BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE
STATE OF RHODE ISLAND
AND PROVIDENCE PLANTATIONS

IN THE MATTER OF

National Grid Request For	)	
Change Of Gas Distribution	)	**Docket No. 3943**
Rates	)	

DIRECT TESTIMONY OF WITNESS BRUCE R. OLIVER

On Behalf of

The Division of Public Utilities and Carriers

July 25, 2008

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TESTIMONY OF BRUCE R. OLIVER
Docket No. 3943
July 25, 2008

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Bruce R. Oliver. My business address is 7103 Laketree Drive, Fairfax Station, Virginia, 22039.

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

A. I am employed by Revilo Hill Associates, Inc., and serve as President of the firm. I manage the firm's business and consulting activities, and I direct its preparation and presentation of economic, utility planning, and policy analyses for our clients.

Q. ON WHOSE BEHALF DO YOU APPEAR IN THIS PROCEEDING?

A. My testimony in this proceeding is presented on behalf of the Division of Public Utilities and Carriers (hereinafter "the Division").

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

A. This testimony addresses issues relating the Revenue Decoupling, Gas Marketing, Class Costs of Service, Sales and Revenue Forecasting, Rate Structure and Tariff Change proposals of National Grid (hereinafter "NG" or the "Company") in this proceeding. This testimony reviews and comments on the testimony filed on behalf

of the Company by witnesses James D. Simpson, Sean P. Mongan, David A. Heintz, Peter C. Czekanski, including the attachments and workpapers associated with those pre-filed testimonies.

Q. WHAT EXHIBITS ARE YOU SPONSORING AS PART OF THIS TESTIMONY?

A. Attached to this testimony are eight exhibits. They include:

Exhibit BRO-1	National Grid's Proposed Increases in Customer and Demand Charges
Exhibit BRO-2	Analysis of Changes in Revenue and Numbers of Customers
Exhibit BRO-3	Heating Oil and Natural Gas Price Differentials
Exhibit BRO-4	National Grid's Proposed Revenue Increase Distribution
Exhibit BRO-5	Division Proposed Class Revenue Increases Based on National Grid's Requested Overall Revenue Increase
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Exhibit BRO-7	Development of Basic Customer Costs By Rate Class
Exhibit BRO-8	The Division's Recommended Rate Designs at National Grid's Proposed Overall Revenue Requirement
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II. DISCUSSION OF ISSUES

Q. HOW IS YOUR DISCUSSION OF ISSUES RELATING TO THE COMPANY'S FILING IN THIS PROCEEDING ORGANIZED?

A. This discussion is presented in five sections. Section A discusses National Grid's proposal for revenue decoupling. Section B addresses the Company's marketing plan. Section C examines the development of the billing determinants upon which the Company's filing is premised. Section D reviews and evaluates the Company's efforts to assess its costs of providing service by customer class as reflected in the Class Cost of Service ("CCOS") study that National Grid witness Heintz presents. Section E assesses the merits of the rate structure and tariff change proposals that National Grid offers in this proceeding through the testimony of witnesses Czekanski and Heintz, including: (1) National Grid's proposed distribution of its requested revenue increase among rate classes; (2) the Company's rate design proposals for firm service rate classifications; (3) National Grid's Non-Firm rate proposals and related issues; and (4) the Company's other tariff change proposals, including: (a) the Company's proposed Low Income Discount and changes in its Gas Cost Recovery ("GCR") mechanism and its Distribution Adjustment Charge ("DAC") calculations.

A. Revenue Decoupling

Q. WHAT IS REVENUE DECOUPLING?

A. The phrase "Revenue Decoupling" refers to any measure taken by a utility to reduce or eliminate the sensitivity of the utility's revenue to changes in gas usage. Weather Normalization Adjustment ("WNA") mechanisms represent a form of revenue decoupling. Likewise, efforts to increase the portion of the Company's total revenue that is collected through fixed monthly charges may also be considered forms revenue decoupling. Even declining block rate designs, such as those that National Grid presently uses for Small C&I and Residential Heating customers can be used to accomplish revenue decoupling objectives.

The Revenue Decoupling Mechanism ("RDM") that National Grid proposes in this proceeding, which is based on a target level of distribution revenue per customer ("RPC"), represents a more encompassing form of revenue decoupling that guarantees the Company a fixed level of revenue per customer regardless of its performance. Moreover, the Company's RPC-based decoupling proposal provides the Company with an opportunity for growth in the level of allowed revenue between rate cases which, heretofore, it has not had.

Q. DOES NATIONAL GRID PRESENT REVENUE DECOUPLING PROPOSALS FOR COMMISSION CONSIDERATION IN THIS PROCEEDING?

A. Yes. NG witness Simpson explains at page 2-3 of his Direct Testimony that National Grid offers three revenue decoupling proposals in this proceeding. Those proposals include:

- Increases in customer charges for all firm rate classes;
- Increases in C&I demand charges; and
- Implementation of a revenue-per-customer decoupling mechanism.

Q. DOES NATIONAL GRID PRESENTLY HAVE ANY FORM OF REVENUE DECOUPLING BUILT INTO ITS RATES?

A. Yes. The Weather Normalization Adjustment which is included in the Company's present Distribution Adjustment Clause ("DAC") mechanism adjusts its firm distribution revenue for the effects that winter weather can have on gas usage. Also, the addition of demand charges to the Company's rates for Medium, Large and Extra Large C&I customers in the Company's last base rate case represents a form of revenue decoupling, as do the Company's declining block distribution charge structures for Small C&I and Residential Heating customers.

Q. WHAT ARE THE MAGNITUDES OF THE CUSTOMER AND DEMAND CHARGE INCREASES FOR FIRM SERVICE CLASSES THAT NATIONAL GRID PROPOSES IN THIS PROCEEDING?

A. The dollar and percentage increases in customer and demand charges for firm service rate classifications that National Grid proposes are presented in Schedule BRO-1 attached to this testimony.

As shown in that schedule the increases National Grid has proposed in monthly customer charges are generally very large relative to the size of its overall distribution revenue increase request. The only exceptions are made for the Company's Extra Large C&I classes and for Natural Gas Vehicle Service. Among the major rate classes, the proposed customer charge increases range from 46.7% to 114.3%. The smallest proposed customer charge increase (46.7%) is that for the Residential Non-Heating Class. The largest increase (114.3%) would be applied to the Small C&I class. The Company's largest class in terms of numbers of customers, the Residential Heating class, would receive a 77.8% customer charge increase.

Although the Company does not propose to increase its monthly customer charges for Extra Large C&I customers, it does seek significant increases in demand charges for such customers, as well as for other C&I Rate Schedules that include demand charges. National Grid's proposed demand charge increases are also shown in Schedule BRO-1. The demand charge increases for Medium, Large & Extra Large C&I customers range from 60.0% to 66.7%.

Q. WHAT ARE THE RATIONALES OFFERED FOR IMPLEMENTATION OF THE REVENUE DECOUPLING MECHANISM ("RDM") THAT IT PROPOSES IN THIS PROCEEDING?

A. NG witness Simpson suggests that the Company is pursuing its revenue decoupling proposals for two reasons. First, those proposals would "*remove the Company's dependence on gas consumption by its customers to obtain the revenue the Company needs to operate its business.*"[1] Second, witness Simpson claims that "*decoupling would facilitate the expansion of gas efficiency programs.*"

Q. IS NATIONAL GRID THE ONLY PROVIDER OF ENERGY EFFICIENCY AND CONSERVATION RELATED EQUIPMENT AND SERVICES FOR RHODE ISLAND GAS USERS?

A. No. In Rhode Island as in most other states, a wide array of energy efficiency products and services are available to gas customers through non-regulated entities. Although some may believe that energy efficiency goals can only be achieved through large scale utility-sponsored programs, the available evidence suggest that Rhode Island consumers have reduced their gas use noticeably with limited or no assistance from utility-administered programs. Programmable thermostats, insulation, replacement windows, high efficiency water heaters and

[1] April 1, 2008, Direct Testimony of National Grid witness James D. Simpson at page 2.

HVAC systems are available from multiple competitive vendors that serve Rhode Island. Suggestions that the achievement of improved energy efficiency is dependent on utility-administered programs fails to provide due recognition to the accomplishments to date of unregulated vendors of energy efficiency products and services. Moreover, I would suggest that competitive suppliers of energy efficiency and conservation products and services have the ability to exercise greater creativity and flexibility in the structure of their offerings over time, and as a result, they are better able to adjust and tailor their offerings to respond to changing market conditions.

Q. WILL REVENUE DECOUPLING HAVE A SIGNIFICANT IMPACT ON THE EXPANSION OF NATIONAL GRID'S ENERGY EFFICIENCY PROGRAMS?

A. No. Most of the energy efficiency programs that National Grid has undertaken to date have either been pursued in response to legislative mandates, or through programs that are billed through reconciling rate adjustments (e.g., the DAC). The Company is likely to continue to pursue such programs regardless of whether additional revenue decoupling is approved by the Commission in this proceeding.

Q. DO YOU AGREE WITH THE COMPANY'S POSITION REGARDING THE NEED FOR, AND APROPRIATENESS OF, REVENUE DECOUPLING?

A. No, I do not. I specifically disagree with the Company on a number of key points:

- Despite concerns regarding declining use per customer, utility returns have been strong in recent years compared to other elements of the securities markets.

- Decoupling is not necessary for utilities to encourage conservation and energy efficiency. Most utilities have not been impeding customer efforts to employ pursue energy efficiency, and most utilities have actively encouraged customers to consider the installation of more energy efficient appliances. National Grid is no exception (nor were its predecessor organizations in Rhode Island). The Company's Advanced Gas Technology ("AGT") program and low income weatherization programs are just two examples of utility efforts to advance energy efficiency in the absence of revenue decoupling. In addition, the Company has a history of providing information to consumers regarding advantages of installing Energy Star rated gas appliances and more efficient gas heating systems.

- Utility pricing of distribution services has only a comparatively small impact on customer's decisions with respect to gas use. Moreover, revenue decoupling mechanisms which employ rate adjustments that

raise charges to offset conservation/energy efficiency related reductions in gas use only serve to discourage those very actions by making the evaluation of energy cost savings, paybacks, and return on investment more complex and uncertain for customers considering conservation/energy efficiency options. With many customers facing rising energy costs and tight credit, they need confidence that anticipated savings from conservation and energy efficiency investments can be realized and will not be eroded by distribution rate adjustments that ratchet their bills upward to offset efficiency gains.

- Concerns regarding utility promotion of the use of natural gas represent a "double-edge sword." Although less use per customer may be desirable, use of natural gas is generally viewed as a cleaner and more environmentally acceptable alternative than use of most other non-renewable energy alternatives.

In essence, the case for revenue decoupling is far from compelling, and many approaches to revenue decoupling have some associated negative attributes that must be carefully weighed.

Q. IS DECLINING USE PER CUSTOMER A NEW PHENOMENUM?

A. No. AGA studies document that declining use per customer reflects a long term trend that dates back more than two decades. Despite that long history of decreases in average gas use per customer, distribution utilities have generally faired well financially and in many cases have been able to continue operations for comparatively long periods without seeking distribution rate increases.

Q. HAS DECLINING GAS USE PER CUSTOMER RESULTED IN NATIONAL GRID'S REVENUE FALLING BELOW ITS TARGET REVENUE AT THE RATE LEVELS APPROVED IN THE COMPANY'S MOST RECENT BASE RATE CASE (DOCKET NO. 3401)?

A. No. Information provided by the Company indicates that its Rate Year Distribution Revenue of $125,585,552 is actually above its $124,906,768 Target Revenue from its compliance filing in Docket No. 3401.[2] Thus, despite declines in gas use per customer, National Grid's current rate year revenue in this docket is above the level targeted in its last base rate case by more than $600,000. Furthermore, as demonstrated in Schedule BRO-2, that relationship also holds for the Residential Heating class which has total distribution revenue for the Rate Year in this docket of $82,164,785 and a Target Revenue from Docket No. 3401 of $81,617,893. Thus, despite declining use per customer for the Residential Heating class, total

[2] See the attachment to National Grid's response to Data Request TEC-RI 1-2.

Residential Heating class revenue for the Rate Year is about $450,000 above the Docket No. 3401 Target Revenue for that class.

Q. HOW HAS THE COMPANY ACHIEVED INCREASED TOTAL REVENUE, PARTICULARLY FROM THE RESIDENTIAL HEATING CLASS, WHEN IT CLAIMS SIGNIFICANT REDUCTIONS IN RESIDENTIAL USE PER CUSTOMER?

A. The data regarding numbers of customers by class, included in Schedule BRO-2, indicates that the Residential Heating Class has added over 15,900 customers above the level assumed when revenue for that class was set in Docket No. 3401. That represents an 8.8% increase in the total number of Residential Heating customers.

Q. DOES THE COMPANY REQUIRE AT LEAST PROPORTIONALLY GREATER INCREASES IN REVENUE AS ITS NUMBERS OF CUSTOMERS INCREASE?

A. No. As witness Mongan explains, a significant component of the Company's gas marketing efforts is targeted at potential customers located along existing mains who can be connected to the system at no incremental cost for main extensions. Given that investment in distribution mains represents the largest component of the Company's rate base and maintenance of mains represents the Company's largest single category of NG's operating expense, the addition of customers with little or no need for additional mains greatly increases the likelihood that revenue gained

through the addition of new customers will more than offset cost increases resulting from such customer additions.

Q. IS REVENUE DECOUPLING NECESSARY TO ENSURE THE PURSUIT OF IMPROVED ENERGY EFFICIENCY BY NATURAL GAS USERS IN RHODE ISLAND?

A. No. Decisions to implement energy efficiency/conservation measures are primarily customer decisions, not utility decisions.[3] Although the Company may assist customers in identifying opportunities to improve energy efficiency in their residences, offices, or other facilities, there are other non-regulated entities in the market place who are also working actively to encourage customer investment in energy efficiency programs and equipment. The Commission must remember that the encouragement of energy efficiency is **NOT** a monopoly service. Moreover, there is substantial evidence that non-regulated entities are striving to expand their market presence. Ultimately, decisions to engage in energy efficiency/conservation investment must remain the responsibility of individual customers, and their decisions will be driven more by changes in their costs of gas than by changes in utility distribution rates.

[3] A possible exception may be found in programs that provide assistance to low income customers to weatherize and/or improve the energy efficiency of their homes. In those instances, the Company already has incentives to support such programs, since reductions in gas use by low income customers can reduce the levels of future uncollectible accounts write-offs.

Q. WHAT WEIGHT SHOULD THE COMMISSION GIVE TO REVENUE DECOUPLING CONSIDERATIONS IN THIS PROCEEDING?

A. The Company's support of energy efficiency programs and the impacts of energy efficiency programs on the Company's finances are clearly matters that this Commission should consider in the context of this proceeding. However, they are just part of a much broader range of ratemaking and regulatory policy issues that the Commission will need to address in this proceeding, and they are **not** of such paramount importance that revenue decoupling should be the *tail that wags the regulatory dog*. With rapidly rising energy costs placing an increasing strain on the budgets of Rhode Island consumers, considerations regarding gradualism and continuity in ratemaking policy must also be given substantial weight.

Q. HOW IS NATIONAL GRID'S PROPOSED REVENUE-PER-CUSTOMER (RPC) DECOUPLING MECHANISM STRUCTURED?

A. Under the Company's proposed RPC mechanism, annual rate adjustments would be computed to reconcile actual revenue by class with an established revenue target for each class. However, the revenue target for each class would be set on the basis of average distribution revenue per customer, not on the total revenue requirement for the class. This is particularly attractive to the Company because it

(1) enhances National Grid's likelihood of achieving the total revenue requirement established for the Company in this proceeding and (2) provides the Company opportunities for growth in allowed distribution revenue between rate cases if the number of customers served continues to grow. Thus, National Grid's interest in gaining approval of its proposed Gas Marketing Program, which would accelerate additions to its customer base, becomes more transparent. When rate adjustments are necessary, those adjustments will be applied on a uniform dollars-per-therm basis for all usage within a class.

Q. IS THE COMPANY'S PROPOSAL TO APPLY RATE ADJUSTMENTS ON A UNIFORM DOLLARS PER THERM BASIS REASONABLE?

A. No. The Commission should question the rationales underlying that aspect of NG's RDM proposal. As noted earlier, revenue decoupling is intended to reduce the sensitivity of the Company's revenue to variations in gas use. However, this mechanism can be expected to have the opposite effect. As more reductions in use are experienced, the magnitude NG's rate adjustments can also be expected to rise. That, in turn, increases rather than decreases, the portion of the Company's overall revenue that is sensitive to gas use.

Further, one of the rationales that NG offers in support of the RDM is that it would reduce the frequency of rate cases. But, given the Company's cost structure, which includes substantial customer-related and demand-related costs, it is not

reasonable to assume that revenue adjustments, computed under the RDM and recovered on a dollars-per-therm basis, will track changes in the Company's costs. As a result, this Commission can observe growing deviations between the distribution of cost responsibilities and revenue responsibilities among customers within each class that could erode the equity of charges billed to individual customers. Moreover, such problems are likely to grow as the time periods between rate cases expand. Thus, long periods between rate cases could lead to substantial intra-class rate equity problems.

Q. ARE THE COMPANY'S REVENUE DECOUPLING PROPOSALS IN THIS PROCEEDING COMPLEMENTARY OR REDUNDANT?

A. They are clearly redundant. If customer and demand charges are increased relative to the levels of the associated distribution charges, then the impacts of changes in usage per customer on the Company become smaller and the role of an RPC mechanism in ensuring the Company's recovery of target levels of distribution revenue by rate class is diminished. On the other hand, if an RPC mechanism is implemented, the manner in which the revenue requirement for a class is spread among the charges within each rate schedule becomes much less important.

I do not support implementation of the Company's proposed RPC mechanism. I also do not support the magnitude of the customer and demand charge increases that National Grid proposes in this proceeding. However, if this

Commission decides to approve either one of these two components of NG's revenue decoupling proposals, such a decision would substantially negate the appropriateness of implementing the other.

Q. IS THE COMPANY'S PROPOSED EXEMPTION OF NEW LARGE AND EXTRA LARGE C&I CUSTOMERS FROM RPC RATE ADJUSTMENTS APPROPRIATE?

A. No. I find that element of the Company's revenue decoupling proposals unwarranted and unjustified. The rationales that NG offers for special treatment of new customers are not compelling, and they potentially discriminate against existing customers in those classes who may be faced with considerations regarding substantial changes in their operations or moving their operations to another state.

More importantly I question the appropriateness of the application of the Company's proposed RPC mechanism to any class which has (1) a relatively small number of customers and (2) significant variation in levels of gas use among the customers in the class. Where the actions of either one customer or a comparatively small number of customers within a rate class can have a noticeable impact on the actual average use per customer for a rate class, applications of the proposed RPC mechanism are clearly inappropriate.

Q. DOES THE COMPANY PLACE ANY LIMIT ON THE MAGNITUDE OF ADJUSTMENTS THAT CAN BE BILLED TO CUSTOMERS THROUGH ITS RPC FACTOR?

A. No. While I do not support adoption of the Company's proposed RPC mechanism, if the Commission does consider adoption of that proposal, limits on the magnitude of rate adjustments should be considered. A reasonable limit would be that no annual adjustment would be allowed to exceed five percent (5%) of the target distribution revenue per customer for a rate class. Under this rate adjustment limitation, any portion of a computed revenue adjustment for a class which exceeds the equivalent of 5% of the class distribution revenue requirement as determined by the Commission in the Company's most recent base rate proceeding would be deferred for recovery through the next computed RPC adjustment for the applicable rate class.

Q. DO YOU HAVE ANY FURTHER CONCERNS REGARDING THE NATIONAL GRID'S RPC-BASED REVENUE DECOUPLING PROPOSAL?

A. Yes. I have two.

First, the Company's proposed RDM suggests a false sense of precision in the determination of rate adjustments. The current Weather Normalization Adjustment ("WNA") recognizes imprecision in the estimation of weather normalized throughput and revenue levels through the application of a "dead band" for which no adjustments are made. But, NG's proposed RDM computes very specific annual rate adjustment amounts with no allowance for imprecision in the estimation of weather normalized volumes by rate classification. Yet, most analysts who

participate in the computation of weather normalized sales and throughput estimates for gas utilities are quite aware of the limits of the precision that can be associated with the estimation of weather-normal gas service volumes.

Second, in the past, ratemaking issues have focused primarily on the Company's ability to recover its overall revenue requirement without concern for how that target might ultimately be achieved. However, the Company's proposed revenue decoupling mechanism in this proceeding places revenue per customer targets above total revenue considerations. From the Division's perspective, the Company has no inherent right to a fixed amount of average revenue per customer. Rather, any growth in total revenue for a class, based on growth in the number of customers included in the class, should be viewed as a direct offset to revenue that may have been lost due to reductions in gas use per customer. The Commission's focus should be on whether the Company has a reasonable opportunity to earn a fair rate of return based on the costs that the Commission has reviewed and accepted as appropriate. It is not necessary or appropriate for the Commission to speculate as to the manner in which the Company's costs might vary with changes in the numbers of customers served or the numbers of new customers added to the system.

B. National Grid's Proposed Gas Marketing Program

Q. WHAT IS THE OBJECTIVE OF THE GAS MARKETING PROGRAM ("GMP") THAT NATIONAL GRID PROPOSES IN THIS PROCEEDING?

A. According to the testimony of NG witness Mongan: "*The basic objective of the Company's Gas-Marketing Program is to encourage cost-effective, increased system utilization through conversions of new and existing low use customers to gas service.*" He also suggests that: "*The fundamental design and intent of the Gas Marketing Program is to educate consumers about their choices and to facilitate the initiation of gas service where the customer selects natural gas as a fuel source.*"

Q. IS THE PROPOSED GMP NECESSARY TO ENCOURAGE INCREASED USE OF NATURAL GAS AT THIS TIME?

A. No. With the differential between the cost of heating oil and the cost of natural gas at an all time high, the economic attractiveness of natural gas service has never been greater. Schedule BRO-3 provides an illustration of the growth in the differential between natural gas and heating oil prices in recent years with the prices of both fuels presented in terms of dollars per MMBtu (million Btus). If customers are not presently aware of the advantages of natural gas service, they have substantial incentive to learn more about their natural gas service alternatives.

Payback is a commonly used means of assessing the economics of investments in energy saving equipment, and as noted in the Company's response to Data Request DIV 8-7(b), "*payback is largely a function of energy cost.*" Thus, with energy costs strongly favoring natural gas, the advantage of natural gas vs. heating oil should not require a heavy marketing effort.

Q. IS THE PROPOSED GAS MARKETING PROGRAM WELL-CONCEIVED AND WELL-STRUCTURED?

A. No. The Commission should be alarmed by what the Company does **not** know about the market it intends to spend considerable resources to pursue. For example, witness Mongan asserts in his Direct Testimony that "*customers often are relatively uninformed about the safety and affordability of natural gas service.*"[4] However, when the Division asked for evidence to support that assertion, the Company responded by providing a nearly five-year-old study entitled, "Oil and Natural Gas Advertising Awareness." The document was dated October 2003 and was prepared by Keyspan, not National Grid. Although the same response indicates that "*National Grid regularly conducts, or contracts for, surveys of potential gas customers and new customers to evaluate their attitudes toward the Company's service offerings as well as their satisfaction with those services,*"[5] National Grid had

4 Direct Testimony of NG witness Mongan at page 7.

5 National Grid Response to Data Request DIV 8-12.

no such study of its own to support witness Mongan's assertions. Considering that a significant portion of the proposed GMP is purportedly aimed at customer education, NG's lack of more current information to support for witness Mongan's assertion make it difficult to embrace the program.

The Company's responses to Division data requests relating to the proposed Gas Marketing Program also indicate that:

- The Company does not collect or maintain data on the costs charged by independent contractors to complete heating replacements or conversions at the request of residential or small commercial customers.[6]

- The Company does not track or does not have access to reliable data regarding the existing heating arrangements of low-use natural gas customers.[7]

- The Company is not aware of any specific appliance saturation study available to the Company for its Rhode Island gas service territory.[8]

6 National Grid Response to Data Request DIV 8-7.

7 National Grid Response to Data Request DIV 8-8(b).

8 National Grid Response to Data Request DIV 8-10.

- The Company has not tracked or maintained data regarding the hot water or heating equipment systems types for any of the Company's non-heating gas customers.[9]

- The Company does not evaluate the specific economics of any particular heating source versus another heating source from a customer perspective.[10]

- The Company does not collect or posses economic data or customer information that could be used to assess a customer's reasonably economic potential to expand their gas use.[11]

Q. SHOULD THE SIZE OF THE MARKET THAT NATIONAL GRID PURPORTS TO TARGET FOR CONVERSIONS BE QUESTIONED?

A. Yes. The GMP is premised in part on the notion that it can induce current low-use (non-heating) gas customers to convert to gas heating. However, included among the accounts that NG witness Mongan characterizes as candidates for potential conversion to gas heating are existing gas non-heating accounts in multi-dwelling

9 National Grid Response to Data Request DIV 8-8(d).

10 National Grid Response to Data Request DIV 8-8(b).

11 National Grid Response to Data Request DIV 8-20.b.

unit structures. Yet, witness Mongan states in response to a Division data request that "*The Company does not track or does not have access to reliable data regarding the existing heating arrangements of low use natural gas customers.*"[12] When asked for the data upon which the Company relies to assess the number of existing residential non-heating gas customers who are presently provided space heat through central heating equipment in a multi-dwelling unit building, National Grid responded, "*The Company's analysis is based on an assessment of the number of residential and small commercial and industrial customers who are low-use gas customers,* ***without regard for the type of heating system*** *currently in place.*"[13]

Having worked extensively with owners and managers of multi-dwelling unit buildings over the last 25+ years, I must question the soundness of that assumption. Non-heating gas customers in multi-dwelling unit residential buildings are often the product of a building design which incorporates a central heating system. Such customers are, and most likely will remain, non-heating gas service customers because their buildings were designed to be centrally heated, and as a result, they generally only require gas service for water heating and/or cooking. In fact, the central heating system in the building may already be fueled by natural gas. It may also be fueled by heating oil or in some instances such central heating systems may

12 National Grid Response to Data Request DIV 8-8.b.

13 National Grid Response to Data Request DIV 8-8(d). (Emphasis Added.)

be dual fueled (i.e., be equipped to burn either natural gas or heating oil). However, regardless of the existing fuel used to heat such buildings, the design of the existing structure generally dictates that a customer with a non-heating gas service account for an apartment within such a multi-dwelling unit building typically has little influence or control over decisions regarding how the building will be heated. Furthermore, constraints imposed by the design of the existing building structure will often make conversion of individual units to gas heating cost prohibitive.

The same can be said of many small commercial customers that are located in buildings that are centrally heated. Many customers who presently use natural gas only for non-heating purposes do so for reasons other than just than simply economics. Building-design constraints and their tenant status within the building in which their residences or businesses are located are likely to have direct bearing on such matters.

Q. DOES THE COMPANY'S GAS MARKETING EXPERIENCE IN MASSACHUSETTS AND NEW HAMPSHIRE PROVIDE USEFUL INSIGHT REGARDING THE RESULTS THAT CAN BE EXPECTED FROM NATIONAL GRID'S PROPOSED GAS MARKETING PROGRAM IN THIS PROCEEDING?

A. No, it does not. In response to Data Request DIV 8-9, National Grid provides the numbers of heating conversions to natural gas for its Massachusetts and New Hampshire service areas for three historic periods. The data provided show that for

the years 1996-1999 conversions in those service areas averaged 4,298 per year. During the 2000-2003 period, under a program that provided free equipment, the average annual number of conversions jumped to 14,078 per year. For the years 2004-2007, equipment was provided on a discounted basis and the number of conversions declined to an average of 10,718 per year. Unfortunately, National Grid offers little context for these observations. Importantly, no attempt is made to discuss what was happing in energy markets during each of the referenced time periods or how the relative costs of natural gas and heating oil changed during those periods.

Q. DOES NATIONAL GRID REQUIRE INCREASE FUNDING FOR ITS MARKETING PROGRAMS TO COUNTER THE COORDINATED MARKETING EFFORTS OF HEATING OIL DEALERS?

A. No. The economic advantages of natural gas have never been stronger, and heating oil dealers are simply trying to stay afloat in what they find to be a difficult, if not shrinking, heating oil market. Moreover, the heating oil dealers' efforts to fund a roughly $148,000 customer education program[14] must be contrasted with the $1.377 million that National Grid proposes to spend annually for its Gas Marketing Program. I also note that of the $1.377 million in annual expenditures that National

[14] National Grid Response to Data Request DIV 8-11, Attachment DIV 8-11(f).

Grid has budgeted for its Gas Marketing Program, $528,000 is specifically earmarked for residential and commercial "outreach programs for Rhode Island."

As one of the documents provided as part of the Company's response to Data Request DIV 8-11 suggests, "There's a Bully in Town," and from the perspective of heating oil dealers, that bully is National Grid. In the context of the foregoing and the substantial economic advantages that natural gas currently enjoys, the notion that National Grid needs more funding of its marketing efforts to compete with heating oil dealers is, at best, highly questionable.

Q. ARE NATIONAL GRID'S PROPOSED COSTS FOR ITS GAS MARKETING PROGRAM REASONABLE?

A. No. As I explain above, the program is not well-conceived and is not necessary given the substantial economic advantage that natural gas presently enjoys relative to heating oil. In addition, the Company's proposed Gas Marketing Program costs far exceed the amounts that RI oil dealers seek to spend. Thus, I recommend that National Grid be allowed to include in rates only an amount equal to the planned spending of the RI oil dealers (i.e., **$148,000**) and that the remainder of the Company's $1.377 million of Gas Marketing Program costs should be rejected. This provides the Company a reasonable opportunity to respond to the oil dealers, while

recognizing that, at least in the current market, it is the oil dealers who are fighting the uphill battle to retain customers.[15]

Q. DO YOU HAVE ANY FURTHER CONCERNS REGARDING THE COMPANY'S PROPOSED GAS MARKETING PROGRAM?

A. Yes, I have several.

First, the Company's data request responses suggest that expanded use from existing low-use customers generally can be accommodated without additions to existing distribution system facilities **regardless of the customers load factor**.[16] That may be true in many instances from a gas delivery system perspective, but it does not address impacts on the Company's gas supply requirements for Residential and Small C&I customers and for other C&I customers who choose to make use of Company-provided gas sales service.

Second, National Grid's plans to arrange for the purchase and resale of natural gas heating equipment at below market prices may have anti-competitive implications.

Third, the Company indicates that intends to implement a "Trade Ally" program that it refers to as its "Value Plus Installer" (VPI) program. Through that

[15] Given the steady growth in the relative economic advantage of natural gas versus heating oil in recent years and the large current differential between natural gas and heating oil prices, it appears unlikely that the relationship between natural gas and heating oil prices will reverse itself in the foreseeable future. To a large extent oil prices and natural gas prices, which long had a tendency toward parity in terms of cost per million Btus, have now substantially decoupled with the pricing advantage shifting strongly to natural gas.

[16] National Grid's Responses to Data Requests DIV 8-14, and DIV 8-8(b)i.

program, the Company would release leads to qualified contractors who register for participation in the program.[17,18] Without substantial oversight, that program may also have anti-competitive implications, particularly given that an affiliate of the Company could be among the participating contractors.[19] Further, the label "Value Plus Installers" tends to suggest that such installers will provide their services at rates that represent a value compared to what the customer could obtain from other sources. But, as National Grid states in the referenced data request response: "*The Company does not collect or maintain data on the costs charged by independent contractors to complete heating replacements or conversions at the request of residential or small commercial customers.*"[20] In that context, there is no justifiable foundation for NG's use of the "Value Plus Installer" label for this program.

Fourth, witness Mongan's Direct Testimony indicates that National Grid's Gas Marketing Plan includes the offering of a "guarantee of satisfaction." That guarantee provides that, if after two years from the date of installation of natural gas heating equipment, the customer is not satisfied with natural gas and wishes to switch to another fuel, National Grid will refund the customer's equipment and

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17 National Grid Response to Data Request DIV 8-23.a.

18 The suggestion that National Grid would control the release of leads and determine which contractors and/or the number of contractors would have the opportunity to offer bids for the installation of new equipment, in and of itself, suggests a potential constraint of trade in an otherwise open and competitive market.

19 National Grid Response to Data Request DIV 8-23.c.

20 National Grid Response to Data Request DIV 8-7(a).

installation costs.[21] However, in response to a Division data request, the Company clarifies that "*the guarantee will be provided by National Grid's distribution utility operation.*"[22] Guaranteeing customer satisfaction with a heating system is not a typical utility function. Thus, the Commission must question whether such guarantees constitute a reasonable and appropriate utility activity, and whether the Commission's implicit or explicit sanctioning of the proposed guarantees would result in National Grid's Rhode Island gas customer assuming the risk associated with future customer claims against such guarantees.

C. Development of Rate Year Billing Determinants

Q. WHAT ARE THE KEY ELEMENTS OF THE COMPANY'S DEVELOPMENT OF RATE YEAR BILLING DETERMINANTS FOR THIS PROCEEDING?

A. As described in the Direct Testimony of NG witness Czekanski, the Company's development of billing determinants for this proceeding has three key components. First, an effort is made to estimate future numbers of customers and weather-normalized throughput for each rate class. Second, the Company proposes in this proceeding to make adjustments to those estimates for the influences of its proposed Gas Marketing Program.

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21 Direct Testimony of NG witness Mongan at page 20.

22 National Grid Response to Data Request DIV 8-25.

Q. DO YOU FIND THE COMPANY'S ESTIMATION OF RATE YEAR BILLING DETERMINANTS REASONABLE?

A. In general I do. However, I note two specific concerns regarding the resulting estimates.

First, the Company's efforts to forecast rate year service requirements only considered the influence of changes in the relative costs of natural gas and heating oil to the extent they were embedded in the historic data. Given rapid increases in the cost differentials between natural gas and heating oil over the last few years, the relationships embedded in the historic data may substantially understate current expectations regarding the influence of the growing economic attractiveness of natural gas service on the number of conversions to gas service that can be expected during the rate year. As a result, the Company has understated the rate year volumes that can be anticipated.

Second, recent migration of customers form non-firm to firm service rate schedules represents a particular challenge. Despite significant numbers of non-firm customers that have transferred to firm service since the end of the historic test year, the Company's margins from non-firm sales have continued to remain strong reaching $6.025 million for the 12 months ended March 31, 2008.[23] That compares with total margins for the 12 months ended September 2007 of $5.285 million.

[23] National Grid Response to Data Request TEC-RI 1-18.

However, with margins charged by National Grid for non-firm service often above those for firm service, particularly for customers having No. 2 fuel oil as their alternative fuel, the incentives for further customer migration to firm service appear to be growing. On the other hand, if the Commission should adopt a fixed rate or lower capped rate for non-firm service customers in this proceeding, much of the recent migration could be reversed. In either case, the estimation of firm throughput volumes for Large and Extra Large C&I firm service rate classifications is potentially subject to large fluctuations.

Q. GIVEN YOUR OPPOSITION TO THE GAS MARKETING PROGRAM, SHOULD THE COMPANY'S GROWTH ADJUSTMENTS ASSOCIATED WITH THAT PROGRAM BE REMOVED FROM ITS FORECASTED SALES AND REVENUE?

A. No. The Division's opposition to the proposed Gas Marketing Program is premised on the current price differentials between home heating oil and natural gas that add considerably to the attractiveness of natural gas service even in the absence of the proposed Gas Marketing Program. Thus, the Division's position is that increased conversions from heating oil to natural gas are likely to occur regardless of whether the proposed Gas Marketing Program is implemented. In that context, if the Commission rejects the majority of the Company's GMP costs, as I recommend

above, it is not necessary or appropriate to remove the adjustments to growth that have been built into NG's sales and revenue forecasts.

C. Class Cost of Service Study

Q. HAVE YOU REVIEWED THE DETAIL OF THE CLASS COST OF SERVICE STUDY THAT NG WITNESS HEINTZ PRESENTS IN THIS PROCEEDING AS ATTACHMENT NG-DAH-2 TO HIS DIRECT TESTIMONY?

A. Yes, I have. I have also reviewed the testimony which explains the development of that study, as well as witness Heintz's responses to a substantial number of data requests that the Division propounded to the Company regarding the details of that study.

Q. ARE THE DATA AND METHODS THAT WITNESS HEINTZ USED IN THE DEVELOPMENT OF THE COMPANY'S CLASS COST OF SERVICE STUDY REASONABLE AND APPROPRIATE?

A. In most cases they are. However, I have some concerns regarding the Company's efforts to allocate among customer classes its costs for investment in Services (Account 380). Claiming a lack of available data regarding the Company's historic (or booked) investment in service lines by customer class, witness Heintz has chosen to use estimates of replacement costs to determine class responsibilities for

the Company's historic service investment. But, the estimates of replacement costs upon which the Company has relied are not well supported and not sufficiently differentiated by class to provide reliable assessments of class responsibilities for those costs.

Q. PLEASE EXPLAIN FURTHER THE BASIS FOR YOUR CONCERNS REGARDING THE ALLOCATION OF SERVICE INVESTMENT COSTS.

A. My concerns regarding the Company's approach to the allocation of service investment costs are fourfold.

First, the Company has made no assessment of the extent to which the parameters that underlie its estimates of service installation replacement costs are reflective of its actual experience on a class-by-class basis. For example, services installed for dwellings and small businesses in more older urban areas tend to be shorter in length due to lesser set backs from the street than those in more recently constructed suburban areas. Also, I note that in a prior Valley Gas Company rate case, that company assessed that there were noticeable differences in the average length of service lines among rate classes. No such differences are reflected in the Company's service investment allocations in this proceeding.

Second, the appropriateness of using a single replacement cost estimate for all non-residential classes of service has not been well supported, nor does it appear reasonable or appropriate. Whether the Commercial number reflects (1) a

representative average for all **new** service line installations for C&I customers or (2) an average that is weighted more heavily toward the requirements of smaller commercial customers, it most likely understates the service investment cost responsibilities of customers in the Large and Extra Large C&I classes.

Third, the Company has made no assessment of the numbers of customers in each rate class that utilize shared service lines (i.e., service lines that serve two or more customers).

Fourth, I have been informed by the Company that the estimates of replacement costs used in the allocation of National Grid's service line investment for this proceeding were developed in part based on data derived from its Massachusetts and New Hampshire operations. However, to date no documentation of the information relied upon from other jurisdictions has been provided.

Q. WHAT ARE THE IMPLICATIONS OF THE SHORTCOMINGS YOU NOTE IN THE COMPANY'S ALLOCATION OF SERVICE INVESTMENT COSTS?

A. My assessment is that the Company's allocations of service line investment costs most likely leads to an understatement of cost responsibilities for Large and Extra Large C&I customers and an overstatement of cost responsibilities for Residential and Small Commercial classes. Furthermore, since the service investment costs are considered customer-related costs, National Grid's calculated customer-related costs for residential and small commercial customers are most likely overstated.

Q. WOULD IT BE REASONABLE FOR THE COMMISSION TO EXPECT THAT A MORE APPROPRIATE BASIS FOR THE ALLOCATION OF SERVICE INVESTMENT COSTS COULD AND SHOULD BE DEVELOPED?

A. Yes. Such a result could be accomplished at limited cost through applications of statistical sampling techniques and efforts to identify actual historic service investment costs (or closer approximations thereof) for statistically drawn samples of customers in each rate class.

Q. DO OTHER ELEMENTS OF THE COMPANY'S CUSTOMER-RELATED COST ALLOCATIONS REFLECT SIMILAR SHORTCOMINGS IN THE METHODS AND DATA USED TO ALLOCATE COST RESPONSIBILITIES AMONG RATE CLASSES?

A. Yes. I find insufficient development of the supporting information used in the Company's allocations of meter reading and billing costs. For example, the Company's meter reading expense has been allocated to all classes on an equal cost per customer basis. But transportation service customers often require more frequent meter reads to support its administration of nomination and balancing provisions. Likewise, the enforcement of interruptions for non-firm customers may require at least daily meter reads for those customers. Although I recognize that non-firm customers and large transportation service customers generally have

meters that are read remotely through telemetering equipment, I find no recognition in the Company's CCOS of any added costs for personnel, systems and software that are required to process, store, evaluate, and act upon the daily meter reading information used in the administration and billing of the tariff provisions set forth as part of such rate offerings. As National Grid notes in response to a Division data request:

> "*The Company does not track, record or otherwise separate the costs of administration and billing of individual services and therefore has not developed any estimate of the costs of administration of the* [low income] *rate discount.*"[24]

That practice may be administratively convenient for the Company's day-to-day operations, but a well-developed analysis of class costs of service must pierce the veil of such practices to identify cost causative factors that influence the magnitude of the costs incurred as well as proper assessment of class responsibilities for those costs.

Q. HAVE YOU PREPARED AN ALTERNATIVE TO THE COMPANY'S COST OF SERVICE STUDY THAT ADDRESS THE CONCERNS REGARDING THE COMPANY'S CCOS THAT YOU HAVE DISCUSSED ABOVE?

[24] National Grid Response to Data Request DIV 6-11.

A. No, I have not. I believe it would be helpful to the Commission to observe the effects of such changes on class cost responsibilities, particularly for service investments in Account 380. But, despite efforts through both formal and informal data requests to obtain better information to support more appropriate cost allocation alternatives, such information has not been forthcoming. As a result, the best I can offer is (1) a recommendation that the Commission not attempt to place undue reliance on the precision of the Company's cost allocation study, and (2) guidance regarding the direction of adjustments to class cost responsibilities that I would expect to observe if better data and more appropriate allocation methods were employed. As stated previously, that guidance is that the costs National Grid has allocated to Large and Extra Large C&I customers are most likely to be understated, while the cost responsibilities of Residential and Small C&I customer classifications are most likely overstated.

Q. DO YOU HAVE ANY OTHER CONCLUDING COMMENTS REGARDING THE COMPANY'S CLASS COST OF SERVICE STUDY?

A. Yes. The precision and reliability of class cost allocation results can only be as good as the data that is used in the development of the study. The identification of cost allocation methods to be used and the mechanical application of those methods only reflect a portion of a cost analyst's responsibilities. Investigation of the relationships that lie behind the incurrence of costs and the development of cost

allocation factors that are reflective of actual cost relationships are just as important as the choice of allocation methodology to be employed. This is a particular concern in the allocation of customer-related elements of the Company's costs of service. Only rarely are customer-related costs actually incurred on a uniform (i.e., equal dollars per customer) basis for all customer classes, or even for all non-residential classes. Efforts to streamline the preparation of class cost of service studies, however, often lead to the use of simplifying assumptions that improperly treat broad groupings of customers as being homogeneous in terms of their responsibilities for customer-related cost elements. As a result, differences in customer-related cost responsibilities among rate classes can be blurred. Moreover, such blurring of class cost responsibilities is typically reflected in the customer cost analyses that utilities such as National Grid rely upon in the establishment of customer charges by rate class.

C. Rate Structure

Q. HOW IS YOUR DISCUSSION OF RATE STRUCTURE ISSUES ORGANIZED?

A. My assessment of rate structure issues associated with National Grid's proposals in this proceeding is presented in four major sections. Section 1 addresses the Company's proposals for distributing its proposed revenue increase among rate classes. Section 2 assesses the merits of the Company's proposed changes in

rates for Firm service classes. Section 3 examines Non-Firm rate issues, and Section 4 reviews National Grid's other tariff change proposals.

1. Distribution of the Revenue Increases

Q. HOW DOES NATIONAL GRID PROPOSE TO DISTRIBUTE ITS REQUESTED REVENUE INCREASE AMONG RATE CLASSES?

A. The Company's proposed revenue increases by rate class are discussed in the Direct Testimony of NG witness Heintz at page 19 and supporting computations are set forth in Attachment NG-DAH-3. In general, it appears that the Company proposes to apply greater than average rate increases to classes of customers found to have below average rates of return. It also seeks to apply below average increases to classes having above average rates of return. For the Residential Heating class, which is found in the Company's CCOS to have a slightly above average rate of return, National Grid proposes a system average rate increase. It should also be noted Attachment NG-DAH-3 shows that, after the initial distribution of the Company's requested revenue increase is determined, revenue requirements that would be forgone as the result of the Company's proposed Low Income Discount are distributed among other rate classes.

Q. WHAT ARE THE PERCENTAGE INCREASES IN RATE CLASS REVENUE REQUIREMENTS THAT RESULT AFTER THE BURDEN OF THE COMPANY'S PROPOSED LOW INCOME DISCOUNT IS REDISTRIBUTED?

A. Schedule BRO-4 shows the effective percentage increase that each class would experience after the Low Income Discount is redistributed.

Q. IS THE COMPANY'S PROPOSED REVENUE INCREASE DISTRIBUTION REASONABLE AND APPROPRIATE?

A. The Company's basic concept (i.e., that classes having above average rates of return bear somewhat less than the average increase while classes with below average rates of return receive higher than average rate increases) is generally reasonable. But, the manner in which the Company determines the specific levels of the increases proposed for individual rate classes is not well explained and raises some questions. I note in particular that the Small C&I class, which is found in the Company's study to have a rate of return of 3.01% or about 62% of the system average rate of return, would receive an increase of 19.94%. That equates to 125% of the system average increase. But, the Extra Large Low Load Factor and Extra Large High Load Factor classes for which the Company computed **negative** rate of return would receive increases of 20.74%, or the equivalent of 130% of the Company's overall average increase. The differences in the proposed rate

increases for these Small C&I and Extra Large C&I rate classes do not appear to be reflective of the observable differences in their rates of return.

I also note that NG's re-distribution of revenue requirements associated with its Low Income Discount Rate proposal impacts the relative levels of the increases proposed for each major rate classification. Although not explicitly stated in the Company's testimony, it appears that the referenced redistribution of revenue requirements was accomplished on a uniform cost-per-therm basis for all non-discounted firm rates except NGV and Gas Lamps.

As shown in Schedule BRO-4, the Low Income Discount adjustments to revenue requirements have a comparatively small impact for some classes, while the impact of those adjustments on other classes is more noticeable. The largest upward adjustments are applied to the Extra Large HLF and Extra Large LLF classes. The imposition of a greater portion of that revenue adjustment on the Company's Extra Large C&I classes may be justified on the basis of the comparatively low rates of return at present rates for those classes that are found in the Company's CCOS.

Schedule BRO-4, page 2 of 2, compares indexed rates of return by class before and after the Company's proposed rate increase with the indexed revenue increase percentages by rate class. That comparison suggests that the indexed percentage increases that result from the Company's proposal generally correspond with the observable variations in class rates of return at present rates. Indexed rates of return improve for all rate classes.

Q. SHOULD THE COMMISSION MODIFY NATIONAL GRID'S RECOMMENDED DISTRIBUTION AMONG RATE CLASSES OF ITS REQUESTED REVENUE INCREASE?

A. If the Company is granted its full revenue increase request, I would recommend only minor adjustments to the Company's proposed revenue increases by rate class aimed at strengthening the relationship between rate increase percentages and class rates of return at present rates. Supporting detail for this recommended distribution of the Company's requested overall revenue increase is presented in Schedule BRO-5.

Q. IF THE COMPANY IS GRANTED LESS THAN ITS FULL REQUESTED REVENUE INCREASE, HOW SHOULD ANY REDUCTION IN THE OVERALL INCREASE BE DISTRIBUTED AMONG RATE CLASSES?

A. Based on the $8.527 million increase that Division witness Effron recommends, I would encourage the Commission to adopt a revenue increase distribution comparable to that presented in Schedule BRO-6.

2. Firm Service Rate Design

Q. AS PART OF ITS FIRM RATE DESIGN PROPOSALS IN THIS PROCEEDING, NATIONAL GRID SEEKS TO INCREASE THE LEVELS OF THE CHARGES IT BILLS TO FIRM CUSTOMERS. DOES IT ALSO PROPOSE CHANGES IN THE STRUCTURE OF ITS CHARGES FOR FIRM SERVICE CUSTOMERS?

A. No. National Grid's proposals maintain its present rate design parameters and block structures where applicable.

Q. HOW DID THE COMPANY DETERMINE THE LEVELS OF ITS PROPOSED CUSTOMER CHARGES, DISTRIBUTION CHARGES AND DEMAND CHARGES (WHERE APPLICABLE) BY RATE CLASS?

A. As described in the Direct Testimony of NG witness Heintz, the Company used the results of its class cost of service study as guidance in the setting of customer and demand charges. After those charges were established, distribution charges were calculated which would recover the remainder of the revenue requirement for each rate class.

Q. ARE THE COMPANY'S PROPOSED RATE DESIGN CHANGES FOR FIRM SERVICE RATE CLASSIFICATIONS REASONABLE AND APPROPRIATE?

A. No. As noted earlier in this testimony, National Grid's proposed percentage increases in demand and customer charges are large relative to its overall revenue increase percentage. The Company seeks an overall increase in distribution revenue of 15.95%, but its proposed increases in customer and demand charges for most classes range from 46.7% to over 114%, or more than roughly three to seven times the overall average increase that National Grid requests. I would characterize the relative magnitudes of the Company's proposed customer and demand charge increases as unusually large, and if approved, they would mark a significant shift in the Commission's ratemaking policies. They do not appear to be constrained in any manner by consideration of the principles of gradualism and rate continuity, and they appear to place the Company's revenue decoupling objectives well above other ratemaking considerations.

Furthermore, using the Company's CCOS detail, I have computed estimates of Basic Customer Costs for each of the Company's firm service rate classes. Those computations focus on those costs that are clearly related to the essential elements of the Company's provision of service (i.e., costs associated with the customer's meter, service, and regulator and expenses incurred for meter reading and billing). See Schedule BRO-7. The results of that analysis suggests that National Grid's costs of providing such basic customer services are less than half the level of the customer costs on a dollars per customer per month basis that NG witness Heintz computes in Attachment NG-DAH-2. Those results also indicate that the basic customer costs, particularly for Residential and Small Commercial

customers, are generally well below the customer charge levels that National Grid recommends in this proceeding. For example, the Basic Customer Cost associated with Residential Heating Service is only $11.44 per month. That equates to less than 75% of the $16.00 per month customer charge that National Grid requests in this proceeding.

Q. ARE THE LARGE, IF NOT DRAMATIC INCREASES IN CUSTOMER AND DEMAND CHARGES THAT NATIONAL GRID PROPOSES CONSISTENT WITH THE OBJECTIVE OF ENCOURAGING IMPROVEMENTS IN ENERGY USE EFFICIENCY?

A. No. Raising monthly demand and customer charges may be perceived as helping the Company's shareholders, but it also diminishes the benefits that customers can expect to derive from investments that are intended to reduce their gas usage and lower their bills.

Q. HOW SHOULD THE COMMISSION MODIFY THE COMPANY'S FIRM SERVICE RATE DESIGN PROPOSALS?

A. First, I recommend that no class should receive an increase in its monthly customer and demand charges that exceeds the greater of 33% or the class average increase. Second, the remainder of the revenue increase for each class should be spread proportionately over all usage for the class.

Q. HAVE YOU PREPARED A SET OF RATE DESIGNS THAT REFLECT YOUR RECOMMENDED APPROACH TO THE DESIGN OF FIRM SERVICE RATES FOR NATIONAL GRID?

A. Yes. Those rate design proposals are presented in Schedule BRO-8. I also present a set of rates that have been designed to recover the Division's recommended revenue increase for the Company of $8.527 million. That set of rate designs is presented in Schedule BRO-9.

3. Non-Firm Rate Design

Q. WHAT CHANGES DOES NATIONAL GRID PROPOSE IN THE STRUCTURING OF ITS RATES FOR NON-FIRM SERVICE?

A. The Company's non-firm rate design proposals have four key elements. Those elements include:

- Elimination of its non-firm sales service;
- Expansion of the time provided each month for Non-Firm Transportation Service ("NTS") customers to evaluate their service options;
- Introduction of rate caps for NTS distribution charges;
- Re-introduction of a Flexible Firm Service rate alternative.

Q. DOES THE COMPANY PROPOSE ANY OTHER CHANGES IN ITS NON-FIRM RATE OFFERINGS?

A. Yes. National Grid proposes to update the conversion factors associated with the various alternative fuels referenced in its Non-Firm Service Tariff provisions, and update the reference for the source of alternative fuel price information.

Q. HOW DOES NATIONAL GRID CURRENTLY DETERMINE ITS CHARGES FOR NON-FIRM SERVICE CUSTOMERS?

A. NG's methodology for determining charges is set forth in Section 6, Schedule A, of its tariff. That methodology provides for a form of value-of-service pricing under which charges are computed monthly for each customer based on the pricing of the lowest cost alternate fuel that the customer is capable of using. The Company's tariff specifically recognizes four different types of alternate fuels (i.e., No. 6 Oil, No. 4 Oil, No. 2 Oil, and Propane) and specifies parameters to be used in determining monthly fuel prices for each alternate fuel type. In addition, different pricing parameters are specified for customers that have the potential to consume (a) more than 100,000 therms per month, (b) between 25,000 and 100,000 therms per month, and (c) less than 25,000 therms per month. Moreover, all pricing is subject to a minimum rate per therm. The minimum rate is $0.016 per therm during winter months (November 1 through March 31) and $0.010 per therm for all other months

(i.e., April 1 through October 31). Also, each non-firm transportation service customer is assessed a monthly customer charge which is differentiated for each of the above referenced categories for potential monthly gas use volumes. The currently effective customer charges are:

More than 100,000 therms per month	$715 per month
25,000 to 100,000 therms per month	$485 per month
Less than 25,000 therms per month	$275 per month

The tariff provides that each customer's distribution charge is determined monthly using the following formula:

TR = ACF – MGC

Where:

TR = the distribution rate for non-firm transportation service;
ACF = the Alternative Commodity Factor; and
MGC = the Marginal Cost of Gas.

Furthermore, ACF = P / C * D

Where:

P = the posted price for the customer's alternate fuel
C = a conversion factor (Btu's per gallon) for the customers alternate fuel
D = a discount factor (which is differentiated by alternate fuel type and potential usage

Q. IS THE COMPANY'S CURRENT METHODOLOGY FOR DETEMINING DISTRIBUTION CHARGES FOR NTS CUSTOMERS REASONABLE?

A. No. National Grid's current methodology for pricing its non-firm gas services has numerous problems that need to be addressed.

Q. WHAT ARE THE PROBLEMS ASSOCIATED WITH THE COMPANY'S CURRENT PRICING METHODOLOGY FOR NON-FIRM SERVICE?

A. My review of the Company's pricing for non-firm services has identified at least six significant problems.

First, the premises that were relied upon for the establishment of value-of-service based charges for non-firm service either no longer exist or have been substantially eroded.

Second, NG's setting of delivery service rates inappropriately and unnecessarily impedes customers' ability to enter long-term gas supply contracts and hinders the efficient operation of competitive natural gas and oil supply markets.

Third, tendency toward parity between natural gas prices and fuel oil prices over time when viewed in terms of costs per MMBtu no longer prevails, and long term expectations foresee natural gas having a substantial and continuing price advantage relative to fuel oil alternatives.

Fourth, the price of non-firm service for customers whose alternate fuel was No. 2 Oil has so risen substantially above the Company's charges for firm service that essentially all of the Company's No. 2 Oil alternate fuel Non-Firm service have now migrated to Firm service.

Fifth, the Company's monthly determination of prices for a limited number of customers appears to have departed from the provisions of the tariff creating what appears to be inappropriate and undue price discrimination among customers having the same alternate fuel type.

Sixth, the monthly determination of prices for non-firm customers places unnecessary administrative burdens on the Company.

Q. HOW HAVE THE PREMISES UPON WHICH THE COMPANY'S CURRENT VALUE-OF-SERVICE PRICING METHODOLOGY CHANGED OVER TIME?

A. Through industry restructuring, the opening of access to interstate natural gas pipelines, and an effective decoupling of market prices for natural gas and fuel oil alternatives, the premises that were relied upon to justify the use of value-of-service pricing have been substantially eliminated.

When value-of-service pricing was first established, there was no gas transportation service. All non-firm gas was provided by the utility as a non-firm gas sales service. Fuel oil prices were declining, and retail natural gas prices were being maintained at comparatively high levels by "take-or-pay charges" that interstate pipelines were billing to their customers for gas they had committed to purchase that subsequently became uneconomic as wholesale natural gas prices began to decline in the mid-1980s. As declining fuel oil prices threatened utilities with substantial losses of non-firm sales and revenue, utilities sought flexibility to

vary their non-firm service charges to compete with actual or anticipated oil price competition. However, with the flexibility to lower charges when necessary to meet oil price competition, state regulatory commissions, such as the Rhode Island Public Utilities Commission ("RIPUC" or the "Commission"), required that utilities also increase prices for non-firm service customers when their alternate fuel prices would permit.

The opening of access to interstate gas pipelines and well-head gas supplies and the unbundling of retail gas services have also introduced a new form of competition for gas supply services that did not exist when value-of-service pricing was first introduced. The resulting "gas-on-gas" competition provides non-firm service customers additional pricing options. As a result, except during period of potential interruption, alternative fuel oil prices have become less of a consideration for many customers. Most of their annual requirements on an annual basis are now provided by competitive gas suppliers without regard to the pricing of their alternative fuels since alternative fuel prices are now substantially above competitive market prices for natural gas supplies. Thus, the Company's pricing of its non-firm gas supply and non-firm gas transportation services based on comparisons to oil price alternatives is premised on a distorted view of its customers' energy pricing alternatives.

Finally, as I have explained earlier in this testimony, the gap between natural gas prices and the prices of fuel oil alternatives have grown dramatically in recent years and former expectations of a tendency toward long-term parity in natural gas

and oil prices no longer apply. This creates a situation in which the likelihood that the Company would need to lower its margins on non-firm gas services below any reasonable measure of the costs of providing service to such customers to compete with alternative fuel prices is extremely low.[25] In the absence of an expectation that the Company's non-firm service volumes will be seriously threatened by declines in prices for customers' alternate fuels, the key concern that triggered the perceived need for value-of-service pricing more than two decades ago is eliminated.

Thus, the time has come to end National Grid's use of value-of-service pricing for non-firm gas services.

Q. DOESN'T THE COMPANY STILL FACE CONSIDERABLE UNCERTAINTY REGARDING THE NON-FIRM SERVICE VOLUMES THAT IT CAN EXPECT?

A. The recent migration of significant non-firm service volumes to firm service suggests that it does face such uncertainty. However, that migration has resulted directly from the Company's value-of-service pricing against clearly non-competitive fuel oil price alternatives. If this Commission establishes reasonably predictable non-firm rates below those for customers' applicable firm service alternatives, that migration should be reversed, and the stability of the composition of non-firm service

[25] In the extremely volatile energy markets that have been experienced in recent years, it is not possible to state that oil prices would never fall below natural gas prices. However, as a long-time analyst of these markets, I would suggest that, in the unexpected event that fuel oil prices fall below natural gas prices, such a pricing relationship would be short-lived and would not have significant, on-going, negative impacts on the Company's non-firm service volumes.

requirements would be substantially improved. In that context, I encourage the Commission to direct National Grid to design rates for NTS which presume that customers who have migrated from non-firm to firm service within the last year would return to non-firm service.

Q. WOULD THE COMPANY BE HARMED FINANCIALLY IF CUSTOMERS WHO ARE PRESUMED TO SHIFT BACK TO NON-FIRM SERVICE DO NOT DO SO?

A. No. Since Firm Service margins would be higher than those for Non-Firm Service, a decision by a customer not to return to Non-Firm Service would result in NG obtaining greater margin per therm than would be anticipated in the setting of rates.

a. Elimination of Non-Firm Sales Service

Q. DO YOU SUPPORT THE COMPANY'S PROPOSAL TO ELIMINATE ITS NON-FIRM SALES SERVICE RATE SCHEDULE?

A. Yes. At this point discontinuation of the Company's non-firm gas supply service appears reasonable and appropriate. There appears to be sufficiently robust competition among suppliers of non-firm gas supply service within the Company's Rhode Island gas service territory such that the continuation of that service appears unnecessary. In addition, NG witness Czekanski explains that (1) the Non-Firm Sales Service tariff requires pricing of that service before gas costs are known and

(2) the limited timeframe for customers to evaluate their service options after pricing for a month is established creates a complicated administrative process.

b. Expansion of Time to Evaluate Service Options

Q. SHOULD THE COMMISSION ALLOW EXPANDED TIME EACH MONTH FOR NON-FIRM CUSTOMERS TO EVALUATE THEIR SERVICE ALTERNATIVES?

A. If either the current monthly pricing of NTS and/or Non-Firm Gas Sales service is continued, NG's proposal to provide non-firm customers more time to evaluate their service options may be appropriate. However, as will be explain below, the Division supports a termination of monthly value-of-service based pricing for non-firm service customers, and in that context, the Company's proposal for expansion of the time provide for evaluation of their service options becomes irrelevant.

c. Updating of Fuel Conversion Factors

Q. IS THE COMPANY'S PROPOSED UPDATING OF THE FUEL CONVERSION FACTORS IN ITS PRESENT NON-FIRM SERVICE TARIFF NECESSARY AND APPROPRIATE?

A. If monthly value-of-service based pricing for NTS customers is terminated, the use of fuel factors in the determination of rates is eliminated. Thus, updating those

factors would be unnecessary. If the current monthly value-of-service based pricing for NTS is continued fuel conversion factors will most likely continue to be an important element of monthly price determinations. However, even in that instance, I do not find a compelling need for the purported "updates" that National Grid proposes. The Company has offered no basis for the updated factors that it proposes and provided no source for those figures that can be verified. Furthermore, the changes it suggests are quite small and would have little impact on the resulting monthly margin rates for NTS customers.

d. Price Caps for Monthly NTS Distribution Charges

Q. WHY DOES NATIONAL GRID PROPOSE TO PLACE CAPS ON THE CHARGES THAT IT WOULD BILL NON-FIRM TRANSPORTATION SERVICE CUSTOMERS FOR THE DELIVERY OF THIRD-PARTY GAS SUPPLIES?

A. Due to the growing differentials between customers' alternate fuel prices and the prices at which natural gas can be obtained in the competitive market, the Company's present value-of-service pricing for NTS has led to charges for those services that have in a number of instances been well in excess of the Company's firm service rates. The value-of-service based margins over the last couple years for non-firm transportation service customers have been particularly large for customers who have No. 2 Oil as their alternative fuel. This has resulted in a

significant migration of customers and load from non-firm service to firm service. By placing caps on the charges billed for non-firm transportation service, National Grid hopes to stem the migration of non-firm customers to firm service.

Q. WHAT IS THE EXTENT OF THE MIGRATION OF CUSTOMERS AND LOAD FROM NON-FIRM TO FIRM SERVICE THAT NATIONAL GRID HAS EXPERIENCED?

A. National Grid's response to Data Request DIV 6-6 indicates that since the end of the historic test year for this proceeding (i.e., since September 30, 2007), twenty - seven (27) customers have migrated from non-firm service to firm service alternatives. Those migrating customers represent approximately 1,500,000 Dth of annual gas use.[26] That migration has added roughly 4% to the Company's firm throughput volumes on an annual basis and nearly 10% to the Company rate year volumes for Medium, Large, and Extra Large firm service rate classifications.

Q. HOW DOES THE COMPANY PROPOSE TO SET RATE CAPS FOR NON-FIRM TRANSPORTATION SERVICE CUSTOMERS UNDER THE PROPOSAL IT ADVANCES IN THIS PROCEEDING?

A. Witness Czekanski explains that the proposed rate caps for non-firm service would be set at fifty percent (50%) above the equivalent cost of each customer's

applicable firm service rate alternative.[27] Thus, distribution charges for NTS customers could be set at levels up to 50% above the average revenue per therm than they would pay if they were billed under the Company's firm service rates.

Q. WITNESS CZEKANSKI SUGGESTS AT PAGE 20 OF HIS DIRECT TESTIMONY THAT THE COMPANY'S PROPOSED CAPS FOR NTS DISTRIBUTION CHARGES REPRESENT A COST-BASED LIMIT ON THE PRICING OF SERVICE TO THOSE CUSTOMERS. DO YOU AGREE?

A. No. It does set a limit on the charges that would be applied to NTS customers, but I find it difficult to represent that limit as being a reasonably cost-based charge. In addition, to the fact that the proposed caps would be set at 50% above the costs of firm service alternatives, the levels of those caps are inappropriately computed.

The computations that the National Grid proposes to use in the computations of those rate caps for NTS customers comprise four problems.

First, the RPC target revenue that National Grid proposed to rely upon as the basis for those computations includes customer charge revenue. Since NTS customers would pay separate monthly customer charges in addition to the capped distribution charge, inclusion of customer charge revenue in the calculation of distribution charge rate caps for NTS customers is inappropriate.

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[26] Two customers account for over 58% of the volumes that have migrated to firm service from non-firm service since the end of the since September of 2007.

[27] Direct Testimony of NG witness Czekanski at page 19.

Second, the non-customer charge component of RPC revenue reflects levels of average annual use that may not be representative of, or appropriately applied to, the levels of annual gas use for NTS customers.

Third, the Company's computed rates of return for Medium, Large and Extra Large C&I rate classifications deviate significantly from the system average rate of return. Thus, setting rate caps with reference to such classes does not necessarily produce reasonable or conceptually consistent measures of the costs of serving non-firm customers. For example, the Company's CCOS suggests that the Extra Large Low Load Factor and Extra Large Highly Load Factor classes have negative rates of return at present rates. The Company's CCOS also indicates that the Medium C&I and Large Low Load Factor classes have rates of return that are respectively 187% and 225% of the system average rate of return. Thus, it is difficult to accept the Company's Firm C&I rates as reasonable benchmarks establishing cost-based rate caps for NTS customers.

Fourth, each of NG's firm C&I rate classifications for which a transportation service option is offered includes a separately stated demand charge. The Company's proposed rate cap methodology implicitly assumes that the relationship between average use and demand for customers billed under those firm service rate schedules is reflective of the relationships between annual gas use and demand found in the usage patterns of NTS customers. However, NG has offered no support for that assumption.

Q. IF THE COMPUTATIONAL PROBLEMS ASSOCIATED WITH THE COMPANY'S PROPOSED RATE CAPS FOR NTS CUSTOMERS WERE RESOLVED, WOULD YOU SUPPORT THE IMPLEMENTATION OF SUCH RATE CAPS?

A. No. Although NTS rates with rate caps might be viewed by some as an improvement over the same rates without rate caps, only imposing rate caps does not resolve a number of other serious concerns this Commission should have with respect to a continuation of the Company's current value-of-service based pricing methodology for NTS customers. I must suggest, however, that resolution of NTS pricing issues should be among the Commission's priorities in this proceeding. Moreover, given the importance of the interrelationships between the NTS rates, the Company's overall revenue requirement, and the establishment of appropriate charges for other classes of customers, this proceeding appears to be the most appropriate forum in which to assess such issues.

e. Re-Introduction of Flexible Firm Rates

Q. WHAT IS YOUR ASSESSMENT OF THE COMPANY'S PROPOSAL TO RE-INTRODUCE A FLEXIBLE FIRM SERVICE RATE ALTERNATIVE FOR CURRENT NON-FIRM SERVICE CUSTOMERS?

A. The Company's proposal for a Flexible Firm service alternative only partially addresses the problems associated with the Company's existing non-firm pricing

that I have enumerated above. It also introduces some new of problems which make that proposal particularly **inappropriate** for re-introduction. New problems associated with this Company proposal include:

- The potential that a Flexible Firm Service customer could receive firm service for a portion of their load on a year-around basis without being subject to DAC charges that would be billed to other customers for comparable firm services;

- The Company's failure to address the manner in which future rate cases would impact charges billed to customers under Flexible Firm Service contracts;

- The Company's intention to retain a portion of the margin that it derives from service provided to Flexible Firm customers, including those portions of the service that is provided to such customers on a firm year-around basis;

- The Company's reference in its proposed tariff language for Flexible Firm to unspecified "value added services" that may be offered in conjunction with Flexible Firm service agreements;

- Rates that would purportedly be "*subject to negotiation*" without any well-developed explanation of (1) the basis upon which such negotiations would be conducted or (2) the anticipated relative negotiating strength of the parties (i.e., the Company and the potential Flexible Firm Service customer) that would participate in such negotiations.[28]

Q. DO YOU HAVE OTHER CONCERNS REGARDING NATIONAL GRID'S NON-FIRM TRANSPORTATION SERVICE PRICING PROPOSALS IN THIS PROCEEDING?

A. Yes. I have two additional concerns.

First, National Grid's interruptions of service are not the same for all of its non-firm customers. Non-firm customers located in certain areas of the Company's system (e.g., Westerly and Aquidneck) are subject to longer and/or more frequent service interruptions than those in other parts of the Company's system. Yet, the charges those customers pay for non-firm service appear to be unrelated to the frequency or duration of expected interruptions.

Second, the Company's sharing of margins derived from non-firm service customers was intended to encourage the Company to maximize the revenue it

[28] If a potential Flexible Firm Service customer is seeking services from National Grid for which it has no reasonably economic alternatives, such "negotiations" may not yield reasonable or appropriate results. Moreover, the introduction of "value added services" into such negotiations may impede the ability of the Division to assess the reasonableness of rates that are negotiated.

derives from those customers in the face of competition from alternative fuels, particularly No. 2 and No. 6 Fuel Oil which are the predominant alternate fuels used by non-firm gas service customers in Rhode Island. However, as I have explained above, natural gas and fuel oil prices have been substantially decoupled, and the Company's determination of charges for non-firm customers has essentially evolved into little more than the monthly application of a pricing formula based on parameters set forth in its tariff.

The only times the Company's pricing appears to be differentiated among customers having comparable alternate fuel prices are when individual customers purportedly present invoices or price quotes for their alternate fuels that are intended to support a claim that they would be able to purchase their alternate fuels at prices lower than those published for the relevant market. In those instances, the same pricing formula is applied, but the alternate fuel price used in the formula is based on the lower alternate fuel price submitted by the customer. This practice produces lower maximum allowed margins for those customers who submit such pricing information.[29] There is no indication that NG attempts to independently verify the authenticity of customer-provided price quotes for alternate fuels.

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[29] The Division has been made aware of complaints by certain non-firm customers and marketers of non-firm gas supply services that such practices have resulted in unfair price discrimination. The Division expended considerable effort to review the margins billed to National Grid's non-firm customers for FY 2006 and observed considerable differences in the prices billed to individual customers having the same alternate fuel type. However, it was unable to obtain sufficient information to verify the basis for such price differences. Moreover, without a substantial additional commitment of time and resources, no conclusion regarding the reasonableness of such differences in the pricing of otherwise comparable services could be supported.

In view of the forgoing, it is the assessment of the Division that the time has come for the Commission to terminate the Company's sharing of margins derived from interruptible service customers.

f. Non-Firm Service Pricing Recommendation

Q. HOW SHOULD NATIONAL GRID'S RATES FOR NON-FIRM TRANSPORTATION SERVICE CUSTOMERS BE STRUCTURED?

A. As noted earlier in this testimony, setting fixed rates for National Grid's non-firm service customers at this time is somewhat problematic due to recent migration of non-firm customers to firm service rate classifications and the potential for further migration of customers between the Company's firm service and non-firm service rate schedules. Thus, I recommended that fixed the Commission establish fixed non-firm rates, below those for customers' applicable firm service alternatives, based on the presumption that recent migration between non-firm and firm service rate classifications will be reversed. I also recommend that the fixed rates be blocked in a manner that reflects the types of annual usage classifications currently used in pricing of National Grid's non-firm gas services. That would produce a three block rate structure which would enable the Company to more equitably distribute the revenue requirements for the non-firm service class in a manner that reflects economies of scale associated with service to larger volume customers while also

providing improved prices for small volume non-firm customers. Furthermore, as long as the Company's expectation is that service to customers in the Westerly and Aquidneck Island areas is expected to be unavailable for most, if not all, of the winter season, the distribution charge for all volumes delivered to customers located in those areas should be set at the lowest of the three block rates recommended above. If National Grid's expectations regarding the frequency and duration of interruptions for non-firm customers located in those areas or any other areas of the Company's system change materially, NG should be responsible for timely reporting of such changes to the Commission with a recommendation for appropriate adjustments to rates to reflect such changes.

Q. DO YOU HAVE ANY FURTHER RECOMMENDATIONS RELATED TO NATIONAL GRID'S PRICING OF NON-FIRM SERVICES?

A. Yes. I recommend that regardless of whether value-of-service pricing is maintained for NTS customers, the current margin sharing of margins between firm ratepayers and the Company should be terminated. If fixed rates for non-firm service are established, then such a margin sharing arrangement becomes unnecessary. On the other hand, if value-of-service pricing (with or without rate caps) is continued, I submit that the Company's pricing of non-firm services is sufficiently formulaic in nature that current margin sharing incentive are unnecessary and inappropriate since they have little impact on the total margins that can be expected to be derived

from non-firm service. Clearly, the primary determinants of margins actually billed to non-firm customers will be the levels of the prices for customers' alternate fuels and the other pricing parameters and inputs established in the Company's tariff, not the actions of the Company. Thus, with a continuation of value-of-service pricing, I would recommend that 100% of the margin derived from non-firm customers be credited to firm ratepayers through the DAC.

4. Other Tariff Changes

a. Low Income Discount

Q. PLEASE DESCRIBE THE COMPANY'S PROPOSED DISCOUNT FOR LOW INCOME CUSTOMERS?

A. National Grid recommends the introduction of separate discounted low-income rates for both Residential Heating and Residential Non-Heating customers. For both of those low-income customer groups the proposed low-income rates reflect a flat 10% discount applied to each of the charges in the comparable standard Residential Heating and Residential Non-Heating rate schedules.

Q. TO WHOM WOULD THE PROPOSED LOW-INCOME DISCOUNT RATES APPLY?

A. Under the Company's proposal, eligibility for these discounted rate offerings would be premised on verification of the customer's participation in the Low Income Home Energy Assistance program ("LIHEAP"). Restriction of participation to LIHEAP-eligible customers is intended to facilitate the identification of participants given that the Company does not maintain information regarding customers' incomes.

Q. DOESN'T THE COMPANY ALREADY HAVE A PROGRAM TO ASSIST LIHEAP ELIGIBLE LOW INCOME CUSTOMERS?

A. It does. At present, $1,785,000 of low income assistance funding is embedded in the Company's base rates for gas service. Those funds are used to provide Low Income Heating Assistance and Low Income Weatherization services.

Q. IS THE PROPOSED LOW INCOME RATE DISCOUNT INTENDED TO REPLACE THE COMPANY'S PRESENT LOW INCOME ASSISTANCE PROGRAMS?

A. No. The proposed rate discount program would be offered in addition to the existing low-income assistance programs that are funded through the charges paid by other gas service customers.

Q. HOW MANY CUSTOMERS DOES THE COMPANY EXPECT TO QUALIFY FOR PARTICIPATION IN THE PROPOSED RATE DISCOUNT PROGRAM?

A. The testimony of witness Czekanski indicates that National Grid anticipates approximately 16,000 low income heating customers will subscribe to the program. In addition, the Company's rate calculations in Attachment NG-DAH-4 reflect an assumption that an additional 2,475 low-income Residential Non-Heating customers will participate in the program.

Q. IS PARTICIPATION IN THE LOW INCOME DISCOUNT PROGRAM LIMITED TO WINTER MONTHS?

A. No. The proposed discount rates would apply to the service requirements of low-income customers throughout the year as long as they remain qualified for that service.

Q. HOW IS THE LEVEL OF THE PROPOSED RATE DISCOUNT DETERMINED?

A. In response to a data requested propounded by the Division, National Grid offers its assessment that the proposed 10% discount achieves "*the optimal balance of costs and benefits among customer classes.*"[30] However, the Company offers no quantitative analysis to support that assessment and no explanation of the specific criteria used to assess the optimality of the proposed 10% discount.

[30] National Grid Response to Data Request DIV 5-19.

Q. DO YOU FIND THAT THE LEVEL OF THE PROPOSED DISCOUNT IS REASONABLE AND APPROPRIATE?

A. The appropriate level for low-income rate assistance is a highly subjective matter that cannot be determined through analysis of utility costs of service or revenue impacts. Thus, I am not in a position to render an opinion regarding the reasonableness and appropriateness of either the proposed rate discount levels or the combination of the proposed rate discounts and the existing low-income assistance programs for which costs are presently included in gas service rates.

Q. WHAT IS THE ESTIMATED ANNUAL COST OF THE COMPANY'S PROPOSED LOW INCOME DISCOUNT RATES?

A. The Company's estimates of the costs for the proposed low income rate discounts are presented in Attachment NG-DAH-4 to the Direct Testimony of NG witness Heintz, page 1 of 3. The computations on that page estimate that the proposed low-income rate discounts would reduce revenue billed to low-income Residential Heating customers by $777,803 per year and $51,535 per year for low-income Residential Non-Heating customers. Thus, the estimated annual total cost of the proposed rate discounts is $829,338. This would raise the Company's total anticipated annual low income assistance to more than $2.6 million per year.

No estimate of the operating, administrative, and other costs that the Company will incur to implement the proposed rate discount program is provided.

Rather, the Company represents that, "*The Company does not track, record or otherwise separate the costs of administration and billing of individual services and therefore has not developed any estimate of the costs of administration of the* [low income] *rate discount.*"[31]

Q. HOW WOULD THE PROPOSED RATE DISCOUNTS TO LOW-INCOME RESIDENTIAL CUSTOMERS BE FUNDED?

A. As shown in witness Heintz's Attachment NG-DAH-3, National Grid proposes to re-distribute the costs of its proposed low income discounts among all of its non-low income rate classifications (excluding Natural Gas Vehicles and Gas Lights). Although not specifically stated in witness Heintz's testimony, that redistribution spreads the costs of those discounts on an equal cost-per-therm basis for all firm customer service volumes.

Q. DOES THE COMPANY OFFER ANY EVIDENCE THAT CUSTOMERS WHO DO NOT QUALIFY FOR THE PROPOSED LOW INCOME DISCOUNT RATES WOULD BENEFIT FROM THOSE PROGRAMS?

A. No, it does not.

[31] National Grid Response to Data Request DIV 6-11.

Q. WOULD THE COMPANY BENEFIT FROM THE OFFERING OF LOW INCOME DISCOUNT RATES?

A. Yes. By lowering the amounts billed to low income customers, the Company both reduces the likelihood that a customer's account will become uncollectible and reduces the amount that becomes an uncollectible accounts expense if participating customers continue to have bill payment problems. As a result, offering of the proposed low income discount rates lowers the Company's revenue collection risk. In addition, it should be anticipated that the low income discount rate will lower National Grid's collection costs. By improving the affordability of service, payment lags should be moderated by reducing cash working capital requirements and the numbers of customers for whom collection actions must be taken should be lowered.

I must note, however, that if the Company's proposals to amend its GCR and DAC calculations to provide for an annual reconciliation with its actual uncollectible accounts experience are approved, then all uncollectible accounts risk would be shifted to the Company's firm service customers.

Q. SHOULD THE COMPANY'S RATES BE ADJUSTED TO REFLECT THE ANTICIPATED IMPACT OF THE PROPOSED RATE DISCOUNTS ON ITS UNCOLLECTIBLE ACCOUNTS EXPENSE?

A. Assuming that NG's proposed annual reconciliations of uncollectibles in its GCR and DAC mechanisms are NOT approved, I would recommend that the Commission lower the Company's claimed uncollectible accounts expense by 50% of estimated costs of the offered rate discounts, or $415,169. This recognizes that a large portion of the discount amounts would likely become future uncollectible accounts expenses in the absence of the offered discounts, and it shares the risk associated with the effectiveness of those discounts between the Company and its ratepayers.

Q. DO YOU HAVE ANY FURTHER OBSERVATIONS REGARDING NATIONAL GRID'S PROPOSED LOW INCOME DISCOUNT RATES?

A. Yes. Although concerns regarding the affordability of gas service for low income Residential customers are real and clearly impact utility ratemaking, the Company's proposal in this case is essentially a plan to use *other peoples' money* without their advice or consent to address a problem with which the Company and its share-holders should more closely identify as a responsible corporate participant in the Rhode Island economy. In that context, it is somewhat disappointing that National Grid offers no shareholder contribution to the costs of the new rate discount program that it proposes.

2. Gas Cost Recovery (GCR) Changes

Q. HOW DOES NATIONAL GRID PROPOSE TO MODIFY ITS TARIFF PROVISIONS RELATING TO THE COMPANY'S GAS COST RECOVERY ("GCR") CLAUSE?

A. Through the testimony of witnesses Heintz and Czekanski, National Grid proposes three changes in tariff provisions relating to its GCR. Those changes include:

- Reduction of the number of classes for which gas cost factors are computed from six to two;
- Adding a description of the Natural Gas Vehicle gas charge to the GCR tariff provisions; and
- Modification of the consideration of uncollectible accounts expense within GCR reconciliations to allow annual reflection of the Company's actual uncollectibles experience in the GCR reconciliation process.

Q. SHOULD THE COMMISSION ACCEPT NATIONAL GRID'S PROPOSAL TO CONSOLIDATE THE NUMBER OF RATE CLASSIFICATIONS FOR WHICH GCR CHARGES ARE CALCULATED?

A. Yes. The change that the Company proposes would simplify the GCR process by consolidating rate classes into High Load Factor and Low Load Factor classifications. This proposed change is reasonable and would not have significant adverse impacts on any class of customers.

Q. IS THE TARIFF LANGUAGE THAT THE COMPANY PROPOSES TO PROVIDE MORE EXPLICIT RECOGNITION OF GAS COSTS ASSOCIATED WITH ITS PROVISION OF NATURAL GAS VEHICLE SERVICE (RATE NGV) REASONABLE AND APPROPRIATE?

A. With one exception I find that it is appropriate. That exception relates to the Section 3.4, Storage Variable Product Costs, which omits reference to Rate NGV in the listing of classes to which Storage Variable Product Costs are allocated. National Grid offers no reason for this omission, and as long as NGV customers are not restricted from taking service at times when Storage supplies are being utilized, I find no reason why Rate NGV customers should not assume responsibility for a share (albeit small) of the Company's Storage Variable Product Costs. The omissions to which I refer are found Section 2, Gas Charge, Schedule A, Sheet 9, of the Company's proposed tariff in the definitions of variables "VSC" and "Dt_{VSC}."

Q. DO YOU SUPPORT NATIONAL GRID'S PROPOSAL TO REFLECT ITS ACTUAL UNCOLLECTIBLE ACCOUNTS EXPERIENCE IN ITS RECONCILIATION OF GCR CHARGES?

A. No, I do not. This Commission, like many others, has historically computed the percentage of uncollectible revenue as an average of several years of historic experience. That has been done primarily to mitigate the effects of extreme weather on the Company's actual uncollectible accounts experience in any single

year. That practice has had the effect of limiting year-to-year fluctuations in charges and thereby provided customers a measure of rate stability.

National Grid's proposal in this proceeding would do just the opposite. After a winter of extremely cold weather in which customers are generally more pressed to pay their heating bills, the Company's proposal would result in increased GCR charges to compensate for the higher uncollectible accounts experience that generally follows such conditions. However, extreme cold winter conditions also tend to push both gas use and deferred gas cost balances upward, and those factors would also tend to increase GCR charges for the following year. Thus, the Company's proposal to reflect its actual uncollectible accounts experience in its GCR reconciliation would tend to amplify the magnitude of GCR adjustments and thereby exacerbate year-to-year fluctuations in those charges. Conversely, after a warmer than normal winter, uncollectible accounts experience is generally improved (i.e., bills tend to be more affordable when gas use is lower), and deferred gas cost balances also tend to be lower. Thus, reflecting the Company's actual uncollectibles experience after a warmer than normal winter will tend to further reduce the GCR reconciliation costs to be recovered during the subsequent GCR period. These results run directly counter to this Commission's objective of trying to minimize fluctuations in GCR charges and improve rate stability for Rhode Island gas customers. Therefore, I urge the Commission **not to change** the manner in which uncollectibles are currently reflected in the GCR reconciliation process.

3. Distribution Adjustment Clause

Q. DO NATIONAL GRID'S PROPOSALS IN THIS PROCEEDING INCLUDE CHANGES TO THE COMPANY'S DISTRIBUTION ADJUSTMENT CLAUSE?

A. Yes. NG witness Czekanski explains that National Grid requests at least eight (8) changes in the structure of its DAC.

Q. WHAT ARE THE DAC CHANGES THAT WITNESS CZEKANSKI IDENTIFIES?

A. The proposed changes to National Grid's DAC that witness Czekanski identifies include the introduction of four new elements of the Company's DAC rate adjustment calculations, elimination of three current elements of the DAC, and modification one element of the current DAC. The specific changes identified include:

1. Introduction of a Revenue Decoupling Mechanism ("RDM") factor;

2. Introduction of a Pension and Post-Retirement Benefits Other Than Pensions ("P&PBOP)" factor;

3. Introduction of a Capital Expenditure ("CapX") tracker;

4. Introduction of an annual uncollectible adjustment;

5. Elimination of the current Weather Normalization Adjustment (WNA") factor;

6. Elimination of the Consolidation Mitigation Adjustment provision;

7. Elimination of the Environment Response Cost factor; and

8. Changes to the Deferred Distribution Adjustment Cost Account.

Q. SHOULD THE COMMISSION APPROVE THE DAC CHANGES THAT NATIONAL GRID PROPOSES IN THIS PROCEEDING?

A. Only one of the Company's eight (8) proposed changes to the DAC should be approved. The only DAC change that the Division supports is elimination of the Consolidation Mitigation Adjustment provision. The Company's other proposed changes to its DAC should be rejected.

Q. WHAT IS THE BASIS FOR THE YOUR OPPOSITION TO THE IMPLEMENTATION OF THE COMPANY'S PROPOSED RDM FACTOR?

A. As explained earlier in this testimony, I find the Company's proposed Revenue Decoupling Mechanism factor and the RPC targets that National Grid proposes to use in the computation of annual rate adjustments as part of the DAC are inappropriate and unnecessary. Therefore, I cannot justify the inclusion of an RDM

factor in the DAC. However, I must note that with rejection of RDM, continuation of a Weather Normalization Adjustment is appropriate.[32]

Q. WHY SHOULDN'T IMPLEMENTATION OF THE COMPANY'S PROPOSED P&PBOP FACTOR BE PERMITTED?

A. The Division's opposition to the Company's proposed P&PBOP factor is presented in the Direct Testimony of Division witness David Effron.

Q. WHAT IS THE DIVISION'S RATIONALE FOR REJECTING THE COMPANY'S PROPOSED CAPX TRACKER?

A. The Division's position regarding the proposed CapX tracker is also presented in the Direct Testimony of Division of witness David Effron. It should be noted that although witness Effron does not support implementation of the Company's CapX tracker proposal, he does support a modified Accelerated Pipe Replacement ("APR") program.

Q. IN YOUR DISCUSSION OF GCR RELATED ISSUES, YOU FOUND THE COMPANY'S PROPOSED ANNUAL ADJUSTMENT FOR ACTUAL UNCOL-LECTIBLES EXPERIENCE TO BE INAPPROPRIATE. DO YOU OFFER A

[32] The Division notes that the rate adjustments resulting from the RDM and the WNA should be viewed as somewhat overlapping or redundant since both would adjust rates for the effects of variations from estimated usage levels under normal weather conditions. Thus, the Commission should view NG's proposed implementation of an RDM factor and continuation of the current WNA factor as mutually exclusive options.

SIMILAR FINDING WITH RESPECT TO NATIONAL GRID'S PROPOSAL FOR AN ANNUAL UNCOLLECTIBLES ADJUSTMENT IN THE DAC?

A. Yes, I do. In my discussion of GCR issues earlier in this testimony, I concluded that the Company's proposed annual reconciliation of uncollectible experience could amplify volatility in the Company's rate adjustments and was inconsistent with this Commission's efforts to improve rate stability. I offer a similar conclusion with respect to the reconciliation of uncollectible accounts experience within the DAC. Therefore I do not support implementation of that adjustment.

Q. WHY SHOULD THE COMMISSION REJECT NATIONAL GRID'S PROPOSAL TO ELIMINATE ITS ENVIRONMENTAL RESPONSE COST ("ERC") FACTOR?

A. The present ERC factor provides a means of smoothing the impacts of environmental expenditures and related insurance proceeds over time. This factor should be continued in the absence of strong evidence that the potential for the Company's incurrence of significant environmental response cost in the future has been essentially eliminated. Although the present balance of costs subject to recovery through the ERC is comparatively small, that fact, in and of itself, is not a reason to discard this valuable mechanism for mitigating the impacts of environmental expenditures that are often unpredictable in their timing and magnitude. Even if the balance of environment response costs should fall to zero, the Commission should consider

maintaining the current ERC factor as part of the DAC until it is confident that the potential for significant environment response expenditures has been eliminated.

III. DIVISION RECOMMENDATIONS

Q. PLEASE SUMMARIZE THE KEY RECOMMENDATIONS THAT YOU PRESENT IN THIS TESTIMONY?

A. Although I have covered a large number of issues in this testimony, the following represents a summary of a number of the key elements of my guidance to the Commission in this proceeding. I note, however, that the omission of any specific finding or recommendation from this summary should not be interpreted as a suggestion that an omitted recommendation or finding is of lesser importance. Given the foregoing, the key findings of this testimony include:

1. The Commission should find that National Grid's proposed RPC mechanism for decoupling its revenue from gas use is inappropriate, potentially inequitable, and not necessary to encourage or support the pursuit of conservation and energy efficiency improvements by Rhode Island gas customers.

2. The Commission should conclude that National Grid's proposed Gas Marketing Program is not well-conceived, and in the current market, it is not necessary to attract new gas customers and achieve substantial conversions of existing low-use gas customers to gas heating.

3. The Commission should eliminate all but $148,000 of the proposed Gas Marketing Program costs from NG's requested revenue requirement.

4. The Commission should modify the Company's proposed distribution of increases among rate classes as the Division has recommended herein.

5. The Commission should determine that the Company's proposed increases in monthly Customer and Demand charges are inordinately large and should be reduced to reflect greater consideration of gradualism and continuity in the Commission's ratemaking policies.

6. The Commission should accept National Grid's proposed termination of its non-firm gas sales service.

7. The Commission should find that the Company's value-of-service based approach to the pricing of service to non-firm customers is no longer appropriate and should be terminated.

8. The Commission should terminate NG's sharing of margins derived from non-firm service customers.

9. The Commission should deny National Grid's request to re-introduce a Flexible Firm Service rate alternative for non-firm service customers.

10. The Commission should establish a three-block distribution charge structure for NTS customers based on the presumption that customers who have recently migrated from non-firm service to firm service will return to service under National Grid's NTS rates. Also, the new three-block distribution charge structure should provide that all service volumes for customers located in areas for which service is expected to be unavailable for most, if not all, of the Company's peak winter months should be billed at the lowest available block rate.

11. If the Commission approves a rate discount for low-income customers, the Company's rate year uncollectible accounts expense should be reduced as recommend herein.

12. The Commission should approve NG's proposal to consolidate rate classifications for the purpose of computing Gas Cost Recovery factors, but it

should deny the Company's request to reconcile uncollectible accounts expenses on an annual basis within its GCR and DAC mechanisms.

13. The Commission should reject NG's proposal to eliminate the Environmental Response Cost Factor from its Distribution Adjustment Clause (DAC) mechanism.

14. The Commission should accept only one of the eight changes that National Grid seeks in the structure of its DAC. The change the Commission should accept is elimination of the Consolidation Mitigation Adjustment provision.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does, with the caveat that a large number of responses potentially relevant the issues addressed in this testimony have been received by the Division within two days of the due date for this testimony. Several of those responses relate to data requests which the Division submitted to the Company in late May and early June 2008.[33] Others are responses to requests of other intervening parties. In addition, responses to a number of other Division data requests remain outstanding. In this context, I must reserve the right to supplement this testimony if the

[33] The Division recognizes that some of the late-provided responses required substantial compilation of data by the Company, and the Division appreciates the efforts that were made by the Company to be responsive to those Divisions requests.

subsequently reviewed outstanding data responses are found to have a material impact on the matters addressed herein.

National Grid - RI Gas

Docket No. 3943

National Grid 's Proposed Increases in Customer & Demand Charges

Ln No	Rate Classification	Present Charge (A)	Proposed Charge (B)	Proposed Increases Dollar (C)	Proposed Increases Percent (D)
			Monthly Customer Charges		
1	Residential Non-Heat	$ 7.50	$ 11.00	$ 3.50	46.7%
2	Residential Heat	$ 9.00	$ 16.00	$ 7.00	77.8%
3	Small C&I	$ 14.00	$ 30.00	$ 16.00	114.3%
4	Medium C&I	$ 45.00	$ 75.00	$ 30.00	66.7%
5	Large LLF C&I	$ 90.00	$ 135.00	$ 45.00	50.0%
6	Large HLF C&I	$ 90.00	$ 135.00	$ 45.00	50.0%
7	Extra Large LLF C&I	$ 300.00	$ 300.00	$ -	0.0%
8	Extra Large HLF C&I	$ 300.00	$ 300.00	$ -	0.0%
9	Natural Gas Vehicles	$ 5.00	$ 5.00	$ -	0.0%
10	Gas Lights	$ 7.15	$ 8.29	$ 1.14	15.9%
			Monthly Demand Charges (per MADQ therm)		
11	Medium C&I	$ 0.90	$ 1.50	$ 0.60	66.7%
12	Large LLF C&I	$ 0.90	$ 1.50	$ 0.60	66.7%
13	Large HLF C&I	$ 1.25	$ 2.00	$ 0.75	60.0%
14	Extra Large LLF C&I	$ 0.90	$ 1.50	$ 0.60	66.7%
15	Extra Large HLF C&I	$ 1.25	$ 2.00	$ 0.75	60.0%

Sources

Column (A) from Present NG Gas Tariff
Column (B) from Attachment NG-DAH-4
Column (D) = (B) - (A)
Column (D) = (C) / (A)

National Grid - RI Gas

Docket No. 3943

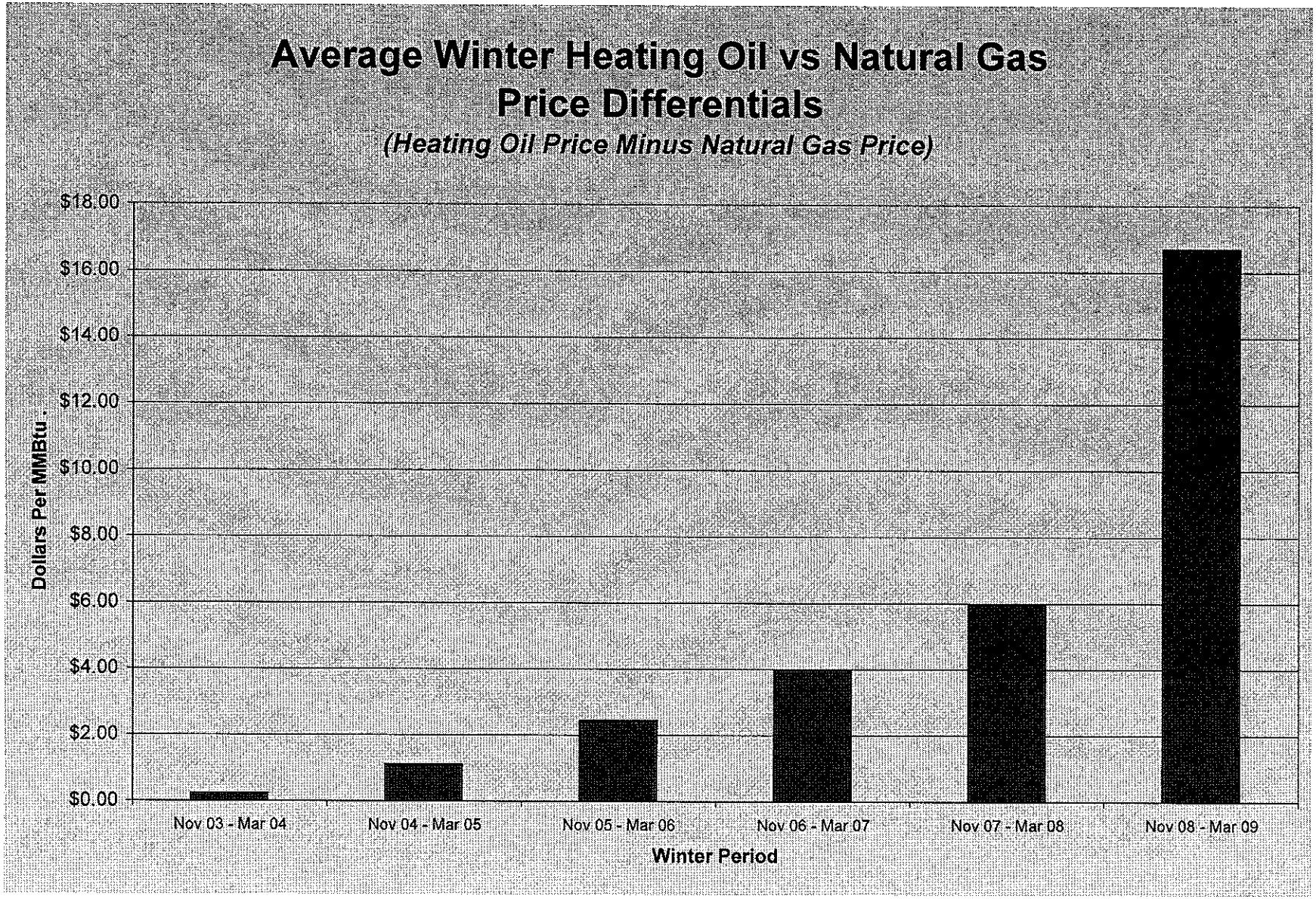
Analysis of Changes in Revenue and Numbers of Customers

(Current Rate Year Versus Docket No. 3401 Compliance Filing)

Ln No	Rate Class	Current Distribution Revenue	Dkt 3401 Target Distribution Revenue	Change Revenue	Percent Change	Current Average Customers	Dkt 3401 Average Customers	Change in No. of Customers	Percent Change
1	Residential Non-Heat	$ 5,133,293	$ 6,550,715	$ (1,417,422)	-21.6%	30,190	35,809	(5,619)	-15.7%
2	Residential Heat	$ 82,164,785	$ 81,617,893	$ 546,892	0.7%	195,950	180,022	15,928	8.8%
3	Small C&I	$ 10,491,164	$ 11,164,537	$ (673,373)	-6.0%	18,589	18,427	162	0.9%
4	Medium C&I	$ 14,650,241	$ 14,824,179	$ (173,938)	-1.2%	4,517	4,137	380	9.2%
5	Large LLF C&I	$ 6,730,933	$ 5,546,792	$ 1,184,141	21.3%	441	329	112	34.0%
6	Large HLF C&I	$ 1,812,681	$ 1,799,717	$ 12,964	0.7%	163	152	11	7.2%
7	Extra Large LLF C&I 1/	$ 1,108,782	$ 868,189	$ 240,593	27.7%	38	34	4	11.8%
8	Extra Large HLF C&I 1/	$ 3,473,673	$ 2,534,746	$ 938,927	37.0%	74	50	24	48.0%
9	Total	$ 125,565,552	$ 124,906,768	$ 658,784	0.5%	249,962	238,960	11,002	4.6%
10	Total Residential	87,298,078	88,168,608	(870,530)	-1.0%	226,140	215,831	10,309	4.8%
11	Total C&I	38,267,474	36,738,160	1,529,314	4.2%	23,822	23,129	693	3.0%
12	Total All Classes	125,565,552	124,906,768	658,784	0.5%	249,962	238,960	11,002	4.6%

SOURCE: Attachment to National Grid Response to Data Request TEC-RI 1-2

1/ A significant portion of the increase in the numbers of Extra Large C&I customers appears to be the result of recent customer migration from non-firm service to firm service rates that has occurred since September 2007.



Note: Nov 08 - Mar 09 price differential based on NYMEX Heating Oil and Natural Gas prices as of the close of trading on July 21, 2008

National Grid - RI Gas

Docket No. 3943

Computation of National Grid's Full Revenue Increase by Rate Class

Ln No	Rate Classification	Present Distributon Revenue	Proposed Revenue at Full Increase	Proposed Distributon Revenue Percentage Increase	Preliminary Proposed Distributon Revenue	Low Income Discount Re-Distribution	Proposed Total Distribution Revenue	Final Distributon Revenue Percentage Increase
1	Residential Non-Heat	$ 4,712,720	$ 1,052,352	22.33%	$ 5,765,073	$ 12,598	$ 5,777,671	22.60%
2	Residential Non-Heat Discount	$ 420,573	$ 93,914	22.33%	$ 514,487	$ (51,535)	$ 462,952	10.08%
3	Residential Heat	$ 75,133,915	$ 11,983,748	15.95%	$ 87,117,662	$ 397,176	$ 87,514,839	16.48%
4	Residential Heat Discount	$ 7,030,870	$ 1,121,413	15.95%	$ 8,152,284	$ (777,803)	$ 7,374,481	4.89%
5	Small C&I	$ 10,491,164	$ 2,091,676	19.94%	$ 12,582,840	$ 56,762	$ 12,639,602	20.48%
6	Medium C&I	$ 14,650,241	$ 1,698,557	11.59%	$ 16,348,798	$ 126,540	$ 16,475,338	12.46%
7	Large LLF C&I	$ 6,730,933	$ 780,388	11.59%	$ 7,511,321	$ 63,733	$ 7,575,054	12.54%
8	Large HLF C&I	$ 1,812,681	$ 257,319	14.20%	$ 2,070,000	$ 24,824	$ 2,094,824	15.56%
9	Extra Large LLF C&I	$ 1,108,782	$ 229,906	20.74%	$ 1,338,688	$ 28,958	$ 1,367,646	23.35%
10	Extra Large HLF C&I	$ 3,473,673	$ 720,266	20.73%	$ 4,193,939	$ 118,746	$ 4,312,685	24.15%
11	NGV	$ 22,738	$ 3,627	15.95%	$ 26,365	$ -	$ 26,365	15.95%
12	Gas Lights	$ 18,423	$ 2,938	15.95%	$ 21,361	$ -	$ 21,361	15.95%
13	Total	$ 125,606,713	$ 20,036,105	15.95%	$ 145,642,818	$ -	$ 145,642,818	15.95%
14	Distribution Revenue Target		$ 20,036,102	15.95%			$ 145,642,815	
15	Over/(Under) Recovery						$ 3	

National Grid - RI Gas

Docket No. 3943

Analysis of the Company's Proposed Distribution Revenue Increases by Rate Class

Ln No	Rate Classification	Class ROR at Present Rates	Indexed ROR at Present Rates	Proposed Percent Increase 1/	Indexed Increase Percent	Class ROR at Proposed Rates	Indexed ROR at Proposed Rates
1	Residential Non-Heat	-7.55	-156.6%	22.30	139.8%	-2.65	-28.6%
2	Residential Heat	4.92	102.1%	15.95	100.0%	9.38	101.2%
3	Small C&I	3.01	62.4%	19.94	125.0%	8.93	96.3%
4	Medium C&I	9.02	187.1%	11.59	72.7%	12.32	132.9%
5	Large LLF C&I	10.89	225.9%	11.59	72.7%	14.16	152.8%
6	Large HLF C&I	6.09	126.3%	14.20	89.0%	9.49	102.4%
7	Extra Large LLF C&I	-0.81	-16.8%	20.74	130.0%	5.94	64.1%
8	Extra Large HLF C&I	-0.72	-14.9%	20.74	130.0%	6.18	66.7%
9	NGV	na	na	15.95	100.0%	na	na
10	Gas Lights	na	na	15.95	100.0%	na	na
11	System Average	**4.82**		**15.95**		**9.27**	

1/ Reflects National Grid's proposed increase prior to the re-distribution of revenue requirements associated with the Low Income Discount.

"na" indicates not available. No cost allocations were performed for the Rate NGV and Gas Light rate classes.

SOURCES:

Class rates of return at present rates from Attachment NG-DAH-2, Page 1 of 3, Line 15.
Class rates of return at proposed rates from Attachment NG-DAH-2, Page 1 of 3, Line 36.
Percent Increases by class before the redistribution of the Low Income Discount from Attachment NG-DAH-3, Column (E).

National Grid - RI Gas

Docket No. 3943

Division Recommended Class Revenue Requirements
At National Grid's Proposed Overall Revenue Increase

Ln No	Rate Classification	Present Distributon Revenue	Proposed Revenue Increase	Proposed Distributon Revenue Percentage Increase	Low Income Discount Re-Distribution	Proposed Total Distribution Revenue	Final Distributon Revenue Percentage Increase
1	Residential Non-Heat	$ 4,712,720	$ 1,114,842	23.66%	$ 13,173	$ 5,840,735	23.94%
2	Residential Non-Heat Discount	$ 420,573	$ 99,491	23.66%	$ (52,006)	$ 468,057	11.29%
3	Residential Heat	$ 75,133,915	$ 11,996,267	15.95%	$ 415,325	$ 87,545,507	16.52%
4	Residential Heat Discount	$ 7,030,870	$ 1,121,413	15.95%	$ (815,228)	$ 7,337,055	4.35%
5	Small C&I	$ 10,491,164	$ 2,008,192	19.14%	$ 59,356	$ 12,558,712	19.71%
6	Medium C&I	$ 14,650,241	$ 1,705,957	11.64%	$ 132,323	$ 16,488,520	12.55%
7	Large LLF C&I	$ 6,730,933	$ 783,788	11.64%	$ 66,645	$ 7,581,366	12.63%
8	Large HLF C&I	$ 1,812,681	$ 260,234	14.36%	$ 25,959	$ 2,098,874	15.79%
9	Extra Large LLF C&I	$ 1,108,782	$ 227,274	20.50%	$ 30,282	$ 1,366,338	23.23%
10	Extra Large HLF C&I	$ 3,473,673	$ 712,020	20.50%	$ 124,172	$ 4,309,866	24.07%
11	NGV	$ 22,738	$ 3,627	15.95%	$ -	$ 26,365	15.95%
12	Gas Lights	$ 18,423	$ 2,938	15.95%	$ -	$ 21,361	15.95%
13	Total	$ 125,606,713	$ 20,036,044	15.95%	$ 0	$ 145,642,757	15.95%
14	Distribution Revenue Target		$ 20,036,102	15.95%		$ 145,642,815	15.95%
15	Over/(Under) Recovery					$ (58)	

National Grid - RI Gas

Docket No. 3943

Division Recommended Class Revenue Requirements
At the Division's Proposed Overall Revenue Increase

Ln No	Rate Classification	Present Distributon Revenue	Proposed Revenue Increase	Proposed Distributon Revenue Percentage Increase	Low Income Discount Re-Distribution	Proposed Total Distribution Revenue	Final Distributon Revenue Percentage Increase
1	Residential Non-Heat	$ 4,712,720	$ 474,456	10.07%	$ 11,539	$ 5,198,716	10.31%
2	Residential Non-Heat Discount	$ 420,573	$ 42,341	10.07%	$ (46,291)	$ 416,623	-0.94%
3	Residential Heat	$ 75,485,058	$ 5,128,818	6.79%	$ 363,802	$ 80,977,678	7.28%
4	Residential Heat Discount	$ 6,679,727	$ 453,853	6.79%	$ (713,358)	$ 6,420,222	-3.88%
5	Small C&I	$ 10,491,164	$ 854,650	8.15%	$ 51,992	$ 11,397,806	8.64%
6	Medium C&I	$ 14,650,241	$ 726,024	4.96%	$ 115,907	$ 15,492,172	5.75%
7	Large LLF C&I	$ 6,730,933	$ 333,566	4.96%	$ 58,377	$ 7,122,876	5.82%
8	Large HLF C&I	$ 1,812,681	$ 110,751	6.11%	$ 22,739	$ 1,946,170	7.36%
9	Extra Large LLF C&I	$ 1,108,782	$ 96,724	8.72%	$ 26,525	$ 1,232,031	11.12%
10	Extra Large HLF C&I	$ 3,473,673	$ 303,023	8.72%	$ 108,768	$ 3,885,464	11.85%
11	NGV	$ 22,738	$ 1,544	6.79%	$ -	$ 24,282	6.79%
12	Gas Lights	$ 18,423	$ 1,251	6.79%	$ -	$ 19,674	6.79%
13	Total	$ 125,606,713	$ 8,527,000	6.79%	$ 0	$ 134,133,713	6.79%
14	Distribution Revenue Target		$ 8,527,000	6.79%		$ 134,133,713	6.79%
15	Over/(Under) Recovery					$ 0	

National Grid - RI Gas
Docket No. 3943

Schedule BRO - 7

Development of Basic Customer Costs by Rate Class

Ln No	Cost Element	System Total	Residential Non-Heat	Residential Heat	Small C&I	Medium C&I	Large LLF C&I	Large HLF C&I	Extra Large LLF C&I	Extra Large HLF C&I
	Plant Costs									
1	Services	$ 164,767,529	$ 19,031,175	$ 124,858,105	$ 12,907,616	$ 6,931,234	$ 640,189	$ 236,623	$ 55,164	$ 107,424
2	Meters	43,311,341	4,428,125	27,218,713	5,120,942	4,723,422	1,063,740	312,952	164,753	278,694
3	Meter Installations	37,886,450	3,896,746	23,778,397	4,459,930	4,146,993	937,647	275,856	145,224	245,658
4	House Regulators	469,616	48,302	294,742	55,282	51,403	11,622	3,419	1,800	3,045
5	House Regulator Installations	614,703	63,224	385,802	72,362	67,284	15,213	4,476	2,356	3,986
6	Total	247,049,639	27,467,572	176,535,759	22,616,132	15,920,336	2,668,411	833,326	369,297	638,807
	Accum Deprec									
7	Services	(118,942,270)	(13,982,593)	(90,753,697)	(8,609,497)	(4,830,787)	(471,609)	(174,314)	(40,638)	(79,136)
8	Meters	(18,658,341)	(1,919,072)	(11,710,399)	(2,196,429)	(2,042,313)	(461,773)	(135,853)	(71,520)	(120,982)
9	Meter Installations	(12,300,570)	(1,265,154)	(7,720,117)	(1,448,003)	(1,346,402)	(304,425)	(89,562)	(47,150)	(79,758)
10	House Regulators	(448,620)	(46,142)	(281,564)	(52,811)	(49,105)	(11,103)	(3,266)	(1,720)	(2,909)
11	House Regulator Installations	(367,339)	(37,782)	(230,550)	(43,243)	(40,208)	(9,091)	(2,675)	(1,408)	(2,382)
12	Total	(150,717,140)	(17,250,743)	(110,696,327)	(12,349,983)	(8,308,815)	(1,258,001)	(405,670)	(162,436)	(285,167)
13	Net Plant	96,332,499	10,216,829	65,839,432	10,266,149	7,611,521	1,410,410	427,656	206,861	353,640
14	Rate of Return	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%	9.27%
15	Return Requirement	8,930,023	947,100	6,103,315	951,672	705,588	130,745	39,644	19,176	32,782
	Operating Expenses									
16	Services Exp	530,963	61,328	402,354	41,595	22,336	2,063	763	178	346
17	Meters & House Reg Exp	2,759,974	282,196	1,734,462	326,312	301,007	67,791	19,944	10,500	17,761
18	Maint of Services	2,804,254	329,662	2,139,663	202,983	113,894	11,119	4,110	958	1,866
19	Maint of Meters & Regulators	1,907,959	195,081	1,199,027	225,578	208,085	46,864	13,787	7,258	12,278
20	Meter Reading Expense	1,300,810	157,111	1,019,727	96,738	23,508	2,295	848	198	385
21	Customer Records & Collections	8,457,640	837,044	6,841,125	566,293	163,345	9,382	20,870	895	18,686
22	Total Customer Related Exp	17,761,600	1,862,422	13,336,358	1,459,499	832,175	139,514	60,322	19,987	51,322
	Depreciation Expense									
23	Services	5,171,737	607,978	3,946,068	374,350	210,048	20,506	7,579	1,767	3,441
24	Meters	1,359,394	139,818	853,187	160,026	148,797	33,643	9,898	5,211	8,814
25	Meter Installations	1,254,044	128,983	787,067	147,624	137,266	31,036	9,131	4,807	8,131
26	House Regulators	15,873	1,633	9,962	1,869	1,737	393	116	61	103
27	House Regulator Installations	20,777	2,137	13,040	2,446	2,274	514	151	80	135
28	Total	7,821,825	880,549	5,609,324	686,315	500,122	86,092	26,875	11,926	20,624
29	Income Tax	2,711,444	287,570	1,853,164	288,958	214,239	39,698	12,037	5,822	9,954
30	Total Basic Customer Cost	$ 37,224,892	$ 3,977,641	$ 26,902,162	$ 3,386,444	$ 2,252,124	$ 396,049	$ 138,878	$ 56,911	$ 114,682
31	Average Number of Customers	249,962	30,190	195,950	18,589	4,517	441	163	38	74
32	**Cost Per Customer Per Month**	**$ 12.41**	**$ 10.98**	**$ 11.44**	**$ 15.18**	**$ 41.55**	**$ 74.84**	**$ 71.00**	**$ 124.81**	**$ 129.15**

National Grid - RI Gas

Docket No. 3943

The Division's Residential Non-Heating Rate Design
at National Grid's Overall Revenue Increase Request

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Residential Non-Heat							
1	Customer Charge	332,584	$ 7.50	$ 2,494,380	$ 10.00	$ 3,325,840	$ 831,460	33.3%
2	Distribution Charge	5,249,245	$ 0.4226	$ 2,218,331	$ 0.4790	$ 2,514,388	$ 296,057	13.3%
3	**Total Calculated Revenue**			$ 4,712,711		$ 5,840,228	$ 1,127,517	23.9%
4	Revenue Adjustment Factor					1.0000020		
5	Adjusted Rate Design Revenue					$ 5,840,240		
6	Target Revenue					$ 5,840,735		
7	Over/(Under) Recovery					$ (495)		
	Residential Non-Heat Discount							
8	Customer Charge	29,700	$ 7.50	$ 222,750	$ 9.00	$ 267,300	$ 44,550	20.0%
9	Distribution Charge	468,107	$ 0.4226	$ 197,822	$ 0.4311	$ 201,801	$ 3,979	2.0%
10	**Total Res Non-Heat Discount**			$ 420,572		$ 469,101	$ 48,529	11.5%
11	Revenue Adjustment Factor					1.0000020		
12	Adjusted Rate Design Revenue					$ 469,102		
13	Target Revenue					$ 468,057		
14	Over/(Under) Recovery					$ 1,044		
15	Total Adjusted Rate Design Revenue			$ 5,133,283		**$ 6,309,329**		
16	Reported Revenue			$ 5,133,293				
17	Revenue Adjustment Factor			1.0000020				
18	Class Target Revenue					$ 6,308,792		
19	Over/(Under) Recovery					$ 537		

National Grid - RI Gas
Docket No. 3943

The Division's Residential Heating Rate Design
at National Grid's Overall Revenue Increase Request

Ln No	Rate Class/Billing Unit	Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Residential Heat							
1	Customer Charge	2,159,396	$ 9.00	$ 19,434,564	$ 12.00	$ 25,912,752	$ 6,478,188	33.3%
	Distribution Charge							
2	Peak Head Block	97,906,081	$ 0.3600	$ 35,246,189	$ 0.3959	$ 38,761,017	$ 3,514,828	10.0%
3	Peak Tail Block	33,038,600	$ 0.2800	$ 9,250,808	$ 0.3079	$ 10,172,585	$ 921,777	10.0%
4	Total Peak	130,944,681		$ 44,496,997		$ 48,933,602	$ 4,436,605	10.0%
5	Off-Peak Head Block	23,477,266	$ 0.3600	$ 8,451,816	$ 0.3959	$ 9,294,650	$ 842,834	10.0%
6	Off-Peak Tail Block	11,075,546	$ 0.2800	$ 3,101,153	$ 0.3079	$ 3,410,161	$ 309,008	10.0%
7	Total Off-Peak	34,552,812		$ 11,552,969		$ 12,704,810	$ 1,151,842	10.0%
8	Total Distribution Charge	165,497,493		$ 56,049,966		$ 61,638,413	$ 5,588,447	10.0%
9	**Total Residential Heat**			$ 75,484,530		$ 87,551,165	$ 12,066,635	16.0%
10	Revenue Adjustment Factor					1.0000070		
11	Adjusted Rate Design Revenue					**$ 87,551,778**		
12	Target Revenue					$ 87,545,507		
13	Over/(Under) Recovery					$ 5,657		
	Residential Heat Discount							
14	Customer Charge	192,000	$ 9.00	$ 1,728,000	$ 10.80	$ 2,073,600	$ 345,600	20.0%
	Distribution Charge							
15	Peak Head Block	8,621,746	$ 0.3600	$ 3,103,829	$ 0.3563	$ 3,071,928	$ (31,900)	-1.0%
16	Peak Tail Block	2,909,425	$ 0.2800	$ 814,639	$ 0.2771	$ 806,202	$ (8,437)	-1.0%
17	Total Peak	11,531,171		$ 3,918,468		$ 3,878,130	$ (40,338)	-1.0%
18	Off-Peak Head Block	2,099,634	$ 0.3600	$ 755,868	$ 0.3563	$ 748,100	$ (7,769)	-1.0%
19	Off-Peak Tail Block	990,515	$ 0.2800	$ 277,344	$ 0.2771	$ 274,472	$ (2,872)	-1.0%
20	Total Off-Peak	3,090,149		$ 1,033,212		$ 1,022,571	$ (10,641)	-1.0%
21	Total Distribution Charge	14,621,320		$ 4,951,680		$ 4,900,701	$ (50,979)	-1.0%
22	**Total Residential Heat Discount**			$ 6,679,680		$ 6,974,301	$ 294,621	4.4%
23	Revenue Adjustment Factor					1.0000070		
24	Adjusted Rate Design Revenue					**$ 6,974,350**		
25	Target Revenue					$ 7,337,055		
26	Over/(Under) Recovery					$ (362,754)		
27	Total Adjusted Rate Design Revenue			$ 82,164,210		$ 94,526,127		
28	Current Revenue			$ 82,164,785				
29	Revenue Adjustment Factor			1.0000070				
30	Class Target Revenue					$ 94,882,563		
31	Over/(Under) Recovery					$ (356,435)		

National Grid - RI Gas
Docket No. 3943

The Division's Small & Medium C&I Rate Designs
At National Grid's Proposed Overall Revenue Requirement

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Small C&I							
1	Customer Charge	223,069	$ 14.00	$ 3,122,966	$ 18.62	$ 4,153,545	$ 1,030,579	33.0%
	Distribution Charge							
2	Peak Head Block	9,714,984	$ 0.3721	$ 3,614,946	$ 0.4243	$ 4,122,068	$ 507,122	14.0%
3	Peak Tail Block	9,646,836	$ 0.2600	$ 2,508,177	$ 0.2965	$ 2,860,287	$ 352,110	14.0%
4	Total Peak	19,361,820		$ 6,123,123		$ 6,982,355	$ 859,232	14.0%
5	Off-Peak Head Block	1,156,562	$ 0.3721	$ 430,357	$ 0.4243	$ 490,729	$ 60,373	14.0%
6	Off-Peak Tail Block	3,133,532	$ 0.2600	$ 814,718	$ 0.2965	$ 929,092	$ 114,374	14.0%
7	Total Off-Peak	4,290,094		$ 1,245,075		$ 1,419,821	$ 174,746	14.0%
8	Total Distribution Charge	23,651,914		$ 7,368,198		$ 8,402,176	$ 1,033,978	14.0%
9	**Total Small C&I**			$ 10,491,164		$ 12,555,721	$ 2,064,557	19.7%
5	Current Revenue			$ 10,491,164				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 12,555,721**		
10	Target Revenue					$ 12,558,712		
11	Over/(Under) Recovery					$ (2,991)		
	Medium C&I							
12	Customer Charge	54,207	$ 45.00	$ 2,439,315	$ 60.00	$ 3,252,420	$ 813,105	33.3%
13	Demand Charge	3,520,189	$ 0.90	$ 3,168,170	$ 1.20	$ 4,224,227	$ 1,056,057	33.3%
14	Distribution Charge	52,727,447	$ 0.1715	$ 9,042,757	$ 0.1708	$ 9,005,848	$ (36,909)	-0.4%
15	**Total Medium C&I**			$ 14,650,242		$ 16,482,495	$ 1,832,252	12.5%
16	Current Revenue			$ 14,650,241				
17	Revenue Adjustment Factor			1.000000				
18	Adjusted Rate Design Revenue					**$ 16,482,493**		
19	Target Revenue					$ 16,488,520		
20	Over/(Under) Recovery					$ (6,027)		

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The Division's Large LLF & Large HLF C&I Rate Designs
At National Grid's Proposed Overall Revenue Requirement

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Large Low Load Factor C&I							
1	Customer Charge	5,292	$ 90.00	$ 476,280	$ 120.00	$ 635,040	$ 158,760	33.3%
2	Demand Charge	1,948,145	$ 0.90	$ 1,753,331	$ 1.20	$ 2,337,774	$ 584,444	33.3%
3	Distribution Charge	26,556,458	$ 0.1695	$ 4,501,320	$ 0.1735	$ 4,607,545	$ 106,226	2.4%
4	**Total Large LLF C&I**			$ 6,730,930		$ 7,580,359	$ 849,429	12.6%
5	Current Revenue			$ 6,730,933				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 7,580,363**		
8	Target Revenue					$ 7,581,366		
9	Over/(Under) Recovery					$ (1,003)		
	Large High Load Factor C&I							
10	Customer Charge	1,956	$ 90.00	$ 176,040	$ 120.00	$ 234,720	$ 58,680	33.3%
11	Demand Charge	511,582	$ 1.25	$ 639,478	$ 1.66	$ 849,226	$ 209,749	32.8%
12	Distribution Charge	10,344,001	$ 0.0964	$ 997,162	$ 0.0981	$ 1,014,746	$ 17,585	1.8%
13	**Total Large HLF C&I**			$ 1,812,679		$ 2,098,693	$ 286,013	15.8%
14	Current Revenue			$ 1,812,681				
15	Revenue Adjustment Factor			1.000001				
16	Adjusted Rate Design Revenue					**$ 2,098,695**		
17	Target Revenue					$ 2,098,874		
18	Over/(Under) Recovery					$ (179)		

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The Division's Extra Large LLF & Extra Large HLF C&I Rate Designs
At National Grid's Proposed Overall Revenue Requirement

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Extra Large Low Load Factor C&I							
1	Customer Charge	456	$ 300.00	$ 136,800	$ 300.00	$ 136,800	$ -	0.0%
2	Demand Charge	613,406	$ 0.90	$ 552,065	$ 1.50	$ 920,109	$ 368,044	66.7%
3	Distribution Charge	12,066,568	$ 0.0348	$ 419,917	$ 0.0256	$ 308,904	$ (111,012)	-26.4%
4	**Total Large LLF C&I**			$ 1,108,782		$ 1,365,813	$ 257,031	23.2%
5	Current Revenue			$ 1,108,782				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 1,365,813**		
8	Target Revenue					$ 1,366,338		
9	Over/(Under) Recovery					$ (525)		
	Extra Large High Load Factor C&I							
10	Customer Charge	888	$ 300.00	$ 266,400	$ 300.00	$ 266,400	$ -	0.0%
11	Demand Charge	1,497,057	$ 1.25	$ 1,871,321	$ 1.66	$ 2,485,115	$ 613,793	32.8%
12	Distribution Charge	49,479,796	$ 0.0270	$ 1,335,954	$ 0.0315	$ 1,558,614	$ 222,659	16.7%
13	**Total Large LLF C&I**			**$ 3,473,676**		$ 4,310,128	$ 836,452	24.1%
14	Current Revenue			$ 3,473,673				
15	Revenue Adjustment Factor			0.999999				
16	Adjusted Rate Design Revenue					**$ 4,310,125**		
17	Target Revenue					$ 4,309,866		
18	Over/(Under) Recovery					$ 259		

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The Division's Extra Large C&I, NGV, and Gas Lamps Rate Design
At National Grid's Proposed Overall Revenue Requirement

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Natural Gas Vehicle Service							
1	Customer Charge	84	$ 5.00	$ 420	$ 5.00	$ 420	$ -	0.0%
2	Distribution Charge	126,640	$ 0.1697	$ 21,491	$ 0.2049	$ 25,949	$ 4,458	20.7%
3	**Total Large LLF C&I**			$ 21,911		$ 26,369	$ 4,458	**20.3%**
4	Current Revenue			$ 22,738				
5	Revenue Adjustment Factor			**1.037753**				
6	Adjusted Rate Design Revenue					**$ 27,364**		
7	Target Revenue					$ 26,365		
8	Over/(Under) Recovery					$ 999		
	Gas Lamps							
9	Customer Charge	2,577	$ 7.15	$ 18,426	$ 8.29	$ 21,363	$ 2,938	15.9%
10	**Total Large LLF C&I**			$ 18,426		$ 21,363	$ 2,938	15.9%
11	Current Revenue			$ 18,423				
12	Revenue Adjustment Factor			0.999862				
13	Adjusted Proposed Revenue					**$ 21,361**		
14	Target Revenue					$ 21,361		
15	Over/(Under) Recovery					$ -		
	All Classes							
16	Adjusted Rate Design Revenue					**$ 145,277,391**		
17	Target Revenue					$ 145,642,757		
18	Over/(Under) Recovery					$ (365,365)		

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The Division's Residential Non-Heating Rate Design
At The Division's Proposed Overall Revenue Increase

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Residential Non-Heat							
1	Customer Charge	332,584	$ 7.50	$ 2,494,380	$ 10.00	$ 3,325,840	$ 831,460	33.3%
2	Distribution Charge	5,249,245	$ 0.4226	$ 2,218,331	$ 0.3566	$ 1,871,881	$ (346,450)	-15.6%
3	**Total Calculated Revenue**			$ 4,712,711		$ 5,197,721	$ 485,010	10.3%
4	Revenue Adjustment Factor					1.0000020		
5	Adjusted Rate Design Revenue					**$ 5,197,731**		
6	Target Revenue					$ 5,198,716		
7	Over/(Under) Recovery					$ (985)		
	Residential Non-Heat Discount							
8	Customer Charge	29,700	$ 7.50	$ 222,750	$ 9.00	$ 267,300	$ 44,550	20.0%
9	Distribution Charge	468,107	$ 0.4226	$ 197,822	$ 0.3209	$ 150,234	$ (47,588)	-24.1%
10	**Total Res Non-Heat Discount**			$ 420,572		$ 417,534	$ (3,038)	-0.7%
11	Revenue Adjustment Factor					1.0000020		
12	Adjusted Rate Design Revenue					**$ 417,535**		
13	Target Revenue					$ 416,623		
14	Over/(Under) Recovery					$ 911		
15	Total Adjusted Rate Design Revenue			$ 5,133,283		**$ 5,615,255**		
16	Current Revenue			$ 5,133,293				
17	Revenue Adjustment Factor			1.0000020				
18	Class Target Revenue					$ 5,615,338		
19	Over/(Under) Recovery					$ (83)		

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The Division's Residential Heating Rate Design
At The Division's Proposed Overall Revenue Increase

Ln No	Rate Class/Billing Unit	Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Residential Heat							
1	Customer Charge	2,159,396	$ 9.00	$ 19,434,564	$ 12.00	$ 25,912,752	$ 6,478,188	33.3%
	Distribution Charge							
2	Peak Head Block	97,906,081	$ 0.3600	$ 35,246,189	$ 0.3535	$ 34,609,800	$ (636,390)	-1.8%
3	Peak Tail Block	33,038,600	$ 0.2800	$ 9,250,808	$ 0.2750	$ 9,085,615	$ (165,193)	-1.8%
4	Total Peak	130,944,681		$ 44,496,997		$ 43,695,415	$ (801,583)	-1.8%
5	Off-Peak Head Block	23,477,266	$ 0.3600	$ 8,451,816	$ 0.3535	$ 8,299,214	$ (152,602)	-1.8%
6	Off-Peak Tail Block	11,075,546	$ 0.2800	$ 3,101,153	$ 0.2750	$ 3,045,775	$ (55,378)	-1.8%
7	Total Off-Peak	34,552,812		$ 11,552,969		$ 11,344,989	$ (207,980)	-1.8%
8	Total Distribution Charge	165,497,493		$ 56,049,966		$ 55,040,403	$ (1,009,562)	-1.8%
9	**Total Residential Heat**			$ 75,484,530		$ 80,953,155	$ 5,468,626	7.2%
10	Revenue Adjustment Factor					1.0000070		
11	Adjusted Rate Design Revenue					**$ 80,953,722**		
12	Target Revenue					$ 80,977,678		
13	Over/(Under) Recovery					$ (24,523)		
	Residential Heat Discount							
14	Customer Charge	192,000	$ 9.00	$ 1,728,000	$ 10.80	$ 2,073,600	$ 345,600	20.0%
	Distribution Charge							
15	Peak Head Block	8,621,746	$ 0.3600	$ 3,103,829	$ 0.3182	$ 2,743,440	$ (360,389)	-11.6%
16	Peak Tail Block	2,909,425	$ 0.2800	$ 814,639	$ 0.2475	$ 720,083	$ (94,556)	-11.6%
17	Total Peak	11,531,171		$ 3,918,468		$ 3,463,522	$ (454,945)	-11.6%
18	Off-Peak Head Block	2,099,634	$ 0.3600	$ 755,868	$ 0.3182	$ 668,104	$ (87,765)	-11.6%
19	Off-Peak Tail Block	990,515	$ 0.2800	$ 277,344	$ 0.2475	$ 245,152	$ (32,192)	-11.6%
20	Total Off-Peak	3,090,149		$ 1,033,212		$ 913,256	$ (119,956)	-11.6%
21	Total Distribution Charge	14,621,320		$ 4,951,680		$ 4,376,778	$ (574,902)	-11.6%
22	**Total Residential Heat Discount**			$ 6,679,680		$ 6,450,378	$ (229,302)	-3.4%
23	Revenue Adjustment Factor					1.0000070		
24	Adjusted Rate Design Revenue					**$ 6,450,423**		
25	Target Revenue					$ 6,420,222		
26	Over/(Under) Recovery					$ 30,157		
27	Total Adjusted Rate Design Revenue			$ 82,164,210		**$ 87,403,534**		
28	Current Revenue			$ 82,164,785				
29	Revenue Adjustment Factor			1.0000070				
30	Class Target Revenue					$ 87,397,900		
31	Over/(Under) Recovery					$ 5,634		

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The Division's Small & Medium C&I Rate Designs
At The Division's Proposed Overall Revenue Increase

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Small C&I							
1	Customer Charge	223,069	$ 14.00	$ 3,122,966	$ 18.62	$ 4,153,545	$ 1,030,579	33.0%
	Distribution Charge							
2	Peak Head Block	9,714,984	$ 0.3721	$ 3,614,946	$ 0.3658	$ 3,553,741	$ (61,204)	-1.7%
3	Peak Tail Block	9,646,836	$ 0.2600	$ 2,508,177	$ 0.2556	$ 2,465,731	$ (42,446)	-1.7%
4	Total Peak	19,361,820		$ 6,123,123		$ 6,019,472	$ (103,650)	-1.7%
5	Off-Peak Head Block	1,156,562	$ 0.3721	$ 430,357	$ 0.3658	$ 423,070	$ (7,286)	-1.7%
6	Off-Peak Tail Block	3,133,532	$ 0.2600	$ 814,718	$ 0.2556	$ 800,931	$ (13,788)	-1.7%
7	Total Off-Peak	4,290,094		$ 1,245,075		$ 1,224,001	$ (21,074)	-1.7%
8	Total Distribution Charge	23,651,914		$ 7,368,198		$ 7,243,474	$ (124,724)	-1.7%
9	**Total Small C&I**			$ 10,491,164		$ 11,397,018	$ 905,854	8.6%
5	Current Revenue			$ 10,491,164				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 11,397,018**		
10	Target Revenue					$ 11,397,806		
11	Over/(Under) Recovery					$ (788)		
	Medium C&I							
12	Customer Charge	54,207	$ 45.00	$ 2,439,315	$ 60.00	$ 3,252,420	$ 813,105	33.3%
13	Demand Charge	3,520,189	$ 0.90	$ 3,168,170	$ 1.20	$ 4,224,227	$ 1,056,057	33.3%
14	Distribution Charge	52,727,447	$ 0.1715	$ 9,042,757	$ 0.1520	$ 8,014,572	$ (1,028,185)	-11.4%
15	**Total Medium C&I**			$ 14,650,242		$ 15,491,219	$ 840,976	5.7%
16	Current Revenue			$ 14,650,241				
17	Revenue Adjustment Factor			1.000000				
18	Adjusted Rate Design Revenue					**$ 15,491,217**		
19	Target Revenue					$ 15,492,172		
20	Over/(Under) Recovery					$ (955)		

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The Division's Large LLF & Large HLF C&I Rate Designs
At The Division's Proposed Overall Revenue Increase

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Large Low Load Factor C&I							
1	Customer Charge	5,292	$ 90.00	$ 476,280	$ 120.00	$ 635,040	$ 158,760	33.3%
2	Demand Charge	1,948,145	$ 0.90	$ 1,753,331	$ 1.20	$ 2,337,774	$ 584,444	33.3%
3	Distribution Charge	26,556,458	$ 0.1695	$ 4,501,320	$ 0.1563	$ 4,150,774	$ (350,545)	-7.8%
4	**Total Large LLF C&I**			$ 6,730,930		$ 7,123,588	$ 392,658	5.8%
5	Current Revenue			$ 6,730,933				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 7,123,591**		
8	Target Revenue					$ 7,122,876		
9	Over/(Under) Recovery					$ 715		
	Large High Load Factor C&I							
10	Customer Charge	1,956	$ 90.00	$ 176,040	$ 120.00	$ 234,720	$ 58,680	33.3%
11	Demand Charge	511,582	$ 1.25	$ 639,478	$ 1.66	$ 849,226	$ 209,749	32.8%
12	Distribution Charge	10,344,001	$ 0.0964	$ 997,162	$ 0.0834	$ 862,690	$ (134,472)	-13.5%
13	**Total Large HLF C&I**			$ 1,812,679		$ 1,946,636	$ 133,957	7.4%
14	Current Revenue			$ 1,812,681				
15	Revenue Adjustment Factor			1.000001				
16	Adjusted Rate Design Revenue					**$ 1,946,638**		
17	Target Revenue					$ 1,946,170		
18	Over/(Under) Recovery					$ 467		

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The Division's Extra Large LLF & Extra Large HLF C&I Rate Designs
At The Division's Proposed Overall Revenue Increase

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Extra Large Low Load Factor C&I							
1	Customer Charge	456	$ 300.00	$ 136,800	$ 300.00	$ 136,800	$ -	0.0%
2	Demand Charge	613,406	$ 0.90	$ 552,065	$ 1.50	$ 920,109	$ 368,044	66.7%
3	Distribution Charge	12,066,568	$ 0.0348	$ 419,917	$ 0.0145	$ 174,965	$ (244,951)	-58.3%
4	**Total Extra Large LLF C&I**			$ 1,108,782		$ 1,231,874	$ 123,092	11.1%
5	Current Revenue			$ 1,108,782				
6	Revenue Adjustment Factor			1.000000				
7	Adjusted Rate Design Revenue					**$ 1,231,874**		
8	Target Revenue					$ 1,232,031		
9	Over/(Under) Recovery					$ (157)		
	Extra Large High Load Factor C&I							
10	Customer Charge	888	$ 300.00	$ 266,400	$ 300.00	$ 266,400	$ -	0.0%
11	Demand Charge	1,497,057	$ 1.25	$ 1,871,321	$ 2.00	$ 2,994,114	$ 1,122,793	60.0%
12	Distribution Charge	49,479,796	$ 0.0270	$ 1,335,954	$ 0.0126	$ 623,445	$ (712,509)	-53.3%
13	**Total Extra Large HLF C&I**			**$ 3,473,676**		$ 3,883,959	$ 410,284	11.8%
14	Current Revenue			$ 3,473,673				
15	Revenue Adjustment Factor			0.999999				
16	Adjusted Rate Design Revenue					**$ 3,883,956**		
17	Target Revenue					$ 3,885,464		
18	Over/(Under) Recovery					$ (1,505)		

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The Division's NGV & Gas Lamps Rate Designs
At The Division's Proposed Overall Revenue Increase

Ln No		Billing Units	Present Rate	Present Revenue	Proposed Rate	Proposed Revenue	Dollar Increase	Percent Increase
	Natural Gas Vehicle Service							
1	Customer Charge	84	$ 5.00	$ 420	$ 5.00	$ 420	$ -	0.0%
2	Distribution Charge	126,640	$ 0.1697	$ 21,491	$ 0.1815	$ 22,985	$ 1,494	7.0%
3	**Total NGV**			$ 21,911		$ 23,405	$ 1,494	6.8%
4	Current Revenue			$ 22,738				
5	Revenue Adjustment Factor			**1.037753**				
6	Adjusted Rate Design Revenue					**$ 24,289**		
7	Target Revenue					$ 24,282		
8	Over/(Under) Recovery					$ 7		
	Gas Lamps							
9	Customer Charge	2,577	$ 7.15	$ 18,426	$ 7.64	$ 19,688	$ 1,263	6.9%
10	**Total Gas Lamps**			$ 18,426		$ 19,688	$ 1,263	6.9%
11	Current Revenue			$ 18,423				
12	Revenue Adjustment Factor			0.999862				
13	Adjusted Rate Design Revenue					**$ 19,686**		
14	Target Revenue					$ 19,674		
15	Over/(Under) Recovery					$ 15		
	All Classes							
16	Adjusted Rate Design Revenue					**$ 134,137,059**		
17	Target Revenue					$ 134,133,713		
18	Over/(Under) Recovery					$ 3,345		