ONTARIO POWER GENERATION INC.

REVIEW OF COST ALLOCATION METHODOLOGY FOR CENTRALIZED SERVICES AND COMMON COSTS

Prepared by

HSG Group, Inc.

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Section I. Executive Summary

HSG Group, Inc. is pleased to submit this Report to Ontario Power Generation Inc. ("OPG") on our Review of OPG's Cost Allocation Methodology for Centralized Services and Common Costs ("Review").

OPG is primarily organized by generation technology into Business Segments (i.e., Nuclear, Hydroelectric-Thermal - Table 1). Many of the services required by the Business Segments are provided by Centralized Support and Administration ("CSA") departments (Table 2). In addition, OPG incurs Common Costs on behalf of the Business Segments and Service Providers, comprising i) centrally held costs which are primarily labour-related costs (e.g., Pension and OPEB) and insurance premiums, and ii) hydroelectric / Ottawa St. Lawrence ("OSL") shared engineering and operating costs. Together the CSA costs and the Common Costs are referred to as Centralized Services and Common Costs ("CSCC").

The purpose of OPG's cost allocation methodology is to distribute the CSCC among the Business Segments and generating stations[1], using direct assignments and cost drivers selected based on cost causation. The EB-2010-0008 Decision With Reasons accepted OPG's cost allocation methodology and applied the results in setting OPG's approved payment amounts for generation.

HSG Group was engaged by OPG to perform this Review to evaluate if OPG's cost allocation methodology for CSCC costs continues to meet best practices and precedents established by the OEB, including the 3-prong test, in view of OPG's Business Transformation organizational changes.

OPG's generating Business Segments are also charged cost-based Asset Service Fees ("ASFs") for the use of certain assets owned and operated by OPG. A portion of the costs charged is included in the CSA costs. HSG Group was engaged to evaluate the ASF methodology as well.

Our Review included the following steps:

- Understand OPG's business, especially changes from 2010;

[1] The term "stations" is used throughout the report to refer to a generating station for the nuclear and thermal operations and, unless specifically distinguishing between the currently unregulated facilities expected to be regulated and those subject to a supply agreement, to a plant group consisting of a number of individual stations for the hydroelectric operations.

- Review and evaluate OPG's cost allocation methodology including overall design, use of direct assignment, selection of cost drivers and documentation;
- Review the model developed by OPG to implement the methodology;
- Review and evaluate OPG's compliance with the 3-Prong Test, including surveying and interviewing Business Segments and service providers; and
- Review and evaluate the methodology for ASFs.

Based on our Review, which provided sufficient information to support our conclusions, we conclude that OPG's cost allocation methodology is appropriate for OPG, and distributes costs using direct assignments and cost drivers supported by principles of cost causality, consistent with best practices and OEB, including the 3-prong test.

We also conclude that:

- OPG's model correctly calculates the amount to be distributed to each Business Segment and station in accordance with the methodology;
- OPG's use of cost-based ASFs to charge generating Business Units for the use of certain Information Technology ("IT") assets, joint-use hydro-electric properties (including dams) and buildings is reasonable based on the operation of OPG's business and the principles of cost causality; and
- The transfer of employees from generation Business Segments to CSA departments as part of OPG's Business Transformation, did not cause any cost shifts between Business Segments; the costs for the transferred employees have been directly assigned to the Business Segments, which they continue to support.

HSG Group recommended changes to the cost drivers selected for several activities. OPG accepted the changes and will implement them in its Business Plan 2014-16. The effect of these changes in 2014, based on the current business plan, would not be material.

HSG Group recommended changes to OPG's cost allocation model to make the iterative calculation process (which is unavoidable due to the use of internal allocators) more efficient. The effect of these changes on the total cost distributed to any Business Segment was not material. OPG is evaluating these recommendations.

Section II. INTRODUCTION

HSG Group, Inc. ("HSG Group" or "we") is pleased to submit this Report to Ontario Power Generation Inc. ("OPG") on our Review of OPG's Cost Allocation Methodology for Centralized Services and Common Costs ("Review").

HSG Group was engaged by OPG to perform this Review to evaluate if OPG's cost allocation methodology for the cost of Centralized Services and Common Costs ("CSCC") continues to meet best practices and precedents established by the Ontario Energy Board ("OEB"), in view of OPG's Business Transformation organizational changes. CSCC includes the cost of Centralized Support and Administrative ("CSA") services, and Common Costs incurred on behalf of Business Segments and Service Providers, comprising i) centrally held costs which are primarily labour-related costs (e.g., Pension and OPEB) and insurance premiums, and ii) hydroelectric / Ottawa St. Lawrence ("OSL") shared engineering and operating costs.

OPG's generating Business Segments are also charged cost-based Asset Service Fees ("ASFs") for the use of certain assets owned and operated by OPG. A portion of the costs charged is included in the CSA costs. HSG Group was engaged to evaluate the ASF methodology as well.

Our evaluation included the following criteria:

- Is the methodology appropriate for OPG based on current and anticipated business and regulatory considerations?
- Does the methodology continue to meet best practices and precedents established by the OEB, including the 3-prong test for affiliate transactions[2]?
- Has the methodology been implemented correctly in the models developed by OPG?
- Are the allocators selected by OPG appropriate and consistent with prior allocators?
- Has the methodology been appropriately applied, considering business and organizational changes at OPG?
- Is OPG's methodology for computing ASFs appropriate?

[2] EBRO 493/494 Decision With Reasons describes the three-pronged test. The three prongs are identified and discussed in Section VI, Part 0

In this Report "regulated" and "unregulated" refer only to regulation by the OEB with respect to the payment amounts OPG receives with regard to its generating stations.

OPG's cost allocation methodology has been reviewed in the past. In *Report on Cost Allocation Methodology Review* dated April 30, 2006 ("2006 Report"), the independent consulting firm R. J. Rudden Associates, Inc. stated, "The methodology used by OPG to distribute the CSA Costs separates the CSA Costs between regulated and unregulated Business Units in a manner that meets current best practices and is consistent with cost allocation precedents established by the OEB". The 2006 Report was filed in EB-2007-0905 as Exhibit F4-T1-S1.

In *Review of Centralized Support and Administrative Cost Allocation Methodology* dated March 5, 2010 ("2010 Report"), the independent consulting firm Black & Veatch Corporation reaffirmed the findings in the 2006 Report, and also stated, "OPG's allocated Centralized Support and Administrative services costs meet the requirements of the OEB's 3 prong test." The 2010 Report was filed in EB-2010-0008, Exhibit F5-2-1. The EB-2010-0008 Decision With Reasons accepted OPG's cost allocation methodology and applied the results in setting OPG's approved payment amounts for generation.

HSG Group is an independent consulting firm specializing in electric and gas utility rate and regulatory matters. Howard Gorman, the President of HSG Group, performed this Review. He was the lead consultant in performing the reviews for the 2006 Report and the 2010 Report. His professional experience is presented in Exhibit D.

Section III. ORGANIZATION OF ONTARIO POWER GENERATION

A. Service Recipients- Business Segments

Ontario Power Generation Inc. is wholly owned by the Province of Ontario. Its principal business is the generation and sale of electricity in Ontario and to interconnected markets. OPG is primarily organized by generation technology. The "Service Recipients" are the Business Segments that receive CSA services, and to which the costs of those services as well as Common Costs are distributed; the Service Recipients are listed in Table 1.

Table 1: Service Recipients- Business Segments Receiving CSA Services and Centrally Held Costs	
Nuclear Generation	Regulated *Nuclear Waste Management is a separate segment for financial reporting but included with Nuclear Generation in this Review*
Hydroelectric Generation	Regulated (A)
Hydroelectric Generation	Unregulated (A)
Thermal (Fossil) Generation	Unregulated (A)
Other Business (Non-generation)	Unregulated *Includes Energy Markets which supports the generation businesses and performs other activities as well*
(A) The Hydroelectric- Regulated, Hydroelectric- Unregulated and Thermal generation business segments are operated together as the Hydro Thermal Operations ("HTO") group. They are represented separately in OPG's cost allocation to allow better matching of cost drivers with cost causation.	

B. Service Providers

Many of the services necessary to support the Business Segments are performed by centralized Service Provider groups within OPG. These groups are listed in Table 2. Exhibit A presents the departmental budgets for 2014 for the CSA Service Providers. Table 2 also includes Common Costs.

Table 2: Service Providers and Common Costs

Group	Primary Departments or Services	2014 Budget ($ millions)	% Total
BAS – IT Outsourcing	Infrastructure Management, Application Management, Data Centre, Service Management, Data & Voice Network	$72.8	12.1%
BAS- IT Work Programs	Application Software, Telecom, IMO Services, IM Projects, Hardware, Non-capital projects	52.6	8.8%
BAS – Supply Chain	Nuclear Supply Chain, Corporate Supply Chain Corporate Supply Chain and HTO Supply Chain	69.3	11.6%
BAS - Real Estate and Business Services	Real estate services, Enterprise services, Facility Services, Fleet services	124.6	20.8%
People and Culture	Training (Fleet operations, Fleet support services, Fleet maintenance, Fleet simulator), Total rewards & solutions, Safety & wellness, Talent management, Employee & labour relations, Business partnerships	117.2	19.5%
Finance	Finance and controllership, Corporate financial processing, Treasury, Investment planning, Assurance (Internal audit and Nuclear oversight), Fund management, CFO office	62.2	10.4%
Corporate Centre	Executive, Law, Corporate relations & communications, Executive operations, Corporate business development, Strategic initiatives, Business transformation	59.0	9.8%
CO&E	Integrated revenue planning, Market operations, Term trading & outage management, Fuels, Commercial services, Bruce lease management, Environment, Regulatory affairs, OEB costs	42.0	7.1%
Total CSA Costs		**599.7**	**100.1%**
Hydroelectric / OSL Shared		76.6	
Centrally held costs in OPG's cost allocation model- primarily labour-related costs, insurance premiums		479.7	
Total Common Costs		**556.3**	
Total CSCC (CSA costs plus Common Costs)		**$1,156.0**	

BAS = Business & Administrative Services; CO&E = Commercial Operations & Environment

Starting in 2012, OPG implemented a Business Transformation, in which employees who had reported to generation Business Segments were transferred to CSA departments. As a result, the total dollars in the CSA department budgets, and in OPG's cost allocation, increased. However these costs have been directly assigned to the Business Segments that are supported, and the transfer of employees as part of OPG's Business Transformation did not cause any costs shifts between Business Segments. The increase in costs allocated to a Business Segment in the allocation process was offset by an equal decrease in directly incurred costs. The Business Transformation is discussed further in Section V Part A. A summary of the effect of the Business Transformation on the 2013 Budget for Service Recipients and Service Providers is presented in Exhibit C.

Section IV. Summary of Review Approach

A. Overview of OPG's Cost Allocation Methodology

Most of the departments in the Service Provider groups support more than one Business Segment. For those departments, it is necessary to distribute the cost of the department's resources among the Business Segments. In many cases, specific resources (individual employees and specific costs) can be identified to a particular Business Segment or station, or the portions of resources (employees' time and other costs) that are spent on each Business Segment or station can be estimated. In these cases, there is a direct relationship between the department's costs and the Business Segments or stations that cause the costs to be incurred.

In addition, the Common Costs reflecting centrally held labour-related costs and insurance premiums are incurred on behalf of all the Business Segments and Service Providers, and Common Costs reflecting hydroelectric / OSL shared costs are incurred primarily on behalf of the hydroelectric plants.

In cases where neither specific identification nor estimation of costs to a Business Segment are possible, it is necessary to allocate the costs of the resources to the Business Segments or stations using cost drivers. A cost driver is a formula for sharing costs among those who cause the costs to be incurred. The use of cost drivers to allocate costs of shared resources conforms to regulatory precedent and is widely accepted.

The selection of cost drivers should be based on cost causation, with consideration to the practicality of obtaining the data necessary to develop the allocator, the stability of the data over time and whether additional data would materially affect the result of the cost allocation.

The types of cost drivers used typically include:

- Physical (e.g., full-time employees or FTEs; LAN IDs)
- Financial (e.g., labour costs; total OM&A cost;)
- Blended (e.g., capital plus OM&A); and
- Internal (e.g., BAS costs allocated for Finance are re-allocated to Business Segments and stations in proportion to the overall allocation of Finance costs).

The criteria for the selection of cost drivers, and the types of cost drivers used by OPG, have remained the same in the 2006 Report, the 2010 Report and this Report.

B. Description of Tasks

Our Review comprised the tasks listed in Table 3.

Table 3: Tasks	
Task	**Description**
Task 1	Understand OPG's business and organization, and the departments included in CSA Costs, and identify changes from 2010.
Task 2	Review and evaluate the methodology used by OPG to distribute 2014 CSA costs, as well as Common Costs, including overall design, use of direct assignment, selection of cost drivers and documentation.
Task 3	Review the model developed by OPG to implement the methodology.
Task 4	Review and evaluate OPG's compliance with the 3-Prong Test.
Task 5	Review Asset Service Fee methodology.
Task 6	Prepare Report on the Review, including conclusions and recommendations.

C. Scope

Consistent with standard practice for independent review consulting assignments, HSG Group relied on the genuineness and completeness of all documents (including spreadsheets) presented to us by OPG and we accepted factual statements made to us by OPG (e.g., budget dollars; specific time assignments), subject only to overall reasonableness considerations and actual contrary knowledge, but without independent confirmation.

The total CSA Costs for 2014 in OPG's Business Plan 2013-2015 are budgeted to be $599.7 million. This amount was the basis for our judgments based on materiality in this Report.

Section V. OPG's Cost Allocation Methodology

A. Understand OPG's business and organization (Task 1)

The purpose of this task was to understand how OPG is organized, to identify the departments included in CSA Costs, and to identify changes from 2010. Information was obtained from OPG public and internal documents and discussions with OPG personnel.

OPG's business and organization are discussed in Section III. The Service Recipients for the CSA services are the Business Segments identified in Table 1; the Service Providers also support each other (e.g., BAS supports Finance and People & Culture). The Service Providers are the groups and departments identified in Table 2.

Common Costs includes centrally held labour-related costs that are applicable to all Business Segments and Service Recipients (approximately 89% of Common Costs), insurance premiums approximately (6%) and other items (approximately 5%).

There were no organizational changes from 2010 that would indicate the cost allocation methodology is not appropriate or should be revised.

Business Transformation

Starting in 2012, OPG implemented a Business Transformation, in which employees who had reported to operating Business Segments (e.g., Nuclear) were transferred to the CSA Service Providers (e.g., Finance). The purpose of the Business Transformation was to create a more center-led organization. OPG believes that the center-led organization will provide opportunities for cost-saving by facilitating standardization and cross-training, and making it easier to share resources and achieve economies of scale.

A summary of the effect of the Business Transformation on the 2013 Budget for each of the Service Recipients and Service Providers is presented in Exhibit C.

As a result of the Business Transformation, the total dollars in the CSA departments, and in OPG's cost allocation, have increased; but the costs for individuals who were transferred have been directly assigned in the cost allocation to the Business Segments they support. The activities performed by the transferred employees did not change, only their reporting relationships. The Business Transformation did not cause any costs shifts between Business Segments. The increase in costs allocated to a Business Segment in the allocation process was offset by an equal decrease in directly incurred costs.

Some employees of CSA groups who at present provide services to only one Business Segment and are directly assigned to that Business Segment, will, in the future, provide services to more than one Business Segment. OPG believes that it will be possible to allocate their time appropriately because much of the work will be project-based, and management will be able to estimate their time accurately.

The allocation of Common Costs is not affected by Business Transformation.

B. Review and evaluate OPG's cost allocation methodology (Task 2)

In this task, we review and evaluate OPG's cost allocation methodology for CSA costs, and Common Costs, including overall design, use of direct assignment, selection of cost drivers and documentation.

The purpose of the methodology is to distribute CSA Costs, and Common Costs, among the Business Segments and generating stations. Information was obtained from the following sources:

- Discussions with OPG personnel
- Review of 'Allocation Templates' for each department, discussed below
- Review of the methodology for consistency with that presented by OPG in EB-2010-0008.
- Review of the document "OPG Revenue and Cost Assignment and Allocation Methodology", draft provided by OPG as of April 18, 2013.

The costs are distributed based on the following relationships:

- Direct assignment to Business Segment or to generating station
- Time and cost basis, using actual records or estimates
- Allocation using cost drivers; the primary cost driver types used by OPG are: OM&A and Capital Blend; FTEs; Labour costs; LAN IDs

If the relationships identified above do not have sufficient detail to enable costs to be distributed to stations, a re-distribution is needed. For example, certain Business & Administrative Services costs are distributed to the Business Segments, then re-distributed to the stations based on the users of the applications.

Design

In evaluating the design of OPG's methodology, we considered the following:

- *Does the methodology reflect how the business is organized and operated?*

Evaluation: OPG's methodology follows its organizational structure, in which the majority of the CSA services are integral to running the Business Segments (e.g., and human resources and information technology), and Business Segments receive many of their necessary support services from CSA departments rather than decentralized resources reporting to the business units, however a significant portion of these resources are located at business unit sites. This permits extensive use of direct assignment of the CSA costs.

Most of the Common Costs are centrally held labour-related costs and can also be directly assigned.

In addition, the use of internal allocators to re-distribute costs initially distributed to CSA Service Provider departments (e.g., Finance), is appropriate because the purpose of the CSA groups is to support the Business Segments and stations.

- *Are sufficient resources devoted to the cost allocation process? Do management and the users understand and support the process*?

Evaluation: OPG's cost allocation process has the support of senior management including the assignment of dedicated resources to the process. The heads of the organizations that HSG Group interviewed are knowledgeable about the cost allocation methodology and understand how to work within it to meet the needs of their businesses. The Service Recipients can, and do, challenge and influence decision-making by Service Providers regarding the services to be provided and the costs to be incurred, through forums such as budget meetings and Executive Leadership Team meetings. The Service Recipients are aware of how their decisions (regarding services provided by the CSA groups) affect their costs.

- *Is sufficient information gathered from reliable sources to support specific identification, time estimation and selection of appropriate cost drivers?*

Evaluation: Consistent with OPG's approach in EB-2010-0008, the methodology relies on the judgments of department and Business Segment managers to make specific identification of labour and non-labour costs, and time estimation. These are the people in the best position to determine how resources are used. Representatives of the Controller's department that support each Business Segment, as well as representatives of Business Segments, review the resulting estimates.

The department heads that we interviewed believe the cost drivers selected are appropriate, and they have the opportunity to review and challenge them if they believe necessary. Obtaining input from the people closest to the resources improves the quality of decisions as to cost drivers.

<u>Conclusion on Design</u>: OPG's methodology reflects how OPG is organized and operated. OPG has devoted substantial and sufficient resources to the cost allocation process. The process is understood and supported by management and the users. Sufficient information is gathered from reliable sources to support specific identification, time estimation and selection of cost drivers.

Use of Direct Assignment

- *Is the use of direct assignment appropriate?*

<u>Evaluation</u>: Direct assignment is preferable to allocation because it is means there is a direct relationship between the costs incurred and the Business Segment or Station causing it to be incurred. OPG informed us that costs are directly assigned whenever possible; Table 4 shows that approximately 80% of the total costs to be distributed (CSA costs incurred by Service Providers plus Common Costs) are directly assigned.

<u>Conclusion on Direct Assignment</u>: The OPG methodology uses direct assignment wherever possible.

Selection of Cost Drivers

- *Are the cost drivers selected by OPG appropriate*?

<u>Evaluation</u>: Exhibit B lists the cost drivers selected by OPG for those instances where less than all costs could be distributed by direct assignments. OPG's cost driver selections are appropriate based on the nature of the costs, are consistent with the principles stated in the 2006 Report and re-affirmed in the 2010 Report, and are consistent with the allocators used in OPG's presentations in EB-2007-0905 and EB-2010-0008.

In the cost allocation methodology, Service Provider department budgets are broken into many detailed activities, and labour and non-labour costs are assigned or allocated separately; greater detail permits OPG to distribute costs based on direct assignment or allocation, in a manner that most closely reflects cost causation.

OPG has standardized the allocators used in the cost allocation methodology, which promotes transparency and consistency.

HSG Group recommended changes to the cost drivers selected for several activities. OPG agreed that the allocators that we recommended were more appropriate based on cost causality, and will implement them in its Business Plan 2014-2016. The effect of these changes in 2014, based on the current Business Plan 2013-2015, would not be material. The 2013 budget was completed before our Review, therefore the changes were not made in 2013 in order to make actual results comparable to budget; we agree with this treatment.

<u>Conclusion on Selection of Cost Drivers</u>: The cost drivers used by OPG are appropriate based on the principles and selection criteria discussed in this Report and on the operation of OPG's business, and are consistent with the allocators used in EB-2007-0905 and EB-2010-0008 which were accepted by the OEB.

- *Is the documentation for the methodology adequate? Does it support the implementation of the methodology?*

<u>Evaluation</u>: The document "OPG Revenue and Cost Assignment and Allocation Methodology" is a detailed description of OPG's cost allocation methodology. The document presents the information in a standardized format, tailored to the many different areas it addresses. Because people with many perspectives participate in the CSA cost allocation process, this is important.

The 'Allocation Templates' developed for each department provide excellent documentation of the activities performed by the department, the budgeted resources for that activity, and the rationale for directly assigning or allocating the cost of those resources. The 'Allocation Templates' provide a useful link between the inputs to the model and the results.

<u>Conclusion on Documentation of the Methodology</u>: OPG's documentation for its cost allocation methodology provides a reasonable explanation of the methodology, promotes consistent application of principles and makes the methodology easier to adapt as the business changes. OPG has developed an interface for users of the model, which encourages consistency and completeness.

Overall Conclusion on OPG's Cost Allocation Methodology for CSA Costs and Common Costs

The cost allocation methodology used by OPG for CSA costs and for Common Costs (together, CSCC) reflects how the company is organized and operated. The process is understood and supported by management and the users. Sufficient information is gathered from reliable sources to support specific identification, time estimation and selection of cost drivers. Direct assignment is used wherever possible. The cost drivers selected and implemented for OPG's Business Plan 2013- 2015 are appropriate based on the principles and selection criteria discussed in this Report and on the operation of OPG's business, and produce a result that fairly allocates the cost of the CSA groups and Common Costs.

The documentation prepared by OPG explains the methodology, promotes consistent application of principles and makes the methodology easier to adapt as the business changes. The 'Allocation Templates' provide excellent documentation of the implementation of the methodology, including the rationale for the direct assignments and allocations selected.

HSG Group believes that OPG's cost allocation methodology is appropriate for OPG, and it allocates costs based on cost drivers / allocation factors supported by principles of cost causality, consistent with best practices and OEB precedent.

C. Review the model developed by OPG to implement the methodology (Task 3)

HSG Group reviewed a working copy of the Cost Allocation Model ("CAM") developed by OPG. The purpose of the CAM is to automate calculations, to make it easier to update information and to support compliance with the cost allocation methodology. The CAM comprises numerous Excel® spreadsheets, with a user interface to manage the input and output process; the inputs are now directly accessed from OPG's accounting system in order to reduce the potential for input errors.

Our review included tracing the inputs to the CAM back to the Allocation Templates; confirming all calculations; and reviewing the logic of the CAM to determine if it reflects OPG's cost allocation methodology. Based on our review, we conclude the following about the CAM:

- The CAM faithfully reflects OPG's cost allocation methodology.
- Inputs from the Allocation Templates are properly reflected in the CAM.
- The CAM correctly calculates allocation percentages for external and internal allocators. The use of an iterative process is reasonable due to the use of internal allocators and the need to re-allocate some of the costs (i.e., costs that are allocated from one CSA department to another must be re-allocated to the Business Segments).

However the model and the calculations could be more efficient, and we have provided our suggestions to OPG on doing so.

- The CAM correctly calculates the amount to be allocated to each Business Segment and each station, based on the inputs and the methodology.

D. Summary of Direct Assignments and Cost Drivers Selected- Exhibit B

This Section describes Exhibit B, which shows how the cost of each major service performed by the CSA Service Provider departments is distributed to the Business Segments and to the stations.

Column A lists the CSA Service Providers and the major services they provide to the Business Segments.

Column B shows each activity's percentage of the 2014 departmental budget. Each department sums to 100%.

Columns C-F show how departmental costs are distributed to the Business Segments and the stations. If a portion of costs are directly assigned to one or more Business Segments or stations, Column C shows the direct assignment method, and Column D shows the cost as a percentage of the 2014 budget for the Service Provider. The primary direct assignment methods listed in Column C are:

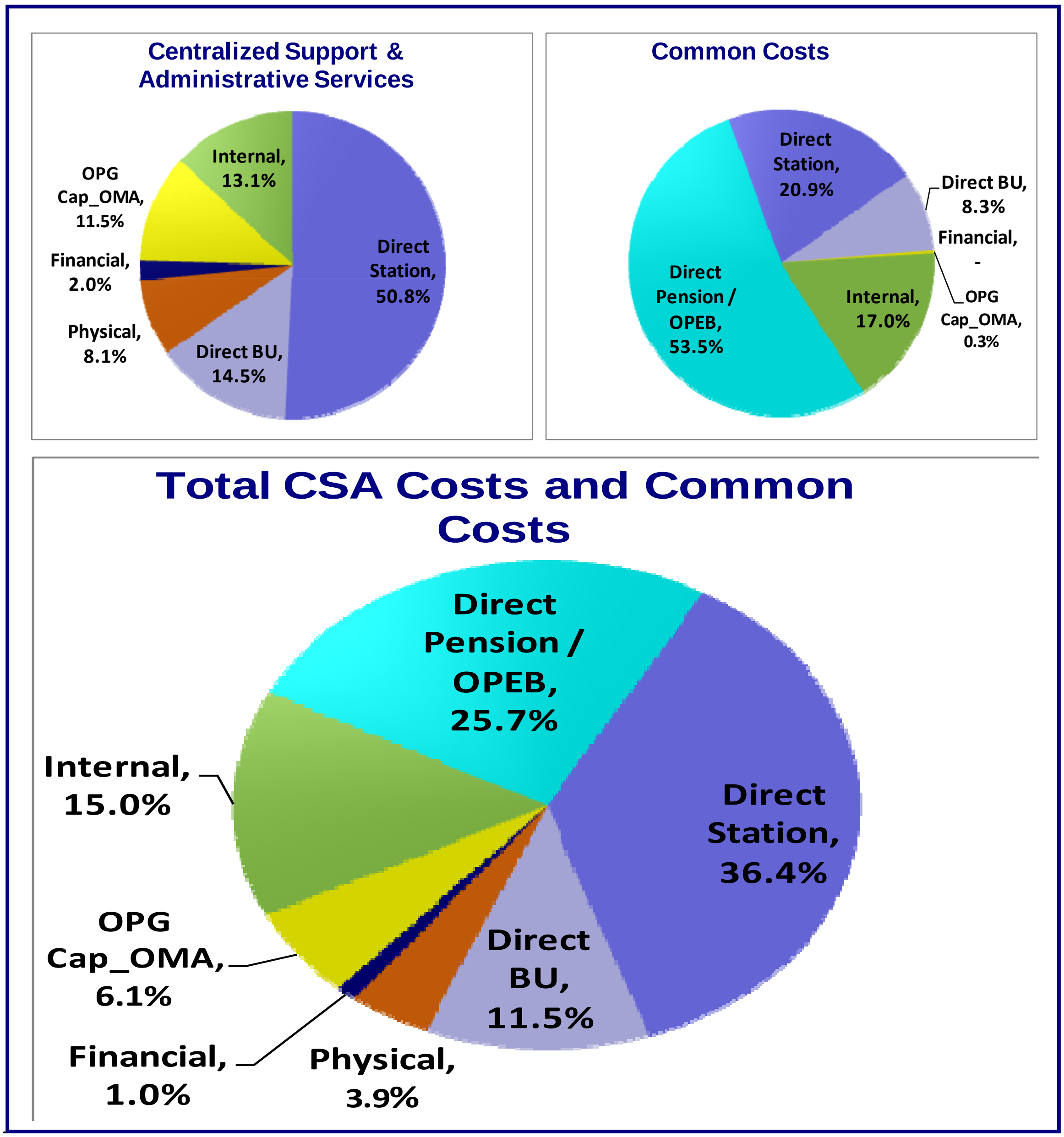
- Specific, indicating specific identification of labour or other resources;
- Estimates, indicating management estimates of time;
- Asset Service Fees, for utilities costs based on location; and
- Pension / OPEB, based on amounts charged to payroll.

Column E shows the allocation type for costs that were not directly assigned, and Column F shows the cost as a percentage of the 2014 budget for the Service Provider.

E. Summary of Cost Driver Types

Table 4 summarizes the types of costs drivers used to distribute CSA Costs and Common Costs (together, CSCC) to the Business Segments and the stations; the percentages are based on the 2014 Budget.

Table 4: Direct Assignments And Cost Drivers Used For Distribution Of CSA Costs and Common Costs To Business Segments



Section VI. 3-Prong Test

As discussed below, the three-prong test applies to corporate centre costs that are allocated among affiliates, and to transactions between affiliates. The CSA costs meet this definition and fall under the test. Common Costs do not fall under the three-prong test; they do not involve services provided or other transactions between affiliates, they are merely reflect how OPG records and pays for these items.

A. Approach to determine OPG's compliance with 3-Prong Test (Task 4)

Background for evaluation of 3-prong test

In its Decision with Reasons for OPG's filing at Docket EB 2007-0905, the OEB wrote, "The Board expects the next independent review to include an evaluation of the cost allocation methodology and consideration of the Board's 3-prong test." In the 2010 Report, OPG's methodology was found to comply with the 3-prong test. The 3-prong test is summarized as follows:

1. Cost incurrence: Were the corporate centre charges prudently incurred by, or on behalf of, the utility for the provision of services required by Ontario ratepayers?
2. Cost allocation: Were the corporate centre charges allocated appropriately to the recipient companies based on the application of cost drivers/allocation factors supported by principles of cost causality?
3. Cost / benefit: Did the benefits to the Company's Ontario ratepayers equal or exceed the costs?

At OPG, many of the shared CSA services are provided to the Service Recipients (i.e., the Business Segments) by dedicated personnel at the Service Providers; therefore the OPG methodology must capture the costs of specific personnel and activities so they can be assigned correctly.

As discussed in Section V, as a result of OPG's Business Transformation, the total dollars in the CSA departments, and in OPG's cost allocation, have increased. The Business Transformation did not cause any costs shifts between Business Segments. The increase in costs allocated to a Business Segment in the allocation process was offset by an equal decrease in directly incurred costs.

In addition, the majority of the costs of the CSA services are integral to running the Business Segments (e.g., human resources and supply chain). The Service Providers for these services and the Service Recipients must work together closely to ensure the needs of the Service Recipients are met, the level of service is appropriate and the costs are correctly assigned or allocated.

Use of surveys

We evaluated OPG's compliance with the 3-prong test in part by asking Service Recipients and Service Providers to complete surveys and by reviewing the completed surveys with them. Each survey question was designed to provide information about one or more of the prongs; similar surveys completed for the 2010 Report were used as a starting point for developing the survey questions.

Selection of Service Recipient and Service Provider Respondents

HSG Group requested that surveys be completed by the following groups:

- *Service Recipients*: Nuclear Business Segment and Hydro Thermal Operations Business Segment, which includes all regulated operations (and some unregulated). These two segments represent over 90% of the allocated CSA costs, and
- *Service Providers*: BAS Chief Information Office, BAS Supply Chain, BAS Real Estate Services, Finance, People & Culture and Corporate Relations & Communication (department in Corporate Office), representing over 80% of CSA Service Provider costs.

These surveys, and our review and follow-up interviews (discussed below), provided sufficient evidence for us to evaluate the 3-prong test and reach our conclusions.

Review of Survey Responses

HSG Group reviewed all of the survey responses. Each of the responses provides information as to whether the services provided are prudently incurred in order to serve to Ontario ratepayers, and how the Service Providers take into account the needs of the Service Recipients in determining the level and quality of service and cost effectiveness.

In addition, HSG Group contacted the survey respondents. The purpose of these discussions was to validate the survey responses, to confirm the respondents' familiarity with the allocation process and methodology and to obtain further information on specific items. We found that the respondents completed the surveys based on their personal experience. The Service Recipients discussed how their Business Segments work with the Service Providers to establish the services to be provided, as well as the level and quality of service, and how these decisions are made. The Service Providers discussed this process from their perspectives.

HSG Group also confirmed that the survey responses applied to costs that are charged through Asset Service Fees.

B. Cost Incurrence

Were the corporate centre charges prudently incurred by, or on behalf of, the utility for the provision of services required by Ontario ratepayers?

Both Nuclear and HTO confirmed the description of the services they receive, and described how each service is used in their respective Business Segments.

Nuclear and HTO explicitly stated that the services they receive from the Service Providers are necessary to running their Business Segments. The descriptions of services received by Nuclear and HTO are detailed and demonstrate familiarity with the nature of the services received, which was confirmed in the interviews with Nuclear and HTO.

HTO stated that the services received are required for it to: 1) fulfill the Shareholder mandate/relationship; 2) maintain stewardship of hydro and thermal assets; 3) ensure compliance with typical corporate governance and the Ontario Business Corporation Act; 4) operate and comply with all external regulatory and other requirements; and 5) ensure proper due diligence in the areas of safety, environment, and risk and asset management.

HTO also stated that there is extensive input and shared decision-making regarding the services provided and level of service, for any item that affects it. For OPG-wide required services (e.g., external financial reporting; compliance with labour laws), HTO follows the requirements established by the corporation.

BAS is the largest service provider, and HTO has determined that approximately 80% of the IT costs charged to it are "core" costs associated with WAN, LAN, specific HTO business systems such as ERIS/EPAS, specific Hydro projects such as fibre optics and SCADA upgrades. The costs are flat or declining over the planning period, and HTO believes they may be able to improve further. HTO confirmed that if the BAS group disappeared, it would have to put in its own systems because they are required.

Nuclear stated that each of the CSA services, and the level of service received, are essential to its operations, and provided examples of how the CSA services are required in its operations. Nuclear also provided examples of how it has been working with

Service Providers to identify and meet its changing needs, and to reduce costs while providing the required levels of service. Nuclear identified instances where it was served by dedicated resources within the Service Providers, but also where the center-led organization is helping to identify and introduce efficiencies.

For example, Nuclear and BAS are increasing efficiency by increasing the automation of data transfers. Nuclear and Supply Chain are working to reduce inventory levels and to remove specialists from the ordering process (but not specification or vendor qualification) for commodity-type consumables. Nuclear relies on People & Culture for succession planning, performance management, shift schedules, training and talent management. In addition, People & Culture is the lead organization for Business Transformation. Finance supports many non-finance initiatives, such as benchmarking studies and demonstrations of prudency of costs to stakeholders.

The Service Providers BAS work with Nuclear, HTO and other users (e.g., Service Providers such as Finance and People & Culture) to determine the services needed and the levels of service. These decisions are based on collaborative cost / benefit analyses. The Service Providers stated that the needs of the users are the primary criteria in determining the services they perform and the level of service they provide. BAS has Customer Relationship Managers who work with users to determine what new projects are needed and what benefits are expected. The users participate in ranking the projects to determine which are approved; the ranking process includes measures of financial return.

While the Service Recipients work closely with BAS to determine the need for and cost of any incremental projects, BAS is responsible to manage its baseline services and related costs. For baseline services, BAS must balance the cost goals established for it against the performance expectations of the Service Recipients. An important reason that BAS is able to do this, is that its costs are scalable due to the structure of its outsourcing contract for many baselines services.

Finance and People & Culture also report that they must balance the cost goals established for them against the performance expectations of the Service Recipients.

<u>Conclusion on Cost incurrence</u>: The Service Recipients / Business Segments have very close working relationships with the Service Providers, and rely on them for many aspects of operations. The Service Providers tailor their services to meet the needs of the Service Recipients, and the levels of service they provide are adequate but not excessive. The Service Providers must balance meeting the balance the cost goals

established for them (top-down) against the performance expectations of the Service Recipients (bottom-up). OPG has controls in place to determine that costs are reasonable based on the requirements of the users. The CSA costs were prudently incurred for the benefit the Service Recipients, to enable them to meet the needs of the Ontario ratepayers they serve.

C. Cost Allocation

Were the corporate centre charges allocated appropriately to the recipient companies based on the application of cost drivers/allocation factors supported by principles of cost causality?

HSG Group reviewed OPG's cost allocation methodology as part of Task 1, Task 2 and Task 3 identified in Table 3.

In addition, HSG Group found that the Service Recipients are familiar with the cost allocation methodology, and understand that costs can be either directly assigned or allocated to their Business Segment. They have the opportunity to challenge both the level of services provided and the costs they are allocated.

HTO believes that OPG's cost allocation methodology is based on "rationale and logic", and has been refined as business activities have changed.

Nuclear reports that they understand which Service Providers their costs are coming from and what they have to do to reduce costs. HSG Group considers the ability of a cost allocation methodology to respond to changes in levels of service, as a strong indicator of its appropriateness.

These are important secondary indicators of the appropriateness of the cost allocation methodology. For example, the ability to produce reasonably stable costs enables Service Recipients to forecast costs. In addition, the ability of a methodology to reflect changes in the level of service received is very important.

<u>Conclusion on Cost allocation</u>: HSG Group reviewed the cost allocation methodology separately, as discussed in Section V of this Report, has concluded that it is appropriate for OPG, and it distributes costs based on direct assignment and cost drivers / allocation factors that are supported by the principles of cost causality. In addition, the Service Recipients are familiar with the cost allocation methodology, and believe the cost allocations are appropriate and reflect differences in levels of service.

D. Cost / Benefit

Did the benefits to the Company's Ontario ratepayers equal or exceed the costs?

Nuclear and HTO work with Service Providers in BAS such as Real Estate & Business Services, Outsourcing and Work Programs and Supply Chain to determine the nature and level of services provided in a collaborative process, and costs are considered in this process. For BAS , many activities and service offerings are discretionary or at least can be provided at varying levels of service, therefore a collaborative planning process is appropriate and provides the opportunity to weigh explicitly the benefits and costs for each potential activity service offering.

As discussed above under *Cost incurrence*, BAS works with the users to rank potential projects; the ranking process includes measures of financial return. BAS manages its baseline costs to meet cost and performance targets; these costs are scalable due to the structure of its outsourcing contract for many baselines services.

Nuclear stated that services and the level of service are tailored to its needs- the level of service received is adequate but not more than is needed.

HTO meets with senior BAS management on a regular basis to validate and prioritize IT base and project work; the objective is to ensure that the IT project plan provides the best overall value for OPG and that it remains consistent with OPG's strategic business direction, strategic IT direction, ROI expectations as well as being consistent with OPG's safety, reliability, regulatory and environmental objectives.

Nuclear and HTO work collaboratively with Service Providers Finance and People & Culture to determine their service requirements, but these Service Providers do not involve them in setting cost budgets. This is appropriate because certain services provided by Finance and People & Culture relate to statutory and legal requirements (e.g. external reporting, taxation, safety), therefore it is not possible to compare benefits and costs for an individual business unit as this work is executed in order to operate the entire corporation of which the business is a part.

In addition, services can be challenged by the Executive Leadership Team, where the cost / benefit value of the service to the company as a whole can be evaluated.

Corporate Relations and Communications helps both Nuclear and HTO to build relationships with stakeholders including towns, cities, First Nations and community groups.

Supply Chain was formed as a result of BT initiatives. Supply chain organizations from three business units were amalgamated to form one centrally lead organization in May 2012. In 2013 and the near future, the people that transferred to Supply Chain still work exclusively (or nearly exclusively) on the Business Segments from which they transferred. The costs incurred by Supply Chain, and distributed to the Business Segments, are driven by the purchasing requirements of the businesses.

OPG uses benchmarks extensively to identify opportunities to improve service and reduce costs, and works with other businesses to develop plans to do so.

Conclusion on Cost / benefit: Service Providers explicitly consider the needs of the Service Recipients in developing their budgets, and often weigh explicitly the benefits and costs of activities they are considering. Service Providers are continually evaluating how to meet the needs of the Service Recipients and other users, while meeting cost targets; to do so they are actively planning work and managing costs.

E. Overall Conclusion on 3-Prong Test

The Service Providers and Service Recipients (Business Segments and other users) at OPG work together in a collaborative effort to determine what CSA services should be provided and what should be the level and quality of service. There is continual communication in both directions. Both Service Providers and Service Recipients discussed the need to meet service requirements, to reduce costs and to improve both continuously. As a result, services and the level and quality of service are tailored to meet the needs of the Service Recipients, and the levels of service they provide are adequate but not excessive.

Service Providers are measured by OPG senior management against spending targets, including comparisons to industry benchmarks. Service Providers continually balance the needs of the Service Recipients against the costs to provide the services.

In conclusion, the CSA costs are prudently incurred for the benefit the Service Recipients (and other users), to enable them to meet the needs of the Ontario ratepayers served by OPG. The responses to the surveys, including the interviews conducted by HSG Group, as well as other information reviewed, provide sufficient, reliable evidence that OPG's allocated CSA costs meet the requirements of the OEB's 3 prong test.

Section VII. ASSET SERVICE FEES

OPG generating Business Segments are also charged Asset Service Fees ("ASFs") for the use of certain assets owned and operated by OPG. A portion of the costs charged is included in the CSA costs. The ASFs are cost based charges. The assets for which ASFs are computed include Real Estate assets and IT assets. HSG Group was engaged to evaluate the ASF methodology.

ASFs include depreciation expense, return on net book value including income taxes, and operating costs not otherwise charged (e.g., property taxes). In the 2006 Report and 2010 Report, the methodology OPG uses to determine ASFs and to allocate them to the users of the assets was found to be reasonable. OPG confirms that the same approach is used at present, and HSG Group believes OPG's approach remains reasonable based on the operation of OPG's business and the principles of cost causality.

Asset Service Fees for Newly Regulated Hydro

Hydroelectric generating assets that are currently unregulated and not subject to Hydro-electric Supply Agreements ("HESAs") with the Ontario Power Authority may become subject to regulation by the OEB in the future ("newly regulated hydro").

OPG has facilities such as control dams and service centers that support both newly regulated hydro stations and stations that sell output pursuant to a HESA.

For assets where more than 90% of the aggregate station capacity served represents newly regulated hydroelectric capacity, the asset is considered a newly regulated hydro-electric facility and is included in the regulated rate base.

Other joint-use assets are not included in the regulated rate base; the newly regulated hydroelectric stations and HESA stations are charged a cost-based ASF for the use of these assets, based on the capacity of the stations (i.e., MW). The asset fee structure is the same used to charge certain real estate and corporately held IT costs to regulated operations.

HSG Group believes that OPG's treatment of these assets is reasonable. It is reasonable for assets used exclusively or nearly-exclusively by a business to be directly assigned to that business, and the application of cost-based ASFs reflects the operation of OPG's business and cost causality.

Section VIII. SUMMARY OF CONCLUSIONS

OPG's cost allocation methodology for Centralized Services and Common Costs (including Asset Service Fees) distributes / charges those costs to Business Segments and to stations in a manner that meets current best practices and is consistent with cost allocation precedents established by the OEB. The responses provided by Service Recipients and Service Providers to the surveys, and the interviews conducted by HSG Group as well as other information reviewed, provide sufficient, reliable evidence that OPG's allocation of CSA costs meets the OEB's 3 prong test. The results of the allocation based on the 2014 year in the Business Plan 2013-15 are presented in Table 5.

Table 5: Results of Allocation for 2014 in Business Plan 2013-15 ($ millions)

Service Provider	Nuclear	Hydro-Regulated	Hydro Unregulated	Thermal	Other Business	Total
BAS - Outsourcing	$57.3	$2.7	$6.4	$3.2	$3.2	**$ 72.8**
BAS- Work Programs	33.3	3.4	7.7	5.2	3.0	**52.6**
BAS – Supply Chain	60.8	1.4	2.5	2.9	1.7	**69.3**
BAS - Real Estate	114.2	1.5	3.2	4.3	1.4	**124.6**
People & Culture	92.1	4.4	9.3	7.5	3.9	**117.2**
Finance	45.5	3.4	6.0	4.6	2.7	**62.2**
Corporate Centre	32.7	5.1	11.6	6.7	2.9	**59.0**
CO&E	17.9	8.0	6.4	5.8	3.9	**42.0**
CSA Groups	**453.8**	**29.9**	**53.1**	**40.2**	**22.7**	**599.7**
Hydro / OSL Common	3.8	7.6	56.5	8.5	0.2	**76.6**
Centrally held costs	358.1	21.1	49.1	49.0	2.4	**479.7**
Total	**$ 815.7**	**$ 58.6**	**$ 158.7**	**$ 97.7**	**$ 25.3**	**$1,156.0**

BAS = Business & Administrative Services; CO&E = Commercial Operations & Environment

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
IEW OF CENTRALIZED SUPPORT AND ADMINISTRATIVE COST ALLOCATION METHODOL
DEPARTMENTAL BUDGETS FOR 2014 (BP 2013-2015)

DEPARTMENT / Activities	2014 Budget $000s	% of CSA Costs	% of All Costs
People & Culture	$117,155	19.5%	10.1%
Corporate Center Group			
Executive Office	4,959	0.8%	0.4%
Law	7,358	1.2%	0.6%
Strategic Initiatives	4,355	0.7%	0.4%
Business Transformation Project	3,650	0.6%	0.3%
Corporate Relations and Communications	18,079	3.0%	1.6%
Corporate Executive Operations	3,457	0.6%	0.3%
Corporate Business Development	17,177	2.9%	1.5%
	59,035	9.8%	5.1%
Finance Group			
Finance & Chief Controller	42,847	7.1%	3.7%
Treasury	2,288	0.4%	0.2%
Investment Planning	3,463	0.6%	0.3%
Assurance	9,468	1.6%	0.8%
Fund Management	1,448	0.2%	0.1%
CFO Office	2,637	0.4%	0.2%
	62,150	10.4%	5.4%
Commercial Operations & Environment	42,010	7.0%	3.6%
	42,010	7.0%	3.6%
BS&IT Group			
BS&IT Outsourcing	72,782	12.1%	6.3%
BS&IT Work Programs	52,637	8.8%	4.6%
Supply Chain	69,318	11.6%	6.0%
	194,736	32.5%	16.8%
Real Estate Group			
Real Estate Services	29,511	4.9%	2.6%
Enterprise Services	43,758	7.3%	3.8%
Facilities Services	47,838	8.0%	4.1%
Fleet Services	377	0.1%	0.0%
Vice President's Office	3,112	0.5%	0.3%
	124,596	20.8%	10.8%
Total CSA Costs (excl. Centrally Held and Hydroelectric	**599,681**	**100.0%**	**51.9%**
Hydroelectric Common Costs	76,649		6.6%
Centrally Held Costs	479,648		41.5%
Total	**$1,155,978**		**100.0%**

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS

BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Allocation %
(A)	(B)	(C)	(D)	(E)	(F)
PEOPLE & CULTURE					
Fleet Operations Training	22.6%	Specific/Estimates	22.6%		-
Total Rewards & Solutions	8.7%	Specific/Estimates	2.5%	FTEs	6.2%
Fleet Support Services	8.6%	Specific/Estimates	8.6%	FTEs	0.0%
Business Partners Hydro Thermal	8.1%		8.1%		-
Safety & Wellness	8.1%	Specific/Estimates	5.6%	FTEs	2.5%
Fleet Maintenance Training	7.9%	Specific/Estimates	7.9%	FTEs	0.0%
VP Learning & Development and Other Training	7.9%	Specific/Estimates	7.8%	FTEs	0.1%
Fleet Simulator & CBT	7.6%	Specific/Estimates	7.6%		-
Employee & Labour Relations	4.1%	Specific/Estimates	1.4%	FTEs	2.7%
Senior Vice President's Office	3.6%		-	FTEs	3.6%
Talent Management & Business Change	3.5%	Specific/Estimates	2.2%	FTEs	1.3%
Business Partners Nuclear	3.2%	Specific/Estimates	3.2%		-
Training Primary Pay	1.7%	Specific/Estimates	1.7%	FTEs	0.0%
HR Labour Adjustment	1.7%		-	FTEs	1.7%
Business Partners Corporate	1.5%	Estimates	0.8%	FTEs	0.7%
HR Primary Pay	1.3%		-	FTEs	1.3%
	100.0%		79.9%		20.1%
CORPORATE CENTER GROUP- EXECUTIVE OFFICE					
Executive Office	100.0%		-	Blend - OM&A / Capital	100.0%
	100.0%		-		100.0%
CORPORATE CENTER GROUP- LAW					
Law Division	96.8%	Specific/Estimates	67.4%	Blend - OM&A / Capital	29.3%
Law Payroll	1.7%		-	Blend - OM&A / Capital	1.7%
SVP Office	1.6%		-	Blend - OM&A / Capital	1.6%
	100.0%		67.4%		32.6%
CORPORATE CENTER GROUP- STRATEGIC INITIATIVES					
Strategic Initiatives	100.0%		-	Blend - OM&A / Capital	100.0%
	100.0%		-		100.0%
CORPORATE CENTER GROUP- BUSINESS TRANSFORMATION PROJECT					
Business Transformation Project	100.0%		-	Blend - OM&A / Capital	100.0%
	100.0%		-		100.0%
CORPORATE OFFICE - CORPORATE RELATIONS & COMMUNICATIONS					
Corp & Comm Centre	54.9%	Specific/Estimates	29.6%	Blend - OM&A / Capital	25.3%
Communication Services	24.3%	Specific/Estimates	19.4%	Blend - OM&A / Capital	4.9%
Stakeholder & Government Relations	19.3%	Specific/Estimates	9.9%	Blend - OM&A / Capital	9.4%
Corp & Comm Payroll	1.5%		-	Blend - OM&A / Capital	1.5%
	100.0%		58.9%		41.1%
CORPORATE OFFICE - CORPORATE EXECUTIVE OPERATIONS					
Corporate Executive Operations	100.0%		-	Blend - OM&A / Capital	100.0%
	100.0%		-		100.0%

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS
BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Allocation %
CORPORATE OFFICE - CORPORATE BUSINESS DEVELOPMENT					
Hydro Business Development OM&A Projects	20.6%	Specific/Estimates	20.6%		-
Enterprise Risk Management	18.5%	Estimates	0.9%	Blend - OM&A / Capital	17.6%
Thermal Business Development	18.4%	Specific/Estimates	18.4%		-
Corporate Strategy	11.8%		(0.4%)	Blend - OM&A / Capital	12.2%
CBD Payroll	8.5%		-	Blend - OM&A / Capital	8.5%
Business Development Services	7.1%	Specific	7.1%		-
Hydro Business Development	6.5%	Specific/Estimates	6.5%		-
SVP Office	5.0%		-	Blend - OM&A / Capital	5.0%
CBD VP Office	3.5%	Specific/Estimates	3.5%		-
	100.0%		56.8%		43.2%
FINANCE GROUP- FINANCE & CHIEF CONTROLLER					
Business Planning & Reporting	19.4%	Estimates	1.2%	Blend - OM&A / Capital	18.2%
Nuclear Controllership	19.2%	Estimates	19.2%		-
Accounting	16.5%	Estimates	7.2%	Blend - OM&A / Capital	9.3%
Corporate Financial Processing Services	15.1%	Estimates	3.1%		11.9%
Hydro Thermal Controllership	12.7%	Estimates	12.7%		-
Corporate Functions Controllership	8.4%	Estimates	0.8%	Blend - OM&A / Capital	7.6%
Income & Commodity Tax	6.6%		-	Blend - OM&A / Capital Blend - Material & EPS	6.6%
VP Finance, Chief Controller & CAO Office	2.1%			Blend - OM&A / Capital	2.1%
	100.0%		44.4%		55.6%
FINANCE GROUP- TREASURY					
Treasury Financing & Operations	100.0%	Estimates	11.8%	Blend - OM&A / Capital	88.2%
	100.0%		11.8%		88.2%
FINANCE GROUP- INVESTMENT PLANNING					
Investment Planning	100.0%	Specific/Estimates	84.2%	Blend - OM&A / Capital	15.8%
	100.0%		84.2%		15.8%
FINANCE GROUP- ASSURANCE					
Nuclear Oversight	55.8%	Specific/Estimates	55.8%		-
Internal Audit	44.2%	Specific/Estimates	17.9%	Blend - OM&A / Capital Re-allocate EM	26.3%
	100.0%		73.7%		26.3%
FINANCE GROUP- FUND MANAGEMENT					
Fund Management Services	100.0%	Specific	62.5%	Blend - OM&A / Capital	37.5%
	100.0%		62.5%		37.5%

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS
BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Alloc-ation %
FINANCE GROUP- CFO OFFICE					
CFO Primary Pay	72.9%		-	Internal - Finance Overall	72.9%
CFO Office	21.0%		-	Internal - Finance Overall FTE	21.0%
Pension Fund Review	6.1%		-	FTE	6.1%
	100.0%		-		100.0%
COMMERCIAL OPERATIONS & ENVIRONMENT					
Environment	21.2%	Specific/Estimates	18.8%	Blend - OM&A & Capital	2.3%
Integrated Revenue Planning	16.8%	Specific/Estimates	8.7%	Blend - OM&A & Capital Re-allocate EM	8.1%
Market Operations	14.6%	Specific	14.6%		-
OEB	13.4%	Specific	13.4%		-
Regulatory Affairs	9.8%	Specific/Estimates	6.4%	Blend - OM&A & Capital Re-allocate EM	3.5%
Term Trading & Outage Management	9.3%	Specific/Estimates	9.1%	Blend - OM&A & Capital	0.2%
Fuels	6.4%	Specific/Estimates	5.5%	Blend - OM&A & Capital	0.8%
Commerical Services	4.4%	Specific	4.4%		-
CO&E Payroll variance	2.4%		-	Internal	2.4%
CS&C - Bruce Relationships	1.4%	Specific	1.4%		-
CO&E - SVP's Office	0.3%		-	Blend - OM&A & Capital	0.3%
	100.0%		82.4%		17.6%
BAS GROUP- Outsourcing					
Infrastructure Mgmt Service	31.3%	Specific	24.9%	Primary driver - LAN ID's & storage	6.4%
Application Mgmt Service	13.0%	Specific	9.7%	Primary driver - Users of variable applications maintenance	3.3%
Data Centre Services	9.4%	Specific	8.3%	Primary driver - Data Centre support	1.0%
Disaster Recovery & BCP Services	1.4%	Specific	0.9%	Primary driver - Allocation of major applications	0.4%
Service Management Services	1.2%	Specific/Estimates	0.8%	Primary driver - Service management support	0.4%
Data & Voice Network Services	0.9%	Specific/Estimates	0.8%	Primary driver - Field technician support	0.1%
Common Base Services	0.6%	Estimates	0.5%	Lan ID's	0.1%
Application Maintenance Services	0.2%		-	Primary driver - Allocation of fixed application maintenance support	0.2%
End Users Services	0.0%	Specific	0.0%	Primary driver - end Uuers	

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS
BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Allocation %
BAS GROUP- WORK PROGRAMS					
Application Software	9.9%	Specific/Estimates	7.0%	Primary driver - Lan ID's based on major users	2.9%
Telecom	7.0%	Estimates	5.0%	Primary Driver - Historical data / Management estimate	2.0%
IMO Services	5.5%	Estimates	3.6%	Primary Driver - Management estimate	1.9%
IM Projects	2.8%	Estimates	1.9%	Primary Driver - Management estimate	0.8%
SVP - BAS	2.7%	Estimates	-	Blend - OM&A & Capital Internal- CIO Allocation	2.7%
IM Transition	1.8%	Estimates	1.1%	Primary Driver - Management estimate	0.8%
Hardware	1.6%	Specific/Estimates	1.3%	Lan ID's	0.3%
Non-Capital Projects	10.7%	Specific / Estimates	7.4%		3.2%
	100.0%		73.3%		26.7%
Note: Outsourcing Contract renegotiated for 2010					
Supply Chain GROUP - WORK PROGRAMS					
Nuclear Supply Chain (new)	93.5%	Estimates	90.2%	Blend - OM&A & Capital	3.3%
Corporate Supply Chain	6.5%	Specific/Estimates	5.0%	Blend - OM&A & Capital	1.5%
	100.0%		95.2%		4.8%
REAL ESTATE GROUP- REAL ESTATE SERVICES					
Rent & Utilities- Nuclear Facilities	76.3%	Specific	76.3%		-
Rent & Utilities- OPG Head Office	18.1%	Service Fees	18.1%		-
Labor Costs	9.3%	Estimates	9.3%		-
Rent & Utilities- Kipling Site	7.4%	Service Fees	7.4%		-
External Purchase Services	5.1%	Specific/Estimates	5.1%		-
Rent & Utilities- Wesleyville Site	2.0%	Service Fees	2.0%		-
Rent & Utilities- Hydro Thermal	1.0%	Specific	1.0%		-
Murray St/Tenant Imp/COGS (Other Business)	(19.2%)	Specific	(19.2%)		-
	100.0%		100.0%		0.0%
REAL ESTATE GROUP- ENTERPRISE SERVICES					
NSS Admin	35.7%	Estimates	35.7%		-
Records/Admin	31.6%	Estimates	31.6%		-
Business Services East	23.9%	Estimates	23.9%		-
Business Services - Office Services	8.8%	Estimates	2.5%	FTEs	6.2%
	100.0%		93.8%		6.2%

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS
BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Allocation %
REAL ESTATE GROUP- FACILITY SERVICES					
Facility Services Nuclear	72.1%	Specific/Estimates	72.1%		-
Facility Services Central	8.1%	Service Fees	0.8%	Internal - Corp. Functions Overall Re-allocate EM	7.3%
Facility Services West - Admin	5.7%	Service Fees	4.4%	Internal - Corp. Functions Overall Re-allocate EM	1.3%
Facility Services East	4.7%	Estimates	4.5%	Internal - Corporate Functions Overall	0.2%
Facility Services West - Bruce	3.5%	Estimates	3.5%		-
OPG Head Office	3.1%	Service Fees	1.5%	Internal - Corporate Functions Overall	1.6%
Facility Services Admin	2.8%	Estimates	0.9%	Internal - Corporate Functions Overall	2.0%
	100.0%		87.6%		12.4%
REAL ESTATE GROUP- FLEET SERVICES					
Fleet Services	100.0%		-	FTEs	100.0%
	100.0%		-		100.0%
REAL ESTATE GROUP- VICE PRESIDENT					
Real Estate Pay	86.8%		-	Internal - Real Estate Overall	86.8%
Real Estate Vice President's Office	13.2%		-	Internal - Real Estate Overall	13.2%
	100.0%		-		100.0%
CENTRALLY HELD COSTS					
Pension / OPEB- Amortization of Deferred Costs	79.1%	Pension / OPEB Costs	61.6%	Pension / OPEB Costs	17.5%
Employee Incentives	6.1%	Specific (historical)	6.1%		-
Insurance Premiums	4.0%	Specific	4.0%		-
Ontario Nuclear Funds Management	2.7%	Specific	2.7%		-
Provincial Fee- CNSC	1.5%	Specific	1.5%		-
Vacation Accrual	1.5%	Labour costs	1.5%		-
Fiscal Calendar Payroll Adjustment	1.2%	Labour costs	1.2%		-
First Nations Provision	1.0%	Specific	1.0%		
Burden Rate True-up	1.0%	Specific	1.0%		-
BS&IT Contingency	1.0%			BT Overall allocator	1.0%
Pension Guarantee Fee	0.4%			Blend - OM&A & Capital	0.4%
Pandemic Provision	0.4%	Specific	0.4%		-
Bruce - LLW/ILW	0.0%	Specific	0.0%		-
	100.0%		81.0%		19.0%

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
SUMMARY OF DISTRIBUTIONS
BP2014 - BP2013-2015

		DISTRIBUTION TO BUSINESS UNITS			
		Direct Assignment		Allocation	
DEPARTMENT / Activities	Activity % of Dept.	Method	BU Direct Assign %	Cost Driver	BU Alloc-ation %
HYDROELECTRIC THERMAL BUSINESS UNIT COMMON SUPPORT COSTS					
Engineering & Technical Services	72.0%	Specific	72.0%		-
Strategy & Business Support	11.9%	Specific	11.9%		-
Dam & Public Safety	5.4%	Specific	5.4%		-
Project and Delivery Execution	3.8%	Specific	3.8%		-
Hydro Thermal Pay	3.2%	Estimate	3.2%		-
Executive Vice President's Office	3.2%	Specific	3.2%		-
Coal Closure	0.6%	Specific	0.6%		-
	100.0%		100.0%		0.0%
OTTAWA-ST. LAWRENCE COMMON SUPPORT COSTS					
Production/Project Mgt - Madawaska	46.6%	Specific	46.6%		-
Production/Project Mgt - Ottawa	39.5%	Specific	39.5%		-
Compliance & Environment	4.7%	Specific	4.7%		-
Drafting Services	1.1%	Specific	1.1%		-
Engineering & Technical Services	3.8%	Specific	3.8%		-
Programming	2.4%	Specific	2.4%		-
Plant Group Management	3.1%	Specific	3.1%		-
Asset Management & Technical Support Services	(0.1%)	Specific	(0.1%)		-
Other	(0.9%)	Specific	(0.9%)		-
	100.0%		100.0%		0.0%

OPG CENTRALIZED SUPPORT AND ADMINISTRATIVE COSTS
COST ALLOCATION METHODOLOGY REVIEW
BUSINESS TRANSFORMATION TRANSFERS

Business Area		2013 Budget, $ millions		
		Transfers Out	Transfers In	Net Effect
Service Recipients (Business Segments):				
Nuclear Generation	*Details below*	$215,101	$2,378	($212,723)
Hydro / Thermal Generation	*Details below*	30,392		(30,392)
Service Providers:				
Commerical Operations and Environment		17,973	10,285	(7,688)
Business Applications & Services			143,920	143,920
Finance		4,595	13,264	8,669
People & Culture		2,607	66,910	64,303
Corporate Business Development & Risk			16,428	16,428
Corporate Relations & Communications			20,239	20,239
Corporate Executive Operations		439		(439)
Law		3,090		(3,090)
Strategic Initiatives			773	773
		$274,197	$274,197	$0

Transferred from Nuclear to:	
Commerical Operations and Environment	$5,504
Business Applications & Services	139,806
Finance	12,972
People & Culture	56,819
	$215,101

Transferred from Hydro / Thermal to:	
Commerical Operations and Environment	$4,334
Business Applications & Services	4,114
People & Culture	7,001
Corporate Business Development & Risk	12,122
Corporate Relations & Communications	2,048
Strategic Initiatives	773
	$30,392

RESUME OF
HOWARD S. GORMAN
PRESIDENT – HSG GROUP, INC.

SUMMARY

Mr. Gorman has more than 25 years of experience in the energy industry, including 15 years in rate and regulatory proceedings, and more than 30 years experience overall in accounting, finance and rate and regulatory matters.

Mr. Gorman has testified as an expert witness regarding utility revenue requirements, class cost of service, revenue allocation and rate design. He has testified as an expert witness before the Massachusetts Department of Public Utilities, New Jersey Board of Public Utilities, New Hampshire Public Utilities Commission, New York State Public Service Commission, Ontario Energy Board, Pennsylvania Public Utility Commission and Rhode Island Public Utilities Commission.

Mr. Gorman has performed financial analyses of energy infrastructure projects for acquisitions and in support of due diligence for financing, and has negotiated and completed construction and term loans, tax-exempt and taxable bonds and subordinated debt. His experience includes financial modeling, financial analysis and forecasting.

Mr. Gorman also has experience in financial accounting, as Controller and Treasurer of Trigen Energy Corporation, where he built the finance function, managed subsidiary controllers and supported an IPO with NYSE listing.

PROFESSIONAL EMPLOYMENT

2010 - Present	HSG Group, Inc. • *President*
1997 - 2010	Black & Veatch Corporation (R.J. Rudden Associates, Inc. before 2005) • *Principal Consultant*
1995 - 1997	Independent Consultant
1987 – 1995	Trigen Energy Corporation • 1987-1993 *Corporate Controller*; Trigen was formed in 1987 • 1993-1995 *Treasurer*; Trigen had IPO with NYSE listing in 1994
1982 - 1987	Coleco Industries, Inc. • *Director, Treasury*
1976 - 1979	Touche Ross & Co. • *Staff Accountant*

PROFESSIONAL EXPERIENCE

Rate and Regulatory Support for Utilities

Mr. Gorman has provided rate and regulatory support for numerous electric and gas utilities in several jurisdictions, including performing the following:

- Developing utility revenue requirements
- Performing class cost allocation studies and marginal cost studies
- Recommending class revenue allocation
- Analyzing and recommending rate design structures
- Reviewing interaffiliate cost allocation methodology

A list of rate case dockets in which Mr. Gorman has provided expert testimony is presented in the table '**Expert Testimony'** at the end of this resume.

Energy Project Analysis

Mr. Gorman has performed financial analyses of energy-related assets, including electric and gas distribution companies, power plants and transmission operators. These analyses included developing cash flows and financial statements for both regulatory and accounting purposes, and included review of assumptions, analysis of data, modeling, sensitivity testing and stress testing.

Among these analyses are: valuations of power plants, financial projections for cogeneration heat and power plants and energy companies for the purpose of acquisition, valuation of waste-to-energy assets, valuation of a publicly traded multi-jurisdiction utility, and assessment of strategic fit and valuation for a utility considering diversifying into energy-related services.

Energy Project Financing

Mr. Gorman has sourced, structured, negotiated and completed transactions including construction and term loans, tax-exempt bonds, taxable bonds, subordinated debt and asset-backed (receivables and inventory) revolving credit facilities.

Mr. Gorman has supported energy projects in connection with due diligence for financing, including contract review, financial modeling, supply analysis, forward price projections, and economic valuation with cash flow forecasting, and the identification, assessment and mitigation of financial and operating risks for the project and its investors.

Financial Management

Mr. Gorman has extensive experience in financial accounting. As Controller and Treasurer of Trigen Energy Corporation, he built the finance and accounting function, developed reports, procedures and management tools, and managed subsidiary controllers across North America, including an IPO with NYSE listing (1994).

He managed the corporate insurance portfolios and the benefit plans for Trigen Energy Corporation and for Coleco Industries.

Computer Modeling and Decision Support

Mr. Gorman is an accomplished modeler with expertise in spreadsheet and database applications, as well as the use of programming tools. He has developed analytical tools to perform valuations, projections and simulations. These models have been applied to financial analysis, cost allocations, rate design and pricing, forecasting revenue requirements, numerous tax and accounting matters, supply modeling and optimizations. Several of these models have contained interactive modules for automated scenario testing and sensitivity analysis.

Publications And Presentations

"What Wall Street Needs From FERC," published in R. J. Rudden Financial, LLC's *Energy Capital Markets Report*, September 2002

"A Balanced Look at Balance Sheets," published in R.J. Rudden Financial, LLC's *Energy Capital Markets Report*, June 2002

"From Wires To Riches: Shareholder Value Creation In The T&D Business," April 2002 (co-authored).

"Assessment of Retail Choice Programs," presented at the American Gas Association Rate and Strategic Issues Committee Conference, March 2002

"Value Creation With Transmission Assets," quoted in *Electrical World's Special Edition Quarter 1, 2002*, March 2002

"The Remarkable Story on Enron," published in Scudder's *Annual End of Year Issue*, December 2001

Education

New York University, B.S., Accounting, 1976

Harvard Business School, MBA, 1981

Expert Testimony Submitted by Howard S. Gorman

Jurisdiction	Docket	Client	Date	Subject Matter
Pennsylvania	R-2013-2372129	Duquesne Light Company	2013	Electric class cost of service; revenue allocation; rate design
New Hampshire	DE13-063	Granite State Electric Company	2013	Electric class cost of service (marginal cost); revenue allocation; rate design
New York	12-E-0201	Niagara Mohawk Power Corporation	2012	Electric class cost of service; revenue allocation
Rhode Island	RIPUC 4323	Narragansett Electric	2012	Electric class cost of service
New York	11-E-0590	Village of Rockville Centre	2011	Electric revenue requirements; rate design; sales forecast
New York	11-G-0142	Chautauqua Utilities, Inc.	2011	Gas revenue requirements, rate design
Pennsylvania	R-2010-2179103	Kellogg Company (intervener)	2010	Water class cost of service; revenue allocation
Pennsylvania	R-2010-2179522	Duquesne Light Company	2010	Electric class cost of service; revenue allocation; rate design
Pennsylvania	R-2010-2172662	Wellsboro Electric Company	2010	Electric revenue requirements, class cost of service, revenue allocation, rate design
Pennsylvania	R-2010-2172665	Citizens' Electric Company of Lewisburg, PA	2010	Electric revenue requirements, class cost of service, revenue allocation, rate design
Pennsylvania	R-2010-2174470	Valley Energy, Inc.	2010	Gas revenue requirements, rate design
Pennsylvania	R-2010-2161592	PECO Energy (Gas)	2010	Gas class cost of service; revenue allocation; rate design
Pennsylvania	R-2010-2161575	PECO Energy (Electric)	2010	Electric class cost of service; revenue allocation; rate design

Expert Testimony Submitted by Howard S. Gorman				
Jurisdiction	**Docket**	**Client**	**Date**	**Subject Matter**
New York	10-E-0050	Niagara Mohawk Power Corporation	2010	Electric class cost of service
New York	09-E-0862	Jamestown Board of Public Utilities	2009	Electric revenue requirements
Pennsylvania	R-2009 2139884	Philadelphia Gas Works	2009	Gas class cost of service; revenue allocation
Rhode Island	RIPUC 4065	Narragansett Electric	2009	Electric class cost of service; revenue allocation; rate design
Massachusetts	DPU 09-39	Massachusetts Electric and Nantucket Electric	2009	Electric revenue requirements; adjustment mechanisms; class cost of service; revenue allocation; rate design
Pennsylvania	R-2008-2028394	PECO Energy (Gas)	2008	Gas class cost of service; revenue allocation; rate design
Pennsylvania	R-00072350	Wellsboro Electric Company	2007	Electric revenue requirements; rate design
Pennsylvania	R-00072348	Citizens' Electric Company of Lewisburg, PA	2007	Electric revenue requirements; rate design
Pennsylvania	R-00072349	Valley Energy, Inc.	2007	Gas revenue requirements; rate design
Pennsylvania	R-00061931	Philadelphia Gas Works	2006	Gas class cost of service; revenue allocation; rate design
New York	06-E-0911	Village of Freeport	2006	Electric revenue requirements; rate design
Ontario	EB-2007-0905 et al	Ontario Power Generation Inc.	2006, 2010	Electric Cost allocation methodology
Pennsylvania	R-00061346	Duquesne Light Company	2006	Electric class cost of service; revenue allocation; rate design

Expert Testimony Submitted by Howard S. Gorman				
Jurisdiction	**Docket**	**Client**	**Date**	**Subject Matter**
Ontario	EB-2005-0378 et al	Hydro One Networks Inc.	2005, 2006, 2008, 2009, 2010, 2012	Electric Transmission and Distribution Cost allocation; OH capitalization rates
New York	03-E-1568	Village of Rockville Centre	2003	Electric revenue requirements; rate design; sales forecast
New Jersey	ER02080506 et al	Gerdau AmeriSteel aka Co-Steel (intervenor)	2002	Electric cost allocation and rate design; industrial rates
New Jersey	ER02050303 et al	Gerdau AmeriSteel aka Co-Steel (intervenor)	2002	Electric cost allocation and rate design; industrial rates
Pennsylvania	M-00021612	Philadelphia Gas Works	2002	Gas rate unbundling
Pennsylvania	R-00017034	Philadelphia Gas Works	2002	Gas class cost of service
Pennsylvania	R-00006042	Philadelphia Gas Works	2001	Gas class cost of service; recovery of fixed costs