Recommendations for a Methodology for Allocation of Costs between Regulated and Non-Regulated Activities

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1 Introduction, Scope and Conclusions

1.1 *Introduction*

Gazifère Inc. is a rate-regulated natural gas distributor in the province of Québec, with approximately 40,000 customers. In addition to its regulated distribution activities, Gazifère offers the following services which provide unregulated revenues to the utility:

- maintenance and cleaning of natural gas appliances,
- funding program for natural gas appliances,
- call center and dispatch service under a contract with an affiliate, and
- rental of natural gas water heaters and furnaces.

Gazifère believes its unregulated program of furnace and water heater rentals, which commenced in the 90s, has favorably affected its ability to penetrate new markets for its regulated services, and that therefore this program provides benefits to regulated customers by improving Gazifère's ability to realize economies of scale in its regulated services, as well as providing economies of scope by sharing resources between the regulated and unregulated functions.

Gazifère receives certain administrative and management services from affiliates, the benefit of which is shared within Gazifère between its regulated and unregulated activities. In the 2000 Rate Case Application, the Régie de l'énergie (the "Régie") approved an allocation methodology of administration costs and charges from affiliated companies between regulated and non-regulated activities and Gazifère has been using this methodology since (Decision D- 2000-48 dated March 29, 2000). Associated with this allocation cost for shared services, Gazifère had implemented a direct allocation for those costs that could be specifically identified with either the regulated or the unregulated business.

Gazifère wishes to update its methodology to reflect improvements in the data available and to increase consistency with best practices for cost-sharing among utilities in Québec and other jurisdictions. If the recommendations are approved by the Régie, they will be incorporated in establishing rates based on the 2016 test year.

1.2 *Scope of this Review*

In November, 2014, Gazifère retained BDR NorthAmerica Inc. in association with Elenchus Research Associates ("BDR"), a consulting team experienced in the issues of allocation of shared costs and transfer pricing, to assist Gazifère in developing a method of allocating costs between regulated and unregulated activities that will be cost based and fair to the regulated customers and to Gazifère's shareholder. The scope of work for the study included:

- reviewing the existing approved methodology and the basis on which shared services are provided to the regulated and unregulated activities;
- review comparable practice in other utilities in Québec and in other jurisdictions;
- consider the ability of Gazifère's (or its affiliates') systems and resources to support alternative methodologies;
- on the basis of comparable practice and the data available, recommend changes in the allocation methodology as appropriate;
- prepare a report suitable for filing with the Régie documenting the proposed methodology and providing an expert opinion as to its consistency with accepted principles of cost allocation; and
- assist Gazifère in its rate application process by explaining the recommendations to the Régie and stakeholders in public hearing.

BDR's mandate in this assignment was restricted to review of the methodology for sharing services and costs between Gazifère's regulated and non-regulated activities, and specifically excluded any review of the methodology for pricing of services provided to Gazifère by affiliates. BDR received from Gazifère information as to the nature and amounts of costs subject to allocation, and accepted that information for purposes of the review. BDR did not:

- make any independent audit of Gazifère's accounts;
- independently review any of its operations; or
- benchmark the level of cost incurred by Gazifère to carry out any activity or provide any service to customers.

Sharing services, facilities and resources is an approach commonly taken by regulated utilities in order to benefit from economies of scale and scope, and thereby control the level of costs of providing related services to customers. Depending on the scale and organizational structure of the companies and their operations, services can be shared between:

- regulated and unregulated business activities;
- different regulated service territories in the same or different jurisdictions; and/or
- any regulated businesses that are considered separately by the regulator for purposes of revenue requirement and rates (for example, electricity transmission and distribution functions carried out by the same or affiliated utility companies).

The sharing can be between activities within the same corporation, or between affiliated corporations. Gazifère is permitted by the Régie to carry out its non-regulated business activities within the same corporate entity that carries out the regulated gas distribution business; the sharing is therefore within Gazifère Inc.

Because sharing of resources and transfer pricing potentially offer a regulated entity an opportunity to transfer value from regulated ratepayers to unregulated service customers or shareholders, regulators and stakeholders typically scrutinize the cost allocation/transfer pricing methodology between the two businesses when there is an effect on the regulated revenue requirement.

1.3 *Analysis Approach and Methodology*

Internal data collection for the review was carried out through a series of conference calls between the consulting team and Gazifère. After obtaining an understanding of the businesses carried on by Gazifère, its relationship with its parent company, and its organization structure, BDR discussed with Gazifère a possible framework for developing a methodology for the allocation of shared costs.

In recommending a revised methodology to be tested, BDR examined each of the cost components of the services that are shared, and attempted to identify the factor or factors that most reflect how the costs are caused. In determining appropriate causation-based allocation factors, BDR considered the views of Gazifère's management, and the consulting team's experience as employees of regulated utilities and with regulated utility clients.

Over a period of several months, Gazifère gathered data to support direct assignment and allocations of the costs, and reviewed the results with BDR. In April, 2015, Gazifère and BDR reviewed the data in the form of a spreadsheet setting out each cost function, proposed methodology and the resulting allocation of costs. BDR reviewed this spreadsheet on a line by line basis, and determined that each cost function was either directly assigned by identifying the costs as specifically incurred for either the regulated business or the unregulated business, or that the proposed allocation was based on a factor that was consistent with accepted principles of cost allocation.

In recommending specific methodologies, BDR has also considered the principles of simplicity and transparency. In some cases, estimation is accepted because detailed data supporting the allocation method would otherwise require data that Gazifère does not collect in the normal course of business, and which would be unduly time-consuming and/or costly to collect. In the case of costs that are indirect in their relationship to the regulated and unregulated businesses, an allocator was derived from other cost functions, or from reasonable measures of business activity.

BDR also considered the results of its review of the methods adopted by other utilities. BDR reviewed the methodology recently proposed by Gaz Metro. In selecting examples outside Québec for additional comparisons, BDR utilized examples where:

- good quality documentation of the allocation methodology to enable the comparison was available to the public at the websites of utilities or regulators;
- the services are provided to a non-distribution activity either within the distribution company or by the distribution company to an unregulated affiliate; and
- the services are either similar in nature to the unregulated activities of Gazifère, or of a similar scale (i.e. smaller than the regulated activities).

This resulted in selection of examples of electricity utilities in Ontario and New Brunswick. BDR considers that there is no relevant difference between gas and electricity in terms of the nature of the shared services involved in Gazifère's case, or in terms of the cost allocation principles that should apply.

1.4 *Conclusions and Recommendations*

Under the methodology approved by the Régie, Gazifère uses revenue as the basis for its allocation of shared costs. This approach has the following merits:

- is simple to apply;
- uses data that is collected by Gazifère in the ordinary course of business, and therefore is not costly;
- is transparent—allows for easy review by stakeholders;
- results in sharing that is generally proportionate to the scale of business, and therefore appeals to a subjective sense of fairness.

However, this approach does not meet the test of generally accepted principles of cost allocation, which requires allocation to be based on a factor related to cost causation.

BDR has therefore recommended, and Gazifère has accepted subject to approval by the Régie , a cost allocation methodology that applies a factor or combination of factors at the level of detailed cost functions within the various cost centres of Gazifère's organization. At a high level, the approach is as follows:

1. Any costs that can be specifically identified as incurred solely for regulated functions are directly assigned in total to regulated functions;
2. Any costs that can be specifically identified as incurred solely for unregulated functions are directly assigned in total to unregulated functions;
3. For costs that are shared and not directly assignable:

a. Costs related to compensation of staff who perform services directly for both the regulated and unregulated businesses are allocated according to the best available data as to time spent;
b. Costs related to compensation of staff who perform services that provide a shared or indirect benefit to the regulated and unregulated businesses are allocated according to a factor selected to reflect cost causation;
c. Supporting expenses within cost centres are allocated according to the allocation of staff within the cost centre;
d. General support resources applicable to all Gazifère activities (such as the office component of its building, computer equipment and human resources services, are allocated following the allocation of employee time (not weighted by salary);
e. Employee benefits, compensation other than salary, awards and allowances, training and development, donations and memberships are allocated according to the time allocation of the employees, weighted for salary; and
f. A small number of independently incurred costs (e.g. bad debts, insurance, advertising, audit fees, bank charges and administrative postage) are considered related in terms of cost causation to the overall scale of business, and are therefore allocated on the basis of revenues.

The following tables set out the services shared by Gazifère's regulated and non-regulated services and the allocation method proposed. More details are included in Appendix A.

BDR has concluded that these allocation approaches:

- ***are consistent with accepted principles of cost causation;***
- ***are consistent with methodologies applied by regulated utilities in other jurisdictions and accepted in the regulatory process;***
- ***can be implemented and maintained by Gazifère at minimal cost; and***
- ***while more complex than the presently approved method, which allocates all costs based on revenue, can nonetheless be reviewed and considered as to reasonableness by the Régie and parties to the regulatory process without an undue level of effort.***

Table 1:1 – Costs Directly Assigned to Gazifère's Regulated and Unregulated Businesses

Cost Function	Regulated	Unregulated	Reason
Directors and Officers Insurance, component excluded by MNP[1]		✓	Excluded by MNP[1] from the regulated revenue requirement
Stock-based compensation, component excluded by MNP[1]		✓	Excluded by MNP[1] from the regulated revenue requirement
Internal charges component excluded by MNP[1]		✓	Excluded by MNP[1] from the regulated revenue requirement
Deferral accounts	✓		Pertain exclusively to regulated business
Regulatory expenses other than cost centre staff	✓		Pertain exclusively to regulated business
Sales, commercial and residential, staff and expenses	✓		Pertain exclusively to regulated business
Advertising expenses	✓		Pertain exclusively to regulated business
Mains and services	✓		Pertain exclusively to regulated business
Regulation and Measurement	✓		Pertain exclusively to regulated business
Administration, distribution operations	✓		Pertain exclusively to regulated business
Meter reading	✓		Pertain exclusively to regulated business
JC& Hip Cleaning[2] – staff costs directly assigned through work order system		✓	Pertains exclusively to unregulated business
Furnace Cleaning – contracted services		✓	Pertains exclusively to unregulated business
Rental equipment maintenance – staff costs directly assigned through		✓	Pertains exclusively to unregulated business

[1] MNP--A consultant performing a review of *corporate* cost allocations on behalf of Enbridge Gazifère. See discussion in Section 3.
[2] Jobbing contracts on appliances and Heating Insurance Program (a protection plan for the appliances of the customer, including cleaning of the appliances and repairs as needed).

Table 1:1 – Costs Directly Assigned to Gazifère's Regulated and Unregulated Businesses			
Cost Function	**Regulated**	**Unregulated**	**Reason**
work order system			
EGNB[3] Call centre costs directly chargeable to EGNB (all costs other than labour)		✓	Pertains exclusively to unregulated business
EGNB call centre and dispatch services revenue (offset)		✓	Pertains exclusively to unregulated business
Legal fees	✓	✓	Directly identifiable by lawyer's charge records. Portion in regulatory accounts is exclusively for the regulated business.
Municipal and other taxes	✓		Pertains to regulated business
Casualty and damage		✓	Pertains to unregulated business
Recovery of overhead capitalized – identified in accounts	✓	✓	From actual values
Component of Gazifère's building identified as warehouse use – rent, expenses and leasehold improvement (asset)	✓		

[3] Gazifère provides these services to Enbridge Gas New Brunswick (EGNB), an affiliate.

Table 1:2 – Allocation of Compensation[4] and Cost Centre Expenses Shared by Gazifère's Regulated and Non-Regulated Businesses

Direct Services Allocated by Estimated Time to Tasks	Indirect Shared Services Allocated by Cost Causation	Allocation Factor for Indirect Services
General manager		
Director - Administration		
	Assistant – portion of time in support of GM	Allocation of GM
	Assistant – portion of time in Human Resources	# of employees
Financial analysts and accounting		
IT employees for CIS, and expenses of cost centre		
Credit and collections		
Regulatory director, supervisor and analyst		
Sales administration		
Customer service director and staff		Expenses in this cost centre are assigned 100% to the regulated business. That is because any expenses of the unregulated business are specifically identified and assigned to an unregulated cost centre.
Customer billing		
Work management, net of portion charged to unregulated based on work order time records		
Dispatch		

[4] Compensation costs include employee benefits, other compensation such as "stip" (an additional compensation for which all employees are eligible) and stock-based compensation (for which management is eligible), awards, allowances, donations, memberships, staff training and development, and are allocated as employee time, weighted for salaries. "Stip" costs are also weighted with a factor reflecting the eligibility of employees in different job classes.

Table 1:3 – Allocation of Non-Labour Costs Shared by Gazifère's Regulated and Non-Regulated Businesses

Description of Cost	Proposed Allocation	Additional Information or Comment
External audit fees	Revenues, weighted	Adjusted by judgment factor of 50% to reflect additional complexity of regulated business
Human Resources consulting	FTEs	Reflecting cost causation
Insurance, general business and directors/officers	Revenues	Reflecting relative scope of business
Printing	Estimation, reflecting relative use of documents	Estimated factor reflecting cost causation
Postage for administration	Revenues	Reflects relative scope of business
Travel cost, General Manager	As general manager's time	Reasonable derived allocation
Office rent, building operation material, outside services related to the building (office component)	Allocation of all employees, including shared and non-shared	Reflects cost causation
General advertising, yellow pages	Revenues	Reflects relative scope of business
Equipment repairs and maintenance	Estimate	Reflects judgment as to relative activity in support of each business
Bank charges	Revenues	Reasonable, given shared banking services
Bad debt provision	Revenues	Reflects cost causation
Telephones	Number of employees	Reflects cost causation
Internal charges	Revenues	Reflects scope of business
Small computer equipment and supplies	Number of employees (users)	Reflects cost causation
Outside service for recall appointments	Judgment	Equal sharing

Table 1:3 – Allocation of Non-Labour Costs Shared by Gazifère's Regulated and Non-Regulated Businesses		
Description of Cost	**Proposed Allocation**	**Additional Information or Comment**
Servers and phone lines	Number of employees (Users)	Reflects cost causation
Sales admin – expenses	Actual amounts	Reflects the fact that almost all the costs, if related to the unregulated business, are directly identified and charged.
Customer billing, expenses	Judgment	Reflects greater intensity of effort in regulated business, more complex billing adjustments, requirement for monthly invoices.

In addition to the above Operations, Maintenance and Administration ("OM&A") costs, the "fully allocated cost" approach requires an allocation of costs of assets, including amortization and cost of capital. All asset classes that are components of the gas distribution system, and heavy equipment used entirely in the service of the distribution system can be directly assigned to the regulated business. Gazifère rents, rather than owns its building, so there is no sharing cost in the capital for this element. The asset classes for which an allocation is necessary therefore include only:

- lease improvements (excluding the warehouse-related component, which is directly assigned to the regulated business);
- office equipment;
- light vehicles;
- communication equipment
- software other than CIS
- CIS system.

All Gazifère employees have a work station in the building, with furniture, telephone and computer. The leasehold improvement (excluding the warehouse-related component, which is directly assigned to the regulated business), office equipment, communication equipment (related to telephones) and general use software are therefore allocated based on number of employees (FTEs). This is consistent with the allocation treatment of related OM&A functions.

Light vehicles are directly assigned for use to individual technicians. The vehicles are therefore allocated according to the proportion of time of the technicians spent on the regulated and unregulated businesses.

CIS asset costs are allocated based on the number of accounts, weighted to reflect the complexity of account information and billing. This is consistent with the allocation of the related OM&A.

The following Table shows the details of the allocation of capital expenditures between the regulated and unregulated activities.

Table 1:4 Cost allocation for capital expenditures

	Original cost	31/12/2014 Depreciation	Net value	Amortization
	Allocation proposal			
Regulated assets				
482 Lease Improvements	838,236	248,430	589,806	53,102
483 Office Equip.	530,130	211,431	318,698	12,982
484 Transp. Equip.	1,068,496	563,574	504,923	115,504
488 Communication	379,483	33,733	345,750	21,654
490 Computers - Post 2008 & Computers	289,418	168,499	120,918	48,453
491 Software -Autres	588,854	536,156	52,698	87,247
491 CIS - software	7,433,437	5,179,972	2,253,466	1,091,677
Total	**11,128,054**	**6,941,796**	**4,186,258**	**1,430,619**
Unregulated assets				
482 Lease Improvements	171,687	50,883	120,804	10,876
483 Office Equip.	137,540	54,855	82,685	3,368
484 Transp. Equip.	91,652	48,341	43,310	9,908
488 Communication	98,455	8,752	89,703	5,618
490 Computers - Post 2008 & Computers	75,088	43,716	31,372	12,571
491 Software -Autres	152,776	139,103	13,672	22,636
491 CIS - software	474,475	330,636	143,838	69,682
Total	**1,201,672**	**676,288**	**525,384**	**134,658**

482 Lease Improvements	Mix FTE's/garage factor, like the renting cost of the building. (17 %)
483 Office Equip.	Number of employees FTEs (20.6%)
484 Transp. Equip.	Percentage of tech related to users of light trucks. (7.9 %)
488 Communication	Number of employees FTEs (20.6%)
490 Computers - Post 2008 & Computers	Number of employees FTEs (20.6%)
491 Software -Autres	Number of employees FTEs (20.6%)
491 CIS - software	IT CIS factor, 6 %.

Having made the allocations, it is Gazifère’s proposal that it would remove the share of amortization from the total amortization included in the revenue requirement, and the related share of net assets from the regulated rate base. Removal of the net assets will have the effect of removing from the revenue requirement any interest or return on equity related to that asset base.

In BDR's view, the proposed allocations of assets are both consistent with the proposed treatment of related expenses and with accepted principles of cost allocation. By including the allocation of its assets in the methodology, Gazifère complies with the principles of "fully allocated cost".

2 Organization Structure and Treatment of Shared Services

Gazifère is a wholly-owned subsidiary of Enbridge. In order to carry out its business, Gazifère has its own staff of 93 employees based at Gazifère's Québec office and also receives certain management and corporate services on an allocated cost basis from Enbridge. Gazifère carries on a regulated business of distributing natural gas to about 40,000 customers in the Province of Québec, and also carries out activities for which the revenues are not regulated. These include:

- A natural gas appliance business, which includes rental of gas furnaces and water heaters, maintenance and cleaning of gas appliances, and financing of the appliances for consumers; and
- Provision of a customer call centre and dispatch service from Gazifère's Québec office for Enbridge Gas New Brunswick on a fee for service basis.

Good regulatory practice requires that the costs of carrying out the unregulated services be excluded from the revenue requirement that is collected from Gazifère's natural gas customers through rates approved by the Régie. This is appropriately done by:

- Identifying any costs that can be specifically identified as being incurred for either the regulated business or the unregulated business, and directly assigning them; and
- For all costs which are incurred on a shared basis and cannot be directly assigned, allocating those between the regulated and unregulated functions using an allocation factor selected, if possible, to reflect cost causation.

3 Direct Assignment of Costs

Where costs can be specifically identified as incurred solely for the benefit of one group of customers or type of service, the possibility exists to assign the costs directly, rather than to allocate them on the basis of a selected factor. If all costs could be directly assigned, each type of service would pay for all of the costs that it caused to be incurred, and no more. It was therefore agreed that Gazifère would identify and review with BDR any cost function where the data exist to support direct assignment.

Gazifère advised BDR that another firm, MNP, had been retained to review corporate cost allocations. MNP concluded that a portion of three types of costs should be excluded from the regulated revenue requirement:

- Directors' and Officers' liability insurance;
- Stock-based compensation to management; and
- Certain internal charges.

To maintain consistency of treatment, Gazifère advised BDR that it would eliminate these costs from its Québec regulated revenue requirement, by allocating the full portion excluded by MNP to the unregulated businesses. In this manner, Gazifère fulfills its responsibility for allocations to its corporate parent, without the costs being charged to ratepayers through regulated rates.

Gazifère reviewed each of its cost centres and identified those costs that are related only to the regulated business, or only to the unregulated business.

Costs identified as belonging only to the regulated business include:

- Amortization of deferral account balances;
- Most expenses of the "regulatory" group
- Residential and commercial sales staff and their expenses;
- Advertising related to the regulated business;
- Operation and maintenance of mains and services;
- Regulation and measurement of gas;
- Administration related to distribution operations; and
- Meter reading; and
- Municipal and other taxes related to the distribution system.

Costs identified as belonging only to the unregulated business include:

- JC and Hip cleaning (costs and revenues)
- Furnace cleaning (costs and revenues)
- Rental equipment maintenance
- Casualty and damage costs
- Expenses in the call and dispatch centre providing services to EGNB other than salaries; and
- Revenue from call centre and dispatch services to EGNB, which are an offset to the costs incurred for the services.

Gazifère clarified to BDR that JC and Hip cleaning and furnace cleaning are carried out by Gazifère staff who also provide services to the regulated business. However, because the operation staff logs their time to a work order system, in which separate work orders exist for the regulated and unregulated work, the unregulated component of costs can be separately identified and charged to an unregulated cost centre. This approach is therefore a direct assignment, different from the shared services of, for example, administrative and IT personnel whose time must be allocated.[5]

Legal fees and recovery of overhead capitalized can be directly identified—the former through the billing information of the legal counsel, and the latter through separation of the costs in Gazifère's accounts. Therefore, while these types of costs are incurred by both the regulated and the unregulated businesses, the separation of these costs is considered to be a direct assignment rather than an allocation.

Certain other specific expenses are also, in the ordinary course of business, identified as being incurred specifically for the unregulated business, and are charged directly to cost centres for the unregulated business. The result is that the remaining costs of the same type are the costs of the regulated business. An example of this treatment is expenses regulated to customer service. Those expenses that apply to the unregulated business are removed from the balance in the customer service cost centre, 25401. Therefore, the customer service cost centre expenses other than salaries are allocated 100% to the regulated business. While this is treated as an allocation in the discussion below, it is in fact a direct assignment.

It is BDR's opinion that where data exist to support an accurate direct assignment of costs, the direct assignment method should be used. Allocation should be used only where an accurate direct assignment cannot be made. Allocation is the correct method when:

- ***For reasons of cost or complexity, the data are not available to support direct assignment, or***
- ***The activity or resource provides a shared benefit as it is carried out or used. The inputs cannot be specifically identified as benefitting only one service or class of user.***

In BDR's opinion, based on the data provided by Gazifère and reviewed by BDR, Gazifère has identified costs that can be directly assigned, and therefore by using the direct assignment approach, has treated these costs in accordance with generally accepted principles of cost allocation.

[5] This reflects only the salary component that is accounted for in the JC and HIP Cleaning cost centre. These services are also supported by staff whose salaries are in the work management and call centre functions. These staff does not charge their time to work orders, and therefore their costs are allocated on the basis of estimated time spent.

4 ALLOCATION OF SHARED COSTS

4.1 *Overview of Approach*

This section addresses in detail the costs for which it was not possible to make a direct assignment, based on existing data and/or the way the cost is incurred. In carrying out the analysis, each cost centre was reviewed, examining separately the employee salaries and other expenses. Costs were broken down in order to have a line item for each pool of dollars, within a cost centre, where the percentage allocation would be different. In the case of some cost centres, the salaries of different employees were separated in order to allow for a separate and different allocation of each person's salary. The level of detail of analysis in the administrative department was between 30 and 40 line items.

For each line item that was not addressed by direct assignment, one of the following approaches was applied:

- Employees who do not record their time to the work order system, but who could identify their activities generally as benefiting either the regulated business or the unregulated business, were asked to make an estimate of the proportion of their time spent on each. Their salaries and associated supporting costs were then allocated on the basis of this proportion.

- For employees who provide services with a shared benefit to both the regulated and the unregulated businesses, and who therefore could not apportion their salaries by an estimate of direct time spent, their salaries and associated supporting costs were allocated by using a factor related to causation of the aggregate cost. For example, as discussed more fully below, time related to the human resources function was allocated using a factor derived from the number of employees (FTE's) in the regulated and unregulated businesses.

- Costs not directly related to employee labour were allocated by using a factor related to cost causation. Where no factor could be identified that was clearly related to cost causation, the relative revenue of the regulated and unregulated businesses was used as a summary measure of the relative level of activity in the businesses.

While the analysis was carried out by addressing each cost centre separately, the analysis is described below by grouping the discussion of costs treated in a similar manner.

4.2 *Direct Services Allocated by Estimated Employee Time to Tasks*

Within Gazifère, most management, administrative and customer service employees have some measure of involvement in providing services to the unregulated business. For the cost of their salaries and associated costs such as benefits and other compensation, the cost driver is time spent. But, as is common within utilities, these employees do not record their time to work orders as is done by operations employees. There was therefore no ongoing log to which Gazifère management and BDR could look for an assignment of the time of these employees to the regulated and unregulated business.

BDR discussed with Gazifère the possibility of requesting these employees to commence maintaining a "timesheet"—a log of their time outside the work order system. However, discussion with Gazifère management indicated that:

- Some of the time spent is on activities that benefit both the regulated and the unregulated businesses and therefore cannot be assigned exclusively as one or the other;
- Staff are continually interrupted and switching between activities, making accurate logging difficult and onerous.

It was therefore agreed that each employee directly, in the functions listed below, or their supervisor or manager, would be asked to provide an estimate of the allocation of time between the regulated and unregulated businesses. An estimate was obtained for the proportion of time spent, for each of the following functions, and that estimate was used to allocate the salary-related cost, and also to allocate the number of employees, not weighted by salary, for purposes of developing an allocation factor for certain supporting functions.

Jobs proposed to be allocated according to either a high level estimate of time or a task-related estimate are:

- General manager
- Director – administration
- Financial analysts and accountant
- Credit and collections staff
- IT
- Regulatory director, supervisor and analyst
- Sales administration
- Customer service director and staff
- Customer billing staff
- Work management cost centre staff
- Dispatch

Gazifère maintains two cost centres for call centre and billing activity—one for its Québec business and one for its affiliate EGNB, to which Gazifère provides these services. However, in reviewing how the work is actually carried out, it was clarified that the activities are carried out in an integrated fashion with individual employees providing service both to Gazifère's Québec customers and to EGNB's New Brunswick customers. It was therefore necessary to address the compensation costs of the employees as a single unit, divided through allocation rather than direct assignment. The employees were asked to develop and submit their estimates, and the resulting factors were then applied uniformly to the costs in both the Gazifère cost centre and the EGNB cost centre. This is reflected on the detailed table of allocations prepared by Gazifère management to support BDR's review.

BDR considers this approach to be reasonable and reflective of the manner in which the resources are used to provide the shared service.

In BDR's previous similar assignments for other clients, we have been told the same information about the way that administrative and management staff spends time, and the challenges of accurate logging. Our consulting team, having held management positions within utilities, have experienced the pressure of interruptions and continually changing focus of activity that our utility clients experience. Understanding this challenge, BDR has found that regulators and stakeholders have been willing to accept for the whole or part of an administrative cost, an allocation based on the estimates of the employees or their managers as to the average amount of time each employee dedicates to the separate activities.

The brevity, variety and fragmentation of executive and management activities has been documented extensively in the field of behavioral and management science. BDR therefore accepts that the nature of the activities causes Gazifère management and administrative personnel difficulty in identifying specific hours with specific activities and affiliates, particularly in regard to recurring management activities. The proposed system for allocations therefore consists of an estimate made by experienced employees or management.

One of the following methods might be adopted in order to improve the data as to time allocation by management, administration and customer service staff:

- ***maintaining a log of time spent on large non-recurring projects benefitting only the regulated business, or only the unregulated business; and/or***
- ***completing a time record for a short period from time to time to confirm the reasonableness of the estimates of time estimates for recurring activities.***

4.3 *Indirect Shared Services Related to Employee Work*

This section addresses costs that are the compensation and related costs of work positions for which most of the work cannot easily be identified as benefitting either the regulated business alone or the unregulated business alone, but is incurred to provide services of benefit to both. In these cases, an allocation factor was selected reflecting each business' contribution to the causal variable for the cost.

One employee shares time between two functions: as assistant support to the general manager, and providing human resource services. This employee first estimated the proportion of time spent on each of these functions. The portion of time (and therefore salary and related costs) spent in support of the general manager was allocated in proportion to the allocation of the general manager. The portion of time spent in human resources duties was allocated by the number of employees in each business.

On review, BDR considers that use of these factors reflects cost causation and is consistent with accepted principles of cost allocation.

4.4 *Non-Salary Costs Allocated by Number of Employees, Estimates or Revenues*

This section addresses the treatment of costs that are neither the compensation of employees nor the supporting expenses of cost centres that provide direct services to customers. These consist of costs recorded in the accounts in the administrative and IT cost centres and include costs incurred as third party services such as audit and consulting fees, insurance and bank charges.

Certain of these costs can be considered as created to provide services or facilities that support the employees in their work. These include:

- Outside services related to human resources
- All costs related to Gazifère's rented building, including the rent, building operation material, and outside services related to the building (excluding warehouse component)
- Telephones, and
- Small computer equipment (work stations, laptops and other devices) and related supplies and services.

As documented above, an allocation factor had been developed using either time or a factor described in Section 4.3, to allocate the compensation costs of all employees who do not charge their time through the work order system. To this list was added the allocation of time of the employees that do charge their time in the work order system, so that there was an allocated value for every employee utilizing the services and facilities listed above. This data was averaged over all employees to develop an allocation factor for number of employees, but not weighted for relative salary.

BDR considers that use of an allocation factor based on number of employees supported by the services or facilities reflects cost causation and is consistent with accepted principles of cost allocation.

BDR notes that use of an average factor for all employees embeds the assumption that the services and facilities provided to each employee are relatively equal in terms of cost. No attempt was made to reflect, for example, the possible different square footage space requirements per employee of different departments. While consideration could be given to this additional level of detail, it would add work effort and requirements to apply judgment to the overall cost allocation process, without, in BDR's view, providing a significant improvement in the level of accuracy of the overall cost allocation. ***BDR therefore recommends that the simplified approach adopted by Gazifère for purposes of this study be approved.***

It was considered on examination that certain other costs are more difficult to define in terms of cost causation, but have a relationship to the overall size of the businesses. These costs include:

- External audit fees
- Insurance
- Postage for administrative purposes (not billing)
- General advertising and listings (e.g. Yellow Pages)
- Bank charges
- Bad debt provision, and
- Internal charges.

For the allocation of external audit fees, a judgment based weighting factor was applied to reflect the complexity of the accounts and reporting for the regulated business, as compared with the unregulated business. All of the other cost types are proposed to be allocated using revenues, as a general measure of business size and level of activity.

It is considered that bad debt provision is related to revenues in terms of cost causation, and in discussion with Gazifère management, it was determined that there is no data to support the conclusion that the regulated and unregulated businesses carry a different level of risk of non-payment. An unweighted revenue allocation factor was therefore considered appropriate.

BDR considers that the use of relative revenue as an allocator for these costs reflects cost causation and is consistent with accepted principles of cost allocation.

Travel costs relate to travel of the general manager, and, according to Gazifère, cannot be specifically determined to support either the regulated business or the unregulated business. These costs are therefore allocated on the same proportion as the general manager's time.

BDR considers that this approach reflects cost causation and is consistent with accepted principles of cost allocation.

For non-salary costs related to customer billing, a factor was developed that incorporates number of accounts, weighted to reflect the requirement for monthly invoicing and a more complex process of exception reporting and correction.

BDR considers that this approach reflects cost causation and is consistent with accepted principles of cost allocation.

The remaining cost types to be allocated consist of administrative printing (i.e. not bills), equipment repairs and maintenance, and outside services for recall appointments. In each of these cases, costs are caused by the level of use or activity; however no data exist to support a specific use-based measure. As a result, management made a judgment as to the relative use of each of these services by the regulated and unregulated businesses, and the resulting factor was applied.

BDR considers that in the absence of any specific data, the use of informed and experienced judgment to allocate the cost is acceptable.

5 PRECEDENTS FROM OTHER JURISDICTIONS

5.1 *Overview*

The Régie has no established requirements for shared services and allocation that apply to all utilities. A regulated applicant may therefore offer its own proposals for the treatment of shared costs, for review by the Régie at the time of an application for approval of regulated revenue requirement and rates. BDR therefore looked to documented Canadian precedent for indications of the cost allocation and transfer pricing approaches that appear to be acceptable to regulators and parties in regulatory processes to first determine the high level basis on which services to the unregulated activities should be priced.

In previous similar assignments, BDR has learned that the context in which shared and affiliate services are priced can vary significantly from utility to utility in the following respects:

- Whether the unregulated services are within the utility company or within an affiliated corporation;
- The type of business, scale and scope of the unregulated business(es)
- The type of services that are shared or provided between the regulated and unregulated businesses; and
- Whether the shared services are provided by the regulated business to the unregulated, by the unregulated business to the regulated, or by separate service company to both businesses.

Sharing of costs or transfer pricing can also involve either a gas utility or an electric utility.

In selecting precedents and evaluating their usefulness, it was therefore necessary to consider the similarities and differences in context and to compare principles and approaches in contexts that might not be the same in a key respect to the context in which Gazifère operates its businesses.

In BDR's experience with regulators and regulatory policy, the same key consideration guides decisions on the acceptability of cost allocations that affect regulated revenue requirement. This is, that there should be no inappropriate transfer of value from regulated ratepayers to shareholders or to customers of unregulated services.

In Ontario, the Ontario Energy Board ("OEB") has set out this consideration in the Affiliate Relationships Code for Gas Utilities, dated November 25, 2010 ("ARC"). Because the Ontario regulatory framework restricts the unregulated activities that can be carried out directly by corporations that are regulated utilities, the language is directed to exchange of services, goods or assets with "affiliates". For purposes of generalizing these concepts to cost allocation by Gazifère, references to "affiliates" can be considered as applicable to Gazifère's unregulated business.

"1.1 Purpose of this Code

The purpose of the Affiliate Relationships Code is to set out the standards and conditions for the interaction between gas distributors, transmitters and storage companies and their respective affiliated companies. The principal objectives of the Code are to enhance a competitive market while, at a minimum, keeping ratepayers unharmed by the actions of gas distributors, transmitters and storage companies with respect to dealing with their affiliates. The standards established in the Code are intended to:

(a) minimize the potential for a utility to cross-subsidize competitive or non-monopoly activities;
(b) protect the confidentiality of consumer information collected by a transmitter, distributor or storage company in the course of provision of utility services; and
(c) ensure there is no preferential access to regulated utility services."

In its analysis of the following examples of practices for pricing shared services, BDR has considered this key regulatory objective. Since the same considerations apply to electric utilities, and since electric utilities also engage in the practice of sharing services with unregulated business activities, and in some cases with very similar types of activities to the ones carried on by Gazifère, we have considered examples from the electricity sector as well as examples from the gas sector. Use of electricity sector businesses had the advantage of increasing the population from which examples could be drawn, and also providing examples where overall customer base and business size were similar to that of Gazifère.

5.2 *Ontario Examples of Pricing Services to Unregulated Businesses*

5.2.1 Regulatory and Industry Environment

Ontario was included for this review because:

- The OEB has documented guidelines for transfer pricing,
- In the electricity sector, there are numerous examples of utilities of the scale of Gazifère, with unregulated businesses within corporate affiliates, some of which are businesses similar to Gazifère's unregulated activities.
- The utilities are required to file documentation of their practice in sharing costs with affiliates as part of their regular cost of service approval applications, and such documentation is therefore readily accessible to review.

Limitations in considering Ontario examples include:

- Almost 100% of gas distribution in Ontario is carried out by two large utilities, of which one is Enbridge, an affiliate of Gazifère and part of a complex corporate structure. We therefore looked at examples in the electricity sector.
- Although the electric utilities are required to file their affiliate transfer pricing policies for scrutiny by the OEB, the reality is that these are almost never tested in public hearing. The OM&A component of a utility's revenue requirement is almost always determined in aggregate through a confidential settlement process, so that the basis of treatment of individual costs never becomes public, and the OEB is not called on to approve or reject any specific cost allocation treatment. The settlement agreements were briefly reviewed to confirm that allocation of shared cost was not an unsettled issue, and that therefore the parties to the case had effectively accepted the allocation.

Specifically, the following paragraphs of the Ontario ARC apply to transfer pricing and cost sharing situations where, as in Gazifère's case, the regulated business can be regarded as the provider of the services, and the unregulated business as the purchaser of the services:

"2.3.9 Where a reasonably competitive market exists for a service, product, resource or use of asset, a utility shall charge no less than the market price of the service, product, resource or use of asset when selling that service, product, resource or use of asset to an affiliate."

"2.3.11 Where a reasonably competitive market does not exist for a service, product, resource or use of asset that a utility sells to an affiliate, the utility shall charge no less than its fully-allocated cost to provide that service, product, resource or use of asset. The fully-allocated cost shall include a return on the utility's invested capital. The return on invested capital shall be no less than the utility's approved weighted average cost of capital. "

A similar code exists governing "affiliate" transfer pricing for regulated electricity distributors and transmitters.

There are currently 72 electricity distribution utilities in Ontario, regulated by the OEB. Many carry out unregulated businesses through affiliates or share resources, such as billing systems, with their shareholder municipality.

5.2.2 North Bay Hydro

North Bay Hydro Distribution Limited ("NBHDL") is a regulated electricity distributor providing service to about 24,000 customers in North Bay, Ontario. Its unregulated affiliate North Bay Hydro Services ("NBHS") offers furnaces, air conditioners, electric water heaters and gas water heaters for rent, including installation and maintenance, in several communities in the North Bay area. NBHDL was selected for review because the competitive business carried out by NBHS is similar to the unregulated business of Gazifère, and services are provided by NBHDL to NBSH.

Information on the range of business of NBSH was reviewed at its website[6], and information on the cost allocations was obtained from NBHDL's most recent rate application to the OEB EB-2014-0099[7]. The current rate case has not yet been concluded. NBHDL's prior cost of service approval was EB-2009-0270, and specific information as to its affiliate transfer pricing is at Exhibit 4, Page 69 of 87, Filed: October 26, 2009.

In the 2009 case, NBHDL submitted that it provided NBHS with sentinel light installation and repairs, customer service, billing and collecting services, human

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[6] http://northbayhydroservices.com/nbhservices/pricing/

[7] http://www.rds.ontarioenergyboard.ca/webdrawer/webdrawer.dll/webdrawer/search/rec&sm_udf10=eb-2014-0099&sortd1=rs_dateregistered&rows=200

resources, finance and administrative services to NBHS. All services except billing and collecting were charged out based on actual hours worked at the employee's wage rate plus applicable payroll burdens. Billing and collecting services were charged out using the same methodology and rates NBHDL applied to electricity retailers (effectively a market rate). All of the above charges were incremented 15% for management fee.

No more detailed information as to the allocations was filed in the application. There is no reference to the allocations in the settlement agreement filed in connection with the case; therefore it is concluded that the allocation approach was not considered contentious by the intervening parties, and was accepted as proposed.

In the current application, which has not yet been concluded before the OEB, more detailed information has been provided. NBHDL is providing the following services through employee labour to NBHS:

- strategic and financial planning,
- risk management,
- employee management and mentoring
- Board meeting preparation and attendance
- financial reporting, accounts payable, accounts receivable, payroll, banking,
- business planning,
- audits
- customer account specialist services, and
- sentinel light installation and repairs

.
NBHDL documents that it has in place a timesheet system on the basis of which the hours worked by NBHDL employees for NBHS are determined. Chargeout rates are at the salary rate plus payroll burdens.

The use of time worked as an allocator is consistent with the method proposed by Gazifère.

NBHS is housed in the same building as NBHDL, and is charged an occupancy cost based on the occupied square footage. It is not clear from the documentation whether occupancy cost applies only to square footage used by NBHS's direct employees, or whether a charge is made to recover part of the cost of shared employees also.

Gazifère is proposing a usage based allocation of occupancy costs, which includes the cost of shared employees.

Human Resources costs, including labour relations, recruitment, training and benefit management are charged based on headcount unless the costs can be directly attributed to NBHS. It is not clear from the documentation how "headcount" has been determined for the allocation by NBHDL (for example, whether an employee of NBHDL who shares time 50% with NBHS would be considered as 50% of an employee of NBHS for purposes of the Human Resources allocation, or simply as an employee of NBHDL. The former method, which takes sharing into consideration in determining "headcount" for these purposes would be more correct).

Gazifère is proposing a headcount based allocation that includes shared employees.

NBHDL's IT staff support NBHS staff by providing computer and network related services. Specific charges for this department are allocated based on the number of users. The expenses related to a system not used by NBHS employees are excluded from any allocation to NBHS. It is not clear whether a portion of shared employees are included for purposes of an allocation of users.

Gazifère is proposing an allocation based on time estimates. In BDR's view, this approach reflects the type of work done by the employees and is consistent with cost causation in the circumstances.

NBHDL incurs insurance costs for all affiliates and passes through the cost as incurred on the invoice.

Gazifère was not able to separate insurance costs for its unregulated services based on the invoice, and therefore is proposing a revenue-based allocation.

Consistent with its prior practice, NBHDL is proposing to continue recovering a fee of 15% of all charges made to affiliates.

Gazifère is not proposing any percentage markup of its allocated costs. However, Gazifère has been comprehensive in its methodology in ensuring that cost centre expenses and the costs of support for shared employees have been included for allocation to the unregulated business. As noted, NBHDL, in its time-based charges, has included only salaries and payroll burden, and makes no reference to other supporting costs and cost centre expenses. It is therefore assumed that the 15% surcharge is intended as an estimate of these additional expenses, which have not been quantified.

5.2.3 Bluewater Power

Bluewater Power Distribution Corporation ("Bluewater Power") is an electricity distributor serving to approximately 36,000 customers in the City of Sarnia and several other municipalities in south-western Ontario. As is common among Ontario LDCs, Bluewater Power shares employees with, and provides services to, affiliates with unregulated businesses, in order to benefit from economies of scope and thereby control the level of costs of providing services to its customers.

The distribution company employs the executive management team that provides guidance for the affiliates, as well as the finance, HR and IT capabilities to assist the affiliates. The following descriptions provide a brief summary of the activities undertaken by the affiliates:

Bluewater Power Services Corporation ("BPSC") —BPSC carries out the functions of street lighting and traffic lighting services to the municipal shareholders, water meter installation and maintenance, contracting for civil construction and miscellaneous on-demand line work outside Bluewater Power's distribution system. BPSC also provides water billing service on behalf of the City of Sarnia and Town of Petrolia. These functions are carried out in an unregulated affiliate in order to comply with legislative and regulatory provisions that restrict regulated distributors from carry out such non-core functions directly. BPSC has some staff of its own to carry out the services, but also shares resources (including the billing system) with and receives certain corporate support services from Bluewater Power.

Electek Power Services Inc. **("Electek")** provides power distribution system services such as electrical maintenance and commissioning testing, switch gear modifications and retrofits, high/low voltage installations and substation installation turn-key projects. Electek was an established business in the Sarnia area, which provided services to a variety of clients including Bluewater Power, before its acquisition by Bluewater Power Corporation in 2007. Most of Electek's business is still for arms' length clients, but it also continues to provide services to Bluewater Power. Electek provides services through its own staff, which include a professional engineer, engineering technologists, and an administrator.

Bluewater Power Generation Corporation ("Genco") owns two renewable generation projects. It has a wholly-owned subsidiary, **Bluewater Power Renewable Energy Inc. ("BP Renewable"),** which owns and operates a 1.6 MW landfill gas to energy project and has passive (non-operating) ownership interests in a 2.4MW landfill gas to energy project. Genco has no staff, but the 1.6 MW landfill gas to energy project is operated by an employee shared with Bluewater Power.

To varying degrees according to their function and level of independent resources, Bluewater Power provides the following services to all of its affiliates:

- Financial management, treasury, audit and taxation services
- Payroll services
- Accounts payable services
- Accounts receivable, billing and collection services
- Human resources services

- Information technology services
- Services related to employee safety; and
- Certain administration services which include document production and records management.

In addition to the services listed above:

- BPSC receives procurement services related to all purchases, stocking of purchases not directly stocked by the company, and also receives services related to strategic management and supervision of their personnel from Bluewater Power.
- Electek receives procurement services, but that service is utilized to a lesser extent given the company existed prior to its purchase by Bluewater Power Corporation and, therefore, had existing processes in place. Electek receives strategic management services, but no supervision as there is a manager of operations and a manager of engineering in place at Electek.

Bluewater Power submitted a detailed review of its cost allocation and transfer pricing methodologies in its most recent application for full review of its revenue requirement, under the OEB's docket number EB-2012-0107. The formal interrogatories from intervenors in the case included some requests for clarification about the allocations and the nature of the shared costs. The OM&A portion of Bluewater Power's revenue requirement was established through a settlement agreement, without request for any change or review to the transfer pricing methodologies, and therefore can be considered to have received approval. The review report, which was prepared by BDR, accepted the methodologies as consistent with principles of cost allocation. As with Gazifère, BDR accepted time spent as the appropriate allocation factor for costs associated with the work efforts of staff, and recommended that periodic recording of time use be considered as a way to support and improve the accuracy of estimates.

The following table summarizes the allocation of cost-based shared services provided by Bluewater Power to its affiliates (unregulated services), and compares the treatment of each with the methodology being proposed by Gazifère.

Table 5:1 – Services Provided by Bluewater Power to Affiliates

Nature of Service	Allocation Method Used by Bluewater	Comparison with Gazifère Proposed Methodology
Executive	Estimated time spent, to affiliates as a group, operating costs to allocate among affiliates	Gazifère has proposed using the time of functional management to allocate the executive, rather than the

Table 5:1 – Services Provided by Bluewater Power to Affiliates

Nature of Service	Allocation Method Used by Bluewater	Comparison with Gazifère Proposed Methodology
		executive's direct time estimate. In BDR's view, this reflects the fact that Gazifère's unregulated business is within the same corporation, and therefore the executive time is more difficult to allocate directly.
Functional management	Estimated time spent	The same as Gazifère proposal.
Finance services other than payroll	Estimated time spent	The same as Gazifère's proposal.
Insurance premiums	Directly identified	Gazifère's proposal is to use revenue, given that its insurance invoice does not enable direct identification.
Payroll	Estimated time spent	The same as Gazifère's proposal.
Call centre labour	Number and duration of calls	Gazifère is allocating the cost based on a time estimate, in which information as to the number and duration of calls for the regulated and unregulated business were taken into account.
Meter reading	Conducted outside of BPDC, no allocation necessary	Not applicable to Gazifere
Cashier labour	Meter reads	Not applicable to Gazifere
Stationery and consumables for billing	Analysis of paper use	An estimate recognizing the nature of Gazifère's businesses.
Bill mailing, envelopes and postage	Analysis of envelope contents	An estimate, recognizing the nature of Gazifère's businesses

Table 5:1 – Services Provided by Bluewater Power to Affiliates

Nature of Service	Allocation Method Used by Bluewater	Comparison with Gazifère Proposed Methodology
Billing Administration	Included in the time estimates of related staff	Estimated time
Building	Occupied square footage	By FTEs. This method recognizes that in Gazifère's case, all employees use the building.
Human Resources	Specific identification and costing of initiatives, time estimate for staff	Time estimate for staff; specific initiatives are N/A
IT Labour	Specific identification and costing of initiatives, time estimate for staff	Time estimate for staff; specific initiatives are N/A
SAP Expenses	Number of users	Not applicable
SAP Capital	Specific identification of capital programs and allocation proportionate with employee activity	Not applicable
Work Stations and Communications Equipment	Number of work stations	By FTEs – effectively the same since all employees in Gazifère have a work station and phone
Warehouse services	Square footage of warehouse space	Direct assignment to the regulated business. Gazifère's unregulated business does not require maintenance of inventory.
Vehicle usage	Standard hourly rates, recorded time used	Recorded time use of the drivers- effectively the same.
Shared employees	Hourly rate applied to time estimated or scheduled	Time estimated – the same.

5.3 *New Brunswick*

In New Brunswick, the gas industry consists only of Enbridge Gas New Brunswick. The electricity sector consists of New Brunswick Power, the provincially-owned integrated utility, and three municipal utilities – Saint John Energy, Edmundston Energy, and Perth-Andover Power & Light. The municipal utilities are not regulated, and therefore do not have to disclose methods that are used to allocate costs among their businesses.

New Brunswick Power carries out a water heater rental activity within its regulated business, operated through resources shared with NB Power's integrated electricity utility operations. NB Power's water heater rates are regulated by the New Brunswick Energy and Utilities Board ("EUB"). Although therefore the water heaters are not strictly an unregulated business, it is a business other than the supply and distribution of electricity; the costs to be recovered through water heater rates are determined by cost allocation, and any costs recovered through the water heater business result in a revenue requirement reduction to regulated classifications of customers receiving electricity service. BDR therefore considered NB Power a valid comparator for purposes of this review.

NB Power establishes the costs of service for water heater rentals using the same cost allocation study that it uses to allocate all the costs of electricity service to its wholesale, industrial and distribution residential and general service electricity consumers. NB Power has an existing cost allocation methodology approved by the EUB. The most recent approved study was filed in 2007. A new study was filed in connection with Matter 271, which is now open but adjourned by the EUB. This study applies the methodologies as previously approved, including those applicable to water heaters.

While several components of the NB Power cost allocation methodology are now under review, the issues focus on allocation of generation and of the distribution system, and are not expected to significantly affect the approach under which costs are allocated to water heater services.

NB Power separates in its accounts the costs of its water heater assets, and the related direct OM&A. The allocation of other costs follows the same methodology that applies to all customer classifications. An allocation of general plant is made on the basis of the proportion that the direct plant represents of total distribution plant. The total plant is the basis for allocation of all financial costs and asset-based property and utility taxes. An allocation of the amortization expense of general plant is made on the basis of plant. An allocation of general expenses is made based on the proportion of direct OM&A. These components are summed to obtain the total revenue requirement to be collected through water heater rental rates.

This approach is totally different from the approach used by Gazifère. NB Power does not attempt to identify specifically the services utilized by its water heater rental business, as Gazifère has done.

5.4 *Gaz Metro*

Gaz Métro is a natural gas distributor in Québec, serving 195,000 customers in its regulated business. Gaz Métro also generates electricity and distributes electricity and natural gas to 305,000 customers in Vermont. Gaz Métro has unregulated businesses in the areas of wind power, the use of natural gas as a transportation fuel and the development of biomethane.

In its 2013 rate application, R-3809-2012, Phase 2, the Régie reviews the evidence brought forward by Gaz Métro in support of the sharing of costs between its regulated and unregulated businesses, and the positions of the applicant and intervenors in the case. Briefly, Gaz Métro submitted as the basis for allocation a schedule listing individual staff positions that provide shared administrative services to the unregulated business. For each position, a percentage of total time was provided.

The overall time allocation was then applied to allocate the salaries and benefits of the staff to regulated and non-regulated activities.

Gaz Métro argued that the staff time allocation presented should be the only basis for charges to the unregulated businesses. It claimed that all other costs incurred in support of the unregulated business were specifically identified and charged directly to the cost centres of the unregulated business.

Intervenors elicited through questioning that supporting costs, such as building space, computer equipment, IT services and human resource services are incurred, but are not recovered through the method proposed. Gaz Métro performed a calculation to derive an average cost per employee of these supporting services. However, Gaz Métro argued that the average cost of these services should be applied, not to the full number of 31 full time equivalents (FTEs) allocated to the unregulated business, but only to 18, since 13 FTEs were not incremental, and would not be able to be eliminated if the unregulated business ceased to operate.

In decision D-2013-106, the Régie accepted the position of intervenors that Gaz Métro's methodology was based on marginal costing, and that fully allocated cost should apply. The Régie also rejected Gaz Métro's argument that some reduction to fully allocated cost should apply to the unregulated businesses because of the general business benefits they contribute to the regulated business.

The Régie ordered Gaz Métro to include in its allocation to the unregulated business the calculated costs per employee of the identified supporting services, and to bring forward, in its 2015 rate application an allocation methodology reflecting fully allocated cost.

In compliance with the Régie's order, Gaz Métro filed a study in file R-3879-2014[8]. In the new study, the methodology starting point was employee cost, consisting of salaries and benefits, for the employees whose time is shared with the unregulated business. According to the report, employees maintain a time sheet record which is used in the allocation of actual costs; for budget purposes, an estimate is made of the use of staff resources by the unregulated business, in terms of FTEs.

Gaz Métro then allocated a portion of the supporting services—information systems, facilities, and human resources, vehicle expenses and payroll costs by computing a cost per FTE and applying that cost per FTE to the number of FTEs allocated to the unregulated business. For this updated study Gaz Métro also identified shared general assets—buildings, furniture, computers and equipment, technology systems and licenses, telephone sets and equipment and vehicles. For these, the costs to be allocated include amortization expenses and a return on the net assets used.

According to the report, Gaz Métro also identified certain costs for direct assignment to the unregulated business.

BDR is of the view that the methodology proposed by Gazifère is a fully allocated cost methodology, fully reflecting, in addition to the salary and benefit costs of shared employees, the costs of supporting services including building occupancy, IT services and equipment, and human resources services provided to all direct service FTE's providing services to its unregulated business. Gazifère's methodology addresses both the OM&A component of providing services and use of the supporting assets. BDR is of the view that Gazifère has allocated the costs of vehicles in a manner that reflects their utilization in each business. Gazifère's methodology for assets involves removal of the portion of assets allocated to unregulated activities from the regulated rate base, and thereby ensures that no portion of rate of return on such assets is part of the regulated revenue requirement.

BDR therefore anticipates that the Régie and intervenors will accept Gazifère's methodology as a fully allocated methodology including both direct and supporting costs, and therefore conforming with the intent of the Régie's Decision in the D-2013-106 in the 2013 Gaz Métro rate application.

[8] 2015 Rate application, exhibit B-0190 Gaz Métro-21, document 13.

APPENDIX A – DETAILS ON ALLOCATION OF COSTS

Shared Services Gazifère

Department/Section/Service	Description	Name/Activity	Allocation Basis	Unregulated %	Regulated %	Total
				(A)	(B)	(C)=(A)+(B)
Administration	**Salaries**	General Manager	Weight of directors	14.8	85.3	100
		Director 1	Time allocation based estimate	25.0	75.0	100
		Assistant	Weight RH/assistant : RH, FTE, assistant on GM allocator	19.4	80.6	100
		Financial analyst 1	Time allocation based estimate	1.0	99.0	100
		Financial analyst 2	Time allocation based estimate	25.0	75.0	100
		Accounting clerk	Time allocation based estimate	10.0	90.0	100
	Expenses	Audit	Revenues with reduce factor (50 %), regulated creates more work for auditor	8.6	91.4	100
		Professional consulting fee	RH based on FTE	20.6	79.4	100
		Legal	Only regulated legal fees (unregulated are under their own cost center)	0.0	100.0	100
		Stock based compensation	Time allocation of each director and GM	12.7	87.3	100
		Stip	# employees based on salary correlated to % of stip	16.6	83.4	100
		Printing	Estimation, regulated work needs largely more paper work	5.0	95.0	100
		Postage	Postage administration : revenues	17.1	82.9	100
		Travel	GM travel cost	14.8	85.3	100
		Office rent	# employees for office building + garage 100 % regulated (17.7 % of the space)	17.0	83.0	100
		Advertising not directly related	Yellow pages : revenues	17.1	82.9	100
		Building operation material	# employees for office building + garage 100 % regulated (17.7 % of the space)	17.0	83.0	100
		Equipment repairs and maintenance	Estimation, regulated work needs largely more paper work	5.0	95.0	100
		Bank Charges	Revenues	17.1	82.9	100
		Bad Debt Provision	Revenues	17.1	82.9	100
		Telephone lines / cellular	FTE	20.6	79.4	100
		Employee benefits	# employees based on salary	19.1	80.9	100
		Award and allowances / training & develop.	# employees based on salary	19.1	80.9	100
		Donations / Membership	# employees based on salary	19.1	80.9	100
		Casualty & damage	100 % regulated	0.0	100.0	100
		Other outside services	For the building : FTE	17.0	83.0	100
		Municipal and other taxes	Regulated (rent include the municipal taxes for the building)	0.0	100.0	100
	Recoveries	Overhead capitalisé / Bén.marginaux	Based on reel numbers (overhead reg. Ben marg. Unreg.)	18.4	81.7	100
EI cost	**Expenses**	Insurance	Revenues	17.1	82.9	100
		Insurance D&O	Revenues	17.1	82.9	100
		Insurance D&O	Excluded by MNP	100.0	0.0	100
		Stock based compensation EI	Revenues	17.1	82.9	100
		Stock based compensation EI	Excluded by MNP	100.0	0.0	100
		Internal charges EI	Excluded by MNP	100.0	0.0	100
		Internal charges EI	Revenues	17.1	82.9	100
		IT EI	IT allocation	6.0	94.0	100
IT Services CIS	**Salaries**	Employees	Employee time	6.0	94.0	100
	Expenses	Education refund	Employee time	6.0	94.0	100
		Travel and entertainment	Employee time	6.0	94.0	100
		Cellular / Office materials	Employee time	6.0	94.0	100
		Outside services (Advanced Utilities)	Employee time	6.0	94.0	100
		Internal charges	Employee time	6.0	94.0	100

Shared Services Gazifère

Department/Section/Service	Description	Name/Activity	Allocation Basis	Unregulated % (A)	Regulated % (B)	Total (C)=(A)+(B)
IT Services IT	**Expenses**	Small Computer Equipment and supplies	FTE	20.6	79.4	100
		Outside service for recall appointment	Cost 20 k$ for unregulated needs, add 20 k$ for reg needs	50.0	50.0	100
		Servers phone lines	FTE	20.6	79.4	100
		Travel and entertainment	Employee time	6.0	94.0	100
		Internal charges	Employee time	6.0	94.0	100
	Adjustment	Internal charges	Reallocated to EI costs	6.0	94.0	100
Credit and Collection	**Salaries**	Total cost center's expenses	Estimated work load per category	10.0	90.0	100
	Expenses	Total cost center's expenses	Estimated work load per category	10.0	90.0	100
	Revenue	Avis de rappel/ frais NSF / redlock	Estimated work load per category	10.0	90.0	100
Regulation	**Salaries**	Director	Number of hours per task, regulated and unregulated	1.0	99.0	100
		Supervisor	Number of hours per task, regulated and unregulated	5.0	95.0	100
		Analyst	Number of hours per task, regulated and unregulated	10.0	90.0	100
	Expenses	Deferral accounts	Direct Allocation	0.0	100.0	100
	Expenses	Other expenses relating to the cost center	Direct allocation	0.0	100.0	100
Sales - Admin	**Salaries**	Director	Number of hours per task, regulated and unregulated	22.8	77.3	100
	Salaries	Other expenses relating to the cost center	Number of hours per task, regulated and unregulated	53.0	47.0	100
	Expenses	Other expenses relating to the cost center	Based on reel expenses, unregulated in their own cost center	5.0	95.0	100
Sales - Commercial	**Salaries**	Total cost center's expenses	Direct allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct allocation	0.0	100.0	100
Sales - Residential	**Salaries**	Total cost center's expenses	Direct allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct allocation	0.0	100.0	100
Advertising	**Expenses**	Total cost center's expenses	Public relation on regulated activities	0.0	100.0	100
Customer Service	**Salaries**	Director	Number of hours per task, regulated and unregulated	15.0	85.0	100
	Salaries	Engineer 1	Number of hours per task, regulated and unregulated	1.0	99.0	100
	Salaries	Damage Prevention Inspector	Number of hours per task, regulated and unregulated	0.0	100.0	100
	Salaries	Assistant	Number of hours per task, regulated and unregulated	5.0	95.0	100
	Salaries	Tech	Number of hours per task, regulated and unregulated	0.0	100.0	100
	Expenses	Other expenses relating to the cost center	Unregulated expenses in their own cost center	0.0	100.0	100
	Revenue	Frais d'ouverture de compte	Direct allocation	0.0	100.0	100
Main & Services	**Salaries**	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100

Shared Services Gazifère

Department/Section/Service	Description	Name/Activity	Allocation Basis	Unregulated % (A)	Regulated % (B)	Total (C)=(A)+(B)
Regulation & Measurement	Salaries	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100
Admin Operation	Salaries	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100
Main & Services - Maintenance	Salaries	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Revenue	Refacturation des dommages	Direct Allocation	0.0	100.0	100
Regulation & Measurement - Maintenance	Salaries	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100
Meter Reading	Salaries	Total cost center's expenses	Direct Allocation	0.0	100.0	100
	Expenses	Total cost center's expenses	Direct Allocation	0.0	100.0	100
Customer Billing	Salaries	Total cost center's expenses for employees	Number of hours per task, regulated and unregulated + reclassement REM	35.0	65.0	100
	Salaries	Total cost center's expenses supervisor	Estimated work load per category	29.0	71.0	100
	Salaries	Total cost center's expenses for managers	Estimated work load per category	10.0	90.0	100
	Expenses	Total cost center's expenses, except portion 100 % regulated	Estimate, regulation task require more invoices, more specific expenses (such as billing correction, monthly invoices, etc.)	19.0	81.0	100
	Expenses	Portion 100 % regulated	Direct allocation	0.0	100.0	100
	Revenue	Meter correction and review	Direct allocation	0.0	100.0	100
Work Management	Salaries	Total cost center's expenses adjusted for 25420 and 25422	Number of hours per task, regulated and unregulated	22.0	78.0	100
	Salaries	Total cost center's expenses for supervisor	Estimated work load per category	22.0	78.0	100
	Expenses	Total cost center's expenses	Number of hours per task, regulated and unregulated	22.0	78.0	100
Dispatch	Salaries	Total cost center's expenses	Number of hours per task, regulated and unregulated	22.0	78.0	100
	Expenses	Total cost center's expenses	Number of hours per task, regulated and unregulated	22.0	78.0	100

Shared Services Gazifère

Department/Section/Service	Description	Name/Activity	Allocation Basis	Unregulated %	Regulated %	Total
				(A)	(B)	(C)=(A)+(B)
Communication	**Salaries**	Total cost center's expenses	Number of hours per task, regulated and unregulated	20.0	80.0	100
	Expenses	Total cost center's expenses	Direct allocation	0.0	100.0	100
JC & Hip Cleaning	**Salaries**	Total cost center's expenses	Direct allocation	100.0	0.0	100
	Salaries	Reallocated to their cost center	28392 $ reallocated to WM	100.0	0.0	100
	Expenses	Total cost center's expenses	Direct allocation	100.0	0.0	100
Furnace cleaning	**Salaries**	Total cost center's expenses	Direct allocation	100.0	0.0	100
	Expenses	Total cost center's expenses	Direct allocation	100.0	0.0	100
Rental equip. Maintance	**Salaries**	Total cost center's expenses	Direct allocation	100.0	0.0	100
	Salaries	Reallocated to their cost center	Reallocation : 55661 $ WM, 56747 $ SC and Sales 111751 $	100.0	0.0	100
	Expenses	Total cost center's expenses	Direct allocation	100.0	0.0	100
	Recoveries	pièces en garanties	Direct allocation	100.0	0.0	100
EGNB	**Salaries**	Total cost center's expenses with out managers and supervisors	Allocated in line with Customer billing and reallocated to customer billing	35.0	65.0	100
	Salaries	Supervisor CIS	Estimated work load per category and reallocated to customer billing	29.0	71.0	100
	Salaries	Supervisor WM	Estimated work load per category and reallocated to customer billing	22.0	78.0	100
	Salaries	Manager	Estimated work load per category and reallocated to customer billing	10.0	90.0	100
	Expenses	Total cost center's expenses	Direct allocation	100.0	0.0	100
	Expenses	Correction Management fee and social benefit, reported to the entreprise wide MNG and SB cost	Direct allocation	100.0	0.0	100

Impact of the new cost allocation on 2014 and percentage to be used by cost service

		2014			New cost allocation percentage	
	Cost center	New cost allocation method				
		Unregulated	Regulated	Total	Unregulated	Regulated
	Administration expenses	751,404	4,499,799	5,251,203	14%	86%
Ei costs	Insurance D&O	121,927	36,048	157,975	17%	83%
Ei costs	Stock based compensation	89,148	98,193	187,341	48%	52%
Ei costs	Internal charges Ei	297,306	700,968	998,274	30%	70%
Ei costs	IT Ei	13,398	209,896	223,294	6%	94%
	IT services CIS	45,735	716,518	762,253	6%	94%
	IT services IT	38,352	230,740	269,092	14%	86%
	Credit and collection	14,490	130,412	144,902	10%	90%
	Regulation	13,400	2,491,770	2,505,170	1%	99%
	Sales administration	204,242	258,247	462,489	44%	56%
	Sales commecial	0	97,477	97,477	0%	100%
	Sales residential	0	122,428	122,428	0%	100%
	Advertising	0	6,550	6,550	0%	100%
	Customer service (Operation)	17,446	966,247	983,693	2%	98%
	Main & services	0	410,886	410,886	0%	100%
	Regulation & Measurement	0	34,233	34,233	0%	100%
	Administration and opèration	0	4,286	4,286	0%	100%
	Main & Services - Maintenance	0	804,372	804,372	0%	100%
	Regulation & Measurement - Maintenance	0	78,783	78,783	0%	100%
	Meter reading	0	271,582	271,582	0%	100%
	Customer billing	386,173	947,481	1,333,654	29%	71%
	Work management	52,256	185,273	237,529	22%	78%
	Dispatch	46,496	164,851	211,347	22%	78%
	Communication	20,281	306,618	326,899	6%	94%
	JC & Hip cleaning	956,039	0	956,039	100%	0%
	Furnace cleaning	143,532	0	143,532	100%	0%
	Rental equipment maintenance	1,765,930	0	1,765,930	100%	0%
	Total cost allocation	4,977,553	13,773,660	18,751,213	27%	73%
	Total cost allocation under the actual cost allocation methodology	4,618,802	14,132,412	18,751,214	25%	75%

Cost allocation for capital expenditures

	31/12/2014			
	Original cost	Depreciation	Net value	Amortization
Regulated assets				
482 Lease Improvements	1,009,923	299,314	710,610	63,978
483 Office Equip.	667,670	266,286	401,383	16,350
484 Transp. Equip.	1,160,148	611,915	548,233	125,412
488 Communication	434,250	37,931	396,320	24,778
490 Computers - Post 2008 & Computers	359,102	207,776	151,327	58,839
491 Software -Autres	678,526	632,054	46,472	94,107
491 CIS - software	7,098,704	4,947,746	2,150,958	1,044,168
Total	**11,408,324**	**7,003,021**	**4,405,302**	**1,427,631**
Unregulated assets				
488 Communication	43,688	4,555	39,133	2,495
490 Computers - Post 2008 & Computers N-R	5,403	4,440	963	2,185
491 Software -Autres	63,103	43,205	19,898	15,776
491 CIS - software	809,208	562,862	246,346	117,191
Total	**921,402**	**615,063**	**306,340**	**137,646**
Total assets for 2014				
482 Lease Improvements	1,009,923	299,314	710,610	63,978
483 Office Equip.	667,670	266,286	401,383	16,350
484 Transp. Equip.	1,160,148	611,915	548,233	125,412
488 Communication	477,938	42,485	435,453	27,272
490 Computers - Post 2008 & Computers	364,506	212,216	152,290	61,024
491 Software -Autres	741,629	675,260	66,370	109,883
491 CIS - software	7,907,912	5,510,608	2,397,304	1,161,359
Total	**12,329,726**	**7,618,084**	**4,711,642**	**1,565,278**
Allocation proposal				
Regulated assets				
482 Lease Improvements	838,236	248,430	589,806	53,102
483 Office Equip.	530,130	211,431	318,698	12,982
484 Transp. Equip.	1,068,496	563,574	504,923	115,504
488 Communication	379,483	33,733	345,750	21,654
490 Computers - Post 2008 & Computers	289,418	168,499	120,918	48,453
491 Software -Autres	588,854	536,156	52,698	87,247
491 CIS - software	7,433,437	5,179,972	2,253,466	1,091,677
Total	**11,128,054**	**6,941,796**	**4,186,258**	**1,430,619**
Unregulated assets				
482 Lease Improvements	171,687	50,883	120,804	10,876
483 Office Equip.	137,540	54,855	82,685	3,368
484 Transp. Equip.	91,652	48,341	43,310	9,908
488 Communication	98,455	8,752	89,703	5,618
490 Computers - Post 2008 & Computers	75,088	43,716	31,372	12,571
491 Software -Autres	152,776	139,103	13,672	22,636
491 CIS - software	474,475	330,636	143,838	69,682
Total	**1,201,672**	**676,288**	**525,384**	**134,658**

482 Lease Improvements	Mix FTE's/garage factor, like the renting cost of the building. (17 %)
483 Office Equip.	Number of employees FTEs (20.6%)
484 Transp. Equip.	Percentage of tech related to users of light trucks. (7.9 %)
488 Communication	Number of employees FTEs (20.6%)
490 Computers - Post 2008 & Computers	Number of employees FTEs (20.6%)
491 Software -Autres	Number of employees FTEs (20.6%)
491 CIS - software	IT CIS factor, 6 %.

APPENDIX B – QUALIFICATIONS OF THE AUTHORS OF THIS REPORT

This evidence was prepared under the direction of:

Paula Zarnett, Vice President
BDR NorthAmerica Inc.
34 King Street East, Suite 1000
Toronto, Ontario M5C 2X8

Paula has more than 30 years broadly based experience specializing in regulatory compliance, regulated rates and pricing issues for electricity and gas utilities.

Paula was assisted in all parts of the work related to the methodology proposed for Gazifère, by Michael Roger, an associate consultant of Elenchus Research Associates. Michael has more than 35 years of experience in regulated rates and pricing and cost allocation in the electricity sector.

Paula Zarnett

Selected projects illustrating Paula's cost allocation experience and expertise include:

- studies for natural gas utilities in Manitoba and Alberta;
- leading an in-house team in a one-year cross functional project to perform Toronto Hydro's first cost allocation study (1985);
- a cost allocation and rate design study for Enwave District Energy;
- two cost allocation studies for Saint John Energy, a municipal utility in New Brunswick;
- advice to the municipal utilities of New Brunswick in their interventions in NB Power Distribution and Customer Service (Disco) rate approval applications in 2005 and 2007, including analysis and critique of Disco's cost allocation methodology;
- a study on behalf of the Toronto Hydro-Electric System Ltd. to allocate the costs of service to customers who are individually metered suites in multi-unit residential buildings (2010-2011).

She participated on behalf of a client in the Ontario Energy Board's stakeholder processes regarding cost allocation for electricity distribution service, and was an instructor in cost allocation and rate design (advanced) at CAMPUT's annual utility regulation course in 2006, 2007 and 2008. She has testified before the regulators in Ontario, New Brunswick and British Columbia, and has been accepted as an expert in cost allocation by the Ontario Energy Board.[9]

[9] EB-2010-0142, Transcript dated March 29, 2011, page 20.

A former Toronto Hydro employee, Paula is knowledgeable in the typical business processes of distribution utilities and their affiliates. As a consultant, she performed a study for Toronto Hydro to identify regulatory issues associated with self-dealing and transfer pricing in considering the formation of a new affiliate. She prepared evidence in support of FortisOntario's shared cost allocation and transfer pricing approach in successive cost of service applications since 2006, and also provided evidence for EnWin Utilities on shared cost allocation and transfer pricing in its 2009 cost of service application, and for Kingston Hydro in an application for its 2011 cost of service. More recently, transfer pricing studies prepared by Paula were filed by Bluewater Power and Greater Sudbury Hydro in support of their 2013 cost of service applications.

Paula is a CMA, and has an MBA degree (finance) from the University of Calgary.

Michael Roger

Selected projects illustrating Michael's cost allocation experience and expertise include:

- cost allocation study review for SaskPower;
- cost allocation study review for Greater Toronto Airport Authority;
- leading an in-house team at Ontario Hydro to develop a cost allocation methodology for electricity distributors in Ontario (1985);
- participate in the Ontario Energy Board task force established to develop a cost allocation methodology for electricity distributors in Ontario (2004-2006)
- responsible for distribution and transmission cost allocation and rate design for Hydro One Inc. providing testimony at Ontario Energy Board hearings reviewing Hydro One Inc.'s applications
- providing expert testimony at Ontario Energy Board hearings on cost allocation and rate design at Enbridge's hearing (EB-2012-0459), Horizon's hearing (EB-2014-0002), and Hydro One Networks Inc. hearing (EB-2012-0031)

A former employee of Ontario Hydro, Ontario Power Generation and Hydro One, Michael has been involved mainly in the areas of finance, cost allocation and rate design since 1978. In 2010, Michael joined Elenchus as an associate providing advice on cost allocation, rate design and regulatory matters to numerous utilities in Ontario and to Hydro Quebec Energy Marketing participating in an Ontario hearing. Michael also provided advice to SaskPower reviewing their cost allocation methodology. Michael has also reviewed and conducted special studies for utilities, for example reviewing capital contribution models and conducting lead/lag studies.

Michael has Industrial and Management Engineering and Master in Business Administration degrees.

Detailed resumes for the professional experience of Paula and Michael are attached.

Attachment to Appendix B

Detailed Resumes of Professional Experience
Paula Zarnett
Michael Roger

MICHAEL J. ROGER

34 King Street East, Suite 600 | Toronto, ON M5C 2X8 | 905 731 9322 | mroger@elenchus.ca

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ASSOCIATE, RATES AND REGULATION

Michael has over 35 years of experience in the electricity industry dealing in areas of finance, cost allocation, rate design and regulatory environment. Michael has been an expert witness at numerous Ontario Energy Board proceedings and has participated in task forces dealing with his areas of expertise. Michael is a leader and team player that gets things done and gets along well with colleagues.

PROFESSIONAL OVERVIEW

Elenchus **2010 - Present**
Associate Consultant, Rates & Regulation

- Provide guidance on the Regulatory environment in Ontario for distributors, with particular emphasis in electricity rates in Ontario and the regulatory review and approval process for cost allocation and rate design.
- Some of the clients that Michael provides advice include: Hydro Quebec Energy Marketing Inc., GTAA, Ontario Energy Board, City of Hamilton, Hydro One Transmission, Powerstream, Hydro Ottawa, Veridian, APPrO and Hydro 2000.

Hydro One Networks Inc. **2002 - 2010**
Manager, Pricing, Regulatory Affairs, Corporate and Regulatory Affairs

- In charge of Distribution and Transmission pricing for directly connected customers to Hydro One's Distribution system, embedded distributors and customers connected to Hydro One's Transmission system.
- Determine prices charged to customers that conform to guidelines and principles established by the Ontario Energy Board, (OEB).
- Provide expert testimony at OEB Hearings on behalf of Hydro One in the areas of Cost Allocation and Rate Design.
- Keep up to date on Cost Allocation and Rate Design issues in the industry.
- Ensure deliverables are of high quality, defensible and meet all deadlines.

- Keep staff focused and motivated and work as a team member of the Regulatory Affairs function. Provide support to other units as necessary.

Ontario Power Generation Inc. **1999 - 2002**
Manager, Management Reporting and Decision Support, Corporate Finance

- In charge of producing weekly, monthly, quarterly and annual internal financial reporting products.
- Input to and coordination of senior management reporting and performance assessment activities.
- Expert line of business knowledge in support of financial and business planning processes.
- Coordination, execution of review, and assessment of business plans, business cases and proposals of an operational nature.
- Provide support to other units as necessary.
- Work as a team member of the Corporate Finance function.

Ontario Hydro **1998 - 1999**
Acting Director, Financial Planning and Reporting, Corporate Finance

- In charge of the day to day operation of the division supporting the requirements of Ontario Hydro's Board of Directors, Chairman, President and CEO, and the Chief Financial Officer, to enable them to perform their due diligence role in running the company.
- Interact with business units to exchange financial information.

Financial Advisor, Financial Planning and Reporting, Corporate Finance **1997**

- Responsible for co-ordinating Retail, Transmission, and Central Market Operation divisions' support of Corporate Finance function of Ontario Hydro to ensure financial information consistency between business units and Corporate Office, review business units compliance with corporate strategy.
- Provide advice to Chief Financial Officer and Vice President of Finance on business unit issues subject to review by Corporate Officers.
- Participate or lead task team dealing with issues being evaluated in the company.
- Supervise professional staff supporting the function.
- Co-ordinate efforts with advisors for GENCO and Corporate Function divisions to ensure consistent treatment throughout the company.

Section Head, Pricing Implementation, Pricing **1986 - 1997**

- In charge of pricing experiments, evaluation of marginal costs based prices, cost-of-service studies for municipal utilities, analysis and comparison of prices in the electric industry, rate structure reform evaluation, analysis of cost of servicing individual customers and support the cost allocation process used to determine prices to end users.

- Responsible for the derivation of wholesale prices charged to Municipal Electric Utilities and retail prices for Direct Industrial customers, preparation of Board Memos presented to Ontario Hydro's Board of Directors and support the department's involvement at the Ontario Energy Board Hearings by providing expert witness testimony.

Section Head (acting), Power Costing, Financial Planning & Reporting, Corporate Finance **1994 - 1995**

- Responsible for the allocation of Ontario Hydro's costs among its customer groups and ensure that costs are tracked properly and are used to bill customers.
- Maintain the computer models used for cost allocation and update the models to reflect the structural changes at Ontario Hydro.
- Participate at the Ontario Energy Board Hearings providing support and expert testimony on the proposed cost allocation and rates.
- Provide cost allocation expertise to other functions in the company.

Additional Duties **1991**

- Manager (acting) Rate Structures Department.
- Review of utilities' rates and finances for regulatory approval.
- Consultant: Sent by Ontario Hydro International to Estonia to provide consulting services on cost allocation and rate design issues to the country's electric company.

Analyst, Rates **1983 - 1986**

- In charge of evaluating different marketing strategies to provide alternatives to customers for the efficient use of electricity.
- Co-ordinate and supervise efforts of a work group set up to develop a cost of service study methodology recommended for implementation by Municipal Electric Utilities and Ontario Hydro's Rural Retail System.
- Provide support data to Ontario Hydro's annual Rate Submission to the Ontario Energy Board.
- Participate in various studies analysing cost allocation areas and financial aspects of the company.

Forecast Analyst, Financial Forecasts **1980 – 1983**

- Evaluating cost data related to electricity production by nuclear plants and preparing short term forecasts of costs used by the company. Maintain and improve computer models used to analyse the data.
- Review Ontario Hydro's forecast of customer revenues, report actual monthly, quarterly and yearly results and explain variances from budget.
- Support the development of new computerized models to assist in the short-term forecast of revenues.

Project Development Analyst, Financial Forecasts **1979 - 1980**

- In charge of developing computerized financial models used by forecasting analysts planning Ontario Hydro's short term revenue and cost forecasts and also in the preparation of Statement of Operations and Balance Sheet for the Corporation.

Assistant Engineer – Reliability Statics, Hydroelectric Generations Services **1978 – 1979**

- In charge of analysing statistical data related to hydroelectric generating stations and producing periodic report on plants' performance.

ACADEMIC ACHIEVEMENTS

1977	Master of Business Administration, University of Toronto. Specialized in Management Science, Data Processing and Finance. Teaching Assistant in Statistics.
1975	Bachelor of Science in Industrial and Management Engineering, Technician, Israel Institute of Technology, Haifa, Israel.

OTHER

Fluent in English, Spanish, and Hebrew; Understands German and French.

PAULA ZARNETT

Paula Zarnett has more than 30 years broadly based experience specializing in regulatory compliance, regulated tariffs and pricing issues for electricity and gas utilities. She has been responsible for design and implementation of a wide variety of innovative rates including time of use, both for large industrial and for residential customers, curtailment incentives, and special rates for retention of water heating loads. She has performed cost allocation studies for utilities serving customers with electricity, natural gas and steam, including a one-year, cross-functional study for a major electric distribution utility.

Following a series of rate specialist positions in both the electricity and natural gas sectors, she was promoted to the position of Manager of Marketing and Energy Management at Toronto Hydro. There, her responsibilities included all rate and regulatory issues, customer research including load research and forecasting, and customer program design with a focus on conservation and demand management.

In her consulting practice, Paula provides a variety of advisory and analytical services to clients facing the challenges of both traditional and restructured energy markets, with a focus on issues impacted by regulatory policy and process. Her work includes business case and project feasibility analysis, cost allocations and pricing designs, energy sector mergers and acquisitions, and expert testimony before regulators. She is a skilled hands-on analyst and facilitator of cross-functional project teams. She was an instructor in Cost Allocation and Rate Design at CAMPUT's Energy Regulation Course, 2006, 2007 and 2008, and has been accepted as an expert witness in New Brunswick and Ontario.

She has performed assignments for clients in North America, China, Ghana, and Barbados.

SELECTED EXPERIENCE BY SUBJECT AREA

(INCLUDES PROJECTS UNDERTAKEN AS A CONSULTANT, AND IN THE COURSE OF RESPONSIBILITIES WITHIN ORGANIZATIONS)

Rate Designs and Pricing Studies

IGPC Ethanol Inc. – supported the intervention of this industrial consumer in the rate application of its gas supplier, Natural Resource Gas

Rogers Cable and Communications Inc. – representation at Ontario Energy Board staff consultation process with regard to rate designs for Ontario's electric distribution utilities; development of policy and position documents, attendance at stakeholder meetings, analysis in support of positions on rate design for General Service classification and unmetered scattered loads; distribution cost allocation stakeholder process and 2006 distribution rate handbook.

City of Markham (Ontario) – recommendations for restructuring water and wastewater rates

Oklahoma Gas and Electric – review of results of residential time of use rate pilot including estimation of impact of the rate design on total customer consumption and peak hour consumption (load shifting).

Summerside Electric/City of Summerside – advisory and analysis service with regard to proposals of Maritime Electric for an Open Access Transmission Tariff.

Nova Scotia Department of Energy – advisory and analysis services to support intervention in Nova Scotia Power's request to the regulator for approval of a fuel adjustment mechanism.

BC Hydro – assisted a staff team in development of a Phase I report on long-term rate strategy; research on rate designs in several North American jurisdictions.

Energy East (RGE and NYSEG) – analysis as to the potential value of load shifting which might take place as result of rate-driven (time of use or critical peak pricing) programs supported by universal interval metering in the State of New York; regulatory precedents as to cost recovery for advanced metering and meter reading technology

East China Grid Company – advice in developing and simulating an unbundled electricity distribution tariff for Shanghai Municipal and four provincial electric power companies

British Columbia Ministry of Energy and Mines – advisory and due diligence services with regard to recommendations by the British Columbia Utilities Commission for implementation of proposed Heritage Contract and stepped rates to wholesale and industrial customers.

Perth-Andover Electric Light Commission – long-term rate strategy and detailed bundled retail rate designs for all electricity consumer classifications.

Toronto Hydro-Electric System – development of market-based transfer pricing proposal for services to the regulated distribution utility, from a proposed competitive business affiliate.

Volta River Authority (Ghana) – development of tariff structure and preliminary rates for open access use of the national electric transmission system in Ghana.

Enwave District Energy Limited – determination of appropriate customer classification and pricing design alternatives for a district steam system in a context of competitive electricity and gas markets and wider service choices for existing and potential customers.

Toronto Hydro – development and initial implementation of time of use rates for residential and large industrial customers; development of pricing strategies and policies for all customer classes.

Toronto Hydro – development of all customer rate designs, implementation strategy, and preparation of annual submissions for approval of the rates. Managed a team of specialists in the preparation of associated detailed studies, load forecasts and load research.

Testimony before Regulators

ORAL:

Toronto Hydro-Electric System – Testified before the Ontario Energy Board in support of the allocated costs of service to customers that are individually metered suites in multi-unit residential buildings.

Saint John Energy – Testified before the New Brunswick Public Utilities Board in support of intervention in the Cost Allocation and Rate Design application of New Brunswick Power Distribution and Customer Service Corp.

ICG Utilities – coordinated preparation of applications, supporting materials, and other aspects of regulatory process for regional gas utility managements, as member of a head office specialist team; provided expert technical services in rate design, cost allocation, and working capital allowance determination (lead-lag); testified in three hearings before British Columbia regulator on the subject of lead-lag studies.

Toronto Hydro – Testified before Ontario Energy Board on bulk power rate issues

Rogers Cable and Communication Inc. – Testified before Ontario Energy Board in support of consensus for treatment of certain unmetered electricity loads in the development of guidelines for electricity distribution rates.

WRITTEN ONLY:

Essex Power, Bluewater Power and Niagara-on-the-Lake Hydro – expert testimony in support of intervention in the application to the Ontario Energy Board for approval of an acquisition by Hydro One Networks Inc. of Norfolk Power

Greater Sudbury Hydro – study to allocate costs of services purchased from affiliate

Bluewater Power – study to allocate costs of services provided to and purchased from affiliates

Kingston Hydro – study to review transfer pricing methodologies and allocation of shared costs for services provided by non-regulated affiliates.

FortisOntario – Three studies to allocate corporate and shared costs among regulated and non-regulated affiliates

EnWin Utilities – study to allocate corporate and shared costs among corporate affiliates

Ontario Power Authority – model development and analysis in support of evaluation of a potential generation, transmission and demand response alternatives in York Region; report in support of generation alternative to the Ontario Energy Board.

City of Summerside – expert testimony in support of intervention in the application of Maritime Electric to the Island Regulatory and Appeals Commission for approval of an Open Access Transmission Tariff (public oral hearing to follow).

Cost Allocation and Load Research

Rogers Cable and Communications Inc. – now representing this consumer stakeholder in a regulator-driven process to resolve issues regulator-mandated methodology for the allocation of costs to street lighting and other unmetered loads

Toronto Hydro-Electric System – Study to allocate the cost of service to customers that are individually metered suites in multi-unit residential buildings.

Rogers Cable and Communications Inc. – represented a consumer stakeholder in a regulator-sponsored stakeholder process to determine a cost allocation methodology and analysis approach for information filings by all electric distribution utilities in Ontario.

FortisOntario – methodology review of allocation of shared costs to regulated and non-regulated business units and preparation of evidence for application to Ontario Energy Board for approval of 2006 electricity distribution rates

Perth-Andover Electric Light Commission – study to allocate the bundled costs of electricity service to customer classes and assess the impacts on cost allocation of changes to the wholesale rate structure.

Saint John Energy – two studies to allocate the bundled costs of electricity service to customer classes; one of these studies included analysis of metered system load profiles and publicly available typical customer profiles to develop demand allocation factors (third study including load research data now in progress).

Enwave District Energy Limited – study to allocate costs of service for a district steam system as a basis for pricing redesign; study included analysis of detailed time-related customer consumption data as a basis for allocation of costs, as well as operating and financial data.

Toronto Hydro – planning and execution of customer load research projects, including deployment of research metering, load data analysis and related customer research and surveys.

Toronto Hydro – coordination of first comprehensive cost of service study, a one-year cross-functional project, including in-depth data collection, selection of allocation methodologies and development of computer-based analytical tools. Led subsequent updates and refinements to the study.

ICG Utilities Ltd. – fully allocated cost of service studies for natural gas distribution systems in Manitoba and Alberta, including data analysis and development of computer-based analytical framework.

Business and Strategic Planning, Mergers and Acquisitions

City of Edmundston/Energy Edmundston – business plan reflecting acquisition of distribution service territory and new supply contracts with NB Power

City of Edmundston/Energy Edmundston – analysis and strategic support in negotiation of contracts with NB Power for:

- Acquisition of 3,000 customers within the territorial boundaries of the City of Edmundston
- Purchase of wholesale electricity supply
- Sale of output of the City's hydro generators; and
- Sale of a portfolio of rental water heaters.

City of Sault Ste. Marie – review of municipally-owned electricity distribution company with regard to ownership options, capital structure and financing.

Brantford Power – facilitation of strategic planning session for Board of Directors.

Orillia Power – facilitation of strategic planning session for Board of Directors and key staff

Oakville Hydro – facilitation of regulatory strategic plan

Burlington Hydro Inc. – advisory services and analysis in connection with bid to acquire a local distribution utility.

Markham Hydro Distribution Inc. and Town of Markham – Due diligence services in support of amalgamation with Hydro Vaughan Distribution Inc. to form PowerStream Inc.

City of Guelph – independent advisor to the City with regard to fairness of ownership proportion in proposed merger; analysis of ownership options

Oshawa PUC Networks Inc. – policy recommendations for customer connections and capital contributions.

Township of King - advice to municipality staff with regard to potential construction of a peaking generator in response to a contract award from Ontario Power Authority

Hydro Ottawa Holdings Inc. – as part of a larger project to provide strategic advice on four business units, provided financial modeling for valuation of Energy Ottawa Generation.

Town of Markham, City of Vaughan and City of Barrie – analysis, due diligence and advisory services in evaluation of potential investment in the solar business of PowerStream Inc.

PUC Distribution Inc. – advisory services and analysis in connection with certain issues of new assets and affiliate relationships

Regulatory and Industry Policy

Ontario Energy Board – cross-jurisdictional review and assessment of regulatory approaches to the issue of farm stray voltage across North-America

Ontario Energy Board – comparison of heritage contracts and similar arrangements in leading jurisdictions

Ontario Energy Board – identification of appropriate roles and responsibilities for the OEB under alternative industry and market structure scenarios, including default supply arrangements

Barbados Public Utilities Board – study to recommend procedures, rules and systems for oversight of the natural gas sector by a new regulatory agency.

Toronto Hydro – testimony in public hearings before the Ontario Energy Board on subjects of wholesale and retail rate policy and electricity market development; advised management in strategy related to regulatory compliance and industry regulatory issues.

Electricity Distributors Association -- analysis of cash flow patterns of electricity distribution utilities in Ontario reflecting customer payment patterns and market settlement requirements

Electricity Distributors Association – study to determine the financial benefit to municipalities of ownership of local distribution companies (LDCs).

National Grid Co. -- Assessment and overview report on regulatory framework and issues in Ontario.

Bruce Power – Assessment and overview on industry structure, generation and transmission capacity, pricing and issues in New Brunswick

CMS Energy – report on Ontario electricity industry structure, market, and regulatory environment, in support of decision to respond to RFP for new generation in the province

New Brunswick Municipal Electric Utilities Association – cross jurisdictional survey with respect to policy as to regulation of municipal utilities and rural cooperatives.

CAREER HISTORY

2001 – Present

BDR – consultant specializing in rate designs, cost allocation, business planning and energy market restructuring issues.

1998 – 2001	**In association with Acres Management Consulting** – consultant specializing in rate designs, cost allocation, financial analysis and business planning.
1995 – 1998	**Toronto Hydro** – Manager, Marketing and Energy Management
1993 – 1995	**Toronto Hydro** – Special Assistant to the General Manager (responsible for organizational performance improvement initiatives)
1986 – 1992	**Toronto Hydro** – Supervisor of Rates and Cost Analysis
1984 – 1986	**Toronto Hydro** – Senior Rate Analyst
1981 – 1984	**ICG Utilities Ltd**. – Coordinator, Rate Administration
1979 – 1981	**H. Zinder & Associates Canada Ltd**., Senior Analyst

EDUCATIONAL AND PROFESSIONAL QUALIFICATIONS

Degrees and Designations	Society of Management Accountants of Manitoba, CMA University of Calgary, Masters of Business Administration (Finance) University of Toronto, Bachelor of Arts (Hon), Anthropology
Professional Association	Society of Management Accountants of Manitoba
Continuing Professional Development	Queens University School of Business, Marketing Program Queens University School of Business, Sales Management Program Society of Management Accountants of Canada—Customer Profitability Analysis Society of Management Accountants of Canada—Strategic Cost Management Society of Management Accountants – Auditing I

PROFESSIONAL INVOLVEMENT

Teaching and Training, Industry Committees	Instructor in Cost Allocation and Rate Design for Annual Energy Regulation Course, CAMPUT (Canadian Association of Members of Public Utility Tribunals) 2006, 2007, 2008. Member and Vice-Chair, Electricity Distributors Association Commercial Members Steering Committee (2007 to 2014) Member – Ontario Energy Board Cost Allocation Working Group (2003 and 2005-6) Member – Ontario Energy Board Working Group on Cost Allocation for Unmetered Electricity Loads (2012-2013) Member – Municipal Electric Association Cost of Service Sub-Committee (1986-1988)