PRE-FILED DIRECT TESTIMONY

OF

DAVID A. HEINTZ

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David A. Heintz. My business address is 293 Boston Post Road West, Suite 500, Marlborough, MA 01752.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am an Assistant Vice President with Concentric Energy Advisors, Inc. ("Concentric"). Concentric is a management consulting and economic advisory firm focused on the North American energy and water industries. Concentric specializes in transaction-related financial advisory services, energy market strategies, market assessments, regulatory and litigation support, energy commodity contracting and procurement, economic feasibility studies, and capital market analyses and negotiations.

Q. PLEASE DESCRIBE YOUR EDUCATION AND EXPERIENCE.

A. A summary of my education and experience is contained in Attachment NG-DAH-1 which is at the end of this testimony.

Q. ON WHOSE BEHALF ARE YOU SUBMITTING TESTIMONY IN THIS PROCEEDING?

A. I am testifying on behalf of National Grid ("National Grid" or "Company").

Q. HAVE YOU TESTIFIED BEFORE REGULATORY AUTHORITIES IN THE PAST?

A. Yes. I testified before this Commission in Docket No. 3401, the last gas rate case for New England Gas Company, prior to its acquisition by National Grid. I have also testified before the Federal Energy Regulatory Commission in Texas Eastern Transmission Corporation, Docket No. CP81-237, and Panhandle Eastern Pipeline Corporation, Docket No. RP82-58. I have also testified before the New York State Public Service Commission in Empire Pipeline, Case No. 88-T-132, the Massachusetts Department of Telecommunications and Energy in Boston Gas Company, Docket No. 96-50, the Pennsylvania Public Utility Commission in Peoples Natural Gas Company, Docket No. R-00994600, the New Jersey Board of Public Utilities in South Jersey Gas Company, Docket No. GX99030121 and GO99030124, and the Arkansas Public Service Commission in Arkansas Oklahoma Gas Corporation, Docket No. 05-006.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to explain and support National Grid's cost of service study ("COSS") and proposed rate design for the gas business in Rhode Island.

Q. HOW IS YOUR TESTIMONY ORGANIZED?

A. My testimony is organized into three primary sections. The first section discusses the methodology and results of the COSS. The second section provides an overview of the existing rate design for National Grid. The last section addresses the proposed rate design based on the COSS and the associated rates and rate impacts of the proposed residential, and commercial and industrial ("C&I") rate design.

Q. ARE THERE ANY ATTACHMENTS ACCOMPANYING YOUR TESTIMONY?

A. Yes. Attached to my testimony are the following attachments:

Attachment NG-DAH-1	Experience & Qualifications
Attachment NG-DAH-2	Summary Cost of Service Results
Attachment NG-DAH-3	Proposed Revenue Responsibility by Rate Class
Attachment NG-DAH-4	Proposed Rates
Attachment NG-DAH-5	Bill Impacts
Attachment NG-DAH-6	Proposed Gas Cost Recovery Rates

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. At present rates the cost of service study shows a wide variation in the rates of return by rate class. The Residential Non-Heating and Commercial & Industrial ("C&I") Extra Large classes are well below National Grid's overall rate of return. The return for the C&I Small class approaches the system average while the Residential Heating class is slightly above the system rate of return. The C&I Medium and Large High and Low Load Factor classes are above the system average return.

Under the proposed rates, National Grid has reduced the variation in the level of returns by moving the rate classes closer to the system average. The customer charges for the Residential and Small C&I have been increased to move them closer to the cost based levels indicated by the COSS. The customer charges for the other classes have been increased to the full cost level indicated by the COSS.

Finally, the Company is proposing to simplify the GCR calculations by reducing the number of GCR rates from six (6) to two (2) for the firm sales rate customers. The high load factor group will consist of the Residential Non-Heat, C&I Large High Load Factor and C&I Extra Large High Load Factor classes which will have the same GCR rate. The Company proposes that the remaining rate classes, Residential Heating, C&I Small, C&I Medium, Large Low Load Factor and Extra Large Low Load Factor, will be included in the low load factor group, and pay the same GCR rate.

II. COST OF SERVICE STUDY

Q. WHAT IS THE PURPOSE OF A COSS?

A. A COSS provides a measure of the cost responsibility of National Grid's various rate classes based on cost causation principles. In general, costs are first identified based on the function for which they are incurred, then those costs are classified among customer, demand and commodity classifications, and finally directly assigned or allocated to the various classes. An allocated study is necessary in certain instances to arrive at the cost responsibility for individual rate classes because many of the Company's costs are common and are incurred to serve all classes of customers. Identification of the costs caused by each rate class provides a guide for allocating the revenue requirement increase to classes and for designing rates to achieve the assigned revenue responsibility.

Q. WHAT ARE THE GUIDING PRINCIPLES THAT SHOULD BE FOLLOWED WHEN PERFORMING A COST OF SERVICE STUDY?

A. The concept of cost causation is the fundamental and underlying philosophy applicable to all cost studies performed for the purpose of allocating costs to customer groups. Cost causation addresses the question: "Which customer or group of customers causes the utility to incur particular types of costs?" To answer this question, it is necessary to establish a linkage between a utility's customers and the particular costs incurred by the utility in serving those customers.

The essential element in the selection and development of a reasonable cost of service study allocation methodology is the establishment of relationships between customer requirements, load profiles, and usage characteristics on the one hand and the costs incurred by the utility in serving those requirements on the other hand. For example, providing a customer with gas service during peak periods can have much different cost implications for the utility than service to a customer who requires off-peak gas service.

Q. WHY ARE THE RELATIONSHIPS BETWEEN CUSTOMER REQUIREMENTS, LOAD PROFILES AND USAGE CHARACTERISTICS SIGNIFICANT TO COST CAUSATION?

A. The distribution system is designed to meet three primary objectives: (1) to extend distribution services to all customers entitled to be attached to the system; (2) to meet the aggregate peak design day capacity requirements of all customers entitled to service on the peak day; and (3) to deliver volumes of natural gas to those customers. There are certain costs associated with each of these objectives. Also, there is generally a direct link between the manner in which such costs are defined and their subsequent allocation.

Customer related costs are incurred to attach a customer to the distribution system, meter any gas usage and maintain the customer's account. Customer costs are a function of the number of customers served and continue to be incurred whether or not the customer uses any gas. They may include capital costs associated with services, meters, regulators, and customer billing and accounting expenses.

Demand or capacity related costs are associated with plant that is designed, installed and operated to meet maximum hourly or daily gas flow requirements, such as transmission and distribution mains, or more localized distribution facilities which are designed to satisfy individual customer maximum demands. Gas supply contracts also can have a capacity related component of cost relative to the company's requirements for serving daily peak demands and the winter peaking season.

Commodity or volumetric related costs are those costs that vary with the throughput sold to, or transported for, customers. Costs related to gas supply are classified as commodity related to the extent they vary with the amount of gas volumes used by the utility's customers.

Q. PLEASE DESCRIBE THE PROCESS USED IN PERFORMING THE COSS.

A. As noted above, the cost of service study is a basic three-step analysis process that is facilitated by a computer cost study model. The steps are:

> Functionalization – Plant investment costs and operating costs are categorized by the operational functions with which they are associated, e.g., production, gas supply, distribution and customer service.
>
> Classification – The functional cost elements are classified by the factor of utilization most closely matching the cost causation. These are primarily demand, commodity, and customer classifications.
>
> Allocation – The functionalized, classified costs are allocated to the rate classes by allocation factors. Allocation factors are generally based upon volumetric usage, demand usage, or the number of customers for each rate class or special studies to determine cost causation.

Q. WHAT COSTS HAVE BEEN USED TO DEVELOP THE COSS?

A. The COSS in this proceeding is based on the pro forma costs of National Grid as presented in the testimony of Company witness Laflamme. As explained in his testimony, these costs are based on the twelve months ending September 2007, as adjusted. The sales, customer and revenue data underlying the adjusted costs were used as the allocation bases for several accounts. The remaining allocation data sources were derived from special studies, discussed later in this testimony, based on data supplied by the Company.

Q. WHAT CUSTOMER RATE CLASSES ARE EVALUATED IN THE COSS?

A. There are eight customer rate classes evaluated in the COSS:

- Residential Non-Heating;
- Residential Heating;
- C&I Small;
- C&I Medium;
- C&I Large Low Load Factor;
- C&I Large High Load Factor;
- C&I Extra Large Low Load Factor; and,
- C&I Extra Large High Load Factor.

For purposes of the COSS the revenues related to NGV and Gas Lights were included with C&I Small and Residential Heating, respectively. The revenues related to the Manchester Special Contract and Marketer Services were treated as credits to the cost of service and allocated to the various classes along the Company's other miscellaneous revenues.

Q. ONCE THE COSTS WERE IDENTIFIED BY FUNCTION, HOW WERE THE COSTS CLASSIFIED FOR THE COSS?

A. Costs were classified into demand, customer, and commodity classifications on an account-by-account basis consistent with the manner in which the costs were incurred. Costs classified as demand-related are those costs associated with serving the peak requirements. Costs classified as customer-related are those costs associated with providing customers access to the distribution system and which are incurred regardless of whether the customer consumes any gas. Costs classified as commodity-related are those costs associated with throughput on the system and which vary with the quantity of gas purchased or transported. In addition, there are a number of costs that are classified based on a composite of the classifications described above.

Q. ONCE THE COSTS WERE FUNCTIONALIZED AND CLASSIFIED, HOW WERE THE COSTS ALLOCATED IN THE COSS?

A. Costs were allocated to the rate classes on the basis of each rate class' responsibility for the costs being incurred. The development of appropriate allocation factors is a critical component of the allocation process and is based on (1) direct assignment where the cost causation is known; (2) class summary statistics, e.g., number of customers and throughput by class; (3) special studies used to determine cost causation and thus responsibility for each class; and, (4) allocation factors based on composites of the primary allocation results.

Q. IS THE OVERALL ALLOCATION APPROACH UTILIZED IN THIS PROCEEDING CONSISTENT WITH THAT UTILIZED BY NATIONAL GRID'S PREDECESSORS IN PREVIOUS RATE CASES?

A. Yes. The overall allocation approach is similar to that used in the settlement of Docket No. 3401. In particular, the COSS in this proceeding uses the same primary demand-related allocation factor the Relative System Utilization Method ("RSUM"). The primary demand-related allocation factor is the single most important allocation factor in a COSS because it is used to allocate the non-customer related fixed costs that are common and cannot be directly assigned. Second, the COSS classifies 100% of National Grid's investment in distribution mains as demand related. Based on direction from National Grid, I have incorporated these two approaches because they are consistent with the prior rate case settlement and were sponsored by the Rhode Island Division of Public Utilities and Carriers witness in prior rate design proceedings.

Q. PLEASE DESCRIBE THE SPECIAL STUDIES UTILIZED IN THE COSS.

A. A number of special studies were used for the allocation of costs to the customer classes. They are as follows:

1) RSUM – The RSUM allocation factor is based on the proportionate use of the system during each of the twelve months of the year. Consumption during the peak months are weighted more heavily than off-peak months. The class proportion within each month is based on the contribution to that month's total sales rather than individual monthly peak. The RSUM factor was used to allocate demand related plant costs and related expenses.

2) Design Winter Study – The design winter study calculates the class responsibility for December through March sales under design winter temperatures. This

allocation factor was used to allocate production and storage plant costs and related expenses.

3) Meter Investment Study – The meter investment study analyzes the meter, meter installation and ERT costs by type as well as by the number of meters that are used to serve each customer class. The allocation factor developed from the Meter Investment Study was used to allocate meter, installation and ERT plant costs and related expenses.

4) Service Investment Study – The service investment study analyzes the average replacement cost of services by class. This factor was used to allocate service plant costs.

5) Customer Deposits Study – This study breaks down customer deposits by rate classification. The allocation factor developed from the Customer Deposits Study was used to allocate customer deposits. Customer deposits are a credit to rate base.

6) Account 903 Study – Account 903, Customer Records and Collections, includes a number of activities. These activities were allocated to the rate class on an individual basis and summed to produce a composite allocation factor for the account.

7) Uncollectible Accounts Study – For this study, the Company's net write offs are broken down by rate classification. The allocation factor developed from the Uncollectible Accounts Study was used to allocate uncollectible expenses.

8) Account 908 Study – Account 908, Customer Assistance Expense, includes a number of activities. As with Account 903, the costs were allocated on an individual basis and then summed to produce a composite allocation factor for the account.

Q. HOW WERE THE COSTS OF MAINS TREATED IN THIS COST OF SERVICE STUDY?

A. Mains costs were divided into two cost groups, costs related to mains up to 4 inches in diameter and those above 4 inches in diameter. The costs of mains above 4 inches were allocated to all rate classes; the costs of mains up to 4 inches were allocated to all classes except for the Extra Large classes, because customers in these two classes are not served from smaller diameter mains and should not be allocated these costs. Therefore two RSUM allocators were developed; RSUM based on the proportionate use of the large diameter system by all classes during each of the twelve months of the year, and LT4_RSUM based on the proportionate use of the small diameter system by all classes, except the Extra Large Volume classes, during each of the twelve months of the year.

Q. DOES THE COSS INCLUDE PURCHASED GAS COSTS OR COSTS RECOVERED THROUGH THE DISTRIBUTION ADJUSTMENT CLAUSE?

A. No. National Grid base tariff rates do not contain any gas costs or costs recovered through the DAC; therefore it is not necessary to include these costs in the COSS. All gas costs are recovered through the Gas Cost Recovery Charge ("GCR"). As discussed later in my testimony, National Grid is proposing changes in the GCR in an effort to simplify the process.

Q. PLEASE DESCRIBE THE RESULTS OF YOUR COSS WITH RESPECT TO RATE OF RETURN BY CLASS.

A. Attachment NG-DAH-2, page 1, presents the summary results of the COSS at present rates, at equalized rates of return and proposed rates. At present rates the COSS shows a wide variation in the rates of return by class. The Residential Non-Heating and Extra Large classes are well below National Grid overall rate of return. The return of the C&I Small class approaches the system return, while the Residential Heating class is slightly above the system average return. The returns for the other classes, C&I and Large High and Low Load Factor classes are above the system average return. The middle section of Attachment NG-DAH-2, page 1 shows the revenue requirement for each class assuming equalized rates of return and the revenue increase necessary to achieve that level of return. The bottom portion of Attachment NG-DAH-2, page 1 shows the proposed revenue increase by class and the resulting returns. The proposed rates have reduced the variation in the level of returns by moving the classes closer to the system average.

Q. PLEASE DESCRIBE THE RESULTS OF YOUR COSS WITH RESPECT TO DEMAND AND CUSTOMER-RELATED COSTS.

A. The COSS calculates customer-related costs based on the costs classified as customer-related and on the allocation of these costs to the various customer classes. Attachment NG-DAH-2 page 3 provides a summary of the functional revenue requirement by demand, customer and commodity component. Attachment NG-DAH-3, page 4 shows these costs on a unit rate basis. These results were used as a guide in developing the demand and customer charges for each rate class.

Q. DO THE COSS RESULTS PROVIDE GUIDANCE IN ESTABLISHING RATES WITHIN EACH RATE CLASS?

A. Yes. The classified costs, as allocated to each class of service within the COSS, provide useful cost information in determining the level of customer, demand and commodity charges.

Q. SHOULD OTHER FACTORS BE CONSIDERED THAT WOULD PREVENT THE COMPANY FROM SIMPLY TRANSLATING THE UNIT COSTS INTO RATES FOR THE VARIOUS TARIFF SERVICES?

A. Yes. Completely restructuring a utility's rates mechanistically to match the COSS is usually not desirable due to the resulting adverse impact on certain customer classes.

However, the unit costs do provide useful information for the design of portions of tariff services, in particular for establishing cost-based customer charges. The unit costs can also be used to design demand charges where either demand metering or algorithm-based billing demands can be determined.

III. EXISTING NATIONAL GRID RATE DESIGN

Q. PLEASE DESCRIBE NATIONAL GRID'S CURRENT RESIDENTIAL RATE STRUCTURE.

A. National Grid has a residential heating and residential non-heating rate class. The residential heating rate structure consists of a customer charge and a declining block distribution charge. The block break for the peak period (November through April) is set at a higher level than for the off-peak period (125 therms vs 30 therms), but there is no difference in the level of the distribution charge between the peak and off-peak periods. The residential non-heating rate structure consists of a customer charge and a single block distribution charge.

Q. PLEASE DESCRIBE NATIONAL GRID'S CURRENT C&I RATE STRUCTURE.

A. National Grid has six firm C&I rate schedules that are distinguished by annual usage. The four rate schedules for service to customers with annual usage in excess of 35,000 therms per year are also distinguished by load factor. Small C&I includes customers with annual loads of less than 5,000 therms; Medium C&I includes customers with annual loads of between 5,001 therms and 35,000 therms; Large C&I includes customers with annual loads of between 35,001 and 149,999 therms, and; Extra Large C&I includes customers with annual loads of 150,000 therms or more. The Large and Extra Large classes are further segregated into Low and High Load Factor schedules. High load factor customers are those whose off-peak (May through October) usage is greater than 30% of their annual usage. Low load factor customers are those whose off-peak usage is 30% or less of their annual usage.

The Medium, Large and Extra Large classes have identical rate structures consisting of a customer charge, a demand charge and a flat distribution rate. The small C&I class rate structure consists of a customer charge and a declining block distribution charge. The block break differs for the peak and off-peak periods. The peak and off-peak block breaks for this service are set at 135 therms and 20 therms, respectively.

IV. PROPOSED RATE DESIGN

Q. PLEASE DESCRIBE THE CONSIDERATIONS OR CRITERIA THAT SHOULD BE USED IN THE DESIGN OF UTILITY RATES?

A. Utility rate design should recognize that rates must be just and reasonable and not cause undue discrimination. Thus, customer impact considerations must be factored into the rate design process. Market conditions within the utility service territory with respect to the general economic environment and competitive fuel prices, where appropriate, could be a factor. Another important consideration is the financial stability of the utility. Toward this goal, it is generally an unsound rate-making process to recover a substantial portion of fixed costs, such as customer related costs that bear no relationship to customer consumption patterns, in the volumetric portion of the rate schedule. Recovery of fixed costs through volumetric charges adversely impacts earnings stability because the revenues generated from customers' volumetric usage can be extremely sensitive to the vagaries of weather patterns and changing consumption characteristics. Recovery of fixed costs in the volumetric rates sends uneconomic price signals to consumers that impede their ability to make well founded consumption decisions. However, where volumetric rates are employed to recover fixed costs, weather normalization adjustment and revenue decoupling mechanisms can serve to reduce customer bill volatility, improve cash flow and reduce over- and under-recovery of non-gas revenues.

Q. HOW ARE THE FOREGOING GUIDELINES AND CRITERIA INCORPORATED INTO THE RATE DESIGN PROCESS?

A. A reasonable balance between the various cost guidelines and other criteria must be established in the process of designing rates, which consist of both the recovery of the revenue requirement from the various customer classes and the determination of rate structures within the classes. Economic, social, historical, and regulatory policy considerations can impact the rate design process. Both quantitative and qualitative factors must be considered in meeting the final rate design. Thus, it is necessary to allow the rate design process to be influenced by judgmental evaluations.

Q. PLEASE DESCRIBE THE APPROACH FOLLOWED TO APPORTION THE PROPOSED REVENUE DEFICIENCY OF $20,036,103 TO THE COMPANY'S VARIOUS RATE SCHEDULES.

A. As described above the allocation of revenues among rate schedules consists of deriving a reasonable balance between various guidelines and criteria that relate to the design of utility rates. The following criteria were considered in this process: (1) cost of service results, (2) class contribution to present revenue levels, (3) customer impacts, and (4) the Company's belief that all rate schedules should participate in the recovery of the overall revenue deficiency. After evaluating these criteria for each of the Company's rate schedules, adjustments were made to revenue levels so as to reduce the variation in the level of returns by schedule and move closer to uniform returns by schedule.

Q. HOW IS NATIONAL GRID PROPOSING TO DISTRIBUTE THE REVENUE INCREASE AMONG THE RATE CLASSES?

A. Attachment NG-DAH-3 shows the proposed distribution of the revenue increase. Overall the company is proposing to increase revenues by $20.0 million, or 15.95%. The returns for C&I Medium and Large Low Load Factor are above the system average return and were assigned approximately 73% of the system average increase.

The C&I Large High Load Factor class shows returns above the system average but below those of the Medium and Large Low classes and was assigned approximately 90% of the system average increase. The Residential Heating class shows a return slightly above the system average (4.92% vs. 4.82%) and was assigned the average increase. The small C&I customer class shows a return slightly below the system average (3.01% vs 4.82%) and was assigned 95% of the average increase. The remaining classes all have returns below the system average and in fact exhibit negative returns and so were assigned the highest increases. The C&I Extra Large classes were each assigned an increase of 130% of the system average while the Residential Non-Heating class was assigned an increase of 140% of the system average. The system average increase was also assigned to the Natural Gas Vehicle and Gas Light services.

Q. IS NATIONAL GRID PROPOSING ANY CHANGES TO THE DISTRIBUTION RATE STRUCTURES?

A. The Company is not proposing any changes in the rate structures of the existing rates. However, the Company is proposing to establish low income Residential Non-Heating and Heating rates. The need for these services and how they will be administered is more fully explained in the testimony of Company Witness Czekanski. As explained by Mr. Czekanski these rates will be discounted 10% from the comparable full cost rate. The discount will be recovered from the other rate schedules on a volumetric basis.

Q. WHAT ARE THE PROPOSED RATES FOR NATIONAL GRID?

A. Attachment NG-DAH-4 shows the proposed rates for National Grid.

Q. HOW WAS THE PROPOSED RESIDENTIAL NON-HEATING CUSTOMER CHARGE DETERMINED?

A. The COSS indicates that the customer-related costs for the Residential Non-Heating class are $21.51 per customer per month. National Grid's current customer charge is $7.50 per month (exclusive of Gross Receipts Tax). The Company proposes a customer charge of $11.00, exclusive of Gross Receipts Tax, which moves toward the customer cost component indicated by the COSS. A move toward the full recovery of customer-related costs in the customer charge will reduce intra-class subsidies. It will also have the effect of leveling customers' bills across seasons and reducing the impact of weather on customers' bills.

Q. HOW WAS THE PROPOSED RESIDENTIAL HEATING CUSTOMER CHARGE DETERMINED?

A. The COSS indicates that the customer-related costs for the Residential Heating class are $23.72 per customer per month. National Grid's current customer charge is $9.00 per month (exclusive of Gross Receipts Tax). The Company proposes a customer charge of $16.00, exclusive of Gross Receipts Tax, which moves toward the customer cost component indicated by the COSS.

Q. HOW WERE THE PROPOSED DISTRIBUTION CHARGES FOR THE RESIDENTIAL NON-HEATING AND RESIDENTIAL HEATING CLASSES DETERMINED?

A. For both rate classes, the distribution charges must collect the remaining class revenue requirement not collected through the customer charge. The residential heating class non-gas tail block rate was set at a level slightly below the current rate. The remaining revenue responsibility was then collected through the head block charge. As there will be no block break in the non-heating rate class, the rate was set at a level which collected the remaining revenue responsibility.

Q. DESCRIBE THE IMPACT OF THE PROPOSED RATES ON A CURRENT RESIDENTIAL NON-HEATING CUSTOMER.

A. Attachment NG-DAH-5 shows the bill impacts for each rate class. As shown on this attachment, the increases in this class range from $37 to $40 per year. The average residential non-heating customer with an annual consumption of 189 therms will see an increase of $38 per year, or approximately $3 per month.

Q. DESCRIBE THE IMPACT OF THE PROPOSED RATES ON A CURRENT RESIDENTIAL HEATING CUSTOMER.

A. The proposed revenue increase for this class will generate increases of $63 to $77 per year. The average residential heating customer using 922 therms per year will see an increase of 5% or $71 per year.

Q. WHAT WAS THE ADJUSTMENT TO THE "STANDARD" RATE ASSOCIATED WITH OFFERING A LOW-INCOME DISCOUNT RATE?

A. The proposed low-income discount rate was calculated as a 10% discount from the standard rate. For a low-income residential customer having an average annual use of 922 therms this discount will limit the increase to $24 per year, or 1.6% over current rates.

Q. WHAT GAS COSTS WERE USED IN THE CALCULATION OF THE CUSTOMER BILL IMPACTS?

A. The bill impacts in Attachment NG-DAH-5 use the Company's current GCR charge in the calculation of current bills and the recomputed GCR as proposed in Attachment NG-DAH-6 in the calculation of the proposed bills.

PROPOSED C&I RATE DESIGN

Q. HOW WERE THE PROPOSED CUSTOMER AND DEMAND CHARGES DETERMINED?

A. The COSS was used as a guide to the customer-related and demand-related costs for each C&I rate class. Using these COSS results and current charges as a guide, the customer and demand charges for each class were established at levels that tempered rate impacts. The proposed rates are shown on Attachment NG-DAH-4. The customer charge for Small C&I class was increased from the current level of $14 to $30, which is still below the $35 cost base rate indicated by the COSS.

The monthly customer charges for the C&I Medium and Large classes were increased to the full cost based levels indicated by the COSS as indicated on Table 1 below. No increase was made to the customer charges for the Extra Large classes' as they are already at the full cost level.

Table 1

Rate Class	Current Charge	Proposed Charge	$ Increase	% Increase
Medium	$45.00	$75.00	$30.00	66.7%
Large	$90.00	$135.00	$45.00	50.0%
Extra Large	$300.00	$300.00	$0.00	0.0%

The demand charges for the Medium, Large and Extra Large classes were increased to move the cost recovery closer to the cost based levels indicated by the COSS and to mitigate the need for increases in the usage charges.

Q. ARE THERE ANY DIFFERENCES IN COSTS BASED ON WHETHER THE CUSTOMER PURCHASES GAS FROM THE COMPANY OR FROM A THIRD PARTY GAS MARKETER?

A. No. the distribution rates paid by the customer do not differ based on whether gas is purchased from the Company or a third-party marketer.

Q. HOW WERE THE PROPOSED DISTRIBUTION CHARGES DETERMINED?

A. The distribution charges for the C&I rate classes were designed to recover those costs not collected by the customer and demand charges.

Q. DESCRIBE THE IMPACT OF THE PROPOSED RATES ON THE C&I CUSTOMERS.

A. The Table 2 below summarized the impacts for a typical customer in each C&I rate class. Attachment NG-DAH-5 contains the complete bill impact study.

TABLE 2

Rate Class	Annual Increase %	Annual Increase $
C&I Small	1.0%	$23
C&I Medium	3.0%	$456
Large Low Load Factor	2.5%	$1,951
Large High Load Factor	0.9%	$637
Extra Large Low Load Factor	2.9%	$9,974
Extra Large High Load Factor	2.9%	$19,239

V. GAS COST RECOVERY CALCULATION

Q. WHAT CHANGES ARE BEING PROPOSED REGARDING THE CALCULATION OF THE GCR CHARGES?

A. In an effort to simplify the GCR calculations the Company is proposing to reduce the number of GCR rates from six (6) to two (2) for the firm sales rate customers. The Company proposes that the Residential Non-Heat, C&I Large High Load Factor and C&I Extra Large High Load Factor classes (the high load factor group) pay the same GCR rate. The Company proposes that the remaining rate classes, Residential

Heating, C&I Small, C&I Medium, Large Low Load Factor and Extra Large Low Load Factor, be included in the low load factor group, and pay the same GCR rate.

The proposed change will result in minimal rate changes. The Residential Non-Heat class will see the largest change, a drop of approximately 3.7 cents/therm, followed by the Large High Load Factor class with a decrease of 1.4 cents/therm. The Residential Heat, C&I Small, C&I Medium, and Large Low Load Factor will see increases of less than 0.5 cents/therm. Attachment NG-DAH-6 contains the proposed GCR calculations and a comparison between the current and proposed charges.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

Attachments of
David A. Heintz

Attachments

NG-DAH-1

David A. Heintz
Assistant Vice President, Concentric Energy Advisors

Mr. Heintz is an Assistant Vice President who has over 25-years of experience working with regulated rates and tariffs at both the federal and state levels. He also provides clients with analyses of natural gas projects, markets and issues. Mr. Heintz's areas of expertise include cost of service, allocation and rate design, tariff terms and conditions, rate case preparation and regulatory issues.

REPRESENTATIVE PROJECT EXPERIENCE

Regulatory Analysis, Ratemaking, Cost of Service

- Prepared a cost of service study for Puget Sound Energy and assisted in the development of a revenue decoupling mechanism.
- Prepared cost of service studies for Peoples Gas Light and Coke Company and North Shore Gas Company. Assisted in the development of a revenue decoupling mechanism for these companies.
- Performed a cost of service study for Arkansas Oklahoma Gas Corporation. Provided testimony on cost of service and rate design.
- Participated in the development of the revenue requirements for the gas and electric operating companies of a major mid-west utility.
- Participated in a review of the cost of service and rate design methodologies for the natural gas transmission affiliate of a Canadian Crown Corporation.
- Performed an electric cost of service and rate review for the City of Vero Beach, Florida.
- Performed a cost of service study for Chesapeake Utility Corporation, Delaware Division, and provided testimony on rate design issues.
- Performed cost of service and rate design studies integrating the rates and tariffs of Providence Gas Company and Valley Gas Company. Provide testimony on cost of service and proposed new rate designs for the integrated company.
- Performed cost of service study for an investor owned Canadian electric utility.
- Reviewed and provided support for the deferred purchased gas balances of a Louisiana local distribution company.
- Provided support and cost of service analysis for a Pennsylvania electric utility in a FERC complaint case.
- Assisted a Canadian marketing company in its intervention in Northern Border Pipeline Company FERC rate proceeding. Filed testimony on various cost-of-service and rate design issues.

- Assisted an Indiana local distribution company in the preparation of a general rate case and unbundling filing. Assisted in the development of the proposed unbundled services and tariffs.
- Assisted a New Jersey local distribution company with its initial filing under New Jersey's Electric Discount and Energy Competition Act.
- Assisted a major Southwest utility in the preparation of a cost of service and rate design study for filing with the regulatory commission.
- Reviewed and evaluated an electric cost-of-service and unbundling model for the Ontario Energy Board. This model is to be used by the municipal electric utilities in their filings to the Board.
- Assisted a group of Midwest local distribution companies served by Northern Natural Gas Company in a FERC rate proceeding. Filed testimony on various cost-of-service and rate design issues.
- Reviewed the rate harmonization proposal of a major Canadian gas utility for potential shortcomings alternative approaches.
- Responsible for the development, defense, implementation and administration of the Boston Gas Company's rates in rate cases and CGA filings. Prepared annual sales, revenue, margin and gas cost forecasts for budgeting and financial reporting. Directed the company's load research project. Represented the company in regulatory proceedings.
- Responsible for all aspects of United Gas Pipeline Company's rate department, including cost-of-service allocation and rate design, certificates and analysis of other pipeline FERC filings. Represented the company and supported its positions through testimony and negotiations with regulatory agencies, customers and intervenors.
- Responsible for the development of cost-of-service, allocation and rate design studies and filings for Consolidated Natural Gas Company. Analyzed supplier rate and certificate filings. Represented the company and supported its position in negotiations with regulatory agencies, customers and intervenors.
- Responsible for the development and support of FERC staff's position on allocation and rate design issues in pipeline rate and certificate filings.

Valuation and Appraisal

- Assisted in the preparation of a report to the FERC on appraised value and insurance recommendations in a certificate proceeding.

Market Analysis

- Assisted the Province of New Brunswick in the preparation of its Stage I document for the establishment of natural gas distribution within the Province.

Expert Witness Testimony Presentation

- Federal Energy Regulatory Commission
- New York State Public Service Commission

- Massachusetts Department of Telecommunications and Energy
- Pennsylvania Public Utility Commission
- New Jersey Board of Public Utilities
- State of Rhode Island and Providence Plantations Public Utility Commission
- Arkansas Public Service Commission

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2006 – Present)
Assistant Vice President

Navigant Consulting (1998 – 2006)
Managing Consultant

Boston Gas Company (1993 – 1998)
Director, Rates and Analysis

United Gas Pipeline Company (1992 – 1993)
Director, Rates and Regulatory Affairs

Consolidated Natural Gas Company (1985 – 1992)
Manager, Regulatory Projects

Federal Regulatory Energy Commission (1979 – 1985)
Industry Economist, Allocation and Rate Design Branch

EDUCATION

M.B.A., Katz Graduate School of Business, University of Pittsburgh, 1989
B.S., Economics, Behrend College, Pennsylvania State University, 1978

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National Grid RI-Gas
Class Cost of Service Study - Summary

Line No.	Description	System Total	Residential Non-Heating	Residential Heating	Small Commercial General	Medium Commerical General	Large Low Load Factor	Large High Load Factor	Extra Large Low Load Factor	Extra Large High Load Factor
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
	Rate Base									
1	Plant in Service	$ 589,768,961	$ 37,366,814	$ 380,860,181	$ 49,428,367	$ 65,719,919	$ 28,340,872	$ 8,839,773	$ 5,536,177	$ 13,676,859
2	Accumulated Reserve	(284,401,644)	(22,018,244)	(191,330,238)	(22,802,003)	(26,218,616)	(10,424,533)	(3,078,690)	(2,909,241)	(5,620,079)
3	Other Rate Base Items	(20,125,855)	(967,631)	(10,253,864)	(3,244,663)	(3,816,760)	(1,103,774)	(428,442)	(135,644)	(175,077)
4	Total Rate Base	$ 285,241,462	$ 14,380,939	$ 179,276,079	$ 23,381,700	$ 35,684,543	$ 16,812,565	$ 5,332,641	$ 2,491,293	$ 7,881,703
	Revenue at Current Rates									
5	Sales Revenue	$ 113,908,542	$ 5,133,293	$ 82,183,208	$ 10,513,902	$ 11,494,239	$ 3,289,152	$ 845,392	$ 162,535	$ 286,821
6	Transport Revenue	11,698,171	-	-	-	3,156,002	3,441,781	967,289	946,247	3,186,852
7	Other Revenues	4,242,480	54,405	1,695,759	420,430	894,022	416,392	111,758	215,743	433,971
8	Total Revenues	$ 129,849,193	$ 5,187,698	$ 83,878,967	$ 10,934,332	$ 15,544,263	$ 7,147,325	$ 1,924,439	$ 1,324,525	$ 3,907,644
	Expenses at Current Rates									
9	Purchased Gas Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
10	Other Operation and Maintenance	83,291,079	5,178,467	53,877,278	7,735,024	7,887,174	3,182,933	1,060,927	1,084,231	3,285,045
11	Depreciation Expense	21,609,815	1,378,932	13,937,809	1,739,959	2,350,617	1,026,183	327,225	225,016	624,074
11	Taxes Other Than Income	10,021,018	618,559	6,395,283	892,310	1,125,299	479,690	150,790	101,459	257,626
12	Income Taxes	1,188,487	(902,940)	845,310	(137,129)	964,115	626,903	60,780	(65,919)	(202,634)
13	Total Expenses - Current	$ 116,110,399	$ 6,273,019	$ 75,055,680	$ 10,230,165	$ 12,327,205	$ 5,315,709	$ 1,599,723	$ 1,344,787	$ 3,964,112
14	Operating Income - Current	13,738,794	(1,085,320)	8,823,287	704,168	3,217,058	1,831,616	324,716	(20,262)	(56,468)
15	Current Rate of Return	4.82%	-7.55%	4.92%	3.01%	9.02%	10.89%	6.09%	-0.81%	-0.72%
	Revenue Requirement at Equal Rates of Return									
16	Required Return	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%
17	Required Operating Income	26,441,884	1,333,113	16,618,893	2,167,484	3,307,957	1,558,525	494,336	230,943	730,634
18	Operating Income (Deficiency)/Surplus	(12,703,089)	(2,418,434)	(7,795,605)	(1,463,316)	(90,899)	273,091	(169,620)	(251,204)	(787,102)
	Expenses at Required Return									
19	Purchased Gas Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	Other Operation and Maintenance	83,783,967	5,202,606	54,303,974	7,759,646	7,898,091	3,182,933	1,064,192	1,084,231	3,288,294
21	Depreciation Expense	21,609,815	1,378,932	13,937,809	1,739,959	2,350,617	1,026,183	327,225	225,016	624,074
22	Taxes Other Than Income	10,021,018	618,559	6,395,283	892,310	1,125,299	479,690	150,790	101,459	257,626
23	Income Taxes	8,028,612	399,294	5,042,944	650,811	1,013,061	479,854	152,114	69,345	221,190
24	Total Expenses - Required	$ 123,443,412	$ 7,599,390	$ 79,680,010	$ 11,042,726	$ 12,387,068	$ 5,168,660	$ 1,694,322	$ 1,480,051	$ 4,391,185
25	Revenue Requirement at Equal Rates of Return	$ 149,885,296	$ 8,932,503	$ 96,298,902	$ 13,210,210	$ 15,695,025	$ 6,727,185	$ 2,188,658	$ 1,710,994	$ 5,121,819
26	Revenue (Deficiency) / Surplus	$ (20,036,103)	$ (3,744,805)	$ (12,419,935)	$ (2,275,878)	$ (150,763)	$ 420,140	$ (264,219)	$ (386,468)	$ (1,214,175)
	Revenue Requirement at Proposed Rates									
27	Proposed Revenue Increase	$ 20,036,103	$ 1,107,327	$ 12,727,473	$ 2,152,065	$ 1,825,097	$ 844,121	$ 282,144	$ 258,864	$ 839,012
28	Rate Schedule Revenue as Proposed	145,642,816	6,240,620	94,910,681	12,665,967	16,475,338	7,575,054	2,094,825	1,367,646	4,312,685
29	Other Revenue	4,242,480	54,405	1,695,759	420,430	894,022	416,392	111,758	215,743	433,971
30	Total Revenues as Proposed	$ 149,885,296	$ 6,295,025	$ 96,606,440	$ 13,086,397	$ 17,369,360	$ 7,991,446	$ 2,206,582	$ 1,583,390	$ 4,746,656
31	Expenses (excluding Income Taxes)	$ 115,414,800	$ 7,200,097	$ 74,637,066	$ 10,391,916	$ 11,374,007	$ 4,688,806	$ 1,542,208	$ 1,410,706	$ 4,169,994
32	Interest Expense	10,782,127	543,599	6,776,636	883,828	1,348,876	635,515	201,574	94,171	297,928
33	Taxable Income	23,688,369	(1,448,671)	15,192,738	1,810,653	4,646,477	2,667,125	462,801	78,513	278,733
34	Income Taxes	8,028,613	(523,824)	5,150,582	607,476	1,599,078	922,345	158,388	24,684	89,883
35	Operating Income as Proposed	$ 26,441,884	$ (381,248)	$ 16,818,792	$ 2,087,005	$ 4,396,275	$ 2,380,294	$ 505,987	$ 148,000	$ 486,778
36	Return at Proposed Rates	9.27%	-2.65%	9.38%	8.93%	12.32%	14.16%	9.49%	5.94%	6.18%

National Grid RI-Gas
Class Cost of Service - Functional Rate Base

	System Total	Residential Non-Heating	Residential Heating	Small Commercial General	Medium Commerical General	Large Low Load Factor	Large High Load Factor	Extra Large Low Load Factor	Extra Large High Load Factor
Propane									
Demand	$ (1,650,208)	$ (18,783)	$ (836,358)	$ (115,186)	$ (230,717)	$ (133,848)	$ (9,134)	$ (167,870)	$ (138,312)
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	*$ (1,650,208)*	*$ (18,783)*	*$ (836,358)*	*$ (115,186)*	*$ (230,717)*	*$ (133,848)*	*$ (9,134)*	*$ (167,870)*	*$ (138,312)*
LNG									
Demand	$ 2,647,389	$ 30,134	$ 1,341,749	$ 184,790	$ 370,134	$ 214,729	$ 14,654	$ 269,310	$ 221,891
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	*$ 2,647,389*	*$ 30,134*	*$ 1,341,749*	*$ 184,790*	*$ 370,134*	*$ 214,729*	*$ 14,654*	*$ 269,310*	*$ 221,891*
Distribution									
Demand	$ 178,191,065	$ 2,766,346	$ 102,511,799	$ 13,849,143	$ 29,229,558	$ 15,347,972	$ 4,995,127	$ 2,157,159	$ 7,333,962
Customer	$ 105,298,661	$ 11,591,281	$ 75,882,056	$ 9,413,471	$ 6,205,255	$ 1,328,153	$ 310,353	$ 207,449	$ 360,643
Commodity	$ 754,554	$ 11,961	$ 376,833	$ 49,483	$ 110,313	$ 55,560	$ 21,641	$ 25,245	$ 103,518
Sub-total	*$ 284,244,281*	*$ 14,369,589*	*$ 178,770,688*	*$ 23,312,096*	*$ 35,545,126*	*$ 16,731,684*	*$ 5,327,122*	*$ 2,389,853*	*$ 7,798,124*
TOTAL									
Demand	$ 179,188,247	$ 2,777,696	$ 103,017,190	$ 13,918,747	$ 29,368,975	$ 15,428,853	$ 5,000,647	$ 2,258,598	$ 7,417,541
Customer	$ 105,298,661	$ 11,591,281	$ 75,882,056	$ 9,413,471	$ 6,205,255	$ 1,328,153	$ 310,353	$ 207,449	$ 360,643
Commodity	$ 754,554	$ 11,961	$ 376,833	$ 49,483	$ 110,313	$ 55,560	$ 21,641	$ 25,245	$ 103,518
TOTAL RATE BASE	***$ 285,241,462***	***$ 14,380,939***	***$ 179,276,079***	***$ 23,381,700***	***$ 35,684,543***	***$ 16,812,565***	***$ 5,332,641***	***$ 2,491,293***	***$ 7,881,703***

National Grid RI-Gas
Class Cost of Service - Functional Revenue Requirement

	System Total	Residential Non-Heating	Residential Heating	Small Commercial General	Medium Commerical General	Large Low Load Factor	Large High Load Factor	Extra Large Low Load Factor	Extra Large High Load Factor
Propane									
Demand	$ 250,692	$ 2,853	$ 127,055	$ 17,498	$ 35,049	$ 20,334	$ 1,388	$ 25,502	$ 21,012
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	*$ 250,692*	*$ 2,853*	*$ 127,055*	*$ 17,498*	*$ 35,049*	*$ 20,334*	*$ 1,388*	*$ 25,502*	*$ 21,012*
LNG									
Demand	$ 2,396,287	$ 27,276	$ 1,214,485	$ 167,263	$ 335,027	$ 194,362	$ 13,264	$ 243,766	$ 200,845
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sub-total	*$ 2,396,287*	*$ 27,276*	*$ 1,214,485*	*$ 167,263*	*$ 335,027*	*$ 194,362*	*$ 13,264*	*$ 243,766*	*$ 200,845*
Distribution									
Demand	$ 63,673,957	$ 961,180	$ 35,595,796	$ 4,808,726	$ 10,150,953	$ 5,329,340	$ 1,735,654	$ 1,156,428	$ 3,935,879
Customer	$ 76,909,271	$ 7,793,212	$ 55,774,915	$ 7,749,505	$ 4,251,249	$ 727,160	$ 271,679	$ 104,468	$ 237,083
Commodity	$ 6,655,090	$ 147,982	$ 3,586,651	$ 467,217	$ 922,747	$ 455,989	$ 166,673	$ 180,830	$ 727,001
Sub-total	*$ 147,238,317*	*$ 8,902,374*	*$ 94,957,362*	*$ 13,025,449*	*$ 15,324,949*	*$ 6,512,489*	*$ 2,174,006*	*$ 1,441,726*	*$ 4,899,962*
TOTAL									
Demand	$ 66,320,935	$ 991,309	$ 36,937,337	$ 4,993,487	$ 10,521,029	$ 5,544,035	$ 1,750,306	$ 1,425,696	$ 4,157,735
Customer	$ 76,909,271	$ 7,793,212	$ 55,774,915	$ 7,749,505	$ 4,251,249	$ 727,160	$ 271,679	$ 104,468	$ 237,083
Commodity	$ 6,655,090	$ 147,982	$ 3,586,651	$ 467,217	$ 922,747	$ 455,989	$ 166,673	$ 180,830	$ 727,001
Total Revenue Requirement	***$ 149,885,296***	***$ 8,932,503***	***$ 96,298,902***	***$ 13,210,210***	***$ 15,695,025***	***$ 6,727,185***	***$ 2,188,658***	***$ 1,710,994***	***$ 5,121,819***

National Grid RI-Gas
Class Cost of Service - Unit Costs

	System Total	Residential Non-Heating	Residential Heating	Small Commercial General	Medium Commerical General	Large Low Load Factor	Large High Load Factor	Extra Large Low Load Factor	Extra Large High Load Factor
Propane									
Demand	$ 0.0070	$ 0.0050	$ 0.0071	$ 0.0074	$ 0.0066	$ 0.0077	$ 0.0013	$ 0.0211	$ 0.0042
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
LNG									
Demand	$ 0.0664	$ 0.0477	$ 0.0674	$ 0.0707	$ 0.0635	$ 0.0732	$ 0.0128	$ 0.2020	$ 0.0406
Customer	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Commodity	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Distribution									
Demand	$ 1.7655	$ 1.6812	$ 1.9762	$ 2.0331	$ 1.9252	$ 2.0068	$ 1.6779	$ 0.9584	$ 0.7955
Customer	$ 25.6403	$ 21.5113	$ 23.7199	$ 34.7404	$ 78.4262	$ 137.4074	$ 138.8951	$ 229.0955	$ 266.9851
Commodity	$ 0.1845	$ 0.2588	$ 0.1991	$ 0.1975	$ 0.1750	$ 0.1717	$ 0.1611	$ 0.1499	$ 0.1469
TOTAL									
Demand	$ 1.8389	$ 1.7339	$ 2.0507	$ 2.1112	$ 1.9954	$ 2.0876	$ 1.6921	$ 1.1815	$ 0.8403
Customer	$ 25.6403	$ 21.5113	$ 23.7199	$ 34.7404	$ 78.4262	$ 137.4074	$ 138.8951	$ 229.0955	$ 266.9851
Commodity	$ 0.1845	$ 0.2588	$ 0.1991	$ 0.1975	$ 0.1750	$ 0.1717	$ 0.1611	$ 0.1499	$ 0.1469
Total Throughput (dth)	***36,066,236***	***571,736***	***18,011,881***	***2,365,191***	***5,272,745***	***2,655,646***	***1,034,400***	***1,206,657***	***4,947,980***
All Customers	***249,962***	***30,190***	***195,950***	***18,589***	***4,517***	***441***	***163***	***38***	***74***
Total Throughput (dth)	***36,066,236***	***571,736***	***18,011,881***	***2,365,191***	***5,272,745***	***2,655,646***	***1,034,400***	***1,206,657***	***4,947,980***

National Grid RI-Gas
Proposed Revenue Spread

Line No.	Rate Schedule	Current Distribution Revenue	Proposed Increase	Proposed Distr. Rev. before LI Discount	Percentage Increase	Low Income Full Rate Reallocation	Low Income Discount Revenue #REF!	Total Proposed Distribution Revenue
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1	Residential Non-Heat	$ 5,133,293	$ 1,146,264	$ 6,279,557	22.33%	$ (515,581)	$ 12,598	$ 5,776,574
2	Residential Non-Heat Discount	-	-	-	0.00%	515,581	(51,535)	464,046
3	Residential Heat	82,164,785	13,105,161	95,269,946	15.95%	(7,783,386)	397,176	87,883,736
4	Residential Heat Discount	-	-	-	0.00%	7,783,386	(777,803)	7,005,583
5	Small C/I	10,491,164	2,091,676	12,582,840	19.94%		56,762	12,639,602
6	Medium C/I	14,650,241	1,698,557	16,348,798	11.59%		126,540	16,475,338
7	Large Low	6,730,933	780,388	7,511,321	11.59%		63,733	7,575,054
8	Large High	1,812,681	257,319	2,070,000	14.20%		24,824	2,094,825
9	X-Large Low	1,108,782	229,906	1,338,688	20.74%		28,958	1,367,646
10	X-Large High	3,473,673	720,266	4,193,939	20.74%		118,746	4,312,685
11	NGV	22,738	3,627	26,365	15.95%			26,365
12	Gas Lights	18,423	2,938	21,361	15.95%			21,361
13	Total	$ 125,606,713	$ 20,036,103	$ 145,642,816	15.95%	$ -	$ -	$ 145,642,816
14	Percent Increase		15.95%					

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National Grid RI-Gas
Proposed Rate Design

Line No.	Description	Block Break	Determinant		Distribution Rate		Distribution Revenues
	(A)	(B)	(C)		(D)		(E)
	Residential Non-Heat						
1	Customer Charge		332,584	$	11.00	$	3,658,424
2	Distribution Charge (per therm)		5,249,245	$	0.4035		2,118,070
3	Total		5,249,245			$	5,776,494
4	Target Revenue						5,776,574
5	Over/(Under)					$	(79)
	Residential Non-Heat Discount						
6	Customer Charge		29,700	$	9.90	$	294,030
7	Distribution Charge (per therm)		468,107	$	0.3632		170,016
8	Total		468,107			$	464,046
9	Full Rate Revenue						515,581
10	Discount					$	51,535
	Residential Heat						
11	Customer Charge		2,159,396	$	16.00	$	34,550,336
	Distribution Charge (per therm)						
12	Peak Head Block	125	97,906,081	$	0.3485	$	34,120,269
13	Peak Tail Block		33,038,600	$	0.2500		8,259,650
14	Total Peak		130,944,681			$	42,379,919
15	Off-Peak Head Block	30	23,477,266	$	0.3485	$	8,181,827
16	Off-Peak Tail Block		11,075,546	$	0.2500		2,768,886
17	Total Off-Peak		34,552,812			$	10,950,714
18	Total Distribution Charge		165,497,493			$	53,330,633
19	Total					$	87,880,969
20	Target Revenue						87,883,736
21	Over/(Under)					$	(2,767)
	Residential Heat Discount						
22	Customer Charge		192,000	$	14.40	$	2,764,800
	Distribution Charge (per therm)						
23	Peak Head Block	125	8,621,746	$	0.3137	$	2,704,642
24	Peak Tail Block		2,909,425	$	0.2250		654,621
25	Total Peak		11,531,171			$	3,359,262
26	Off-Peak Head Block	30	2,099,634	$	0.3137	$	658,655
27	Off-Peak Tail Block		990,515	$	0.2250		222,866
28	Total Off-Peak		3,090,149			$	881,521
29	Total Distribution Charge		14,621,320			$	4,240,783
30	Total					$	7,005,583
31	Full Rate Revenue						7,783,386
32	Discount					$	777,803

National Grid RI-Gas
Proposed Rate Design

Line No.	Description	Block Break	Determinant	Distribution Rate	Distribution Revenues
	(A)	(B)	(C)	(D)	(E)
	Small C&I				
33	Customer Charge		223,069	$ 30.00	$ 6,692,070
	Distribution Charge (per therm)				
34	Peak Head Block	135	9,714,984	$ 0.3120	$ 3,031,075
35	Peak Tail Block		9,646,836	$ 0.2000	1,929,367
36	Total Peak		19,361,821		$ 4,960,442
37	Off-Peak Head Block	20	1,156,562	$ 0.3120	$ 360,847
38	Off-Peak Tail Block		3,133,532	$ 0.2000	626,706
39	Total Off-Peak		4,290,094		$ 987,554
40	Total Distribution Charge		23,651,915		$ 5,947,996
41	Total				$ 12,640,066
42	Target Revenue				12,639,602
43	Over/(Under)				$ 464
	Medium C&I				
44	Customer Charge		54,207	$ 75.00	$ 4,065,525
45	Demand Charge (per MADQ therm)		3,520,189	$ 1.5000	5,280,283
46	Distribution Charge (per therm)		52,727,447	$ 0.1352	7,128,751
47	Total		52,727,447		$ 16,474,559
48	Target Revenue				16,475,338
49	Over/(Under)				$ (780)
	Large Low Load Factor C&I				
50	Customer Charge		5,292	$ 135.00	$ 714,420
51	Demand Charge (per MADQ therm)		1,948,145	$ 1.5000	2,922,217
52	Distribution Charge (per therm)		26,556,458	$ 0.1483	3,938,323
53	Total		26,556,458		$ 7,574,960
54	Target Revenue				7,575,054
55	Over/(Under)				$ (94)
	Large High Load Factor C&I				
56	Customer Charge		1,956	$ 135.00	$ 264,060
57	Demand Charge (per MADQ therm)		511,582	$ 2.0000	1,023,165
58	Distribution Charge (per therm)		10,344,001	$ 0.0781	807,867
59	Total		10,344,001		$ 2,095,091
60	Target Revenue				2,094,825
61	Over/(Under)				$ 267

National Grid RI-Gas
Proposed Rate Design

Line No.	Description	Block Break	Determinant	Distribution Rate	Distribution Revenues
	(A)	(B)	(C)	(D)	(E)
	Extra Large Low Load Factor C&I				
62	Customer Charge		456	$ 300.00	$ 136,800
63	Demand Charge (per MADQ therm)		613,406	$ 1.5000	920,109
64	Distribution Charge (per therm)		12,066,568	$ 0.0258	311,317
65	Total		12,066,568		$ 1,368,226
66	Target Revenue				1,367,646
67	Over/(Under)				$ 580
	Extra Large High Load Factor C&I				
68	Customer Charge		888	$ 300.00	$ 266,400
69	Demand Charge (per MADQ therm)		1,497,057	$ 2.0000	2,994,113
70	Distribution Charge (per therm)		49,479,796	$ 0.0213	1,053,920
71	Total		49,479,796		$ 4,314,433
72	Target Revenue				4,312,685
73	Over/(Under)				$ 1,748
	Natural Gas Vehicle Service				
74	Customer Charge		84	$ 5.00	$ 420
75	Distribution Charge (per therm)		126,640	$ 0.2049	25,949
76	Total		126,640		$ 26,369
77	Target Revenue				26,365
	Over/(Under)				$ 4
78					
79					
	Gas Lamps				
80	Monthly Charge (per lamp)		2,577	$ 8.29	$ 21,360
81	Target Revenue				21,361
82	Over/(Under)				$ (1)

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National Grid RI-Gas

Bill Impact Analysis with Various Levels of Consumption:
Current Distribution, GCR, DAC and Energy Efficiency Rates vs. Proposed Rates

							Difference due to:			
Line No.	Rate Class (A)	Annual Consumption (Therms) (B)	Proposed Rates (C)	Current Rates (D)	Difference (E)	% Chg (F)	Base Rates (G)	GCR (H)	DAC (I)	EnergyEff (H)
	Residential Heating:									
1		600	$1,057	$978	$78	8.0%	$77	$1.58	$0.00	$0.00
2		664	$1,149	$1,071	$78	7.3%	$76	$1.77	$0.00	$0.00
3		730	$1,243	$1,166	$77	6.6%	$75	$1.94	$0.00	$0.00
4		794	$1,334	$1,258	$76	6.1%	$74	$2.10	$0.00	$0.00
5		857	$1,422	$1,347	$75	5.6%	$73	$2.27	$0.00	$0.00
6	Average Customer	**922**	**$1,512**	**$1,438**	**$74**	**5.1%**	**$71**	**$2.44**	**$0.00**	**$0.00**
7		987	$1,602	$1,529	$73	4.7%	$70	$2.64	$0.00	$0.00
8		1,051	$1,690	$1,619	$71	4.4%	$68	$2.79	$0.00	$0.00
9		1,114	$1,776	$1,706	$70	4.1%	$67	$2.96	$0.00	$0.00
10		1,180	$1,865	$1,797	$68	3.8%	$65	$3.11	$0.00	$0.00
11		1,247	$1,956	$1,889	$66	3.5%	$63	$3.35	$0.00	$0.00
	Residential Non-Heating:									
12		123	$316	$276	$40	14.3%	$40	($0.04)	$0.00	$0
13		137	$337	$297	$39	13.2%	$39	($0.07)	$0.00	$0
14		147	$352	$313	$39	12.5%	$39	($0.10)	$0.00	$0
15		161	$373	$334	$39	11.6%	$39	($0.09)	$0.00	$0
16		176	$395	$356	$39	10.8%	$39	($0.08)	$0.00	$0
17	Average Customer	**189**	**$414**	**$376**	**$38**	**10.2%**	**$38**	**($0.07)**	**$0.00**	**$0**
18		202	$434	$396	$38	9.6%	$38	($0.11)	$0.00	$0
19		217	$456	$419	$38	9.0%	$38	($0.08)	$0.00	$0
20		231	$477	$440	$37	8.5%	$38	($0.09)	$0.00	$0
21		241	$492	$455	$37	8.2%	$37	($0.12)	$0.00	$0
22		256	$515	$478	$37	7.7%	$37	($0.13)	$0.00	$0

National Grid RI-Gas

Bill Impact Analysis with Various Levels of Consumption:
Current Distribution, GCR, DAC and Energy Efficiency Rates vs. Proposed Rates

Line No.	Rate Class (A)	Annual Consumption (Therms) (B)	Proposed Rates (C)	Current Rates (D)	Difference (E)	% Chg (F)	Difference due to: Base Rates (G)	GCR (H)	DAC (I)	EnergyEff (H)
	C & I Small:									
23		824	$1,649	$1,600	$49	3.0%	$46	$2	$0	$0
24		916	$1,772	$1,728	$43	2.5%	$41	$2	$0	$0
25		1,003	$1,887	$1,849	$38	2.1%	$36	$3	$0	$0
26		1,092	$2,005	$1,972	$33	1.7%	$30	$3	$0	$0
27		1,179	$2,120	$2,091	$28	1.4%	$25	$3	$0	$0
28	Average Customer	**1,269**	**$2,237**	**$2,214**	**$23**	**1.0%**	**$20**	**$3**	**$0**	**$0**
29		1,359	$2,354	$2,336	$18	0.8%	$14	$4	$0	$0
30		1,447	$2,468	$2,455	$13	0.5%	$9	$4	$0	$0
31		1,535	$2,583	$2,575	$8	0.3%	$4	$4	$0	$0
32		1,622	$2,696	$2,693	$3	0.1%	($1)	$4	$0	$0
33		1,715	$2,817	$2,819	($2)	-0.1%	($7)	$5	$0	$0
	C & I Medium:									
34		7,117	$10,387	$9,965	$422	4.2%	$396	$26	$0	$0
35		7,884	$11,409	$10,981	$429	3.9%	$400	$28	$0	$0
36		8,649	$12,429	$11,994	$435	3.6%	$404	$31	$0	$0
37		9,416	$13,452	$13,010	$442	3.4%	$408	$34	$0	$0
38		10,185	$14,477	$14,028	$449	3.2%	$412	$37	$0	$0
39	Average Customer	**10,950**	**$15,496**	**$15,041**	**$455**	**3.0%**	**$416**	**$39**	**$0**	**$0**
40		11,715	$16,516	$16,054	$462	2.9%	$420	$42	$0	$0
41		12,484	$17,541	$17,073	$469	2.7%	$424	$45	$0	$0
42		13,251	$18,563	$18,088	$475	2.6%	$427	$48	$0	$0
43		14,016	$19,584	$19,101	$482	2.5%	$432	$51	$0	$0
44		14,783	$20,606	$20,117	$489	2.4%	$435	$53	$0	$0

National Grid RI-Gas

Bill Impact Analysis with Various Levels of Consumption:

Current Distribution, GCR, DAC and Energy Efficiency Rates vs. Proposed Rates

Line No.	Rate Class (A)	Annual Consumption (Therms) (B)	Proposed Rates (C)	Current Rates (D)	Difference (E)	% Chg (F)	Difference due to: Base Rates (G)	GCR (H)	DAC (I)	EnergyEff (H)
	C & I LLF Large:									
45		37,532	$52,579	$51,122	$1,457	2.8%	$1,473	($16)	$0	$0
46		41,573	$58,065	$56,510	$1,556	2.8%	$1,573	($18)	$0	$0
47		45,616	$63,555	$61,900	$1,654	2.7%	$1,674	($19)	$0	$0
48		49,660	$69,045	$67,292	$1,753	2.6%	$1,774	($21)	$0	$0
49		53,699	$74,529	$72,678	$1,852	2.5%	$1,875	($23)	$0	$0
50	Average Customer	**57,742**	**$80,019**	**$78,068**	**$1,951**	**2.5%**	**$1,975**	**($25)**	**$0**	**$0**
51		61,785	$85,508	$83,459	$2,049	2.5%	$2,076	($26)	$0	$0
52		65,824	$90,992	$88,844	$2,148	2.4%	$2,176	($28)	$0	$0
53		69,868	$96,483	$94,236	$2,247	2.4%	$2,277	($30)	$0	$0
54		73,911	$101,972	$99,626	$2,346	2.4%	$2,377	($32)	$0	$0
55		77,952	$107,459	$105,014	$2,444	2.3%	$2,478	($33)	$0	$0
	C & I HLF Large:									
56		37,970	$48,014	$47,422	$592	1.2%	$1,109	($517)	$0	$0
57		42,061	$53,012	$52,415	$597	1.1%	$1,170	($573)	$0	$0
58		46,151	$58,010	$57,407	$603	1.1%	$1,232	($629)	$0	$0
59		50,240	$63,006	$62,397	$608	1.0%	$1,293	($684)	$0	$0
60		54,329	$68,002	$67,388	$614	0.9%	$1,354	($740)	$0	$0
61	Average Customer	**58,418**	**$72,998**	**$72,379**	**$620**	**0.9%**	**$1,415**	**($796)**	**$0**	**$0**
62		62,508	$77,996	$77,371	$625	0.8%	$1,477	($851)	$0	$0
63		66,596	$82,991	$82,360	$631	0.8%	$1,538	($907)	$0	$0
64		70,686	$87,988	$87,351	$636	0.7%	$1,599	($963)	$0	$0
65		74,775	$92,984	$92,342	$642	0.7%	$1,660	($1,018)	$0	$0
66		78,867	$97,984	$97,336	$647	0.7%	$1,722	($1,074)	$0	$0

National Grid RI-Gas

Bill Impact Analysis with Various Levels of Consumption:
Current Distribution, GCR, DAC and Energy Efficiency Rates vs. Proposed Rates

Line No.	Rate Class (A)	Annual Consumption (Therms) (B)	Proposed Rates (C)	Current Rates (D)	Difference (E)	% Chg (F)	Difference due to: Base Rates (G)	GCR (H)	DAC (I)	EnergyEff (H)
	C & I LLF Extra-Large:									
67		189,450	$235,006	$228,523	$6,483	2.8%	$5,976	$507	$0	$0
68		209,855	$259,930	$252,748	$7,182	2.8%	$6,620	$562	$0	$0
69		230,255	$284,848	$276,968	$7,880	2.8%	$7,263	$616	$0	$0
70		250,655	$309,766	$301,188	$8,578	2.8%	$7,907	$671	$0	$0
71		271,059	$334,688	$325,412	$9,276	2.9%	$8,550	$726	$0	$0
72	Average Customer	**291,462**	**$359,610**	**$349,635**	**$9,974**	**2.9%**	**$9,194**	**$780**	**$0**	**$0**
73		311,865	$384,531	$373,859	$10,673	2.9%	$9,838	$835	$0	$0
74		332,269	$409,454	$398,083	$11,371	2.9%	$10,481	$889	$0	$0
75		352,669	$434,372	$422,303	$12,069	2.9%	$11,125	$944	$0	$0
76		373,069	$459,290	$446,523	$12,767	2.9%	$11,768	$999	$0	$0
77		393,474	$484,214	$470,748	$13,465	2.9%	$12,412	$1,053	$0	$0
	C & I HLF Extra-Large:									
78		369,323	$443,478	$430,972	$12,505	2.9%	$13,786	($1,280)	$0	$0
79		409,095	$490,848	$476,996	$13,852	2.9%	$15,270	($1,418)	$0	$0
80		448,869	$538,220	$523,021	$15,199	2.9%	$16,755	($1,556)	$0	$0
81		488,643	$585,592	$569,047	$16,545	2.9%	$18,239	($1,694)	$0	$0
82		528,415	$632,962	$615,070	$17,892	2.9%	$19,724	($1,832)	$0	$0
83	Average Customer	**568,188**	**$680,333**	**$661,094**	**$19,239**	**2.9%**	**$21,209**	**($1,970)**	**$0**	**$0**
84		607,961	$727,704	$707,119	$20,586	2.9%	$22,693	($2,108)	$0	$0
85		647,733	$775,074	$753,142	$21,932	2.9%	$24,178	($2,245)	$0	$0
86		687,507	$822,447	$799,168	$23,279	2.9%	$25,662	($2,383)	$0	$0
87		727,281	$869,819	$845,193	$24,626	2.9%	$27,147	($2,521)	$0	$0
88		767,053	$917,189	$891,216	$25,972	2.9%	$28,631	($2,659)	$0	$0

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National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
($ per Dth)

Line No.	Description (a)	Reference (b)	Residential Non-Heat (c)	Residential Heat (d)	Small C&I (e)	Medium C&I (f)	Large LLF (g)	Large HLF (h)	Extra Large LLF (i)	Extra Large HLF (j)	FT-2 Mkter (k)	NGV
1	Supply Fixed Cost Factor	pg. 2	$0.7844	$1.0640	$1.0640	$1.0640	$1.0640	$0.7844	$1.0640	$0.7844	n/a	
2	Storage Fixed Cost Factor	pg. 3	$0.2957	$0.4011	$0.4011	$0.4011	$0.4011	$0.2957	$0.4011	$0.2957	$0.3682	
3	Supply Variable Cost Factor	pg. 4	$7.7348	$7.7348	$7.7348	$7.7348	$7.7348	$7.7348	$7.7348	$7.7348	n/a	$7.7348
4a	Storage Variable Product Cost Factor	pg. 5	$1.3580	$1.3580	$1.3580	$1.3580	$1.3580	$1.3580	$1.3580	$1.3580	n/a	
4b	Storage Variable Non-product Cost Factor	pg. 5	$0.0849	$0.0849	$0.0849	$0.0849	$0.0849	$0.0849	$0.0849	$0.0849	$0.0849	
5	Total Gas Cost Recovery Charge	(1)+(2)+(3)+(4)	$10.2578	$10.6428	$10.6428	$10.6428	$10.6428	$10.2578	$10.6428	$10.2578	$0.4531	$7.7348
6	Uncollectible %	Docket 3401	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
7	Total GCR Charge adjusted for Uncollectibles	(5) / [(1 - (6)]	$10.4778	$10.8711	$10.8711	$10.8711	$10.8711	$10.4778	$10.8711	$10.4778	$0.4628	$7.9007
8	**GCR Charge on a per therm basis**	(7) / 10	**$1.0478**	**$1.0871**	**$1.0871**	**$1.0871**	**$1.0871**	**$1.0478**	**$1.0871**	**$1.0478**	**$0.0463**	**$0.7901**
	Current		1.0844	$1.0844	$1.0844	$1.0835	$1.0875	$1.0614	$1.0844	$1.0513	$0.0501	$0.7901
	Difference		($0.0366)	$0.0027	$0.0027	$0.0036	($0.0004)	($0.0136)	$0.0027	($0.0035)	($0.0038)	$0.0000

National Grid RI-Gas
Prposed Gas Cost Recovery (GCR) Filing
Fixed Cost Calculation ($ per Dth)

Gas Cost Recovery (GCR) Filing
Determination of Supply Fixed Cost Factor (per Dth)

Line No.	Description (a)	Reference (b)	Amount (c)	Residential Non-Heat (d)	Large HLF (e)	Extra Large HLF (f)	High Load Factor Total (g)	Residential Heat (h)	Small C&I (i)	Medium C&I (j)	Large LLF (k)	Extra Large LLF (l)	Low Load Factor Total (m)	Line No.
1	Supply Fixed Costs (net of Cap Rel)	GLB-1	$27,938,875											1
2	Less:													2
3	Capacity Release Revenues	GLB-1	$0											3
4	Interruptible Costs		$0											4
5	Non-Firm Sales Costs		$0											5
6	Off-System Sales Margin		$0											6
7	Refunds		$0											7
8	Total Credits	sum[(3):(7)]	$0											8
9	Plus:													9
10	Working Capital Requirement	pg 8	$120,776											10
11	Reconciliation Amount	pg 6	$236,900											11
12	Total Additions	(10) + (11)	$357,676											12
13	Total Supply Fixed Costs	(1) - (8) + (12)	$28,296,550											13
14	Design Winter Sales Percentage	pg 13	100.00%	1.61%	1.32%	1.16%	4.10%	64.61%	8.87%	15.94%	6.04%	0.43%	95.90%	14
15	Allocated Supply Fixed Costs	(13) x (14)		$456,293	$373,548	$328,995	$1,158,836	$18,283,134	$2,511,082	$4,511,541	$1,710,082	$121,875	$27,137,714	15
16	Sales (Dt)	pg 12	26,983,697	596,281	438,284	442,848	1,477,413	17,730,700	2,344,809	3,965,500	1,362,298	102,977	25,506,284	16
17	**Supply Fixed Factor**	(15) / (16)					**$0.7844**						**$1.0640**	17

National Grid RI-Gas
Prposed Gas Cost Recovery (GCR) Filing
Fixed Cost Calculation ($ per Dth)

Line No.	Description (a)	Reference (b)	Amount (c)	Residential Non-Heat (d)	Large HLF (e)	Extra Large HLF (f)	High Load Factor Total (g)	Residential Heat (h)	Small C&I (i)	Medium C&I (j)	Large LLF (k)	Extra Large LLF (l)	Low Load Factor Total (m)	Line No.
1	Storage Fixed Costs	GLB-1	$10,465,442											1
2	Less:													2
3	LNG Demand to DAC	GLB 2/Dkt 3401	$675,382											3
4	Credits		$0											4
5	Refunds		$0											5
6	Total Credits	sum [(3):(5)]	$675,382											6
7	Plus:													7
8	Supply Related LNG O&M Costs	Docket 3401	$518,894											8
9	Working Capital Requirement	pg 8	$44,564											9
10	Reconciliation Amount	pg 6	$313,087											10
11	Total Additions	sum [(8):(10)]	$876,545											11
12	Total Storage Fixed Costs	(1) - (6) + (11)	$10,666,605											12
13	Design Winter Throughput Percentage	pg 13		1.61%	1.32%	1.16%	4.10%	64.61%	8.87%	15.94%	6.04%	0.43%	95.90%	13
14	Allocated Storage Fixed Costs	(12) x (13)		$172,003	$140,812	$124,017	$436,832	$6,891,969	$946,572	$1,700,661	$644,629	$45,942	$10,229,772	14
15	Throughput (Dt)	pg 12	52,489,981	596,281	438,284	442,848	1,477,413	17,730,700	2,344,809	3,965,500	1,362,298	102,977	25,506,284	15
16	**Storage Fixed Factor**	(14) / (15)					**$0.2957**						**$0.4011**	16

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Variable Cost Calculation ($ per Dth)

Line No.	Description	Reference	Amount	Line No.
1	**Variable Supply Costs**	GLB 1	$219,142,805	1
2	Less:			2
3	Non-Firm Sales		$0	3
4	Variable Delivery Storage Costs	GLB 2/ PCC 1 p5	$229,111	4
5	Variable Injection Storage Costs	GLB 2/ PCC 1 p5	$80,716	5
6	Fuel Costs Allocated to Storage	GLB 2/ PCC 1 p5	$1,567,934	6
7	Refunds		$0	7
8	Total Credits	sum [(3):(7)]	$1,877,761	8
9	Plus:			9
10	Working Capital	pg 9	$939,207	10
11	Reconciliation Amount	pg 6	($9,489,858)	11
12	Total Additions	(10)+(11)	($8,550,651)	12
13	Total Variable Supply Costs	(1)-(8)+(12)	$208,714,393	13
14	Sales (Dt)	pg 12	26,983,697	14
15	**Supply Variable Cost Factor**	(13)/(14)	**$7.7348**	15
16	**Storage Variable Costs**		$32,105,084	16

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Variable Cost Calculation ($ per Dth)

Line No.	Description	Reference	Amount	Line No.
1	**Storage Variable Product Costs**	GLB 1	$32,105,084	1
2	Less:			2
3	Balancing Related LNG Costs (to DAC)	GLB 2/Dkt 3401	$592,325	3
4	Refunds		$0	4
5	Total Credits	(3)+(4)	$592,325	5
6	Plus:			6
7	Supply Related LNG O&M	Docket 3401	$365,465	7
8	Working Capital	pg 9	$137,805	8
9	Inventory Financing - LNG (Supply)	pg 11	$685,634	9
10	Inventory Financing - Storage	pg 11	$2,628,269	10
11	Inventory Financing - LP	pg 11	$0	11
12	Reconciliation Amount	pg 7	$1,313,745	12
13	Total Additions	sum[(7):(12)]	$5,130,918	13
14	Total Storage Variable Costs	(1)-(5)+(13)	$36,643,678	14
15	Sales (Dt)	pg 12	26,983,697	15
16	**Storage Variable Product Cost Factor**	(14) / (15)	**$1.3580**	16
17	**Storage Variable Non-Product Costs**	GLB 1	$1,691,165	17
18	Less:			18
19	Refunds		$0	19
20	Total Credits		$0	20
21	Plus:			21
22	Variable Delivery Storage Costs	pg 4	$229,111	22
23	Variable Injection Storage Costs	pg 4	$80,716	23
24	Fuel Costs Allocated to Storage	pg 4	$1,567,934	24
25	Working Capital	pg 10	$7,311	25
26	Inventory Financing - Storage	pg 11	$0	26
27	Reconciliation Amount	pg 7	($1,207,492)	27
28	Total Additions	sum[(22):(27)]	$677,579	28
29	Total Storage Variable Costs	(17)-(20)+(28)	$2,368,744	29
30	Throughput (Dt)	pg 12	27,886,021	30
31	**Storage Variable Product Cost Factor**	(29) / (30)	**$0.0849**	31

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Gas Cost Account Balances

Line No.		Jul-07 31 Actual	Aug-07 31 forecast	Sep-07 30 forecast	Oct-07 31 forecast
	I. Supply Fixed Cost Deferred				
1	Beginning Balance	($5,487,993)	($4,046,852)	($2,492,103)	($1,000,150)
2	Supply Fixed Costs (net of cap rel)	$2,096,287	$2,182,971	$2,181,846	$2,148,096
3	Capacity Release	$0	$0	$0	$0
4	Working Capital	$9,020	$9,393	$9,388	$9,243
5	Total Supply Fixed Costs	$2,105,307	$2,192,363	$2,191,233	$2,157,338
6	Supply Fixed - Collections	$638,926	$620,306	$690,333	$918,268
7	Prelim. Ending Balance	($4,021,612)	($2,474,794)	($991,203)	$238,920
8	Month's Average Balance	($4,754,802)	($3,260,823)	($1,741,653)	($380,615)
9	Interest Rate (Bank of America Prime)	6.25%	6.25%	6.25%	6.25%
10	Interest Applied	($25,240)	($17,309)	($8,947)	($2,020)
11	Asset Management Incentive	$0	$0	$0	$0
12	Supply Fixed Ending Balance	($4,046,852)	($2,492,103)	($1,000,150)	$236,900
	II. Storage Fixed Cost Deferred				
13	Beginning Balance	($1,933,562)	($1,365,295)	($762,390)	($182,224)
14	Storage Fixed Costs	$830,515	$858,737	$858,737	$858,737
15	LNG Demand to DAC	($56,282)	($56,282)	($56,282)	($56,282)
16	Supply Related LNG O & M	$43,241	$43,241	$43,241	$43,241
17	Working Capital	$3,517	$3,639	$3,639	$3,639
18	Total Storage Fixed Costs	$820,992	$849,335	$849,335	$849,335
19	TSS Peaking Collections	$39	$0	$0	$0
20	Storage Fixed - Collections	$243,953	$240,798	$266,750	$354,371
21	Prelim. Ending Balance	($1,356,562)	($756,757)	($179,804)	$312,740
22	Month's Average Balance	($1,645,062)	($1,061,026)	($471,097)	$65,258
23	Interest Rate (Bank of America Prime)	6.25%	6.25%	6.25%	6.25%
24	Interest Applied	($8,732)	($5,632)	($2,420)	$346
25	Storage Fixed Ending Balance	($1,365,295)	($762,390)	($182,224)	$313,087
	III. Variable Supply Cost Deferred				
26	Beginning Balance	($17,017,697)	($16,361,934)	($15,422,485)	($14,470,916)
27	Variable Supply Costs	$6,670,384	$6,492,099	$7,091,817	$13,017,551
28	Variable Delivery Storage	($1,461)	$0	$0	$0
29	Variable Injections Storage	($9,157)	($11,566)	($11,197)	($11,566)
30	Fuel Cost Allocated to Storage	($70,185)	($82,254)	($79,415)	($80,829)
31	Working Capital	$28,353	$27,530	$30,124	$55,614
32	Total Supply Variable Costs	$6,617,935	$6,425,810	$7,031,330	$12,980,769
33	Supply Variable - Collections	$5,868,399	$5,402,225	$6,003,177	$7,936,285
34	Customer Deferred Responsibility	$5,414	$0	$0	$0
35	Prelim. Ending Balance	($16,273,575)	($15,338,349)	($14,394,332)	($9,426,432)
36	Month's Average Balance	($16,645,636)	($15,850,141)	($14,908,408)	($11,948,674)
37	Interest Rate (Fleet Prime)	6.25%	6.25%	6.25%	6.25%
38	Interest Applied	($88,359)	($84,136)	($76,584)	($63,426)
39	Gas Procurement Incentive/(penalty)	$0			
40	Supply Variable Ending Balance	($16,361,934)	($15,422,485)	($14,470,916)	($9,489,858)

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Gas Cost Account Balances

Line No.		Jul-07 31 Actual	Aug-07 31 forecast	Sep-07 30 forecast	Oct-07 31 forecast
	IVa. Storage Variable Product Cost Deferred				
41	Beginning Balance	$2,070,076	$2,005,603	$1,873,724	$1,699,755
42	Storage Variable Prod. Costs - LNG	$192,327	$180,704	$174,198	$179,712
43	Storage Variable Prod. Costs - LP	$0	$0	$0	$0
44	Storage Variable Prod. Costs - UG	$112,156	$0	$0	$0
45	Supply Related LNG to DAC	$43,816	($36,845)	($35,519)	($36,643)
46	Supply Related LNG O & M	$30,455	$30,455	$30,455	$30,455
47	Inventory Financing - LNG	$48,014	$59,403	$59,306	$59,238
48	Inventory Financing - UG	$247,153	$344,790	$389,707	$433,751
49	Inventory Financing - LP	$0	$3,087	$3,087	$3,087
50	Working Capital	$1,630	$750	$728	$747
51	Total Storage Variable Product Costs	$675,551	$582,343	$621,963	$670,347
52	Storage Variable Product Collections	$750,812	$724,492	$805,086	$1,064,335
53	Prelim. Ending Balance	$1,994,815	$1,863,455	$1,690,601	$1,305,768
54	Month's Average Balance	$2,032,446	$1,934,529	$1,782,162	$1,502,762
55	Interest Rate (Bank of America Prime)	6.25%	6.25%	6.25%	6.25%
56	Interest Applied	$10,789	$10,269	$9,155	$7,977
57	Storage Variable Product Ending Bal.	$2,005,603	$1,873,724	$1,699,755	$1,313,745
	IVb. Stor Var Non-Prod Cost Deferred				
58	Beginning Balance	($1,172,572)	($1,182,118)	($1,173,994)	($1,177,349)
59	Storage Variable Non-prod. Costs	$7,158	$0	$0	$0
60	Variable Delivery Storage Costs	$1,461	$0	$0	$0
61	Variable Injection Storage Costs	$9,157	$11,566	$11,197	$11,566
62	Fuel Costs Allocated to Storage	$70,185	$82,254	$79,415	$80,829
63	Working Capital	$378	$404	$390	$398
64	Total Storage Var Non-product Costs	$88,339	$94,223	$91,001	$92,793
65	Storage Var Non-Product Collections	$91,652	$79,863	$88,332	$116,623
66	Prelim. Ending Balance	($1,175,885)	($1,167,758)	($1,171,325)	($1,201,179)
67	Month's Average Balance	($1,174,228)	($1,174,938)	($1,172,660)	($1,189,264)
68	Interest Rate (Fleet Prime)	6.25%	6.25%	6.25%	6.25%
69	Interest Applied	($6,233)	($6,237)	($6,024)	($6,313)
70	Storage Var Non-Product Ending Bal.	($1,182,118)	($1,173,994)	($1,177,349)	($1,207,492)
	GCR Deferred Summary				
71	Beginning Balance	($23,541,747)	($20,950,594)	($17,977,249)	($15,130,884)
72	Gas Costs	$10,265,224	$10,102,360	$10,740,594	$16,680,944
73	Working Capital	$42,899	$41,715	$44,269	$69,639
74	Total Costs	$10,308,123	$10,144,075	$10,784,863	$16,750,583
75	Collections	$7,599,195	$7,067,684	$7,853,678	$10,389,882
76	Prelim. Ending Balance	($20,832,819)	($17,874,203)	($15,046,064)	($8,770,183)
77	Month's Average Balance	($22,187,283)	($19,412,399)	($16,511,656)	($11,950,533)
78	Interest Rate (Fleet Prime)	6.25%	6.25%	6.25%	6.25%
79	Interest Applied	($117,775)	($103,045)	($84,820)	($63,436)
80	Gas Purchase Plan Incentives/(Penalties)	$0	$0	$0	$0
81	**Ending Bal. W/ Interest**	($20,950,594)	($17,977,249)	($15,130,884)	**($8,833,619)**
82	Under/(Over)-collection	$2,708,928	$3,076,391	$2,931,185	$6,360,701

National Grid RIGas
Gas Cost Recovery (GCR) Filing
Working Capital Calculation

Line No.	Description (a)	Reference (b)	Amount (c)	Line No.
1	**Supply Fixed Costs (net of Cap Rel)**	GLB 1	$27,938,875	1
2	Capacity Release Revenue		$0	2
3	Allowable Working Capital Costs	(1) - (2)	$27,938,875	3
4	Number of Days Lag	Docket 3401	13.40	4
5	Working Capital Requirement	[(3) x (4)] / 365	$1,025,701	5
6	Cost of Capital	Docket 3401	9.13%	6
7	Return on Working Capital Requirement	(5) x (6)	$93,686	7
8	Weighted Cost of Debt	Docket 3401	4.23%	8
9	Interest Expense	(5) x (8)	$43,375	9
10	Taxable Income	(7) - (9)	$50,311	10
11	1 - Combined Tax Rate	Docket 3401	0.6500	11
12	Return and Tax Requirement	(10) / (11)	$77,401	12
13	**Supply Fixed Working Capital Requirement**	(9) + (12)	**$120,776**	13
14	**Storage Fixed Costs**	GLB 1	$10,465,442	14
15	Less: LNG Demand to DAC		($675,382)	15
16	Less: Credits		$0	16
17	Plus: Supply Related LNG O&M Costs		$518,894	17
18	Allowable Working Capital Costs	(14)-(15)+(16)+(17)	$10,308,954	18
19	Number of Days Lag	Docket 3401	13.40	19
20	Working Capital Requirement	[(18) x (19)] / 365	$378,466	20
21	Cost of Capital	Docket 3401	9.13%	21
22	Return on Working Capital Requirement	(20) x (21)	$34,568	22
23	Weighted Cost of Debt	Docket 3401	4.23%	23
24	Interest Expense	(20) x (23)	$16,005	24
25	Taxable Income	(22) - (24)	$18,564	25
26	1 - Combined Tax Rate	Docket 3401	0.6500	26
27	Return and Tax Requirement	(25) / (26)	$28,560	27
28	**Storage Fixed Working Capital Requirement**	(24) + (27)	**$44,564**	28

National Grid RIGas
Gas Cost Recovery (GCR) Filing
Working Capital Calculation

Line No.	Description (a)	Reference (b)	Amount (c)	Line No.
1	**Supply Variable Costs**	GLB 1	$219,142,805	1
2	Credits		$1,877,761	2
3	Allowable Working Capital Costs	(1) - (2)	$217,265,044	3
4	Number of Days Lag	Docket 3401	13.40	4
5	Working Capital Requirement	[(3) x (4)] / 365	$7,976,306	5
6	Cost of Capital	Docket 3401	9.13%	6
7	Return on Working Capital Requirement	(5) x (6)	$728,541	7
8	Weighted Cost of Debt	Docket 3401	4.23%	8
9	Interest Expense	(5) x (8)	$337,303	9
10	Taxable Income	(7) - (9)	$391,238	10
11	1 - Combined Tax Rate	Rate Case	0.6500	11
12	Return and Tax Requirement	(10) / (11)	$601,904	12
13	**Supply Variable Working Capital Requirement**	(9) + (12)	**$939,207**	13
14	**Storage Variable Product Costs**	GLB 1	$32,105,084	14
15	Less: Balancing Related LNG Commodity (to DAC)		($592,325)	15
16	Plus: Supply Related LNG O&M Costs		$365,465	16
17	Allowable Working Capital Costs	(14) + (15) + (16)	$31,878,225	17
18	Number of Days Lag	Docket 3401	13.40	18
19	Working Capital Requirement	[(17) * (18)] / 365	$1,170,324	19
20	Cost of Capital	Docket 3401	9.13%	20
21	Return on Working Capital Requirement	(19) x (20)	$106,895	21
22	Weighted Cost of Debt	Docket 3401	4.23%	22
23	Interest Expense	(19) x (22)	$49,491	23
24	Taxable Income	(21) - (23)	$57,404	24
25	1 - Combined Tax Rate	Rate Case	0.6500	25
26	Return and Tax Requirement	(24) / (25)	$88,314	26
27	**Storage Var. Product Working Capital Requir.**	(23) + (26)	**$137,805**	27

National Grid RIGas
Gas Cost Recovery (GCR) Filing
Working Capital Calculation

Line No.	Description (a)	Reference (b)	Amount (c)	Line No.
1	**Storage Variable Non-Product Costs**	GLB 1	$1,691,165	1
2	Credits		$0	2
3	Allowable Working Capital Costs	(1) - (2)	$1,691,165	3
4	Number of Days Lag	Docket 3401	13.40	4
5	Working Capital Requirement	[(3) x (4)] / 365	$62,087	5
6	Cost of Capital	Docket 3401	9.13%	6
7	Return on Working Capital Requirement	(5) x (6)	$5,671	7
8	Weighted Cost of Debt	Docket 3401	4.23%	8
9	Interest Expense	(5) x (8)	$2,626	9
10	Taxable Income	(7) - (9)	$3,045	10
11	1 - Combined Tax Rate	Docket 3401	0.6500	11
12	Return and Tax Requirement	(10) / (11)	$4,685	12
13	**Storage Variable Non-product WC Requir.**	(9) + (12)	**$7,311**	13

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Inventory Finance Cost Calculation

Line No.	Description (a)	Reference (b)	Nov-07 (c)	Dec-07 (d)	Jan-08 (e)	Feb-08 (f)	Mar-08 (g)	Apr-08 (h)	May-08 (i)	Jun-08 (j)	Jul-08 (k)	Aug-08 (l)	Sep-08 (m)	Oct-08 (n)	Total (p)	Line No.
1	**Storage Inventory Balance**	GLB 2 pg 16	$35,811,283	$35,742,875	$30,967,183	$20,612,137	$10,907,537	$5,323,466	$11,669,490	$15,265,566	$19,205,922	$23,284,298	$27,512,045	$31,548,056		1
2	Cost of Capital	Docket 3401	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%		2
3	Return on Working Capital Requirement	(1) x (2)	$3,270,935	$3,264,686	$2,828,484	$1,882,673	$996,274	$486,235	$1,065,869	$1,394,328	$1,754,232	$2,126,744	$2,512,898	$2,881,539	$24,464,897	3
4	Weighted Cost of Debt	Docket 3401	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%		4
5	Interest Charges Financed	(1) x (4)	$1,514,391	$1,511,498	$1,309,543	$871,648	$461,259	$225,119	$493,481	$645,552	$812,182	$984,649	$1,163,432	$1,334,107	$11,326,862	5
6	Taxable Income	(3) - (5)	$1,756,543	$1,753,188	$1,518,940	$1,011,025	$535,015	$261,116	$572,388	$748,776	$942,050	$1,142,095	$1,349,466	$1,547,432		6
7	1 - Combined Tax Rate	Docket 3401	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500		7
8	Return and Tax Requirement	(6) / (7)	$2,702,374	$2,697,212	$2,336,831	$1,555,424	$823,099	$401,717	$880,598	$1,151,963	$1,449,308	$1,757,069	$2,076,101	$2,380,665	$20,212,362	8
9	Working Capital Requirement	(5) + (8)	$4,216,766	$4,208,711	$3,646,375	$2,427,072	$1,284,358	$626,836	$1,374,078	$1,797,515	$2,261,490	$2,741,718	$3,239,533	$3,714,772	$31,539,224	9
10	Monthly Average	(9) / 12	$351,397	$350,726	$303,865	$202,256	$107,030	$52,236	$114,507	$149,793	$188,458	$228,476	$269,961	$309,564	$2,628,269	10
11	**LNG Inventory Balance**	GLB 2 pg 17	$7,024,158	$7,399,802	$7,226,542	$6,810,918	$7,177,954	$7,125,157	$7,045,249	$7,608,713	$7,622,557	$7,637,257	$7,625,332	$7,466,412		11
12	Cost of Capital	Docket 3401	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%	9.13%		12
13	Return on Working Capital Requirement	(11) x (12)	$641,573	$675,884	$660,059	$622,096	$655,621	$650,798	$643,500	$694,965	$696,230	$697,573	$696,483	$681,968	$8,016,750	13
14	Weighted Cost of Debt	Docket 3401	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%	4.23%		14
15	Interest Charges Financed	(11) x (14)	$297,038	$312,924	$305,597	$288,021	$303,542	$301,309	$297,930	$321,758	$322,343	$322,965	$322,461	$315,740	$3,711,629	15
16	Taxable Income	(13) - (15)	$344,535	$362,960	$354,462	$334,076	$352,079	$349,489	$345,569	$373,207	$373,886	$374,607	$374,023	$366,228		16
17	1 - Combined Tax Rate	Docket 3401	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500	0.6500		17
18	Return and Tax Requirement	(16) / (17)	$530,054	$558,400	$545,326	$513,962	$541,659	$537,675	$531,645	$574,165	$575,210	$576,319	$575,419	$563,427	$6,623,263	18
19	Working Capital Requirement	(15) + (18)	$827,092	$871,324	$850,923	$801,983	$845,202	$838,985	$829,576	$895,923	$897,553	$899,284	$897,880	$879,167	$10,334,892	19
20	Monthly Average	(19) / 12	$68,924	$72,610	$70,910	$66,832	$70,433	$69,915	$69,131	$74,660	$74,796	$74,940	$74,823	$73,264	$861,241	20
21	System Balancing Factor	Docket 3401	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%	20.39%		21
22	Balancing Related Inventory Costs	(20) x (21)	$14,054	$14,805	$14,459	$13,627	$14,361	$14,256	$14,096	$15,223	$15,251	$15,280	$15,256	$14,939	$175,607	22
23	Supply Related Inventory Costs	(21) - (22)	$54,871	$57,805	$56,452	$53,205	$56,072	$55,660	$55,035	$59,437	$59,545	$59,660	$59,567	$58,325	$685,634	23

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Forecasted Throughput (Dth)

Line No.	Rate Class (a)	Nov-07 (b)	Dec-07 (c)	Jan-08 (d)	Feb-08 (e)	Mar-08 (f)	Apr-08 (g)	May-08 (h)	Jun-08 (i)	Jul-08 (j)	Aug-08 (k)	Sep-08 (l)	Oct-08 (m)	Total Nov-Oct (o)	Line No.
1	**SALES (dth)**														1
2	Residential Non-Heating	47,085	58,880	68,664	62,826	60,626	58,869	53,009	41,002	38,989	32,100	37,481	36,750	596,281	2
3	Residential Heating	1,184,926	2,126,308	2,950,990	2,975,144	2,706,404	2,122,475	1,193,422	608,690	464,775	384,120	445,813	567,633	17,730,700	3
4	Small C&I	132,402	279,615	405,317	433,991	389,083	279,656	134,316	66,546	52,099	45,543	53,709	72,532	2,344,809	4
5	Medium C&I	272,142	458,572	618,691	642,054	587,617	448,212	271,215	149,685	123,770	108,749	129,158	155,635	3,965,500	5
6	Large LLF	95,524	173,239	226,387	244,063	223,000	152,326	87,236	36,827	26,093	19,383	26,903	51,317	1,362,298	6
7	Large HLF	35,149	45,999	50,894	45,217	48,325	44,204	33,395	31,392	24,483	22,042	28,804	28,380	438,284	7
8	Extra Large LLF	8,767	15,068	15,017	20,748	20,017	11,546	3,207	1,986	886	1,190	1,197	3,348	102,977	8
9	Extra Large HLF	35,977	34,863	39,607	57,044	47,431	41,708	37,113	30,549	26,912	30,602	29,844	31,198	442,848	9
10	**Total Sales**	1,811,972	3,192,544	4,375,567	4,481,087	4,082,503	3,158,996	1,812,913	966,677	758,007	643,729	752,909	946,793	26,983,697	10
11	**FT-2 TRANSPORTATION**														11
12	FT-2 Medium	36,598	54,951	75,513	71,839	69,062	56,300	38,158	25,993	22,177	19,405	21,511	24,505	516,012	12
13	FT-2 Large LLF	17,120	34,814	47,648	51,434	43,975	31,768	18,720	7,151	5,836	2,605	2,700	9,036	272,807	13
14	FT-2 Large HLF	5,449	7,206	8,379	7,209	8,416	7,191	5,700	6,190	5,145	5,174	5,508	4,691	76,258	14
15	FT-2 Extra Large LLF	1,990	2,969	2,121	3,293	3,084	1,501	72	0	0	6	0	959	15,995	15
16	FT-2 Extra Large HLF	1,955	2,215	3,564	1,648	2,218	2,038	1,393	1,134	1,205	1,309	1,242	1,331	21,252	16
17	**Total Transportation**	63,112	102,155	137,225	135,423	126,755	98,798	64,043	40,468	34,363	28,499	30,961	40,522	902,324	17
18	**Sales & FT-2 THROUGHPUT**														18
19	Residential Non-Heating	47,085	58,880	68,664	62,826	60,626	58,869	53,009	41,002	38,989	32,100	37,481	36,750	596,281	19
20	Residential Heating	1,184,926	2,126,308	2,950,990	2,975,144	2,706,404	2,122,475	1,193,422	608,690	464,775	384,120	445,813	567,633	17,730,700	20
21	Small C&I	132,402	279,615	405,317	433,991	389,083	279,656	134,316	66,546	52,099	45,543	53,709	72,532	2,344,809	21
22	Medium C&I	308,740	513,523	694,204	713,893	656,679	504,512	309,373	175,678	145,947	128,154	150,669	180,140	4,481,512	22
23	Large LLF	112,644	208,053	274,035	295,497	266,975	184,094	105,956	43,978	31,929	21,988	29,603	60,353	1,635,105	23
24	Large HLF	40,598	53,205	59,273	52,426	56,741	51,395	39,095	37,582	29,628	27,216	34,312	33,071	514,542	24
25	Extra Large LLF	10,757	18,037	17,138	24,041	23,101	13,047	3,279	1,986	886	1,196	1,197	4,307	118,972	25
26	Extra Large HLF	37,932	37,078	43,171	58,692	49,649	43,746	38,506	31,683	28,117	31,911	31,086	32,529	464,100	26
27	**Total Throughput**	1,875,084	3,294,699	4,512,792	4,616,510	4,209,258	3,257,794	1,876,956	1,007,145	792,370	672,228	783,870	987,315	27,886,021	27
28	**FT-1 TRANSPORTATION**														28
29	FT-1 Medium	62,830	100,049	94,536	92,575	77,492	50,199	66,189	26,129	22,257	21,346	43,328	83,305	740,235	29
30	FT-1 Large LLF	118,068	163,666	195,200	171,455	160,143	96,551	110,860	20,646	16,873	16,461	21,846	51,269	1,143,038	30
31	FT-1 Large HLF	45,392	46,195	47,478	47,743	50,180	36,047	42,378	29,415	26,600	28,228	37,708	28,537	465,901	31
32	FT-1 Extra Large LLF	95,747	121,637	81,746	117,032	111,368	62,367	24,529	27,956	25,338	29,165	32,705	71,120	800,710	32
33	FT-1 Extra Large HLF	308,938	362,957	291,532	353,802	375,875	294,214	278,052	270,202	267,556	274,157	266,411	291,046	3,634,742	33
34	**Total Transportation**	630,975	794,504	710,492	782,607	775,058	539,378	522,008	374,348	358,624	369,357	401,998	525,277	6,784,626	34
35	**Total THROUGHPUT**														35
36	Residential Non-Heating	47,085	58,880	68,664	62,826	60,626	58,869	53,009	41,002	38,989	32,100	37,481	36,750	596,281	36
37	Residential Heating	1,184,926	2,126,308	2,950,990	2,975,144	2,706,404	2,122,475	1,193,422	608,690	464,775	384,120	445,813	567,633	17,730,700	37
38	Small C&I	132,402	279,615	405,317	433,991	389,083	279,656	134,316	66,546	52,099	45,543	53,709	72,532	2,344,809	38
39	Medium C&I	371,570	613,572	788,740	806,468	734,171	554,711	375,562	201,807	168,204	149,500	193,997	263,445	5,221,747	39
40	Large LLF	230,712	371,719	469,235	466,952	427,118	280,645	216,816	64,624	48,802	38,449	51,449	111,622	2,778,143	40
41	Large HLF	85,990	99,400	106,751	100,169	106,921	87,442	81,473	66,997	56,228	55,444	72,020	61,608	980,443	41
42	Extra Large LLF	106,504	139,674	98,884	141,073	134,469	75,414	27,808	29,942	26,224	30,361	33,902	75,427	919,682	42
43	Extra Large HLF	346,870	400,035	334,703	412,494	425,524	337,960	316,558	301,885	295,673	306,068	297,497	323,575	4,098,842	43
44	**Total Throughput**	2,506,059	4,089,203	5,223,284	5,399,117	4,984,316	3,797,172	2,398,964	1,381,493	1,150,994	1,041,585	1,185,868	1,512,592	$\boxed{\textbf{34,670,647}}$	44

Annual

National Grid RI-Gas
Proposed Gas Cost Recovery (GCR) Filing
Design Winter Period Throughput (Dth)

Line No.	Rate Class (a)	Nov-07 (b)	Dec-07 (c)	Jan-08 (d)	Feb-08 (e)	Mar-08 (f)	Total (h)	% (i)	Line No.
1	**SALES (dth)**								1
2	Residential Non-Heating	47,085	58,880	68,664	62,826	60,626	298,081	1.61%	2
3	Residential Heating	1,184,926	2,126,308	2,950,990	2,975,144	2,706,404	11,943,772	64.61%	3
4	Small C&I	132,402	279,615	405,317	433,991	389,083	1,640,408	8.87%	4
5	Medium C&I	272,142	493,944	737,854	730,572	712,729	2,947,242	15.94%	5
6	Large LLF	95,524	189,096	275,033	281,300	276,187	1,117,140	6.04%	6
7	Large HLF	35,149	48,091	57,087	48,867	54,833	244,026	1.32%	7
8	Extra Large LLF	8,767	15,068	15,017	20,748	20,017	79,617	0.43%	8
9	Extra Large HLF	35,977	34,863	39,607	57,044	47,431	214,922	1.16%	9
10	Total Sales	1,811,973	3,245,865	4,549,570	4,610,492	4,267,309	18,485,209	100.00%	10
11	**TRANSPORTATION**								11
12	FT-2 Medium	36,598	58,464	88,537	80,566	82,050	346,215		12
13	FT-2 Large LLF	17,120	38,168	58,333	59,585	54,848	228,054		13
14	FT-2 Large HLF	5,449	7,405	9,143	7,603	9,343	38,943		14
15	FT-2 Extra Large LLF	1,990	2,969	2,121	3,293	3,084	13,458		15
16	FT-2 Extra Large HLF	1,955	2,215	3,564	1,648	2,218	11,600		16
17	Total Transportation	63,113	109,221	161,698	152,695	151,544	638,270		17
18	**THROUGHPUT**								18
19	Residential Non-Heating	47,085	58,880	68,664	62,826	60,626	298,081	1.56%	19
20	Residential Heating	1,184,926	2,126,308	2,950,990	2,975,144	2,706,404	11,943,772	62.46%	20
21	Small C&I	132,402	279,615	405,317	433,991	389,083	1,640,408	8.58%	21
22	Medium C&I	308,740	552,408	826,391	811,138	794,779	3,293,457	17.22%	22
23	Large LLF	112,644	227,265	333,366	340,885	331,035	1,345,195	7.03%	23
24	Large HLF	40,598	55,495	66,229	56,470	64,176	282,969	1.48%	24
25	Extra Large LLF	10,757	18,037	17,138	24,041	23,101	93,075	0.49%	25
26	Extra Large HLF	37,932	37,077	43,171	58,692	49,649	226,522	1.18%	26
27	Total Throughput	1,875,086	3,355,086	4,711,267	4,763,187	4,418,853	19,123,479	100.00%	27