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Before the Public Service Commission of the State of Missouri

Direct Testimony

of

H. Edwin Overcast

June 2009

TABLE OF CONTENTS
DIRECT TESTIMONY OF
H. EDWIN OVERCAST
ON BEHALF OF
THE EMPIRE DISTRICT GAS COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMPANY
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Section 1- Introduction

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. H. Edwin Overcast
P. O. Box 2946
McDonough, GA 30253

Q. WHAT IS YOUR POSITION AND BY WHO ARE YOU EMPLOYED?

A. I am a Director with Enterprise Management Solutions, a Black & Veatch Corporation.

Q. ON WHOSE BEHALF ARE YOU APPEARING?

A. I am appearing on behalf of The Empire District Gas Company ("EDG" or "the Company").

Q. PLEASE DESCRIBE YOUR BUSINESS AND PROFESSIONAL BACKGROUND.

A. A detailed description of my educational and business background is provided in Appendix A. Briefly, I have a Ph. D. in Economics from Virginia Polytechnic Institute and State University. I have been employed in various analytical, management and executive positions in the gas and electric industry for over 30 years. During that time, I have testified extensively on a variety of regulatory matters including cost of service and rate design for natural gas Local Distribution Companies ("LDCs") in both a bundled and unbundled service model. I have participated as an instructor in the American Gas Association Rate Fundamentals course discussing issues such as Straight Fixed Variable ("SFV") rates, decoupling and other appropriate rate design alternatives as well as cost of service. I have designed and implemented SFV rates for Atlanta Gas Light Company as part of their filing to unbundle natural gas service in Georgia.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. My testimony addresses the development of the cost of service study and the appropriate rate design for gas delivery service. As part of my testimony, I describe the problems inherent in recovery of fixed costs in volumetric rates. The testimony demonstrates that SFV rate design strikes the best balance between the competing objectives that are in play when a regulatory authority is making determinations regarding the establishment of rates and charges for public utility service. I demonstrate that SFV rate design matches rates and cost of service more closely than is possible with traditional volumetric rates. Further, I discuss the benefits of SFV incorporating more economically efficient price signals for consumers. In addition, I discuss the more practical benefits of the SFV rate design in minimizing adverse bill impacts on customers. I discuss the combination of the current North, South and Northwest areas of the EDG system in terms of distribution rates. Finally, I will discuss some proposed changes to the provisions of the transportation portion of the tariff.

Q. HOW IS THE TESTIMONY ORGANIZED?

A. The testimony is organized in the following sections:

Section 1- Introduction
Section 2- Cost of Service Principles
Section 3- Results of the Cost Study
Section 4- Principles of Rate Design
Section 5- Issues with Current Volumetric Rates
Section 6- Alternatives to Volumetric Rates
Section 7- The SFV Rate Design Proposal
Section 8- Combining Service Areas
Section 9- Transportation Tariff Issues
Section 10- Summary

In addition, I am sponsoring a number of schedules attached to the testimony.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATIONS.

A. My testimony supports EDG's proposed SFV rate design and recommends that the Missouri Public Service Commission ("Commission") adopt this approach for purposes of establishing just and reasonable rates and charges that will produce the revenue authorized by the Commission. I make this recommendation based on the analysis of the current volumetric rate design and an application of rate design and other regulatory principles. Importantly, SFV rates track costs more accurately than volumetric rates and eliminate intra-class discriminatory pricing. The gas distribution business is a capital intensive, fixed cost business. Under volumetric rates, revenue recovery is based on sales volumes which are driven by variable factors that are out of the LDC's control including, among other things, weather and natural gas prices. As things presently stand, I believe the current volumetric rate design is unreasonable and must be modified to: (1) help to stabilize and make more predictable the month-to-month bills customers pay for natural gas service provided by EDG; (2) more clearly delineate the relationship between the distribution service provided by EDG and the costs related to the supply of natural gas;(3) improve the quality of the price signals that occur by adopting a rate design that clarifies the match between the customer's and the Company's cost savings resulting from usage reductions; (4) reflect proper rate design principles; (5) facilitate budgeting and funding of the capital improvements that are necessary to maintain or improve the integrity of the systems of pipes and mains that must stand ready to meet the service needs of natural gas customers; and, (6) provide the Company with a reasonable opportunity to collect the revenues authorized by the Commission. . I also believe that an SFV rate design can have a useful influence on efforts to reduce the frequency of applications to increase base rates.

For residential customers and the smaller general service customers, I recommend a SFV rate structure that consists of an annual charge that is recovered through monthly customer charges that may be either uniform or variable. For the larger general service customers, I ultimately recommend an SFV rate structure that consists of a customer charge and a demand charge with the demand based either on an imputed demand or the contract demand of the customer. As I explain in the testimony, the larger general service classes are less homogeneous than the residential and small general service classes and the combination of a customer and demand charge tracks cost better than the single annual charge. Based on discussions with EDG, we have not proposed to go completely to the recommended SFV rates but rather to make an interim step in order to have the time to refine the basis for customer groups and the SFV rate design.

Section 2- Cost of Service Principles

Q. WHAT IS THE PURPOSE AND USE OF THE COST OF SERVICE STUDY?

A. There are many purposes for utility cost analysis ranging from designing appropriate price signals to determining the share of costs or revenue requirements borne by various rate classes. In this case, the cost study is a useful guide for the allocation of the revenue requirements.

Q. PLEASE DESCRIBE THE VARIOUS TYPES OF COST OF SERVICE STUDIES THAT MAY BE USEFUL FOR RATE DESIGN AND THE ALLOCATION OF REVENUE REQUIREMENTS.

A. In general, cost studies may be based on embedded costs or marginal cost. Embedded cost studies analyze the costs for a test period based on either the book value of accounting costs (a historical period) or the estimated book value of costs for a forecast test year. Typically, embedded cost studies are used to allocate the revenue requirement between classes and between customers within a class. Marginal cost studies do not reflect actual costs but rely on estimates of the expected changes in cost associated with changes in service. Marginal cost studies are forward looking to the extent permitted by available data. Marginal cost studies are useful for rate design where it is important to send appropriate price signals associated with additional consumption by customers.

Q. PLEASE DISCUSS THE REASON THAT COST OF SERVICE STUDIES ARE USED.

A. Cost studies represent an attempt to analyze which customer or group of customers cause the utility to incur the costs to provide service. The requirement to develop cost studies results from the nature of utility costs. Utility costs are characterized by the existence of common and joint costs[1]. In addition, utility costs may be fixed or variable costs[2]. Finally, utility costs exhibit significant economies of scale[3]. These characteristics have implications for both cost analysis and rate design from a theoretical and practical perspective. The development of cost studies, either marginal or embedded, requires an understanding of the operating characteristics of the utility system. Further, as discussed below, different cost studies provide different contributions to the development of economically efficient rates and the cost responsibility by customer class.

Q. PLEASE DISCUSS THE ECONOMIC THEORY UNDER-PINNING COST ANALYSIS.

A. Economic theory holds that efficient prices equal short-run marginal cost. For a gas utility characterized by economies of scale, setting prices based on marginal costs will not produce adequate revenues because marginal cost is below average cost. Utilities must be allowed a reasonable opportunity to earn a return of and on the assets used to serve customers. Since the utility could not satisfy the revenue adequacy constraint with prices based on marginal cost, economists developed a theoretical approach to reconciling marginal cost based prices with the revenue

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[1] Common costs occur when the fixed costs of providing service to one or more classes or the cost of proving multiple products to the same class use the same facilities and the use by one class precludes the use by another class. Joint costs occur when two or more products are produced simultaneously by the same facilities in fixed proportions. In either case, the allocation of such costs is arbitrary in a theoretical economic sense.

[2] Fixed costs do not change with the level of output while variable costs change directly with the utility output. Most non-fuel related utility costs are fixed and do not vary with changes in load.

[3] Scale economies result in declining average cost as output increases and marginal costs below average costs.

constraint. The theory of Ramsey pricing resolves the revenue adequacy issue by suggesting that raising prices above marginal cost in relation to the inverse of the price elasticity of the product or service provided results in the least societal welfare loss from prices that differ from marginal cost.

Under Ramsey pricing (a form of differential pricing), customers' rates are increased above marginal cost until the rates produce adequate revenues. Increases are largest for those customers or classes of service whose demand is most inelastic. To implement Ramsey pricing requires, among other things, estimates of customer or class price elasticity. Since estimating price elasticity for gas service is complex, utilities developed other practical methods for resolving the revenue adequacy issue. Alternatively, the theory of multi-part pricing suggests that it is possible to recover average costs from infra-marginal prices while setting the marginal price equal to marginal cost. Thus, the use of block rates permits efficient prices while recovering total revenue requirements. Other examples of efficiency based rates includes the concept of fixed variable rate design where fixed cost recovery occurs through fixed charges (since fixed costs do not contribute to marginal cost) and variable charges recover variable costs.

The theory of pricing also requires a theory of class or service cost allocation. However, the existence of joint and common costs makes any allocation of costs arbitrary. This is theoretically true for any of the various marginal or embedded cost methods that may be used to allocate costs. Theoretical economists have developed the theory of subsidy free prices to evaluate traditional regulatory cost allocations. Prices are said to be subsidy free so long as the price exceeds marginal cost but is less than stand alone costs ("SAC"). Indeed all of this theory provides useful insight to the regulatory process where, as a practical matter, costs must be allocated between classes of service and within classes of service. For example, if the process of cost allocation results in rates that exceed stand alone costs for some customers, prices must be set below the stand alone cost but above marginal cost to assure that those customers make the maximum practical contribution to common costs. SAC plays a role in addressing issues such as gas bypass where customers may potentially exit the grid. SAC represents an element of the allocation process for cost studies and is an alternative to the concept of fully allocated costs. Unlike other more conventional allocation methods SAC relies on estimated replacement costs rather than actual costs.

Q. IF ANY ALLOCATION OF COMMON COST IS ARBITRARY, HOW IS IT POSSIBLE TO MEET THE PRACTICAL REQUIREMENTS OF COST ALLOCATION?

A. As noted above, the practical reality of regulation often requires that common costs be allocated among jurisdictions, classes of service, rate schedules and customers within rate schedules. The key to a reasonable cost allocation is an understanding of cost causation. Under the traditional embedded cost allocation, the process follows three steps: functionalization, classification and allocation. This three step process underlies the determination of cost causation. By identifying the functions of utility service- supply, storage, transmission, distribution and customer for gas service- and the costs of these functions, the foundation is laid for classifying costs based on the factors that cause the utility to incur these costs- commodity, demand and customers. The development of allocation factors by rate schedule or class uses principles of both economics and engineering to develop allocation factors appropriate for different elements of costs. Embedded cost allocation may provide the class costs associated with actual test year revenue requirements or simply the relationship between costs and revenues for an historic period by customer class.

Q. PLEASE DISCUSS THE ELEMENTS OF MARGINAL COST ANALYSIS.

A. Marginal cost studies, in contrast to embedded cost studies, focus on the change in costs associated with a small change in output. Marginal costs are forward looking and require making estimates of future costs with an understanding of the elements that drive those future costs. As a practical matter, marginal costs bear no relationship to the mix of actual historical costs that constitute the utility revenue requirement. The reasons that marginal costs do not reflect actual costs include the following:

1. The relationship between historic and prospective costs reflects changes in technology.
2. Sunk costs (the fixed cost of the existing system) do not impact marginal cost but may account for a large portion of the test year revenue requirement, particularly where economies of scale are significant.
3. The underlying impacts of inflation on prospective costs differ from past costs.
4. Additions to capacity are lumpy and as a result utilities optimal additions often include more capacity than the marginal change in load.

To estimate marginal cost, the first step requires determining the change in cost associated with the consumption of one more therm of natural gas. Essentially, marginal costs require an understanding of the system planning process. Often, however, the planning process does not provide all of the information necessary to develop marginal cost estimates. For the commodity component of marginal cost, the existence of competitive wholesale markets provides a direct basis for estimating marginal commodity costs. The rationale for this statement relies on the economics of competition where prices equal marginal cost in competitive markets. Having markets for gas commodity allows the direct estimation of marginal costs from the market.

To the extent that marginal costs differ by hour or by season, wholesale markets provide the basis for this determination. Where the utility purchases default service from the market at a fixed rate, the fixed rate provides the appropriate marginal commodity cost determination. Thus the existence of commodity markets and active futures markets makes the estimation of commodity marginal costs both less complex and more accurate.

The second step in the determination of marginal cost relates to the change in capacity requirements as measured by the daily therm demand of gas. Unlike the commodity determination, there is no competitive market for either transmission or distribution. Thus it is necessary to estimate how capacity demand influences the costs for distribution and transmission. The analysis begins by recognizing that the capacity demand is different for transmission and distribution because the load diversity increases as the analysis becomes remote from individual customers. Initially, the capacity requirements for transmission reflect the coincident demand for the transmission system as measured by loads on transmission. The capacity requirements for the distribution system must reflect the non-coincident demands on the system since delivery must satisfy the local demands that may not be coincident with the system peaks for a number of reasons. Although, for customers who use the gas system for heating, as opposed to process or interruptible services, demands tend to be coincident. For process and interruptible customers, marginal cost is zero for existing customers unless the customer expands operations. If expansion occurs marginal cost is the cost incurred to expand capacity to meet contract demand.

Gas customers in the residential and commercial service classes exhibit declining use per customer due to the improved efficiency of capital stock replacement and improvements to the thermal envelope. This declining use per customer creates additional design day capacity within the existing system to serve new loads. As a result, the growth in transmission plant and distribution plant for gas customers reflects the growth in number of customers using gas service. For existing customers the marginal distribution and transmission capacity related cost is actually zero. Marginal cost for new customers is the driver for the new investment in the gas system along with the replacement of aging infrastructure. Further, for gas service there are substantial economies of scale associated with gas distribution infrastructure such that the unit cost of capacity for gas delivery declines with size at a relatively rapid rate. The resulting marginal cost becomes the customer related expansion of main and service for gas delivery.

Q. PLEASE DISCUSS THE SCALE ECONOMIES ASSOCIATED WITH GAS DISTRIBUTION SERVICE.

A. Gas system scale economies reflect the relationship between the installed cost of pipe by size and type coupled with the increased capacity from pressure and pipe diameter. Simply doubling the size of the gas main more than doubles the available capacity of the main at a cost approximately equal to or less than double the smaller size all else equal. For a low pressure system, increasing pipe size from two inch to four inch allows over five times the amount of gas to flow and under higher pressure, the flow rate increases by more than six times that of two inch pipe all else equal. The resulting cost causation implies that larger customers impose lower per unit costs on the distribution system than do smaller customers. Table 1 below provides the data for EDG on the installed cost per foot of main and the available capacity to serve load based on standard operating pressure for the system.

Table 1

Main Cost Comparisons

Size of Main	Materials Costs per foot	Installation Costs per foot	Total cost per foot	Design Day Capacity*	Cost per foot of Design Capacity
2 inch	$1.10	$3.78	$4.88	195 Mcf/day	$0.025
4 inch	$3.57	$6.35	$9.92	1,102 Mcf/day	$0.009

*Based on 5280 feet of main

Further, given the customer density for the EDG system of 46 customers per mile of line, the minimum size of pipe installed will serve the design day load characteristics of the smallest customers and even for larger customers up to 387 Mcf per year assuming a 25 percent annual load factor. This means that residential customers using under 387 Mcf annually have the same cost as all other residential customers. EDG has almost no residential customers this large. Thus, all residential customers are fully served by the minimum system and thus have the same delivery service costs.

Q. WHAT IMPLICATIONS RESULT FROM SCALE ECONOMIES AND THE EDG DATA RELATED TO COST OF SERVICE AND RATE DESIGN?

A. The implication of these conclusions for both cost allocation (either marginal or embedded) and rate design on the gas system are quite important. Namely, the recovery of distribution costs through volumetric charges creates intraclass subsidies from larger customers to smaller customers and those subsidies may be quite large. Further, the failure to recover fixed costs in fixed charges results in inefficient price signals and causes customers to bear the consequences of the inefficiency. Finally, the cost to serve residential customers (excluding gas costs) is the same regardless of the size of customer since the minimum system installed by the Company will serve nearly every residential customer.

Q. WHAT FACTORS CAUSE THE LDC TO INCUR DISTRIBUTION COSTS?

A. Both marginal and embedded costs for the distribution system are determined by two major factors: (1) the number and location of customers and (2) their demands (albeit for gas distribution the impact of demand becomes less important when pipe scale economies for residential and small commercial customers cause the minimum installation to also serve design day demand.) Utility cost studies, both marginal and embedded, have traditionally attempted to identify a portion of distribution costs as customer-related and the remaining portion as demand-related. While it is true that marginal demand costs play a role in the installed facilities, the customer considerations play a much larger role since local facilities and policies reflect the underlying customer mix and density. The critical issue for a gas system is that the system provides sufficient capacity to meet the design day load requirements of customers. For residential and the smallest general service customers, the smallest distribution pipe installed on the system will serve the design day capacity of these customers. As a result, the cost to serve the individual customers in these classes is the same regardless of the design day demand.

<u>Section 3- Results of the Cost Study</u>

Q. PLEASE DISCUSS THE APPLICATION OF THE THREE STEPS IN THE COST OF SERVICE STUDY.

A. Cost are functionalized and classified in the study based on data from the Uniform System of Accounts (USOA). The cost study uses two types of allocation factors: external factors and internal factors. *External* allocation factors are based on direct knowledge from data in the utility's accounting and other records. For example, transmission costs are functionalized to transmission FERC accounts and are assigned by an external transmission allocation factor. Another example of an external allocation factor is allocation of distribution mains. The cost of distribution mains are known and assigned directly to the distribution function. Once assigned to distribution, mains are allocated using the minimum system as the external allocation factor. *Internal* allocation factors are based on some combination of external allocation factors, previously directly assigned costs and other internal allocation factors. For example, the allocation factors for property insurance costs are based on plant investment amounts assigned to each function; it is necessary to compute the amount of plant by function before property insurance costs can be assigned. Both external and internal allocation factors are used in each of the functional, and classification steps outlined below.

Q. PLEASE DESCRIBE THE RESULTS OF THE ALLOCATION PROCESS AS APPLIED TO THE USOA.

A. The follow section outlines by FERC account the allocation of costs to each function and classification.

A. <u>Intangible Plant (FERC Accounts 301-303)</u>

Intangible plant is functionalized and classified based on plant or labor.

B. <u>Production Plant - None</u>

C. Natural Gas Storage Plant and Expenses -None

D. Transmission Plant and Expenses

1. Plant

Transmission Plant (FERC Accounts 365-371) represents measuring and regulating equipment and other associated equipment used to track volumes and heat content of gas entering the distribution system. The cost of this equipment is functionalized to Transmission, and classified to Demand.

2. Expense

Transmission Operation & Maintenance (FERC Accounts 850-865) are functionalized, and classified based on FERC Accounts 365-371.

E. Distribution Plant and Expenses

1. Distribution Plant (FERC Accounts 374-385)

a. Mains (FERC Account 376)

Mains are functionalized to Distribution, and then classified as either Distribution Customer or Distribution Demand. The customer component percentage was determined by taking the ratio of the cost of replacing the present distribution system verse replacing the total system with only the minimum size main. The minimum size main was determined to be 2” main.

As a result of employing the minimum-size concept, 77% of the distribution mains were classified as customer related and 23% distribution demand related.

b. Services (FERC Account 380)

Services are functionalized to Distribution, and then classified to Distribution Customer.

c. Meters (FERC Account 381)

Meter-Plant is functionalized to Distribution, and then classified to Distribution Customer.

d. Measuring and Regulating Station Equipment (FERC Account 378)

Measuring and regulating equipment is functionalized to Distribution, and classified to Demand.

e. <u>Structures and Improvements (FERC Account 375)</u>

Structures and Improvements are functionalized to Distribution, and classified to Demand.

f. <u>Land and Land Rights (FERC Accounts 374)</u>

Land and Land rights are functionalized to Distribution, and classified to Demand

2. <u>Distribution Expenses (FERC Accounts 870-895)</u>

a. <u>Operation of Mains/Services (FERC Account 874)</u>

Operating Expense for mains and services are functionalized and classified proportionally based on Accounts 376 and 380.

b. <u>Measuring and Regulating Operation Expenses (FERC Account 875)</u>

Measuring and Regulating operating expenses are functionalized to Distribution, and classified to Demand.

c. <u>Meter and House Regulator Operation Expenses (FERC Account 878)</u>

Meter and House Regulator Expenses are functionalized and classified based on FERC Account 381.

d. <u>Customer Installation Expenses (FERC Account 879)</u>

Customer Installation Expenses are functionalized to Distribution, classified to Customer.

e. <u>Distribution Rents (FERC Account 881)</u>

Rents are functionalized and classified based on other distribution accounts.

f. <u>Maintenance of Mains (FERC Account 887)</u>

Maintenance of mains is functionalized and classified based on FERC Account 376.

g. <u>Maintenance of Services (FERC Account 892)</u>

Maintenance of Services is functionalized and classified based on FERC Account 380.

h. <u>Meters and House Regulators – Maintenance (FERC Account 893)</u>

Maintenance of Meters and House Regulators is functionalized and classified based on FERC Account 381.

i. Measuring and Regulating Maintenance Expenses (FERC Accounts 889 to 890)

Measuring and Regulating maintenance expense is functionalized to Distribution, and classified to Demand.

j. Maintenance of Structures (FERC Account 886)

Maintenance of Structures is functionalized and classified based on FERC Account 375.

F. General Plant (FERC Accounts 390-398)

General Plant accounts are functionalized and classified based on labor.

G. Depreciation Reserve (FERC Account 108-111)

Depreciation Reserve accounts are functionalized and classified based on their corresponding gross plant values.

H. Other Rate Base Items

These various accounts are functionalized and classified based on labor or plant.

I. Customer Accounts Expenses

1. Meter Reading Expense (FERC Accounts 902)

Meter Reading Expense is functionalized and classified to Customer.

2. Customer Records & Collection Expense (FERC Accounts 903)

Customer Records & Collection Expense are functionalized and classified to customer.

3. Uncollectible Account Expenses (FERC Account 904)

Uncollectible Accounts Expense is functionalized and classified based on Customers

J. Customer Service & Information Expenses

1. Call Center (FERC Account 908)

Call Center Expenses are functionalized and classified to Customer.

2. Inform. & Instruct Advertising (FERC Account 909)

Information & Instructional Advertising Expenses are functionalized and classified to Customer.

K. Administrative and General Expenses (Accounts 920-939)

Administrative and General Expenses are identified in two groups: labor related, and plant related. Labor related expenses are functionalized and classified according to labor in each function. Plant related expenses are functionalized and classified according to plant in each function.

L. Depreciation and Amortization (FERC Accounts 403-407)

Depreciation and Amortization Expenses are functionalized and classified the same as the allocation of Accumulated Depreciation and Amortization.

M. General Tax, Payroll and Real Estate Tax

Payroll taxes were functionalized and classified based on labor. Real Estate Taxes were functionalized and classified based on Plant.

N. Revenue Taxes

Revenue Taxes were functionalized, and classified based on revenue.

O. Income Taxes

Income Taxes were functionalized and classified based on revenue.

P. Revenue and Other Revenue

Revenues were functionalized and classified based on revenue requirements and allocated based on actual revenues collected from each class in the Test Period.

Q. PLEASE SUMMARIZE THE RESULTS OF THE COST OF SERVICE STUDY.

A. The cost study results are summarized in the following table:

Table 2

THE EDG DISTRICT GAS COMPANY
Class Cost of Service Study
Test Year Ended Dec. 31, 2008

Rate Class	Actual Return
N&S- Res-RS	-0.4%
NW- Res-RS	-1.2%
N&S- Sm Comm-SCF	23.5%
NW- Sm Comm-SCF	18.8%
N&S- Sm Vol Firm-SVF	37.1%
NW- Sm Vol Firm-SVF	35.4%
N&S- Lg Vol Firm-LVF	12.0%
NW- Lg Vol Firm-LVF	11.3%
N&S- Lg Vol Int-LVI	92.2%
NW- Lg Vol Int-LVI	0.0%
N&S- Tran Sm Vol-SVTS	44.4%
NW- Tran Sm Vol-SVTS	41.1%
N&S- Tran Lg Vol-LVTS	8.9%
NW- Tran Lg Vol-LVTS	17.4%

As the table illustrates, residential returns are currently below the system average return. Most of the other classes of service have higher returns. Returns on the NW system are below the returns for the N&S systems with the exception of rates for large volume customers. As a result, it is appropriate to allocate a larger portion of the rate increase to residential customers and minimize the increases to other classes.

Q. PLEASE DESCRIBE THE COST OF SERVICE SCHEDULES ATTACHED TO THE TESTIMONY.

A. There are five schedules attached to the testimony that provide the results of the cost of service study. Schedule HEO-1 consists of 18 pages and represents the results of the class cost of service study for the test year ended December 31, 2008. Each page contains an account description or label for those items not part of the uniform system of accounts. Where the item is part of the uniform system of accounts, the account number is provided. The total dollars for each account is also provided. The remainder of the page shows the proportion of each account allocated to each rate schedule. Pages 13 and 14 provide the net income and earned return for each rate schedule. Pages 17 and 18 provide the revenue requirement for each rate schedule. Schedule HEO-2 consists of seven pages and provides the summary of account functionalization. Schedule HEO-3 consists of six pages and summarizes the classification of the distribution function accounts. Schedule HEO-4 consists of 126 pages and provides the allocation of each account by classification and by rate schedule. Finally, Schedule HEO-5 consists of 10 pages and provides a summary of the allocation factors by account and function.

Section 4- Principles of Rate Design

Q. PLEASE IDENTIFY THE PRINCIPLES OF RATE DESIGN YOU HAVE RELIED ON TO RECOMMEND THE RATE ALTERNATIVE PROPOSED BELOW TO RESOLVE THE ISSUE OF FIXED COST RECOVERY.

A. A number of rate design principles or objectives find broad acceptance in regulatory and policy literature. These include:

1. Efficiency;
2. Cost of Service;
3. Value of Service;
4. Stability;
5. Non-Discrimination;
6. Administrative Simplicity; and
7. Balanced Budget.

These rate design principles draw heavily on the “Attributes of a Sound Rate Structure” developed by James Bonbright in Principles of Public Utility Rates. Each of these principles plays an important role in analyzing the proposals developed in my testimony. To understand the role these principles play, the following discusses each of the principles.

Q. PLEASE DISCUSS THE PRINCIPLE OF EFFICIENCY.

A. The principle of efficiency broadly incorporates both economic and technical efficiency. As such, this principle has both a pricing dimension and an engineering dimension. Economically efficient pricing promotes good decision-making by gas producers and consumers, fosters efficient expansion of delivery capacity, results in efficient capital investment in customer facilities and facilitates the efficient use of existing pipeline, storage and distribution resources. The efficiency principle benefits stakeholders by creating outcomes for regulation consistent with the long-run benefits of competition while permitting the economies of scale consistent with the best cost of service. Technical efficiency means that the development of the system is designed and constructed to meet the design day requirements of customers using the most economic equipment and technology consistent with design standards.

Q. PLEASE DISCUSS THE COST OF SERVICE AND VALUE OF SERVICE PRINCIPLES.

A. These principles each relate to designing rates that recover the total revenue requirement without causing inefficient choices by consumers. The cost of service principle contrasts with the value of service principle when certain transactions do not occur at price levels determined by embedded cost of service. In essence, the value of service acts as a ceiling on prices. Where prices are set at levels higher than the value of service, consumers will not purchase the service.

The calculation of a "true" cost of service is complicated by the fact that for network industries like the natural gas distribution industry, the provision of public utility service often involves joint and common costs which must be allocated (rather than directly assigned) to specific customer classes or rate schedules to develop a full cost of service study. While a good fully distributed cost of service analysis can be performed using principles of cost causation, informed judgment is nonetheless required to perform such a study. A fully distributed cost of service study, properly reflecting cost causation principles and employing sound methods, provides a reasonable tool for the allocation of the total revenue requirement to customer classes (interclass distribution) and within the customer classes (intraclass distribution).

Q. PLEASE DISCUSS THE PRINCIPLE OF STABILITY.

A. The principle of stability typically applies to customer rates. This principle suggests that reasonably stable and predictable prices are important objectives of a proper rate design.

Q. PLEASE DISCUSS THE CONCEPT OF NON-DISCRIMINATION.

A. The concept of non-discrimination requires prices designed to promote fairness and avoid undue discrimination. Fairness requires no undue subsidization either between customers in the same class or across different classes of customers.

This principle recognizes that the ratemaking process requires discrimination where there are factors at work that cause the discrimination to be useful in accomplishing other objectives. For example, things like the location, type of meter and service, demand characteristics, size, and a variety of other considerations are often recognized in the design of utility rates to properly distribute the total cost of service to and within customer classes.

Q. PLEASE DISCUSS THE PRINCIPLE OF ADMINISTRATIVE SIMPLICITY.

A. The principle of administrative simplicity as it relates to rate design requires prices reasonably simple to administer and understand. This concept includes price transparency within the constraints of the ratemaking process. Prices are transparent when customers are able to reasonably calculate and predict bill levels and interpret details about the charges resulting from the application of the tariff.

Q. PLEASE DISCUSS THE PRINCIPLE OF THE BALANCED BUDGET.

A. Finally, there is the critical principle that rate design permits the utility a reasonable opportunity to recover the allowed revenue requirement based on the cost of service. Proper design of utility rates is a necessary condition to enable an effective opportunity to recover the cost of providing service included in the revenue authorized by the regulatory authority. This principle is very similar to the stability objective that I previously discussed from the perspective of customer rates.

Q. AT TIMES, CAN THE OBJECTIVES EMBEDDED IN THESE PRINCIPLES COMPETE WITH EACH OTHER?

A. Yes, like most principles that have broad application, these principles can compete with each other. This competition or tension requires further judgment to strike the right balance between the principles. Detailed evaluation of rate design alternatives and rate design recommendations must recognize the potential and actual competition between these principles. Indeed, Bonbright discusses this tension in detail. Rate design recommendations must deal effectively with such tension. For example, as noted above, there are tensions between cost and value of service principles.

Q. PLEASE DESCRIBE THE CONFLICT BETWEEN MARGINAL COST PRICE SIGNALS AND THE RECOVERY OF THE REVENUE REQUIREMENT.

A. The conflict between good price signals based on marginal cost and a balanced budget or revenue recovery principle arises because marginal cost is below average cost due to economies of scale. Where fixed delivery service costs do not vary with volume of gas sales, marginal costs for delivery equal zero. Marginal customer costs equal the additional cost of providing the entire delivery service to the customer. Marginal cost tends to be either above or below average cost in both the short run and the long run. This means that marginal cost-based pricing will produce either too much or too little revenue to support the revenue requirement. This suggests that efficient price signals may require a multi-part tariff designed to meet the revenue requirements while sending marginal cost price signals related to consumption decisions. Properly designed, a multi-part tariff may include elements such as access charges, facilities charges, demand charges, consumption charges and the potential for revenue credits. In the case of a gas LDC, for residential and small commercial customers the combination of scale economies and class homogeneity permits the use of a single fixed annual charge that meets all of the requirements for an efficient rate and recovers the embedded cost revenue requirement. For larger customers, a combination of these elements permit good price signals and revenue recovery; however, the tariff design becomes more difficult to structure and likely will no longer meet the requirements of simplicity. Therefore, sacrificing some economic efficiency for a customer class in order to maintain simplicity represents a reasonable compromise. For larger customers the added complexity of a demand charge is not a concern. Further, for the largest customers, the cost of metering is customer specific and each customer creates its own unique requirements for distribution service based on factors such as distance from the city gate, pressure requirements and contract demand.

Q. ARE THERE OTHER POTENTIAL CONFLICTS?

A. Yes. There are potential conflicts between simplicity and non-discrimination and between value of service and non-discrimination. Other potential conflicts arise where companies face unique circumstances that must be considered as part of the rate design process.

Q. HOW ARE THESE PRINCIPLES TRANSLATED INTO THE DESIGN OF RETAIL GAS RATES?

A. The process of developing rates within the context of these principles and conflicts requires a detailed understanding of all the factors that impact rate design. These factors include:

1. System cost characteristics such as the embedded customer, demand and commodity related costs by type of service;
2. Customer load characteristics such as peak demand, load factor, seasonality of loads, and quality of service;
3. Market considerations such as elasticity of demand, competitive fuel prices, end-use load characteristics and bypass alternatives; and
4. Other considerations such as the value of service ceiling/marginal cost floor, unique customer requirements, areas of under-utilized

facilities, opportunities to offer new services and the status of competitive market development.

In addition, the development of rates must consider existing rates and the customer impact of modifications to the rates.

In each case, a rate design seeks to recover the authorized level of revenue based on the actual billing determinants occurring during the test period used to develop the rates.

Section 5- Issues with Current Volumetric Rates

Q. PLEASE GENERALLY DESCRIBE THE CURRENT EDG GAS RATES.

A. EDG's current residential service base rates consist of a customer charge and a flat volumetric charge for distribution. Both the customer charge and the volumetric charge differ for the North and South portions of the system when compared to the NW portion of the system. The volumetric charge is a per Ccf charge. The small general service base rates consist of a customer charge and a volumetric charge. For both residential and small general service customers the rate also includes a volumetric Purchased Gas Adjustment (PGA) charge and a Tax and License Rider charge in addition to the applicable base rate charges. The PGA charge differs by each system- North, South and NW based on the costs associated with the interstate pipelines that serve each segment of the system.

The customer charge and volumetric charge, referred to as base rate charges, recover the delivery service costs, including the costs that are incurred as a function of the number of customers and the design day demand that is placed on EDG's distribution system. Base rate costs represent the costs incurred to provide distribution service since the PGA is designed to recover the delivered cost of natural gas supply plus applicable storage service costs.

The PGA charge recovers the delivered cost of obtaining a natural gas supply required to meet the needs of customers. Various other specific purpose adjustment charges or riders apply in accordance with their respective applicability language.

From a total annual bill perspective, the revenue that EDG collects volumetrically through the PGA is substantially greater than the revenue that is collected to cover the costs incurred to provide base rate service. For example and based on the test year data presented by EDG, the annual PGA revenue is about 70 percent of the total annual bill for a typical residential customer. My recommended SFV rate design better informs the customer about efficient conservation choices by letting the customer know that the cost of base rate service is not avoided by a reduction in annual usage volumes.

Q. ARE RATE DESIGN CHANGES REQUIRED TO PROMOTE ECONOMIC EFFICIENCY?

A. Yes. The current volumetric rate design is unreasonable in my opinion because it does a poor job of aligning the revenue recovered by EDG for providing service with the costs incurred to provide base rate service. As a result of this poor alignment, the current rate design works against the goal of ensuring that EDG is provided a reasonable opportunity to recover its costs including a return of and on the capital that has been invested in the property, plant and equipment that is used and useful in providing natural gas distribution service.

Once revenues are authorized as part of the ratemaking process and recovery is attempted through a volumetric rate design, the volumetric rate design will almost certainly produce too much or too little revenue to match the fixed costs of providing natural gas distribution service. In current circumstances, I believe that preserving volumetric rate design for distribution service simply because it has been used historically will work against fundamental regulatory principles and, when compared to SFV, does a poor job of balancing the interests of customers and EDG's shareholders.

Failure to provide a rate design by which a reasonable opportunity for cost recovery is realized also causes inefficiencies relative to the removal of disincentives for conservation, long-term capital investment and efficient access to capital markets.

As explained in more detail below, changing EDG's rate design is critical to the long-term provision of efficient, reliable and cost-effective delivery service. To understand more fully the problems created by a volumetric rate design for base rate service, it is important to understand certain basic utility cost concepts.

Q. PLEASE DESCRIBE THE NATURE OF DELIVERY SERVICE COSTS RECOVERED IN DISTRIBUTION RATES.

A. LDC delivery service costs are fixed costs and do not vary with throughput. An LDC designs and installs a distribution system capable of meeting its customers' design day requirements at the time of initial installation. These facilities include the city gate, mains and pressure regulating facilities, services, meters and regulators all designed to meet the design day requirements of customers at the time of the installation. Placing these facilities in service permits the LDC to serve the changes in load due to extreme weather (the design day peak load) or economic conditions. Once facilities serve customers, the costs associated with these facilities are by their nature fixed and do not vary as a function of the volume of gas consumed by customers.

Q. PLEASE DESCRIBE THE PROBLEMS ASSOCIATED WITH THE REASONABLE OPPORTUNITY TO RECOVER THESE FIXED DELIVERY SERVICE COSTS THROUGH CURRENT RATES WITH A VOLUMETRIC RATE COMPONENT.

A. Essentially, the problems fall into two broad categories and a third related category. First, problems relate to economically efficient price signals. Second, problems relate to the failure to provide a reasonable opportunity to collect the authorized level of revenue. Third, the problems that fall in the first two categories of problems are made worse in the context of other policy objectives that promote cost-effective energy conservation to address resource constraints, obtain more efficient use of capital and to help manage price level and volatility risks.

Q. PLEASE DESCRIBE THE FAILURE TO PROVIDE ECONOMICALLY EFFICIENT PRICE SIGNALS.

A. When fixed costs are recovered volumetrically, customers who conserve save costs that the Company does not save. As noted above, this causes more frequent rate cases and from an economic perspective wastes resources. An economically efficient price signal matches the reduction in cost for the company with the reduction in cost for the consumer. In the case of EDG, the cost reduction from conservation is lower PGA related costs. Any customer savings in excess of the cost of gas overstates the value of conservation and results in both excess investments by the customer and cross subsidies among customers.

Q. PLEASE DESCRIBE THE FAILURE TO PROVIDE A REASONABLE OPPORTUNITY TO COLLECT THE AUTHORIZED LEVEL OF REVENUE.

A. A fundamental tenet of rate regulation provides that rates create an opportunity for the utility to earn the allowed return. This regulatory principle has its foundations in a Missouri case before the U. S. Supreme Court where Justice Brandeis concluded that a utility is permitted an *opportunity to earn the cost of service* including a return of and on the assets devoted to public service.[4] (Emphasis added). This regulatory principle is well accepted and has a long history of application.

The allowed return along with operating and maintenance expenses (excluding the gas costs), depreciation expenses and taxes for a test year constitutes the revenue requirements for delivery service. For gas delivery service, none of these costs

[4] Missouri *ex rel.* Southwestern Bell Tel. Co. v. Public Service Commission, 262 U. S. 276, 290-291 (1923).

varies with the volume of gas consumed by customers. This fact is recognized by regulatory bodies because they do not weather normalize any of these costs as would be appropriate if the costs varied with the volume of gas consumed.

The recovery of revenues occurs in a prospective period, the first year referred to as the Rate Effective Period. The dollars that are actually available for the earned return in the Rate Effective Period equal revenue minus all of the costs incurred in that same year, not the level of costs included in the test year and used for ratemaking purposes to establish the revenue requirement. Thus, if rates do not provide a reasonable opportunity of producing the allowed revenue because of changing use patterns, even though costs equal test year costs, the opportunity to earn the allowed return disappears.

Even if the annual revenue obtained in the Rate Effective Period coincidently matches the authorized revenue, a volumetric rate design still poorly aligns the flow of revenue a natural gas distribution company receives with the way that costs are incurred to provide its public utility service. Looking at this from a customer's perspective, the volumetric rate design tends to also swing monthly base rate bills up or down without regard to the fixed nature of the costs that are being incurred to provide base rate service. Thus, a volumetric base rate falsely suggests that a customer that reduces consumption will somehow produce a corresponding effect on the costs of providing base rate delivery service.

The fundamental point is that sales volume variation from the level assumed for the test year and ratemaking purposes results in revenue and an actual earned return variation, either higher or lower than the amount specified for ratemaking purposes. Actual earned return over time does not equal the allowed return even though earnings vary from year to year under a variety of circumstances including declining use per customer, conservation, price elasticity responses, asymmetric costs and other relevant factors. Nevertheless, volumetric recovery of fixed costs fails to provide a reasonable basis for cost recovery as well as a reasonable opportunity to earn the allowed return.

<u>Section 6- Alternatives to Volumetric Rates</u>

Q. PLEASE DESCRIBE POTENTIAL SOLUTIONS TO THE PROBLEMS ASSOCIATED WITH THE CURRENT VOLUMETRIC RATE DESIGN.

A. Potential solutions cover a range of possible alternatives. For example, rate decoupling represents a commonly discussed alternative to resolving the issue of rate design and revenue recovery. The term "rate decoupling" describes a family of tools that include partial decoupling mechanisms such as weather normalization clauses to more complex full decoupling clauses that permit revenue true-up. Yet another alternative permits the utility to adjust rates for over or under-recovery of authorized return.

In fact, the alternative selected for addressing revenue recovery issues may include several different tools. For example, Northwest Natural (NWN) Gas uses a combination of adjustments to provide for various elements of decoupling, including a weather normalization adjustment mechanism and a distribution margin adjustment.

But, as I describe below, SFV rate design represents the best alternative to solve the problems of volumetric rate design.

Q. DO ALL ALTERNATIVE STRATEGIES PROVIDE THE SAME SOLUTION TO THE ISSUES OF FIXED COST RECOVERY?

A. No. For example, a normal weather adjustment clause as a mechanism for improving fixed cost recovery protects against abnormal weather but does not address declining use per customer. As such, this alternative represents only a partial decoupling method in that the adjustment does not resolve the problem of fixed cost recovery in the face of declining average use per customer (or the risk resulting from higher costs associated with colder than normal weather). Thus, the solution requires more than weather normalization.

Q. HAVE OTHER GAS COMPANIES AND REGULATORY AUTHORITIES INTRODUCED ALTERNATIVES THAT PROVIDE A REASONABLE OPPORTUNITY TO RECOVER FIXED COSTS?

A. Yes. Gas distribution companies and regulatory authorities use various methods to provide a reasonable opportunity to recover fixed costs. Examples range from the combination of a real-time normal weather adjustment plus a Rate Stabilization and Equalization (RSE) for Alabama Gas Company to the SFV rate design of Atlanta Gas Light Company and combinations in between.

Other gas utility proposals designed to better align fixed cost recovery with the revenue produced by rate levels and rate design cover a variety of options such as weather normalization plus decoupling. Some methods use deferral accounts and recover shortfalls in revenues or earnings in a future period. For example, the Northwest Natural distribution margin adjustment includes a deferred component for recovery in the next year and the Baltimore Gas and Electric mechanism adjusts with a one-month lag time. In each case, the provision improves the probability of achieving the expected test year revenue.

Q. SHOULD ONE ASSUME THAT ALL THE AVAILABLE ALTERNATIVES TO VOLUMETRIC RATES PRODUCE THE SAME RESULTS?

A. No. Many of the alternatives continue to send volumetric price signals even though they solve the revenue recovery issue. Since the volumetric price signal causes rates to exceed marginal cost, the solution to issues with volumetric rates remains inefficient. As will be discussed below, SFV rates offer a superior option to volumetric rates when compared to other alternatives.

<u>Section 7- The SFV Rate Design Proposal</u>

Q. HOW DOES EDG PROPOSE TO IMPLEMENT SFV RATES FOR DISTRIBUTION SERVICE?

A. EDG proposes to have a single Delivery Service Charge for all residential customers. The delivery service charge recovers the base revenue requirements for residential service. In addition, residential customers will continue to be subject to the PGA that recovers the variable cost of gas commodity including delivery to the city gate. For the smaller general service customers, EDG proposes to use graduated Delivery Service Charges to recognize the cost difference based on the local facilities used to serve commercial customers. The use of graduated delivery service charges reflects the more expensive cost of meters and service lines for customers as their size increases. In addition, the small general service rate also includes customers much larger than the residential customers. For these customers, and as an interim step, EDG proposes to maintain a commodity related charge that is about half of the existing commodity charge. For firm, large general service customers, the rate will consist of a customer charge, a demand charge and as an interim step a commodity charge that is less than half the existing charge as designed to recover base revenue requirements. Transportation customers will have the same delivery service rates but will not be subject to the PGA charge.

Q. DOES THE PROPOSED RATE DESIGN BALANCE THE PRINCIPLES DICSUSSED ABOVE?

A. Yes, EDG will recover nearly all fixed costs through fixed monthly charges. That is, the Delivery Service Charge for residential and the smallest general service customers will recover the allocated revenue requirement associated with: (a) gas delivery (transmission and distribution); (b) the costs associated with customer service; and (c) the common costs for administration and general services. All of these costs are fixed. For larger customers, the proposed customer and demand charges will recover a larger share of fixed costs than under current rates.

For residential customers, the relative homogeneity of the residential class permits the residential rate design to consist of an annual Delivery Service Charge, payable in twelve equal monthly installments or in summer and winter installments that differ with summer charges being lower. The Company mentions both of these options because it may be better to vary the charge seasonally so that customers will continue to receive lower summer bills. In any event, the annual charge will be applicable for all customers.

Small general service customers also demonstrate relative homogeneity and the use of a graduated annual Delivery Service Charge payable in twelve monthly installments represents a reasonable rate design. During the transition, only the smallest customers will have a pure SFV rate design while larger customers in the class will be subject to the graduated customer charge and the reduced commodity charge. For larger general service customers, a continuation of a customer charge and a demand charge will track costs better since these classes are less homogeneous. Differences for larger customers include meter costs, service lines, mains, pressure regulation and other facilities. During the transition, the reduced commodity charge will continue to be used to recover revenue requirements.

Q. DOES THE SFV RATE PROVIDE BENEFITS TO BOTH THE CUSTOMERS AND THE COMPANY?

A. Yes. Customers benefit from the fixed rate simplicity. Customers understand that a single charge for delivery represents a common pricing method. Since this component of the bill does not change regardless of the weather, customers know the impact of additional gas use in cold weather represents the cost of the gas used. Customers benefit by knowing that a portion of their bill remains the same each month and that overall bills during the high cost winter months are lower as compared to bills under volumetric rates.

From an economic perspective, customers benefit from more efficient price signals and make more economically rational decisions related to conservation. Importantly, the elimination of volumetric rates for delivery service provides the most benefit to the customers least able to afford heat. The reason these customers benefit is that unlike volumetric rates, under SFV rates, customers' distribution bills will not increase as usage increases. And those customers have higher usage than average customers because the relative inefficiency of their capital stock (i.e. heating equipment, wall and attic insulation, windows, etc) and the resulting higher marginal use associated with colder weather.

SFV represents a more direct and customer friendly option with added efficiency benefits. Benefits for EDG are largely related to the principles of stability and administrative simplicity. EDG benefits from the movement to SFV because it permits customers to better appreciate the relationship between base rate bills and annual consumption and this should, over time, reduce the potential customer confusion relative to their bills. It will also permit regulators and other stakeholders that interact with customers to educate customers about the structure of the industry, the nature and scope of state and federal regulatory authorities and the effect of decisions and rules issued by state and federal regulatory authorities. The Company benefits from more stable and predictable revenues. The Company also benefits from the improved price signals and the ability to develop economic line extension policies based on the SFV rate.

Q. DOES THE SFV RATE GUARANTEE EDG WILL EARN THE ALLOWED RATE OF RETURN?

A. No. SFV rates may stabilize revenue assuming that the customer counts used to develop the billing determinants accurately reflect the customers during the Rate Effective Period.[5] Revenues only reflect part of the equation determining the rate of return. The other part of the equation is the costs used to establish the revenue requirement. If costs during the Rate Effective Period differ materially from the costs actually incurred during the rate effective period then the earned return will differ materially from the allowed return. The value of SFV is to improve the opportunity to earn the allowed return as compared to volumetric rate designs.

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[5] The Rate Effective Period is the first twelve months after the effective date of new rates. The test period is designed to be a forecast of the costs and revenues during the Rate Effective Period.

Section 8- Combining Service Areas

Q. PLEASE DESCRIBE THE DIFFERENCES BETWEEN RESIDENTIAL BASE RATES FOR THE SERVICE AREAS.

A. Currently, the EDG gas rates differ between the South and North system and the Northwest system. The following Table 3 illustrates the differences between the service areas for residential customers.

Table 3

Summary of Residential Rate Differences

Charges	North and South	NW	Differences
Customer Charge	$9.50	$7.00	$2.50
Energy Charge	$0.2737/Ccf	$0.2654/Ccf	$0.0083
500 Ccf Base Bill	$250.80	$216.70	$34.10
750 Ccf Base Bill	$319.28	$283.05	$36.23

Nearly all of the difference in the two residential rates results from the different customer charges ($30.00 per year). These rate differences are not justified on the basis of cost since the cost to serve residential customers is the same as discussed above. Thus it is appropriate to combine all customers in a single residential rate class.

Q. PLEASE DESCRIBE THE DIFFERENCES IN THE RESIDENTIAL PGA FACTORS FOR THE SERVICE AREAS.

A. The PGA factors vary between service areas as the following table illustrates.

Service Area	North System	South System	NW System
PGA	$0.76489	$0.79004	$0.73323

These differences result from different interstate pipeline transportation and storage costs for the gas as delivered to the various city gates. In addition the Actual Cost Adjustment (ACA) differs for each system. The Company proposes no change in the PGA applicable to each system.

Q. HOW SHOULD THESE CUSTOMERS BE COMBINED?

A. The process to combine customers is to determine the residential revenue requirement for the system, determine the number of annual customers and divide the customers into the revenue requirement to produce the annual fixed charge rate for residential schedules. For the other rate schedules the graduated Delivery Service charges and the combination of customer and demand charges are designed to produce the class revenue requirement.

Q. HOW SHOULD THE NUMBER OF ANNUAL CUSTOMERS BE DETERMINED?

A. The adoption of SFV rates creates certain price responses from customers who use little or no gas. These customers are likely to discontinue service as a result of the SFV rate. This would include vacant dwellings and customers who use gas for purposes other than heating and water heating. The proforma adjustment to billing data would exclude all accounts with zero annual use as well as customers who have winter use under ten Ccf per month. Usage under ten Ccf would indicate the absence of both space and water heating. By making this adjustment, the customer count will be more reflective of the customer accounts expected during the Rate Effective Period.

Q. WHAT IS THE IMPACT OF COMBINING THE TWO RATES ON CUSTOMERS?

A. As the following table illustrates, customers served under the North-South system rates will have lower increases than under the separate systems and customers in the NW system will have greater increases.

Table 4

Customer Impacts of Rate Consolidation

System	500 Ccf Current Rates	500 Ccf New Rates	% Change	750 Ccf Current Rates	750 Ccf New Rates	% Change
North	$800.45			$1143.76		
South	$797.47			$1139.28		
NW	$708.74			$1021.10		

Table 4 shows that for annual use of 500 and 750 Ccf the total bill difference is negligible for the North and South systems. As a result, the combination of those two systems has little overall impact on customers. For the NW system, the differences are larger. However, since the proposed combination applies only to the delivery service charge, the overall bill impact is relatively small.

<u>Section 9- Transportation Issues</u>

Q. PLEASE DESCRIBE THE PROPOSED CHANGES TO THE TRANSPORTATION PORTION OF THE TARIFF.

A. The changes to the transportation tariff include certain changes to definitions, terms of service and various requirements of the tariff. The changes are designed to protect system reliability, clarify provisions, to provide charges associated with certain ancillary services provided by the Company and to reflect best practices for such services.

Q, PLEASE DESCRIBE THE PROPOSED CHANGE TO CAPACITY ASSIGNMENT.

A. Currently, capacity assignment is non-recallable. Under the proposed change, capacity assignment is changed to be recallable under certain conditions that potentially have adverse impacts on system reliability. For example, if a customer or aggregator were to declare bankruptcy, there is the potential that gas would not flow to the system using this capacity. This would adversely impact the ability of the system to meet design day requirements. As a result, the Company has the right to recall released capacity if there is a bankruptcy filing or other potentially adverse event.

Q. PLEASE DISCUSS THE COST OF SERVICE ASSOCIATED WITH IMBALANCES.

A. When the gas delivered to the system by a customer, aggregator or marketer is less than the gas used by the customer the Company meets this shortfall by withdrawing gas from storage. This occurs because the Company purchases and delivers gas for sales customers and expects transporters to match daily load with daily deliveries. Failure to match loads with deliveries requires the Company to use storage capacity to match not only sales demand but transportation demand as well. Since both injection and withdrawal have a direct cost (storage injection and withdrawal costs) customers, marketers and aggregators impose those costs on the Company and those costs should be paid by the party imposing costs. In addition to the direct costs, there is an indirect cost of holding space in storage. That indirect cost is a portion of the fixed costs associated with storage service. All storage costs currently pass through the Purchased Gas Adjustment (PGA) clause and are paid by sales customers. By adding ancillary service charges to the transportation service provisions, the customers imposing these costs will pay for both the direct cost and make a contribution to fixed costs based on the level of the charge. Revenues from the ancillary services charges will be a credit to gas costs for the benefit of sales customers who otherwise pay these costs.

Q. DOES THE TARIFF PROVIDE THE OPTION FOR TRANSPORTATION CUSTOMERS TO RETURN TO SALES SERVICE?

A. Yes. The Company currently permits transportation customers to return to sales service.

Q. DOES THIS PROVISION CREATE POTENTIAL ADVERSE IMPACTS ON OTHER SALES CUSTOMERS?

A. Yes, depending upon the timing of the return to sales service. Unlike the current small volume transportation tariff, the current large volume transportation tariff does not restrict the timing of a large customer’s return to sales service or election of transportation service. If this return to sales service were to take place at the very beginning of the winter heating season, it could adversely impact the Company's gas supply planning for the upcoming winter. To avoid this situation, the Company is proposing that a large customer's return to sales service can only take place on June 1st each year, and that a large transportation customer must elect to change to transportation service by May 1st each year.

Q. DOES THE COMPANY PROPOSE TO CHANGE THE DELIVERY TOLERANCES DURING OPERATIONAL FLOW ORDERS?

A. Yes. Operational flow orders ("OFO") represent a time when the system is stressed. During such times, having transportation customers match supply and demand as closely as possible is critical to the reliable operation of the system. As a result, the Company proposes a much tighter tolerance on matching receipts and deliveries before incurring penalties. Failure to match receipts and deliveries has potential for loss of pressure on the system resulting in outages. Thus the tighter standards and penalties for failure provide signals that OFO requires more effort on the part of transportation customers, aggregators and marketers.

Q. DOES THE COMPANY HAVE A PROPOSAL REGARDING TELEMETRY FOR SMALL VOLUME CUSTOMERS?

A. Yes. The Company proposes to allow customers, aggregators and marketers to have telemetry installed at the customer's expense where such installation will reduce cash out impacts or provide other benefits for customers by providing better use data during the month. Under the proposed telemetry option for schools the school will pay a monthly rental fee for the metering installation based on actual costs of installation. The Company will own, operate and maintain the equipment.

<u>Section 10- Summary</u>

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony provides a detailed cost of service study reflecting cost causation, economies of scale and appropriate capacity cost allocation based on design day demand requirements. Since the system is planned and designed to meet these design day requirements the cost study reflects the factors causing system costs. My testimony supports the use of SFV rate design to reflect cost causation for delivery service to customers. The inclusion of a volumetric component in delivery rates does not represent sound rate design and should be eliminated as my testimony demonstrates. I also include recommended changes to the transportation tariff provisions designed to protect system reliability and to result in a more efficient set of price signals.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.

AFFIDAVIT OF H. EDWIN OVERCAST

STATE OF GEORGIA)
) ss
COUNTY OF HENRY)

On the 3 day of June, 2009, before me appeared H. Edwin Overcast, to me personally known, who, being by me first duly sworn, states that he is Director of Black &Veatch and acknowledged that he has read the above and foregoing document and believes that the statements therein are true and correct to the best of his information, knowledge and belief.

H. Edwin Overcast
H. Edwin Overcast

Subscribed and sworn to before me this 3 day of June, 2009

Nathan Balliew
Notary Public

My commission expires: January 7, 2013

OFFICIAL SEAL
Notary Public, Georgia
Henry County
NATHAN BALLIEW
My Commission Expires January 7, 2013