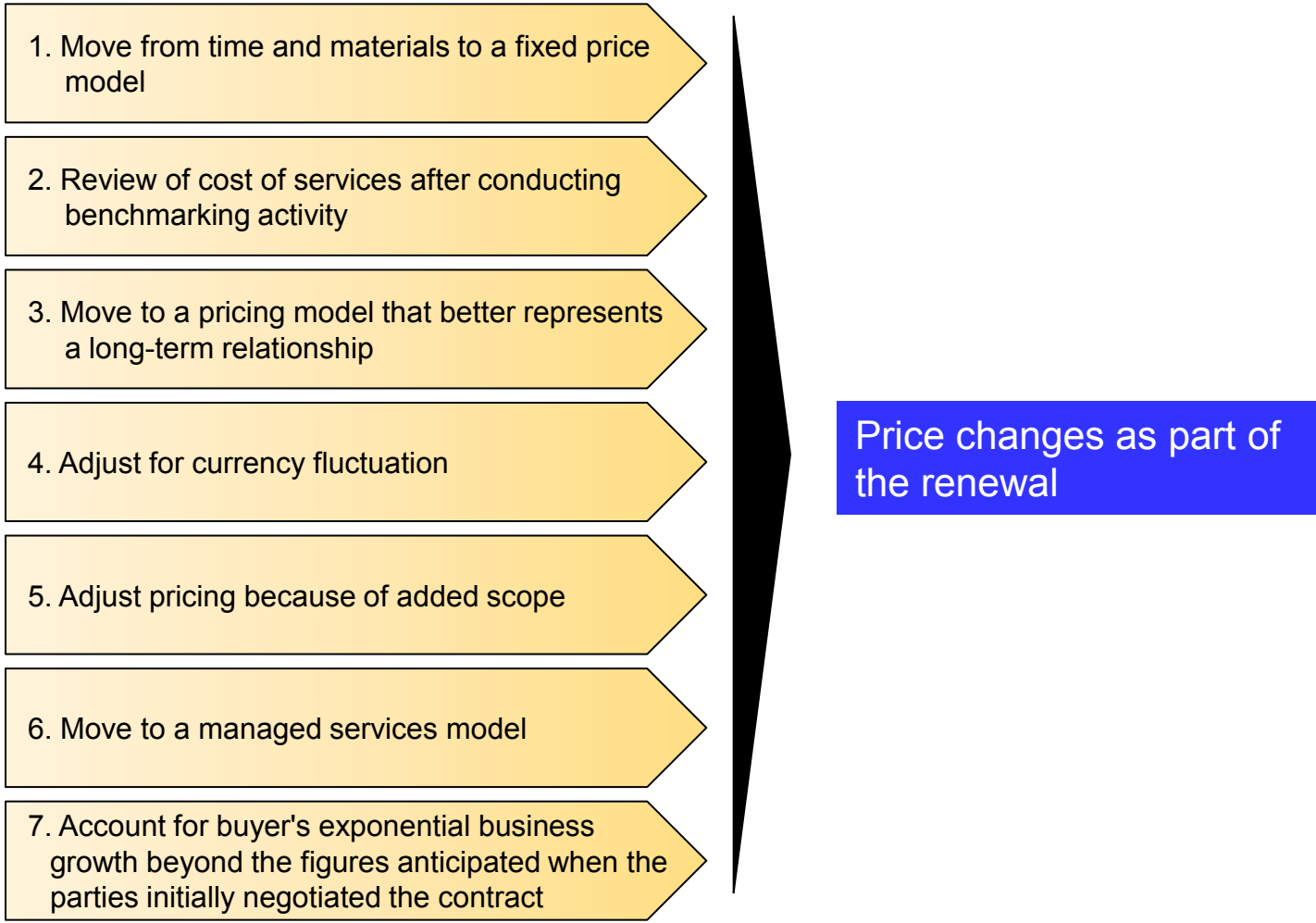
Reasons for early contract renewal



Source: Everest Outsourcing Journal February 2009

Everest research and experience shows a wide range of savings when re-negotiating or re-tendering – nearly 80% gain 20% in savings or more. The actual savings gained depends on factors such as the context of the deal, original financial arrangement, degree of unions or off-shoring, etc.

The study found the following drivers among the agreements that renewed their contracts early to clarify pricing



The study also found the following drivers among the agreements that renewed their contracts early to contract terms



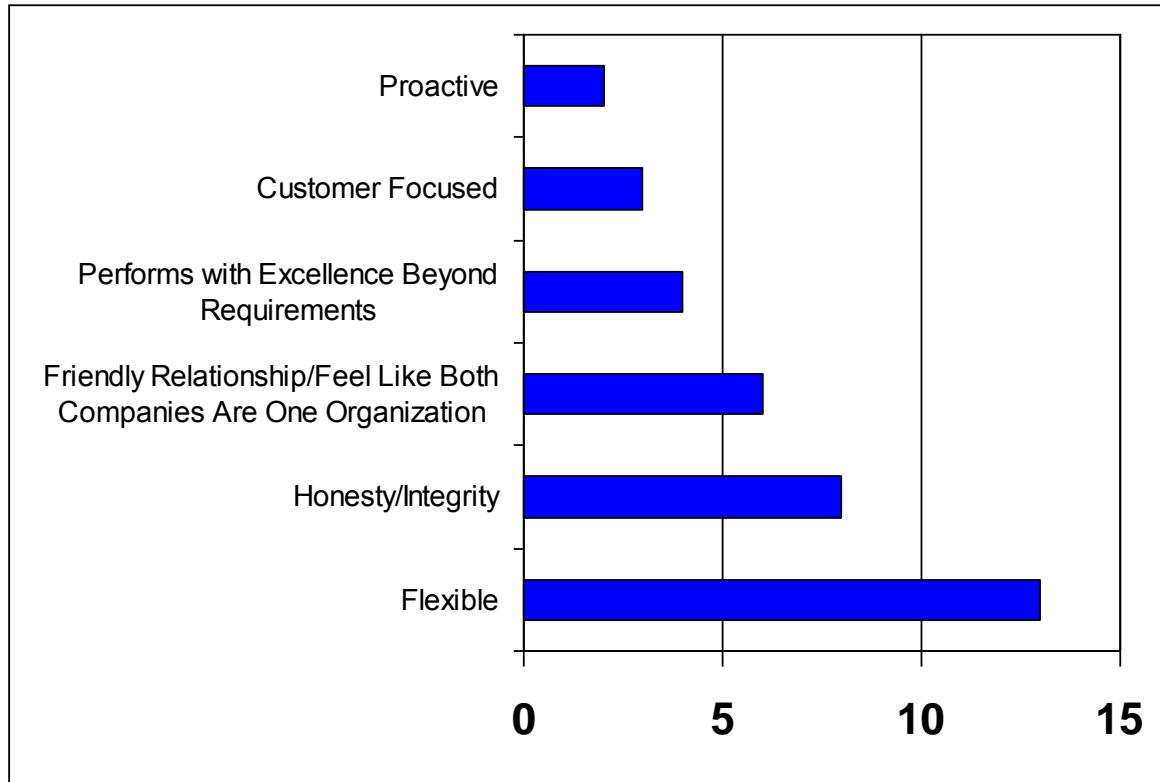
1. Clarify some terms, considering the relationship grew deeper and more collaborative than originally envisioned
2. Restructure contract to allow for continuous growth without having to renegotiate the contract every time
3. End discrepancy in original per-unit pricing around what was considered a billing incident versus a break/fix incident
4. Establish new billing metrics regarding what constitutes an additional resource charge (ARC)



Contract term changes as part of the renewal

The study revealed the top six qualities of providers that influenced the early-renewing buyers' decisions to renew

Number-One Provider Quality Cited by Buyers Who Renewed Early



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Source: Everest Outsourcing Journal February 2009

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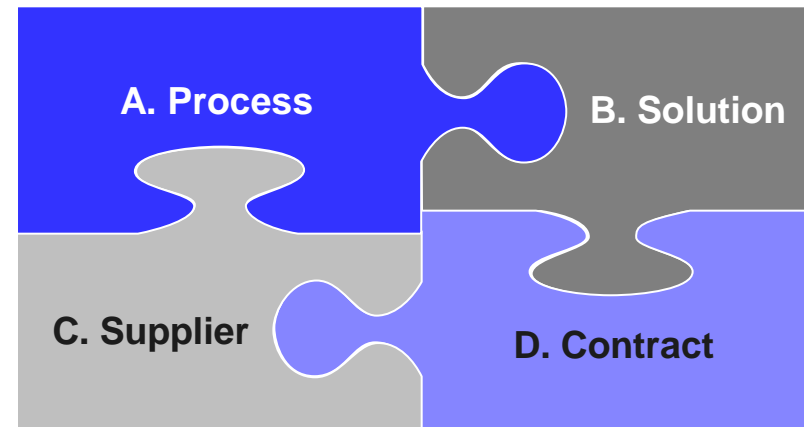
To ensure a thorough development of an ETS, the Buyer should complete three major activities



1 The Buyer's should complete a review of the current environment to answer the following key questions:

- Has the outsourcing engagement delivered the value that was set out to achieve?
- Has the outsourcing deal achieved its value creation potential?
- How has the outsourcing marketplace changed?
- What should be done when or before the deal term comes to an end?

2 The Buyer consider the four key dimensions to detail objectives and constraints for the ETS



3 The Buyer should apply the high level targets, detailed objectives, and constraints to the five strategy options to assess the appropriate ETS for their outsourcing contract; The result can be one option or a hybrid of the options

Renew	Renegotiate	Restructure	Re-compete	Repatriate
-------	-------------	-------------	------------	------------



PERFORMANCE & TECHNOLOGY

OPG – Contract End-of-Term Sourcing Strategy Assessment

Final

October 13, 2009

ADVISORY

Contents

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- Executive Summary [2]

Overview

- Overview [4]

Key findings

- Key findings [6]

Supporting analysis to key findings

- Diligence in the process of developing OPG's ETS, and diligence in OPG's ETS, relative to leading practices [14]
- Major activities OPG conducted toward the development of the ETS [26]

Appendix

1. Reference material [28]
2. Leading practices [29]
3. KPMG interview questions and interview list [30]
4. Glossary of acronyms [31]



Executive Summary

OPG was entirely consistent with leading practices in both the process to develop its ETS and in the ETS itself.

Background:

- Anticipating the 2011 conclusion of a ten-year IT outsourcing agreement with Capgemini/New Horizon System Solutions (NHSS), OPG has been developing, and subsequently executing an end-of-term sourcing strategy (ETS) since early 2007. During that time OPG had undertaken a lengthy process in which it traversed a structured process through which it developed its ETS, founded on a number of interim steps.

Scope:

- In October 2009 OPG hired KPMG to perform a two-day due diligence review of the process it undertook in developing its ETS, the ETS itself, both against leading practices.

Approach & Methodology:

- In the assessment timeline (initiated on October 6, 2009 completed October 9, 2009) KPMG employed the follow approach:
 - KPMG assembled a team of three advisors experienced in end-of-term strategy development, outsourcing and due diligence.
 - KPMG made an information request to OPG to obtain necessary documentation related to the ETS development process and the ETS itself. KPMG scheduled interviews with OPG personnel representing key ETS development areas.
 - KPMG evaluated the information gathered from all noted sources against leading practices; leading practices represent a hybrid of what mature organizations would do in similar circumstances, in tandem with leading practices espoused in various popular sourcing and IT management frameworks (e.g. COBIT).
 - KPMG documented its findings (this report) against leading practices.

Findings:

1. KPMG's review of OPG's ETS development process finds that OPG was entirely aligned with leading practices in the ETS development process. OPG made proper use of the correct inputs at the appropriate times in the process, and each process step involved the right parties.
2. KPMG finds that OPG consistently developed each necessary component of the ETS, aligned each with the business strategy, and rigorously consulted internal and external stakeholders and advisors, therefore KPMG finds that OPG was entirely aligned with leading practices in its ETS.

Overview



Overview

Background

- Ontario Power Generation (OPG) entered into a ten-year IT outsourcing agreement with Capgemini/NHSS in 2001.
- In 2007 OPG undertook a multi-year process to evaluate their sourcing strategy options and to create and execute an end-of-term strategy (ETS) related to the IT outsourcing agreement with Capgemini/NHSS. This process sought to identify and evaluate potential alternatives to the existing contract as well as to renew/modify/extend the existing contract.
- Presently, OPG has completed renegotiating its current agreements based on its ETS. As part of the due diligence process OPG has engaged KPMG LLP/ Canada (KPMG) for the below purpose.

Purpose

- This document summarizes KPMG's Point of View (POV) of the process OPG undertook to develop an End of Term Strategy, and the ETS itself.

Approach

- In the assessment timeline (initiated on October 6, 2009 completed October 9, 2009) KPMG employed the following approach:
 - KPMG assembled a team of three advisors experienced in end-of-term strategy development, outsourcing and due diligence.
 - KPMG made an information request to OPG to obtain necessary documentation related to the ETS development process and the ETS itself. KPMG scheduled interviews with OPG personnel representing key ETS development areas.
 - KPMG evaluated the information gathered from all noted sources against leading practices; leading practices represent a hybrid of what mature organizations would do in similar circumstances, in tandem with the leading practices espoused in various popular sourcing and IT management frameworks (e.g. COBIT).
 - KPMG documented its findings (this report) against leading practices.

Nature of our Work

- KPMG relied on information and representation from OPG management and staff for the completeness and accuracy of the information provided.
- KPMG did not attempt to validate the accuracy of the information received through this review.
- KPMG did not assess the correctness of the decisions made or the quality of the documents reviewed.
- KPMG were not acting as auditors and accordingly, our work did not result in expressing an audit opinion on OPG's ETS or the process in which it was developed.
- KPMG did not conduct a review of the IT renewal contract with Capgemini.

Key findings



Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Enterprise Strategy	Ensure alignment of ETS to the enterprise strategy	<ul style="list-style-type: none"> ●Evaluated business plans across all OPG lines of business. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ●Consulted individually with the various business unit leaders to determine their key objectives and priorities. Discussed strategic potential for contract alternates and the implications. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ●Identified specific "business strategies", which were propagated consistently in process documentation. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
IT Strategy and Roadmap	Ensure alignment of ETS to the IT strategy and roadmap	<ul style="list-style-type: none"> ●Input to the development of the IT strategy was the enterprise strategy. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ●Sourcing opportunities, which were segmented by stakeholders, were developed within the parameters derived from the IT strategy. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ●OPG developed a traceability matrix from IT strategy (IT strategy extract) to hone IT conversations. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
	Identify and validate relevant objectives from the IT strategy	<ul style="list-style-type: none"> ●Developed traceability matrix from IT strategy containing specific IT objectives to achieve in the ETS. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ●Broad stakeholder groups formed to consult on the relevance of objectives from several viewpoints. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.
	Determine critical success factors	<ul style="list-style-type: none"> ●OPG identified a set of success factors as part of the IT strategy's main thrusts. 	<ul style="list-style-type: none"> ●OPG's approach was consistent with leading practices.

Key findings
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Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Improvement Opportunities	Explore exploratory improvement opportunities	●OPG conducted an independent review of its business processes with an aim to identify improvement.	●OPG's approach was consistent with leading practices.
		●OPG conducted a benchmarking exercise with an external party.	●OPG's approach was consistent with leading practices.
	Explore preparatory improvement opportunities	●OPG hired an external party to compose a service catalogue.	●OPG's approach was consistent with leading practices.
	Explore opportunistic improvement opportunities	●OPG hired an external party to explore cost saving opportunities.	●OPG's approach was consistent with leading practices.
	Seek external, independent expertise	●Engaged external parties for independent consultation of improvement opportunities.	●OPG's approach was consistent with leading practices.
Sourcing Opportunities	Identify and validate relevant sourcing opportunities	●Assembled a broad stakeholder group for opportunity identification.	●OPG's approach was consistent with leading practices.
		●Defined specific sourcing opportunities and associated each with a responsible stakeholder.	●OPG's approach was consistent with leading practices.
		●Identified key constraints, challenges for each opportunity.	●OPG's approach was consistent with leading practices.
	Seek external, independent expertise	●Engaged external parties for independent consultation of sourcing opportunities.	●OPG's approach was consistent with leading practices.

Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Sourcing Options	Identify and validate relevant sourcing options	<ul style="list-style-type: none"> ● Assembled a broad stakeholder group for option evaluation, comprised of individuals at varying seniority levels. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ● Documented options with clarity and defined how they may be executed at OPG. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
	Seek external, independent expertise	<ul style="list-style-type: none"> ● Engaged external parties for independent consultation of sourcing opportunities. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
	Eliminate infeasible or unattractive options	<ul style="list-style-type: none"> ● Leveraged viewpoints of cross-sectional stakeholder team to evaluate feasibility and attractiveness from multiple perspectives. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
		<ul style="list-style-type: none"> ● Decision makers consulted individuals at all seniority levels. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.

Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Stakeholder Consultations	Involve stakeholders presently impacted by sourcing arrangement	●Created numerous groups for consultation.	●OPG's approach was consistent with leading practices.
	Involve stakeholders potentially impacted by future sourcing arrangement	●Created cross-sectional group with representation across business lines and functions.	●OPG's approach was consistent with leading practices.
	Seek external, independent expertise to facilitate and educate the consultation process	●Engaged external parties for independent consultation of sourcing opportunities.	●OPG's approach was consistent with leading practices.
	Create common language for discussing sourcing	●Created a service catalogue, which focuses discussions on services and the associated metrics.	●OPG's approach was consistent with leading practices.
	Evaluate stakeholder preferences on behalf of the broader stakeholder community	●Consideration made for relevant stakeholders, including regulator, public and unions.	●OPG's approach was consistent with leading practices.
	Cross-functional, senior approval for major deliverables and decision making	●Approval for major deliverables (e.g. business case recommendation, board approval) required sign-off from all involved stakeholders.	●OPG's approach was consistent with leading practices.

Key findings
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Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Consultations with Proficient Parties	Consult external organization to provide insight on outsourcing leading practices	●Consultations with outsourcing exemplars in Canada, USA and UK.	●OPG's approach was consistent with leading practices.
	Consult external organization to provide insight on outsourcing with potential provider	●Consultations / research on local outsourcing arrangement with client of potential provider.	●OPG's approach was consistent with leading practices.
	Seek external, independent expertise	●Retention of external party services for independent consultation. ●External, independent expertise were used throughout the process for validation and verification type assessments.	●OPG's approach was consistent with leading practices. ●OPG's approach was consistent with leading practices.
SWOT and PEST Analyses	Evaluate enterprise SWOT	●Post mortem review of existing contracts (weaknesses and threats).	●OPG's approach was consistent with leading practices.
		●Development of improvement (strengths and opportunities).	●OPG's approach was consistent with leading practices.
	Evaluate enterprise PEST	●Conducted risk assessments, using two external parties, addressing political, environmental, socio-cultural and technological considerations.	●OPG's approach was consistent with leading practices.
Risk Assessments	Development of a risk register, which catalogs risks and assigns to each an impact and probability	●Risk assessment performed collaboratively.	●OPG's approach was consistent with leading practices.
	Assignment of specific risk mitigation responsibility to individuals	●Documented in risk registry.	●OPG's approach was consistent with leading practices.
	Risk assessment of the sourcing options	●Assessment of the viability of the sourcing alternatives based on four categories of risk.	●OPG's approach was consistent with leading practices.



Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Business Case	Business case models all feasible sourcing options	●Business case modeled all feasible sourcing options.	●OPG's approach was consistent with leading practices.
	Business case values are traceable to the business objectives	●Business case values were traceable to the business objectives.	●OPG's approach was consistent with leading practices.
	Business case documents and explains assumptions	●Business case documented and explained assumptions.	●OPG's approach was consistent with leading practices.
	Business case provides or links to quantitative calculations	●Business case referenced source documents of quantitative calculations.	●OPG's approach was consistent with leading practices.
	Consideration of qualitative factors	●Qualitative analysis of key considerations that were difficult/impossible to quantify.	●OPG's approach was consistent with leading practices.
	Business case uses standard quantities to evaluate among competing options	●Business case consistently used net present value for option costing.	●OPG's approach was consistent with leading practices.
	Business case highlights the risks associated with each option	●Business case highlighted the risk associated with each option.	●OPG's approach was consistent with leading practices.
	Business approval is granted by a cross-section of senior executives	●Business approval was granted by a cross-section of senior executives.	●OPG's approach was consistent with leading practices.

Key findings
Page 7 of 7

Process Element	Leading Practices in ETS Development	Findings	KPMG's Point of View
Sourcing Option / ETS	Commitment of key stakeholders in favouring the option	●ETS was endorsed by the Board of Directors, IT Council, Steering Committee and several other OPG groups.	●OPG's approach was consistent with leading practices.
	Concurrence of the option's favourability by an external party	●Third party concurrence was documented.	●OPG's approach was consistent with leading practices.
	Validation of sourcing option with potential provider	●Validation was made with the potential provider who committed to a negotiation timeline.	●OPG's approach was consistent with leading practices.
	Alternate sourcing option identified and validated	●Contingency plans had been documented in the event a satisfactory contract could not be achieved.	●OPG's approach was consistent with leading practices.

Supporting analysis to key findings

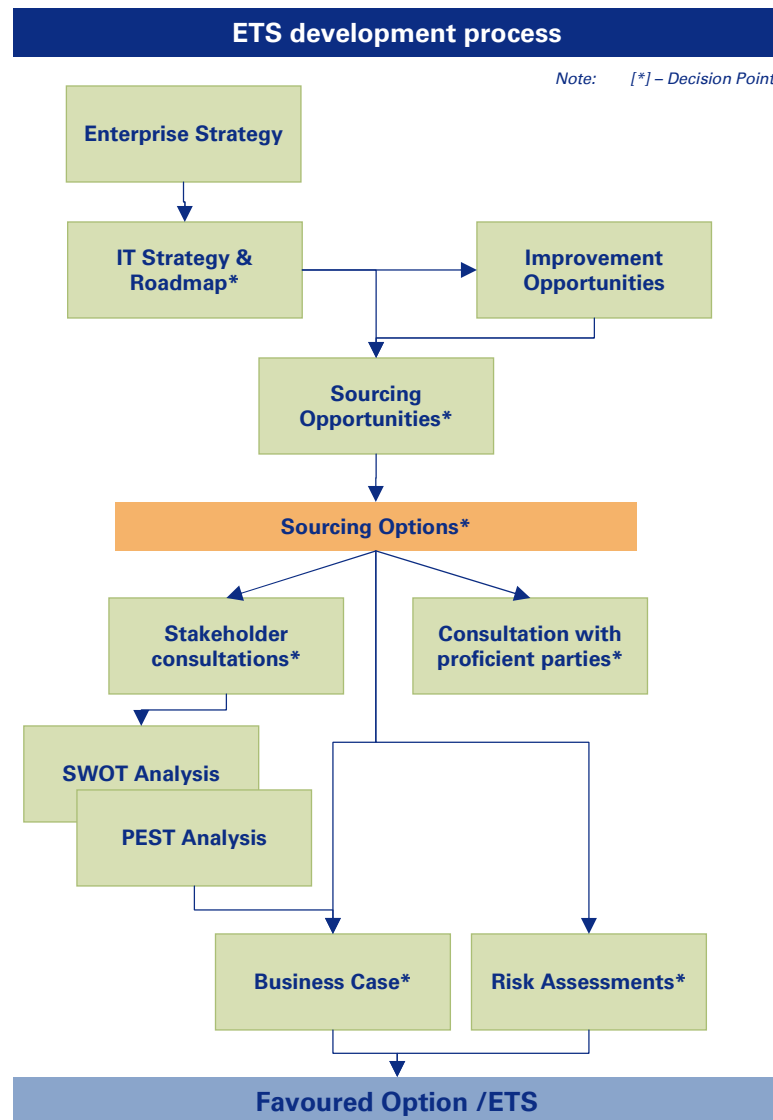
Supporting analysis to key findings

Leading practices in the ETS development process

Leading practices in the ETS development process are espoused in the Control Objectives for Information and related Technology (CobIT) framework, which is a widely adopted framework.

- It is a leading practice to align all organizational initiatives to objectives expressed in the business strategy.
- The information technology (IT) strategy is an IT manifestation of relevant business objectives, to which IT initiatives are directly linked.
- The IT strategy is one of several key inputs to the ETS, and is used authoritatively to guide downstream IT initiatives. Objectives originating in the IT strategy clarify requirements in cost, performance and other relevant IT metrics, and also provide guidance on the feasibility and attractiveness of potential future state options.
- Other inputs should be used to support decisions related to option refinement, such as a business case, risk assessment, performance reviews, etc. Again, these inputs should align with the IT strategy, and be directly traceable to the business strategy.
- Once high-level options are narrowed, if the option favoured is an existing option, elaboration of the ETS is made both in terms of incremental (relative) and independent (absolute) performance.
- Decision points (DP) are instances where a specific decision should be made prior to proceeding in the ETS development process. Decisions should be supported with robust input at the point they are made.
- Decision points illustrated represent within the ETS development process when inputs should be evaluated and a specific decision is made. These are not the only decision points in the process, but from the due diligence standpoint, they represent points in time at which material decisions should be made related to an ETS.
- Note: Descriptions of process elements, inputs and outputs in subsequent pages are meant as operating definitions to clarify the process and should not be interpreted to be prescriptive or robust.

The process illustrated below applies generally to an ETS strategy development process.



Process elements used for developing the ETS – enterprise strategy

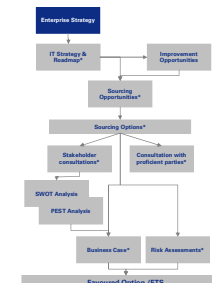
OPG was consistent with leading practices in aligning with the enterprise strategy.

Description:

- The purpose of the enterprise strategy is to define the high level objectives, goals, constraints and timing for the organization. Interpretation of the enterprise strategy yields sub-strategies related to specific functions, lines of business or other organizational entity.

Source and Details:

- OPG’s enterprise strategy is outlined in the 2008 Annual Report, which can be found on OPG’s public website.



Enterprise Strategy		
Leading Practices in ETS development	Findings	KPMG’s Point of View
Ensure alignment of ETS to the enterprise strategy	<ul style="list-style-type: none"> Evaluated business plans across all OPG lines of business. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.
	<ul style="list-style-type: none"> Consulted individually with the various business unit leaders to determine their key objectives and priorities. Discussed strategic potential for contract alternates and the implications. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.
	<ul style="list-style-type: none"> Identified specific “business strategies”, which were propagated consistently in process documentation. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.

Process elements used for developing the ETS – IT strategy and roadmap

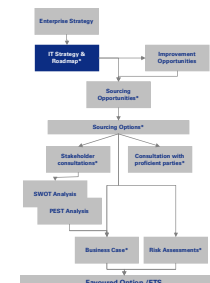
OPG was consistent with leading practices in aligning with the IT strategy and roadmap.

Description:

- The purpose of the information technology (IT) strategy is to define the high-level objectives, goals, principles, tactics and timing for information technologies for the organization. The IT strategy is a direct translation of business objectives into a future state IT blueprint, expressed as discrete initiatives plotted against a timeline (“roadmap”).
- The first decision point in the ETS development process relates to extracting a robust set of objectives from the IT strategy, and validating these objectives with the key stakeholders. Stakeholders should be comprised of business and IT representation.

Source and Details:

- OPG’s 5-year IT strategy document, dated November 2008.
- Identification of a set of IT objectives to achieve in the ETS, which was based on alignment with the IT strategy. The traceability matrix was contained within the Joint Solutioning binder.



IT Strategy and Roadmap		
Leading Practices in ETS development	Findings	KPMG’s Point of View
Ensure alignment of ETS to the IT strategy	• Input to the development of the IT strategy was the enterprise strategy.	• OPG’s approach was consistent with leading practices.
	• Sourcing opportunities, which were segmented by stakeholders, were developed within the parameters derived from the IT strategy.	• OPG’s approach was consistent with leading practices.
	• OPG developed a traceability matrix from IT strategy (IT strategy extract) to hone IT conversations.	• OPG’s approach was consistent with leading practices.
Identify and validate relevant objectives from the IT strategy	• Developed traceability matrix from IT strategy containing specific IT objectives to achieve in the ETS.	• OPG’s approach was consistent with leading practices.
	• Broad stakeholder groups formed to consult on the relevance of objectives from several viewpoints.	• OPG’s approach was consistent with leading practices.
Determine critical success factors	• OPG identified a set of success factors as part of the IT strategy’s main objectives (OPG referred to as “thrusts”).	• OPG’s approach was consistent with leading practices.

Process elements used for developing the ETS – improvement opportunities

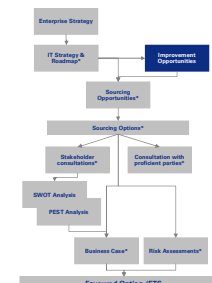
OPG was consistent with leading practices in developing improvement opportunities.

Description:

- Distinct from the IT roadmap initiatives in the IT strategy, improvement opportunities relate specifically to sourcing, and at this point in the process typically focus on:
 - Exploratory improvement opportunities such as benchmarking, independent reviews, performance assessments, external consultations
 - Preparatory and opportunistic improvements such as IT maturity, process standardization, application rationalization and other efforts toward simplification and standardization

Source and Details:

- Contained within Joint Solutioning binder, IT Council presentations dating back to early 2007, presentation to the Board of Directors dating back to mid-2007, presentations to ETS (senior executive) Steering Committee dating back to mid-2007.



Improvement Opportunities				
Leading Practices in ETS development			Findings	KPMG's Point of View
Explore	exploratory	improvement opportunities	<ul style="list-style-type: none"> ● OPG conducted an independent review of its business processes with an aim to identify improvement. ● OPG conducted a benchmarking exercise with an external party. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices. ● OPG's approach was consistent with leading practices.
Explore	preparatory	improvement opportunities	<ul style="list-style-type: none"> ● OPG hired an external party to compose a service catalogue. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
Explore	opportunistic	improvement opportunities	<ul style="list-style-type: none"> ● OPG hired an external party to explore cost saving opportunities. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.
Seek external, independent expertise			<ul style="list-style-type: none"> ● Engaged external parties for independent consultation of improvement opportunities. 	<ul style="list-style-type: none"> ● OPG's approach was consistent with leading practices.

Process elements used for developing the ETS – sourcing opportunities

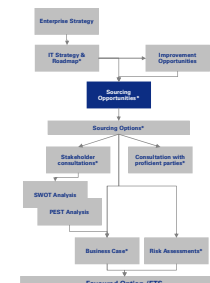
OPG was consistent with leading practices in developing sourcing opportunities.

Description:

- Upon defining and validating relevant business and IT objectives, it is prudent to consult a broad representation of stakeholders to define specific sourcing opportunities. Sourcing opportunities are different from sourcing options insofar as sourcing opportunities are not sourcing solutions or potential future state blueprints, rather they define a narrower sourcing opportunity that may form part of a sourcing option.
- The decision point in this process element involves assigning sourcing opportunities to individual “champions” to develop and support the ideas for the subsequent process step.

Source and Details:

- Contained within Joint Solutioning binder, IT Council presentations dating back to early 2007, presentation to the Board of Directors dating back to mid-2007, presentations to ETS (senior executive) Steering Committee dating back to mid-2007.



Sourcing Opportunities		
Leading Practices in ETS development	Findings	KPMG’s Point of View
Identify and validate relevant sourcing opportunities	● Assembled a broad stakeholder group for opportunity identification.	● OPG’s approach was consistent with leading practices.
	● Defined specific sourcing opportunities and associated each with a responsible stakeholder.	● OPG’s approach was consistent with leading practices.
	● Identified key constraints, challenges for each opportunity.	● OPG’s approach was consistent with leading practices.
Seek external, independent expertise	● Engaged external parties for independent consultation of sourcing opportunities.	● OPG’s approach was consistent with leading practices.

Process elements used for developing the ETS – sourcing options

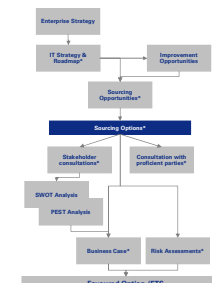
OPG was consistent with leading practices in developing and evaluating sourcing options.

Description:

- Sourcing options are the high-level scenarios that could be considered potential solutions based on the identified objectives.
- The decision related to evaluating among sourcing options has high importance for the organization in achieving its objectives. This decision must be made collaboratively among a cross-section of stakeholders representing key business areas (e.g. Legal, Risk, Supply Chain). An independent evaluation is also a leading practice as option selection has significant implications for the organization.

Source and Details:

- Contained within IT Council presentations dating back to early 2007, presentation to the Board of Directors dating back to mid-2007, presentations to ETS (senior executive) Steering Committee dating back to mid-2007, Everest End-of-Term Strategy Report dated December 2007, end-of-term Charter dated July 2008.



Sourcing Options		
Leading Practices in ETS development	Findings	KPMG's Point of View
Identify and validate relevant sourcing options	• Assembled a broad stakeholder group for option evaluation, comprised of individuals at varying seniority levels.	• OPG's approach was consistent with leading practices.
	• Documented options with clarity and defined how they may be executed at OPG.	• OPG's approach was consistent with leading practices.
Seek external, independent expertise	• Engaged external parties for independent consultation of sourcing opportunities.	• OPG's approach was consistent with leading practices.
Eliminate infeasible or unattractive options	• Leveraged viewpoints of cross-sectional stakeholder team to evaluate feasibility and attractiveness from multiple perspectives.	• OPG's approach was consistent with leading practices.
	• Decision makers consulted individuals at all seniority levels.	• OPG's approach was consistent with leading practices.

Process elements used for developing the ETS – stakeholder consultations

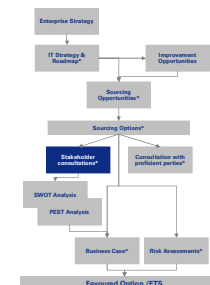
OPG was consistent with leading practices in conducting stakeholder consultations.

Description:

- Stakeholder consultations create an opportunity to achieve relative or absolute improvements in sourcing. To achieve complete visibility in to improvement opportunities, it is advantageous to include representation from the stakeholder groups (historical and potential) most impacted by sourcing arrangements.

Source and Details:

- Details related to stakeholder consultations were contained in presentations to the Steering Committee, IT Council and Working Group, Charter document, Meeting Minutes, and several other sources.



Stakeholder Consultations		
Leading Practices in ETS development	Findings	KPMG's Point of View
Involve stakeholders presently impacted by sourcing arrangement	<ul style="list-style-type: none"> Created numerous groups for consultation. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Involve stakeholders potentially impacted by future sourcing arrangement	<ul style="list-style-type: none"> Created cross-sectional group with representation across business lines and functions. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Seek external, independent expertise to facilitate and educate the consultation process	<ul style="list-style-type: none"> Engaged external parties for independent consultation of sourcing opportunities. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Create common language for discussing sourcing	<ul style="list-style-type: none"> Created a service catalogue, which focuses discussions on services and the associated metrics. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Evaluate stakeholder preferences on behalf of the broader stakeholder community	<ul style="list-style-type: none"> Consideration made for relevant stakeholders, including regulator, public and unions. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Cross-functional, senior approval for major deliverables and decision making	<ul style="list-style-type: none"> Approval for major deliverables (e.g. business case recommendation, board approval) required sign-off from all involved stakeholders. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.

Process elements used for developing the ETS – consultations with proficient parties

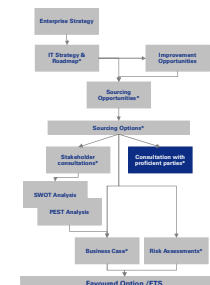
OPG was consistent with leading practices in conducting consultations with proficient parties.

Description:

- Proficient parties are those who have experience, expertise or knowledge of the process for building an ETS and in the decisions associated with the process steps. This consultation provides an opportunity for leveraging expertise for a specific service or task as well validating process outcomes.

Source and Details:

- Documentation relating to the various external assessments and reports provided by independent consulting firms and individuals.
- Peer evaluations include site visits and discussions.



Consultations with Proficient Parties		
Leading Practices in ETS development	Findings	KPMG Point of View
Consult external organization to provide insight on outsourcing leading practices	<ul style="list-style-type: none"> Consultations with outsourcing exemplars in Canada, USA and UK. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.
Consult external organization to provide insight on outsourcing with potential provider	<ul style="list-style-type: none"> Consultations / research on local outsourcing arrangement with client of potential provider. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.
Seek external, independent expertise	<ul style="list-style-type: none"> Retention of external party services for independent consultation. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.
	<ul style="list-style-type: none"> External, independent expertise were used throughout the process for validation and verification type assessments. 	<ul style="list-style-type: none"> OPG’s approach was consistent with leading practices.

Process elements used for developing the ETS – SWOT & PEST

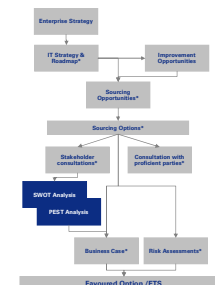
While not using the exact acronyms, OPG was consistent with leading practices in conducting SWOT and PEST analyses.

Description:

- Strength, Weakness, Opportunities and Threat (SWOT) analysis provide a framework for identifying key factors that may or should influence the ETS.
- Political, Economical, Socio-cultural and Technological (PEST) analysis provide a framework to assess various macro level factors that are typical inputs into developing an ETS.

Source and Details:

- OPG improvement opportunities analysis
- OPG’s contract post mortem process



SWOT & PEST		
Leading Practices in ETS development	Findings	KPMG Point of View
Evaluate enterprise SWOT	● Post mortem review of existing contracts (weaknesses and threats).	● OPG’s approach was consistent with leading practices.
	● Development of improvement (strengths and opportunities).	● OPG’s approach was consistent with leading practices.
Evaluate enterprise PEST	● Conducted risk assessments, using two external parties, addressing political, environmental, socio-cultural and technological considerations.	● OPG’s approach was consistent with leading practices.

Process elements used for developing the ETS – risk assessments

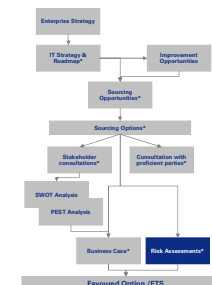
OPG was consistent with leading practices in conducting risk assessments.

Description:

- Risk assessments are used to identify, qualify and quantify risks associated to the options (and opportunities therein) being considered.

Source and Details:

- OPG's project risk register, project charter
- Two Independent risk assessments



Risk Assessments		
Leading Practices in ETS development	Findings	KPMG Point of View
Development of a risk register, which catalogs risks and assigns to each an impact and probability	● Risk assessment performed collaboratively.	● OPG's approach was consistent with leading practices.
Assignment of specific risk mitigation responsibility to individuals	● Documented in risk registry.	● OPG's approach was consistent with leading practices.
Risk assessment of the sourcing options	● Assessment of the viability of the sourcing alternatives based on four categories of risk.	● OPG's approach was consistent with leading practices.

Process elements used for developing the ETS – business case

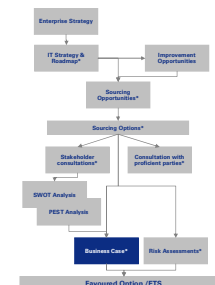
OPG was consistent with leading practices in constructing a business case.

Description:

- The purpose of a business case is to capture and compare alternatives for initiating a project or task. It will also include supporting documentation and analysis such as a risk assessment, financial justification and approval requirements.

Source and Details:

- OPG's ETS business case (approved)



Business case		
Leading Practices in ETS development	Findings	KPMG Point of View
Business case models all feasible sourcing options	<ul style="list-style-type: none"> Business case modeled all feasible sourcing options. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business case values are traceable to the business objectives	<ul style="list-style-type: none"> Business case values were traceable to the business objectives. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business case documents and explains assumptions	<ul style="list-style-type: none"> Business case documented and explained assumptions. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business case provides or links to quantitative calculations	<ul style="list-style-type: none"> Business case referenced source documents of quantitative calculations. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Consideration of qualitative factors	<ul style="list-style-type: none"> Qualitative analysis of key considerations that were difficult/impossible to quantify. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business case uses standard quantities to evaluate among competing options	<ul style="list-style-type: none"> Business case consistently used net present value for option costing. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business case highlights the risks associated with each option	<ul style="list-style-type: none"> Business case highlighted the risk associated with each option. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.
Business approval is granted by a cross-section of senior executives	<ul style="list-style-type: none"> Business approval was granted by a cross-section of senior executives. 	<ul style="list-style-type: none"> OPG's approach was consistent with leading practices.

Process elements used for developing the ETS – sourcing option / ETS

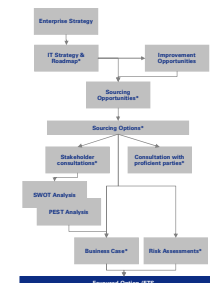
OPG was consistent with leading practices in favouring a sourcing option.

Description:

- An ETS outlines a favoured sourcing option and a plan of execution. It is based on the assumption that a business case has been approved or a favourable sourcing option has been selected.

Source and Details:

- Independent assessments
- OPG’s approved business case

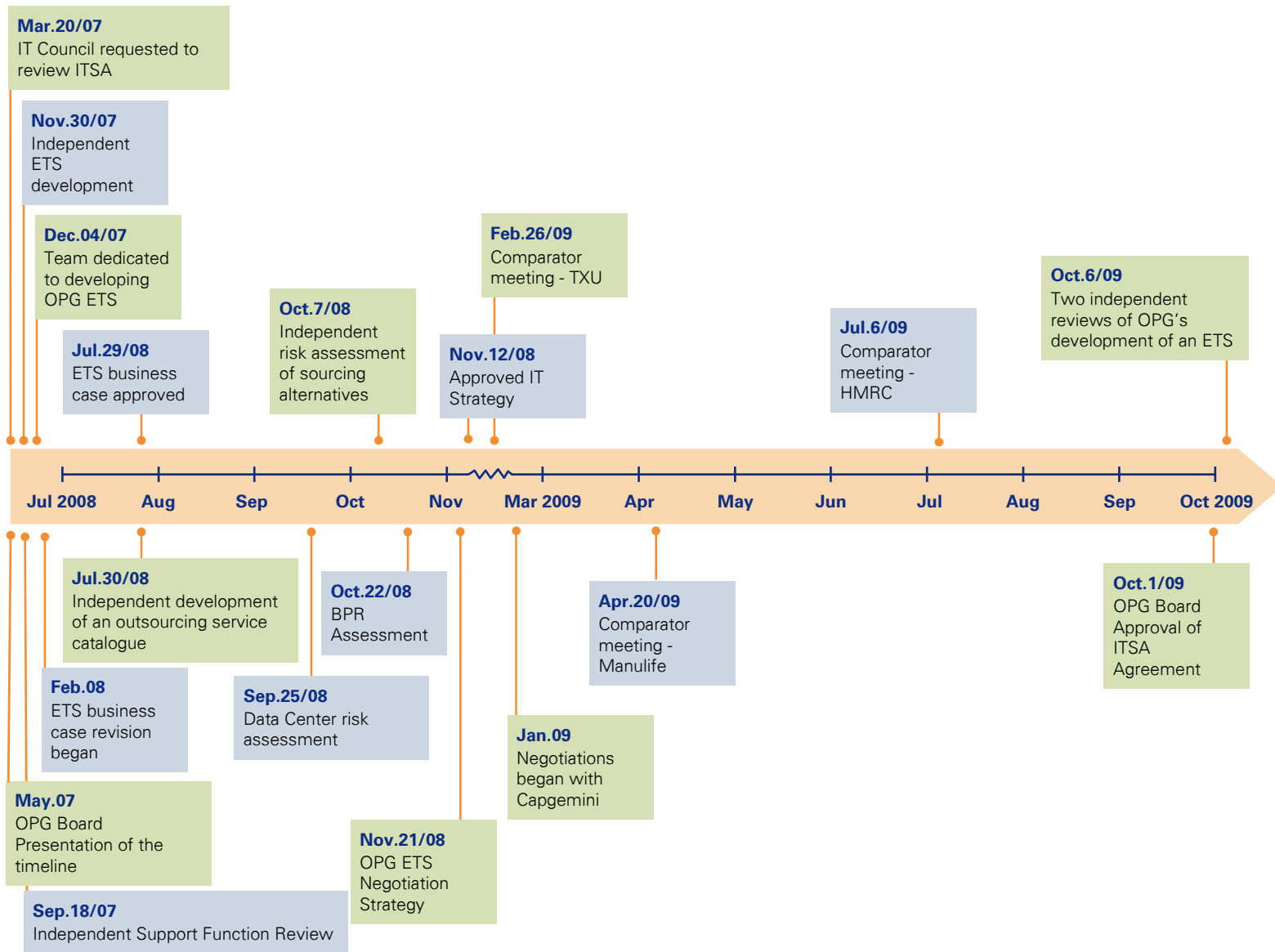


Sourcing Option / ETS		
Leading Practices in ETS development	Findings	KPMG Point of View
Commitment of key stakeholders in favouring the option	● ETS was endorsed by the Board of Directors, IT Council, Steering Committee and several other OPG groups.	● OPG’s approach was consistent with leading practices.
Concurrence of the option’s favourability by an external party	● Third party concurrence was documented.	● OPG’s approach was consistent with leading practices.
Validation of sourcing option with potential provider	● Validation was made with the potential provider who committed to a negotiation timeline.	● OPG’s approach was consistent with leading practices.
Alternate sourcing option identified and validated	● Contingency plans had been documented in the event a satisfactory contract could not be achieved.	● OPG’s approach was consistent with leading practices.

Supporting analysis to key findings

Major activities OPG conducted for the development of their ETS

The timeline of major activities that OPG undertook as part of the development of their ETS are depicted below in chronological order.



Appendix



1. Reference material

Our findings and the contents of this report are based on the documents reviewed and interviews listed to the right.

Documentation reviewed

- Scan of Boguski Letter to Bonner 20081128.pdf
- Everest_OPG Negotiation Strategy_FINAL_20081121.ppt
- Everest OPG ITO End of Term Strategy_vFINAL 2007Dec12.ppt
- ETS Business Case Summary Final 20081127 1422.doc
- ETS Business Case Summary - Attachments Final 20081127 1431.doc
- End of Term Charter V09 20080729-3 FINAL.doc
- Contract End of Term - Steering Committee #1 20070822.ppt
- Board Recommendation Cover - 2009 ITSA 20090921 (final).doc
- Appendix 2 - Resolution 20090921 (final).doc
- Appendix 1 - Key Provisions 20090921 (final).doc
- 4.2 Status Update - IT Outsourcing Contract End-of-Term - V1.doc
- 3.1 OPG IT Outsourcing Contract End of Term Status Update 20.ppt
- 3.1 OPG IT Outsourcing Agreements End of Term Status Update .ppt
- 2009 ITSA Approval - Background and Strategy 20090921 (final).doc
- 2.2 OPG IT Outsourcing Contract End of Term - Final.ppt
- 2.1 OPG IT Outsourcing Contract End of Term Recommendation - .ppt
- IT Council Briefing 20090417 - SM Speaking Notes v3.doc
- ITC Action 6.2 Update - OPG IT Outsourcing Contract End of T.ppt
- Project Cygnus - EC Capgemini Update 20080306 Final.ppt
- Project Cygnus - Steering Committee #2 20080220 - Final (wit.ppt
- Working Team (status meeting minutes)
- IT ETS Risk Register Oct. 31 INCLUDING LR SM.xls
- 5 Year Information Technology Strategy R00 Final November 12 2008 rev 2 - EXTERNAL.pdf
- Draft New ITSA-MB1.doc
- DeltaViewMB1.doc

Interviews conducted by KPMG with OPG personnel

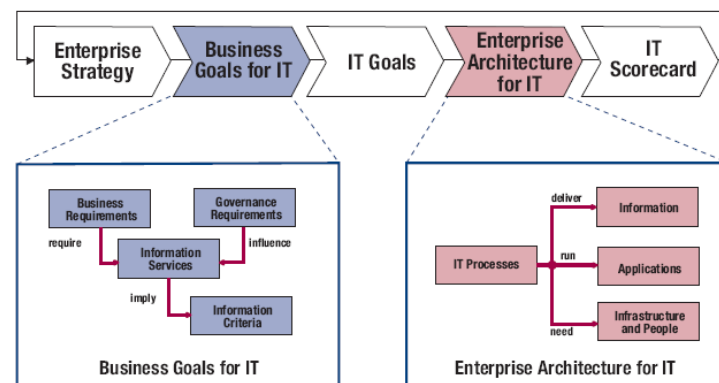
- Rob Boguski, Vice President, Business Services & Information Technology – 0.5hr, 2009/10/07
- Stephen Mills, Director – Strategic Partnerships, Business Services & IT – 0.5hr, 2009/10/08
- Gwen Keene, Business Manager, Corporate Supply Chain - BS&IT – 0.5hr, 2009/10/08
- Mike Borsch, Director IT Services – 0.5hr, 2009/10/08

2. Industry leading practices

COBIT is one of several frameworks used in KPMG's consideration toward leading practices.

Further to KPMG's experience and knowledge in developing an end of term strategy, and more broadly a sourcing strategy, other industry leading practices confirm this approach.

- Control Objectives for Information and Related Technology (CobIT) is a well recognized framework for assessing IT performance and controls. To further demonstrate the importance of industry practices in developing a strategy CobIT highlights the importance and linkage between an organizations enterprise (or business) goals and IT, as depicted to the left. Further detail of the specific control is CobIT Domain Plan and Organise (PO), control 1.2 Business IT-Alignment.
- The Software Engineering Institute (SEI), also has a well recognized industry practice for assessing maturity and has published a sourcing maturity model – The eSourcing Capability Model for Client Organizations. Within the document it defines five practices to developing a sourcing strategy. They include:
 - Str01, Sourcing Sponsorship, Establish management sponsorship for sourcing
 - Str02, Sourcing Constraints, Identify the constraints that impact the client organization's potential uses of sourcing
 - Str03, Potential Sourcing Areas, Decide to what extent sourcing may be relevant to the client organization
 - Str04, Sourcing Objectives, Define, align, and document sourcing objectives
 - Str05, Organizational Sourcing Strategy, Define, communicate, and maintain the sourcing strategy of the client organization



Source: [Control Objectives for Information and Related Technology version 4.1]

3. Interview questions

Outsourcing Renewal Strategy (ETS)

- How was the ETS aligned to your corporate strategy?
 - What inputs used in developing the ETS?
 - What objectives did these inputs provide in the development of the ETS (e.g. cost reduction, service definition)?
- What changes have occurred at OPG that impacted the ETS?
- What changes have occurred at Capgemini / NHSS that impacted the ETS (e.g. ownership structure/incentives, risks, capabilities/technology, cost structure, other)?
- What non-financial and non-technical considerations impacted the development of OPG's ETS (e.g. cultural, political)?
- What length of contract is desirable and why?

Process

- Have services / positions been evaluated since the last contract as strategic or not (e.g. core competencies of OPG)?
- In the process that was undertaken, who was involved at OPG?
 - What question set was posed? (General or specific to service provision)
- What were the findings from the ETS development process (e.g. leading practices, improvement opportunities)? Did any themes emerge?
- How was it determined that the ETS process was exhaustive in breadth (e.g. explore alternate options)?
- How was it determined that the ETS process was exhaustive in depth (e.g. quantitative and qualitative depth of explorations)?

Contract Post Mortem

- In the previous contract, what were the identified pain-points relating to:
 - Costs (particularly unbudgeted/unexpected costs)
 - Quality
 - Scope
 - Timing
 - Service Performance
 - Flexibility
 - Constraints / Limitations
- What measures were taken to compensate for the aforementioned pain-points?
- How successful were you in achieving the IT effectiveness and efficiency sought?
 - Performance measurement
 - Performance
 - Cost
 - Operational transparency
 - Continuous improvement
- Of the aforementioned, what measures were designed into the ETS?

Leading Practices

- What other sources were consulted/referenced in the ETS process? (e.g. alternate providers, independent consultants, peers)
- How did you determine the leading practices
- Have leading IT practices factored into ETS development (e.g. benchmarking)

4. Glossary of acronyms

CobIT – Control Objectives for Information and related Technology

DP – Decision Point

ETS – End-of-Term Strategy

IT – Information Technology

ITSA - Information Technology Services Agreement

NHSS – New Horizon System Solutions

OPG – Ontario Power Generation

PEST – Political, Economical, Socio-cultural, Technological

PO – Plan & Organize (a CobIT term)

SEI – Software Engineering Institute

SWOT – Strengths, Weaknesses, Opportunities, Threats

UK – United Kingdom

USA – United States of America

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1 **UNDERTAKING JT2.40**

2
3 **Undertaking**

4
5 To add a "total" column to the table in response to board staff interrogatory 124, removes
6 the "2007" column, and cross-add from 2008 to 2015 to the "total" column.
7

8
9 **Response**

10
11 A modified version of Ex. L-6.8-1 Staff-124, Chart 1 is provided below. In addition to
12 removing the "2007 column" and incorporating the requested "total" column, the modified
13 chart also reflects the updated forecast of 2014 - 2015 pension and OPEB costs
14 presented in Ex. L-6.8-1 Staff-112.
15

16 In the EB-2010-0008 Decision With Reasons (page 91), the OEB approved the
17 continued use of the accrual method for determining supplementary pension plan
18 ("SPP") and other post retirement benefit ("OPRB") costs in setting OPG's payment
19 amounts. The circumstances with respect to OPG's SPP and OPRB costs and their
20 recovery have not changed since EB-2010-0008.
21

22 On an accrual basis, SPP and OPRB costs are incurred and recognized in accordance
23 with generally accepted accounting principles when the related employee service is
24 considered to be rendered and the benefit is considered to be earned, not when the
25 actual benefit payments are made to retirees in the future. It is the earning of the benefit
26 which results in the cost. Reflecting these costs in payment amounts at the time the
27 costs arise results in an appropriate matching of costs and benefits, thereby avoiding
28 intergenerational equity issues as consistent with generally accepted regulatory
29 principles.

1
 2
 3

**Modified Chart 1
 OPRB and SPP Amounts¹**

<i>\$M</i>	2008 Actual²	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Plan	2015 Plan	Total
Actual/Projected Costs	157.9	120.4	136.1	175.6	203.0	231.3	184.6	192.9	1,401.7
Recoverable Costs	119.2	162.5	161.0 ³	173.2 ⁴	203.0	231.3	184.6	192.9	1,427.7
Actual/Projected Benefit Payments	44.2	43.1	43.4	48.4	57.9	61.2	64.9	71.3	434.4
Recoverable Costs Less Actual/Projected Benefit Payments	75.0	119.4	117.6	124.8	145.1	170.1	119.7	121.6	993.3

4

¹ Amounts for 2008-2013 exclude those for the newly regulated hydroelectric assets; amounts for 2014 and 2015 include them. Amounts for all years do not include those related to the Nuclear Waste Management Organization.

² Amount for recoverable costs represents 9/12 of the annual amount, as the EB-2007-0905 payment amounts came into effect on April 1, 2008. Amounts for actual costs and benefit payments are for the full year.

³ Represents 12/21 of the sum of 2008 and 2009 amounts, as the EB-2007-0905 payment amounts became effective April 1, 2008 and applied throughout 2010.

⁴ Represents 2/21 of the sum of 2008 and 2009 amounts, plus 10/12 of the 2011 amount, as the EB-2010-0008 payment amounts were effective March 1, 2011