PROPOSED

FULLY ALLOCATED COST STUDY

FORECAST 2004

August 2003

Original 2003-08-15

FULLY ALLOCATED COST STUDY

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1 Summary

The proposed Fully Allocated Cost Study is found on Exhibit GI-13, Document 3 through 13. A summary of the significant results, the allocated costs to each rate class, the revenue to cost ratios, and indicated returns on rate base, is outlined on Document 3, which is reproduced here in Table 1. The results of the Fully Allocated Cost study are compared to the proposed revenues found in Column 1.

Table 1

STUDY'S RESULTS

	Col. 1 Revenue *$Thousand*	Col. 2 Cost of Service *$Thousand*	Col. 3 Ovr/Und *$Thousand*	Col. 4 Return on Rate Base	Col. 5 Revenue to Cost
Rate 1	21,333.8	19,484.2	1,849.6	20.15%	1.09
Rate 2	30,086.9	32,277.7	(2,190.8)	4.52%	0.93
Rate 3	179.6	159.0	20.6	47.95%	1.13
Rate 4	1,428.4	1,248.0	180.4	30.57%	1.14
Rate 5	915.5	815.1	100.4	16.91%	1.12
Rate 9	2,116.8	2,077.0	39.8	9.91%	1.02

2 Introduction

The Fully Allocated Cost Study allocates the rate base and revenue requirement underpinning the test year to the various customer rate classes. The study's results are a best estimate of the forecast costs to serve each rate class based on the principles and conventions set forth in the study. These results are a reasonable representation of the costs incurred to provide service to Gazifère's customer rate classes. Other analysts using different conventions would produce different results. However, it is the consistent year-to-year relationship between costs and revenues that is important, rather than the absolute level of allocated costs.

The proposed study separates gas supply, gas supply load balancing, distribution facilities and customer related costs. The gas supply costing to Gazifère under Enbridge Gas Distribution’s Rate 200 has facilitated this process.

3 Conventions And Accuracy

The relative accuracy of any study can only be understood through the examination of the conventions employed. The majority of the costs incurred by the Company to provide service are common costs such as distribution mains and gas supply costs. The allocation of costs that are shared by all customers, is performed using conventions, based on principles and judgements. They determine:

- the approach, and
- the classification and allocation of costs.

It is because of the use of conventions, and the significance that they have on the results of the study, that it is often said that the development of a cost study is more of an art than science.

3.1. The Approach

The study allocates on average, to each class, the forecast embedded cost that collectively form the revenue requirement for the test year. These costs are broken down into cost components by rate class for each service sought by customers. A three step process is used to develop costs which are identifiable by each customer class.

Due to the complexity of the utility's operations, the three steps, which *functionalize, classify*, and *allocate* costs are necessary to facilitate costing the variety of services provided to the customers. These steps result in a study that allocates to each rate class the average costs associated with the specific and common facilities used to provide the services being sought by the customer.

The rate classes themselves are set to reflect homogeneity of customer characteristics. As a result of homogeneous classes and average costs, each customer is costed at the class average for the service being sought.

3.1.1 Average Embedded Costs

Considering the integrated nature of Gazifère's and Enbridge Gas Distribution's operating system, and the practical limits for accounting and records management, system averages are used in developing costs by rate class.

Enbridge Gas Distribution operates, on behalf of Gazifère, an integrated system employing pipeline, storage, curtailment and distribution facilities to deliver gas to all customers within Gazifère's franchise area. Due to this integration, postage stamp rates are being used, meaning that all customers on a given rate bear the same charges within the franchise area.

Similarly, all customers share in the mix of investment vintages. The administration of an accounting system and the setting of rates that would be differentiated on the basis of specific investments would be impossible. Therefore, in a rate class, such as Rate 2, which has experienced a large relative growth in the recent years and hence added younger vintage services, will have some customers bearing higher costs than their actual vintage investments, net of accumulated depreciation, and conversely.

3.1.2 The Three Step Process

The three steps previously mentioned are designed to allocate the return on rate base, net investment costs, and operating and maintenance expenses to each rate class in a fair and reasonable manner.

Functionalization

The first step, functionalization, groups costs into similar operating functions to allow for consistent treatment of similar costs.

The O&M costs, net investment costs, and rate base are grouped into major functional centres, listed in Table 2. Further refinement into sub-functions occurs when needed. Such an extensive list is necessary in order to be as accurate as possible in order to identify differences in cost behaviour when viewed at the rate class level. As an example, the costs associated with pressure regulators are broken down to identify the costs for regulators used in the distribution system, which are costs shared by all customers, separately from the costs for pressure regulators which are used in sales stations, and are therefore specific to large volume customers. The last item in the table, unidentifiable, collects the miscellaneous items that are either too small and numerous to be significant, or affect all functions, and cannot be broken out. These costs are spread back over the existing costs, pro rata.

Table 2

FUNCTIONS

Gas Supply
Sales Stations
Distribution Regulation
Services
Mains
Meters
Sales Promotion
Customer Accounting
Specific Costs
Unidentifiable

Extensive analysis of the ledger accounts is done every year to ensure continuity of the functionalizing of the forecast O&M costs, net investments, and rate base.

Classification

In the second step, the functionalized costs are classified to three general cost groups based on whether they vary with volumetric demands, peak demands, or other customer specific demands. Further sub-classifications within these three broad categories of classification occur when required.

New developments in customer services, operating practices, and gas supply for example, must be continuously monitored and examined to ensure that cost classifications reflect cost incurrence and that similar costs are consistently treated.

Appendix A (p. 18) defines the classifiers used in the cost study.

Allocation

The allocation of the classified costs is the process of spreading similarly incurred costs to each rate class on a factor that can be identified by each class. As an example, the costs of issuing a bill to each customer every month is allocated on the basis of the number of customers in each rate class since the costs of printing and mailing the bill are the same for all customers, and vary by the number of customers.

Appendix B (p. 19) lists the allocators used in the cost study. Analyses are performed each year to ensure that the allocators are reflective of the incurrence of the costs.

3.2 Class Cost Responsibilities

The costs proposed in the Fully Allocated Cost study underpin the proposed revenue requirement for the test year. The uniform account classification system greatly assists the cost allocation by grouping costs in similar functions. As an example, costs for residential service work are collected in specific accounts. However, some costs are not incurred uniquely to a specific class. The major costs incurred by the utility are for common services such as; mains network, gas supply costs, billing functions, and administration. These costs are not directly associated with any specific class.

Management experience and informed judgement based on the nature of operating and accounting practices combined with standard costing conventions in the classification and allocation of costs culminate in good estimates for class cost responsibilities.

3.3 Classification and Allocation of Costs

The overlying philosophy for proper classification and allocation of costs is based on cost causality principles. However, due to the complexity of the utility operations, such principles are often difficult to apply. Generally speaking, the further from the burner tip costs are incurred, the less the costs can be directly related to a specific customer or class of customers. Theories are then rationalized to explain cost relationships, for direct cost causality usually does not exist. This affects the accuracy of the costing.

To facilitate costing, costs are first viewed to be incurred for three general classifications:

- Customer related
- Commodity related
- Capacity related.

The customer related costs include expenses such as maintenance and return and taxes associated with meters, sales stations, and service lines. They also include service work, sales promotion and customer accounting costs.

Commodity related costs are the variable costs associated with each volume of gas sold or delivered in a given period of time.

The capacity related costs include expenses such as maintenance and return and taxes on distribution mains and distribution pressure regulators, pipeline transportation capacity and storage facilities.

Further sub-classifications within these three general classification may occur to enhance the accuracy of the cost allocation process.

Following the classification process begins the allocation.

4 Gas Supply Under Rate 200

4.1 Introduction

Gazifère takes service under Enbridge Gas Distribution's Rate 200 for gas supply costs. Prior to the implementation of Rate 200, the costs of acquiring supply were "bundled", that is the costs of commodity, transportation, gas supply load balancing and storage were all included in one charge, which was a totally variable charge. Rate 200 separately identifies a customer charge (zero in the case of Gazifère), a delivery charge, a gas supply load balancing charge, and a gas supply commodity charge (if applicable). This separation allows for more accurate costing in the fully allocated cost study by

separating fixed charges from variable charges. It also identifies the pure commodity costs of gas, which costs are avoided by transportation service customers.

4.2 Allocation of Fixed Costs of Supply

Conceptually, there are three basic methodologies that can be employed to classify and allocate fixed pipeline costs. First, recognizing the pure cost causation principles, fixed costs are allocated on the basis of demand. This concept essentially recognizes that pipeline is sized to meet peak demand and the costs associated with that demand are borne in relationship to each class' demands on peak.

The second method uses commodity allocation. This method results in allocations that are at the opposite end of the costing spectrum from demand responsibility allocations. This method implies that the demand charges are incurred to meet an annual volume.

The third means is characterized by a number of methods, all trying to recognize fairness as opposed to pure cost causality in developing costs. These methods occupy the spectrum between demand allocations and commodity allocations and are called fixed and variable methods. One method, called the Seaboard Method (based on the U.S. Federal Power Commission's ruling in Atlantic Seaboard Corporation, et al. (11 FPC 43 (1952))), simply illustrates that there is no compromise based on costing principles. Therefore, a mandated 50/50 split in classification was issued.

In EBRO 465, Enbridge Consumers' Gas proposed to the Ontario Energy Board a fixed/variable classification of pipeline demand costs that recognized the roles that TCPL FT and FST transportation contracts play in the gas supply function. The Company submitted that classification of fixed pipeline costs should reflect the Company's sales load factor, that is, reflect the downstream demands that are placed on the supply function, which is a load factor of approximately 40%.

A 40% load factor, by definition, means that the average daily demand for the year is 40% of the peak demand. TCPL firm services are services that deliver a guaranteed minimum daily demand and an annual demand. Therefore, 40% of the costs of that service is for delivering annual volumes, and the remaining 60% is for peak supply.

The costs allocated to Rate 200, with such a methodology, more fairly reflect the fact that interruptible customers employ pipeline capacity on an annual basis, even though they may not use any capacity on peak.

The same fixed/variable methodology has been approved for Gazifère and results in a classification of capacity related supply using a 30/70 peak/annual ratio.

4.3 Components of Rate 200

Rate 200 consists of the following:

- Customer Charge
- Delivery Charge
- Gas Supply Charge
- Gas Supply Load Balancing Charge

In addition, there is a seasonalization component for the distribution charge allowing for more accurate seasonalized costs in the study.

4.3.1 Customer Charge

The customer charge in Rate 200 is negotiable but subject to a cap. In Gazifère's case, it is set to zero, since there are no allocated customer-related costs to Rate 200.

4.3.2 Delivery Charge

The delivery charge is designed to recover the distribution and storage facilities costs, and UUF. This component of Rate 200 is applicable to all customers, including direct purchase customers.

The storage component of the delivery charge consists of the storage costs required to meet the seasonal requirements of all customers. These costs are therefore classified as peak, space and annual to reflect the use of Enbridge ‘s storage facilities.

The costs of moving gas through Enbridge’s distribution mains are classified and allocated 30% to peak and 70% to annual deliveries, which is consistent with the methodology used for classifying fixed gas supply costs.

The UUF costs component is classified as distribution commodity and is allocated to all customers on the basis of annual deliveries.

4.3.3 Gas Supply Charge

The gas supply charge recovers the costs associated with the commodity, compressor fuel, storage fluctuations, working cash allowance. The total cost is classified as gas supply commodity and is allocated to all system and buy/sell customers using the annual sales allocator.

4.3.4 Gas Supply Load Balancing Charge

The gas supply load balancing charge is a reflection of the allocated costs incurred for pipeline transportation, carrying costs on inventory, and the excess of purchases and receipts costs over and above FT-WACOG net of TCPL tolls. The gas supply load balancing charge is also applicable to all customers, including direct purchase customers. However, Ontario Bundled T-Service customers receive a transportation service credit given that they have paid TCPL demand and commodity tolls directly.

Pipeline transportation and purchases and receipts costs over and above FT-WACOG net of TCPL tolls are classified and allocated 30/ 70 peak/annual consistently with the treatment of fixed gas supply costs.

5 The Proposed Study

The proposed study can be found in the immediate tabs following this report. They are:

- Document 3 - Revenue to Costs Comparisons
- Document 4 - Functionalization of Rate Base
- Document 5 - Functionalization of Net Investments
- Document 6 - Functionalization of O & M
- Document 7 - Classification of Rate Base
- Document 8 - Classification of Net Investments
- Document 9 - Classification of O & M
- Document 10 - Allocation of Rate Base
- Document 11 - Allocation of Return and Taxes
- Document 12 - Allocation of the Cost of Service
- Document 13 - Allocation Factors.

The following details the significant aspects of the proposed Fully Allocated Cost Study.

5.1 Functionalization

The functionalization is performed on Documents 4, 5 and 6.

Document 4; Rate Base

The functionalization of rate base is quite straight forward and is aided by the Uniform System of Accounts. Direct functional costs exist for mains, services, and meters. The following explains those functionalizations that are not immediately obvious.

- Items 1.1, 1.2 and 2.1, Land, Structures and Improvements, are functionalized on an analysis of occupancy use.
- Item 1.4, Measuring Regulation and Telemetering, is functionalized to sales stations and distribution regulation based on the distribution reflected in the plant accounting records.
- Item 1.7, Other Gas Operations, is the cost of propane conversions and is hence functionalized to mains.
- Item 1.8, Overhead Capitalized, is functionalized on the basis of the additions of services, mains and distribution regulation in the test year.
- Item 2.2, Office Furniture and Equipment, is judgmentally divided amongst the functions based on the number of employees within the various functions.
- Item 2.3, Transportation Equipment, is functionalized on the basis of records showing equipment utilization.
- Item 2.4, Tools and Work Equipment, is primarily utilized by the Construction Department and the Service Department and is, therefore, functionalized 50% to each of the functions of mains and services respectively.
- Item 2.6 and 2.7, Computer Equipment and Telecommunications, are functionalized based on the number of employees within the various departments.
- Item 3.2, Gas Costs Working Cash, is functionalized to Gas Supply.
- Item 3.3, Operating & Maintenance Working Cash, is functionalized on the basis of the functionalized O & M costs from Document 6.Item 3.4, accounts for the working cash associated with Capital Taxes, Régie Dues and

Municipal Taxes. They are functionalized respectively on the basis of capital employed, Gas Supply, and Unidentifiable.

- Item 3.5, Income Tax working cash is functionalized prorata to rate base excluding working cash.
- Item 3.6, GST/QST Working Cash, is functionalized on the basis of its components being revenues, gas costs, O & M and capital.
- Item 3.7, Provision for Bad Debt, is functionalized to Customer Accounting.

Document 4.1; The Rate Base Reconciliation

The stabilization accounts are not part of the scope of the study. The amounts have therefore been excluded from rate base for cost allocation purposes.

Document 5; Net Investment Costs

- Item 1.1, Depreciation, is functionalized prorata to rate base.
- The miscellaneous taxes, Item 1.2, are comprised of Capital Taxes, Régie Dues and Municipal Taxes. Capital Taxes are functionalized in proportion to capital employed in rate base. Régie Dues are functionalized to Gas Supply. Municipal Taxes are functionalized to Unidentifiable since they are not readily associated with any specific function.
- Item 2, Late Payment Penalties, is functionalized to Customer Accounting.

Document 6; Operating and Maintenance Expenses

Under traditional cost of service regulation, the O&M costs were functionalized, classified and allocated to the various customer rate classes starting from a detailed general ledger account information available as part of the existing grass root budget process. The accounts in the general ledger were subsequently aggregated at a higher level, if warranted (on the basis that costs behave in a similar way), to constitute functional cost centres.

As a result of the targeted PBR, the test year total O&M budget figure to be included in the revenue requirement is derived by applying a pre-determined formula which takes into consideration inflation, productivity gains, and Z-factors. As a result, the detailed

O&M budget at the general ledger account level is no longer available thereby preventing the development of the first cost allocation step, that is the functionalization step, to be performed in the usual manner. The D-2001-55 approved O&M budget, has been used as the starting point for the functionalization of O&M. The difference between the test year O&M budget and the base O&M budget is spread amongst all functional cost centres prorata to the functional cost distribution underpinning the base budget, with the exception of Z-factor adjustments. The Z-factor adjustments are accounted for in the functionalization step by specifically applying the required adjustment to the appropriate functional cost centre. This methodology reflects that inflation and productivity gains will impact all facets of the Company's operations, while Z-factors are case specific and will be treated accordingly. It is also closely tied to the formula based derivation of the test year O&M budget, which is a function of the base budget rather than actual O&M costs.

The costs that cannot be directly assigned or functionalized are the overheads.

The cost of employee benefits, Item 6, includes the cost of administering the Human Resources as well as the costs of the benefits. In Column 2, these costs are apportioned to the operating functions on the basis of the labour costs included in each of the aforementioned functions.

The costs of supervision are apportioned, as found in column 4, to the functions supervised on the basis of the total dollar cost of each function. This treatment recognizes that the process of supervision involves not only the management of personnel resources but also the integration of materials and other resources.

Administrative and General overheads, Item 7, are allocated to the functions on the basis of the dollars accumulated in column 5 except for the costs of the gas supply function. Only 3% of the gas supply function costs are included in the base for the distribution of administrative and general expenses. Column 7 contains the functionalized operating and maintenance costs.assification

The next step, classification, is performed on Documents 7, 8 and 9. The definitions of the classifiers are found at Appendix A.

5.2 Classification

Document 7; Rate Base

The rate base functionalized to Item 1, Gas Supply, is the working cash requirement for gas purchases, miscellaneous taxes and GST/QST. The working cash items are required for the daily management of the supply function and are classified pro rata to the specific classification of gas costs seen on document 9, page 2.

The Distribution Regulation costs include district stations and gate stations costs. They are common costs incurred to regulate the pressure flow from the transmission system to the distribution system. They are hence classified as capacity related.

The next three items, Sales Stations, Meters, and Services are classified to the same three classifications to be allocated on the appropriate factors reflecting class responsibility for these functions.

The distribution mains included in Item 2, are classified as 30% customer-related and 70% capacity-related. The customer-related component recognizes that no customer can receive or have access to gas service unless a main exists close to the customer's point of gas requirement. The remainder is the capacity related component of the distribution mains.

Item 7, Sales and Promotion costs are classified to Distribution capacity. The general promotion related costs are viewed as costs incurred to promote the use of natural gas generically and thus optimize the system capacity. They are hence classified as such.

The Customer Accounting costs are classified to Number of Customers. These costs consist of the allocated general plant costs incurred to support that function together with its working capital component.

The Specific Costs are the GST/QST revenues. They are classified as such.

Document 8; Net Investment Costs

Item 1, Gas Supply, represents the Régie dues expense. The portion of the Régie dues that is remitted to the Régie is classified to load balancing, annual, since the fee is applicable to delivered volumes. The remainder is the portion remitted to la Régie du Batiment which is calculated based on sales volumes. It is hence classified as commodity.

Items 2 to 9 follow the same classification of the rate base (Document 7).

Document 9; Operating and Maintenance expenses

The first major function classified is Gas Supply costs. The details are found on Page 2.

Delivery charge (blocks):

The rationale for the classification of the delivery charge is explained above in section 4.3.2.

The total cost, 2,566.3 ($000), is found on Document 9, page 3, line 25, column 13.

The storage costs component of 1,310.0 ($000) corresponds to the storage costs included in Rate 200's delivery charge. The costs are classified to peak, space and annual based on the classification of Enbridge Gas Distribution's storage costs.

The remaining delivery costs of 1,256.3 ($ 000) are classified 30% to peak and 70% to annual, reflecting Gazifère's operational load factor.

Peak component = 30% X (1,256.3) = 376.9

Annual component = 70% X (1,256.3)= 879.4

Load balancing charge:

The load balancing charge classification is explained above in section 4.3.4.

The total cost of 6,581.7 ($000), is classified to load balancing, peak and annual.

The costs are classified 30% to peak and 70% to annual, reflecting Gazifère's operational load factor.

Peak component = 30% X (6,581.7)= 1,974.5

Annual component = 70% X (6,581.7)= 4,607.2

Gas Supply charge:

The total gas supply cost of 29,426.8 ($000) is shown at Document 9, page 3. It is derived as the sum of commodity charges for system gas and buy/sell volumes, i.e. the sum of lines 26 and 28.

The gas supply charge being a purely variable cost, is classified entirely as gas supply commodity.

Niagara:

These costs are incurred to move gas from Enbridge Gas Distribution's system to Gazifère's franchise area. They represent fixed transportation costs and are classified and allocated 30/ 70 peak/annual consistently with the treatment of fixed gas supply costs, as previously explained in section 4.2.

Item 2.1, Chart Processing, is classified to Readings Processed.

Items 2.2 and 2.3, System Operations and Mains, follow the same classification as Distribution costs in rate base.

The Customer Service function costs are shared equally amongst all customers classes by classifying the costs to the total number of customers.

Many of the costs incurred in the fourth functional group, Sales Promotion, can be identified with specific classes. General Sales Promotion, Item 4.4, is related to the general promotion of natural gas resulting in optimizing distribution capacity. Accordingly, this expense is classified as capacity related.

Costs comprising the Customer Accounting function, with the exception of Item 5.3 are classified to be shared by all customers. Responsibility for the costs of Meter Reading Item 5.3, is readily determinable and is accumulated in Column 15.

5.3 Allocation

The final step, the allocation of the classified costs to the rate classes is found in Documents 10, 11 and 12. On the right hand side is a column headed "Allocation Factor". The numbers in this column indicate the allocation factor used as identified by its item number in Document 13.

The explanations of the allocators are in Appendix B. As an example, Item 1.1 on Document 10 is Gazifère's rate base classified as commodity-related. This amount is allocated in proportion to allocation factor number 1.1. Item 1.1 in Document 13 indicates the absolute and relative responsibility by rate class for annual sales.

The allocation of return and taxes is performed pro rata to the allocated rate base on the basis that income earned attracts income tax.

APPENDICES

Appendix A

DEFINITIONS of CLASSIFICATIONS

Classifier	Description
Gas Supply; Product	
Annual Commodity	Costs of annual supply.
Gas Supply; Load Balancing	
Peak Transportation	Costs for transporting gas to the Company on peak.
Space Transportation	Carrying costs for gas in inventory.
Annual Transportation	Annual Costs for transporting the annual supply to the Company.
STORAGE	
Deliverability	Storage deliverability and transportation costs for peak
Space	Costs for the space in which the gas is stored.
Winter	Non peak transportation costs.
Distribution	
Distribution Commodity	Cost of supply for UUF.
Distribution Capacity	System capacity costs.
Customer Related	
Meters	Costs of customer meters.
Sales Stations	Costs of customer sales stations.
Services	Costs of service lines.
Residential Customers	Sales and marketing costs for the residential market
Commercial/Industrial Customers	Sales and marketing costs for the commercial and industrial markets.
Total Customers	Customer accounting, marketing costs and service operations costs for all customers.
GST/QST Revenue	Reduction in working cash arising from the collection of the GST/QST.
Readings Processed	Costs for reading and processing customer bills.

Appendix B

ALLOCATION FACTORS

Allocator	Units	Description
Commodity Factors		
Annual Sales	10^3 m^3	Annual volumes of gas sales customers.
Total Annual Deliveries	10^3 m^3	Annual volumes of all customers.
Total Winter Deliveries	10^3 m^3	Winter volumes of all customers.
Capacity Factors		Assignment of capacity costs to firm and
Capacity Assigned and Used	10^3 m^3	interruptible volumes based on system utilization
Storage Factors		
Deliverability	10^3 m^3/day	Peak day volumes.
Space	10^3 m^3	Excess of winter seasonal deliveries over the deliveries if they were made at average.
Customer Factors		
Meters	($000)	Investment in meters.
Sales Stations	($000)	Investment in customer sales stations.
Services	($000)	Investment in services.
Total Customer Count	Customer count	Average number of customers.
Residential Customer Count	Customer count	Average number of residential customers.
Comm/Ind Customer Count	Customer count	Average number of comm/industrial customers.
Chart Readings	Chart reads	Number of charts read each year.
Meter Readings	Meter reads	Number of meter readings per year.