BEFORE THE STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES
OFFICE OF ADMINISTRATIVE LAW

IN THE MATTER OF THE PETITION OF	)	
NEW JERSEY NATURAL GAS COMPANY	)	**BPU Docket No. GR06060415**
FOR THE ANNUAL REVIEW AND	)	**OAL Docket No. PUCRA 11432-2006N**
REVISION OF ITS BASIC GAS SUPPLY	)	
SERVICE (BGSS) FOR F/Y 2007	)	

DIRECT TESTIMONY OF MICHAEL J. MCFADDEN ON BEHALF OF THE NEW JERSEY DEPARTMENT OF THE PUBLIC ADVOCATE, DIVISION OF RATE COUNSEL

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I. BACKGROUND AND QUALIFICATIONS

Q. Please state your name and business address.

A. My name is Michael J. McFadden and my business address is 625 South York Street, Denver, Colorado 80209-4642.

Q. By whom and in what capacity are you employed?

A. I am president of McFadden Consulting Group, Inc. ("McFadden Consulting").

Q. Have you prepared a statement of your experience and qualifications?

A. Yes. My resume is provided in the Appendix to this testimony.

Q. What is the purpose of your testimony?

A. McFadden Consulting was retained by the Division of Rate Counsel ("Rate Counsel") to assist it in analyzing New Jersey Natural Gas Company's ("NJNG" or "Company") petition for annual review and revision of its Basic Gas Supply Service ("BGSS") for fiscal year 2007 filed in Docket No. GR06060415. NJNG filed its petition with the New Jersey Board of Public Utilities ("BPU" or "Board") on June 1, 2006 to be effective September 1, 2006. The purpose of my testimony is to present the results of my review and to recommend changes in how NJNG calculates its gas cost recoveries in determining its deferred gas cost.

My testimony is divided into the following sections:

- Background and Qualifications
- Summary of Findings, Conclusions, and Recommendations
- Information Reviewed
- Foundation Concepts
- NJNG's Use of Estimated Sales for BGSS Gas Recoveries

- "Calendarized" Versus Actual Sales & Revenue
- Company's Responses to Rate Counsel's Concerns
- Recommendations

II. SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Q. Please summarize your findings, conclusions and recommendations pertaining to the Company's BGSS filings.

A. I identified an error in the Company's calculation of Gas Cost Recoveries used in determining its Deferred Gas Cost. The Company uses ***estimated*** sales to determine its Gas Cost Recoveries and never reconciles them to Actual Billed Sales for BGSS purposes. The Actual Billed Sales exceeded the Company's estimated sales by 36,905,604 therms over the eight years ending September 30, 2006. Using the estimated sales understated Gas Cost Recoveries by $42,929,786 over the same period.

I recommend the Board require NJNG to:

- immediately begin to use Actual Billed Sales on a monthly basis in determining its Deferred Gas Costs
- adjust its Deferred Gas Cost to reflect the understated Gas Cost Recoveries by $42,929,786 for the eight-year period ending September 30, 2006, and return this amount to the Company's customers
- reimburse its customers for the carrying costs associated with the error at the 10% interest rate used in calculating the Deferred Gas Cost for BGSS purposes, which amounts to $1,161,190 through September 30, 2006
- reimburse its customers for carrying costs of $357,750 per month for each month from September 2006 until the Company refunds the understated Gas Cost Recoveries.

In addition, the Board should carefully review the Company's subsequent BGSS filings to assure that NJNG's Gas Recoveries are properly based on actual billed sales.

III. Information Reviewed

Q. Please describe the information you reviewed.

A. I reviewed the Company's Petition filed June 1, 2006 and the testimony, exhibits, and work papers filed with the petition. I analyzed the Company's responses to Rate Counsel's 90 formal data requests and to numerous informal data requests. I also reviewed BPU Order Approving BGSS Price Structure issued January 6, 2003 in Docket No. GX01050304, BPU Final Decision and Order in Docket Nos. GX99030121 & GO99030123 issued March 30, 2001, NJNG BGSS tariff provisions, and N.J.A.C. 14:3-13.1 to 13.4 relating to interest calculations.

Additionally, I conducted interviews during an on-site visit made January 11 and 12, 2007 with key Company personnel, including:

- Joseph P. Shields, Vice President Energy Services
- Tina M. Sinks, Senior Regulatory Affairs Analyst
- Thomas J. Klaus, Supervisor, Energy Planning

On May 3, 2007, I attended a meeting with BPU Staff and various Company officials, including:

- Mark R. Sperduto, Vice President Regulatory Affairs
- Joseph P. Shields, Vice President Energy Services
- Tracey Thayer, Director, Regulatory Affairs Counsel
- Michael P. Moscufo, Director, Rates & Tariffs
- Jay Buth, Controller.

Subsequent to the May 3, 2007 meeting, I participated in several teleconferences with Company personnel including Jay Buth and Tina Sinks. Additionally, I attended a meeting with various BPU Staff members on June 20, 2007.

IV. FOUNDATION CONCEPTS

Q. Prior to getting into the details pertaining to the error in NJNG's BGSS Gas Cost Recoveries, do you have several matters that you need to discuss?

A. Yes. As pointed out in the summary above, there is an error in the Company's calculation of Gas Cost Recoveries used in its BGSS mechanism. I believe it is critical to have a good understanding of several key concepts to understand the error. These concepts are:

- Gas Cost Recovery Mechanisms
- Accounting for Deferred Gas Cost
- Cycle Billing
- Unbilled Sales and Unbilled Revenue

I will discuss each of these concepts before I address the particulars of the error in NJNG's BGSS Gas Cost Recoveries.

A. Gas Cost Recovery Mechanisms

Q. Turning to Gas Cost Recovery mechanisms first, please explain in general terms the purpose and operation of Gas Cost Recovery Mechanisms.

A. Gas costs typically comprise a significant portion of a gas company's total expenses. In NJNG's case, gas costs comprise 74.4% of its total revenue in fiscal year 2006.[1] Because gas cost comprises such a large percentage of a gas company's revenue, small changes

[1] $847,276 ÷ $1,138,774 New Jersey Natural Gas Company 2006 Annual Report.

can have a dramatic effect on its financial health. Most, if not all, utility regulatory commissions in the United States permit gas companies to have a Gas Cost Recovery ("GCR") mechanism, which is designed to ensure that gas cost is recovered on a dollar-for-dollar basis and thus has no effect on a company's operating income.

Figure 1 contains the formula for a GCR in simple terms. The formula is: Projected Gas Cost plus or minus Deferred Gas Cost minus Base Gas Cost equals Purchased Gas Adjustment. In New Jersey, the Purchased Gas Adjustment ("PGA") is known as the BGSS charge.

Figure 1
Formula for a GCR Mechanism

	Projected Gas Cost
±	Deferred Gas Cost
-	Base Gas Cost
=	Purchased Gas Adjustment

Projected Gas Cost reflects the cost the Company anticipates incurring to provide service to its customers during the period a specific BGSS charge is in effect. Because the Projected Gas Cost increment is simply a projection, it will not collect the actual gas cost. There will be either over- or under-recoveries for a variety of reasons, including: changes in the price of gas, changes in the source of the gas purchased, changes in sales to customers, and the impact of cycle billing, which is discussed later. Because it is recognized that the Projected Gas Cost increment will not recover gas cost exactly, there is a Deferred Gas Cost increment. Deferred Gas Cost reflects any over- or under-recovery of gas cost from previous periods. Base Gas Cost is the cost of gas included in the Company's currently effective base rates and is simply a subtractive number.[2]

Q. Would you please elaborate on how Deferred Gas Cost is determined and reflected in a company's GCR mechanism?

A. Deferred Gas Cost is determined on a monthly basis and is reflected in a company's accounting records. Deferred Gas Cost is calculated by comparing actual invoiced, or booked, gas cost with the revenue collected to recover that gas cost. For purposes of this testimony, I refer to the revenues collected to recover gas costs as Gas Cost Recoveries. If Gas Cost Recoveries are higher than actual gas cost, there is an over-recovery and a negative Deferred Gas Cost. If Gas Cost Recoveries are lower than actual gas cost, there is an under-recovery and a positive Deferred Gas Cost. The over- and under-recoveries are accumulated for a period of time, generally one year, and the balance at the end of the period is used to determine the Deferred Gas Cost increment included in the following year's Purchased Gas Adjustment.

Determining cost of gas is straightforward. Gas cost is determined by summing the invoices submitted by the company's various suppliers. This generally includes the commodity providers and the pipeline transporters. Determining Gas Cost Recoveries can be more problematic, as discussed later. Therefore, during my investigation I focused a significant portion of my efforts on the NJNG's calculation of its Gas Cost Recoveries.

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[2] Many gas companies have unbundled their rates and have eliminated the Base Gas Cost from their Total Base Rates. In these cases, total gas costs are recovered through a GCR mechanism without a Base Gas Cost.

Q. In your review of NJNG's BGSS filing of June 1, 2006, did you analyze all three components of NJNG's GCR mechanism?

A. Yes. However, I focused most of my efforts on the Deferred Gas Cost component because Deferred Gas Cost is the result of comparing actual Gas Cost Recoveries with actual gas cost. Deferred Gas Cost is also the component insuring gas cost is collected on a dollar-for-dollar basis. The other components, i.e., Projected Gas Cost and Base Gas Cost, are simply tools used to establish the following year's BGSS charge.

B. Accounting for Deferred Gas Cost

Q. The second foundation concept you identified is accounting for Deferred Gas Cost. Please explain what you mean by this.

A. If a gas company's GCR mechanism contains a provision to collect any under-recoveries or return any over-recoveries, it must account for those amounts. The purpose of accounting for Deferred Gas Cost is to remove the impact of any over- or under-recoveries from a company's Income Statement.

NJNG maintains its accounting records in accordance with the Uniform System of Accounts, which is prescribed by the Federal Energy Regulatory Commission ("FERC") in the Code of Federal Regulations ("CFR") Title 18, Part 201. Although FERC is responsible for the Uniform System of Accounts, many, if not all, state regulatory commissions have adopted it for gas companies subject to their regulatory jurisdiction. NJNG does maintain its accounts in accordance with the Uniform System of Accounts as required by the BPU. Accounting for Deferred Gas Cost effectively removes the impact any over- or under-recoveries have on a company's income statement.

Q. Please explain how deferred gas accounting removes the impact of over- or under-recoveries from the income statement.

A. Basically, Deferred Gas Cost is recognized as an amount that will either be collected from customers or returned to them at a future time. Therefore, if there is an over-recovery of gas cost, the over-recovery is added to actual gas cost in order to remove its impact on the Income Statement.

For example, in September 2006, NJNG had BGSS Gas Cost Recoveries of approximately $536.8 million and BGSS gas cost of approximately $501.2 million, which equated to an over-recovery of approximately $35.6 million.[3] Embedded in the Company's income statement for September 2006 was BGSS revenue of $536.8 million and BGSS gas cost of $501.2 million. Without deferred accounting for Gas Cost, the over-recovery of $35.6 million would fall to the Company's bottom line, net of taxes.

With deferred accounting, the $35.6 million is added to actual gas cost and reflected on the Company's Balance Sheet as being owed to customers. In this manner, the over-recovery is removed from the Company's net income, because BGSS revenue and BGSS gas cost would both amount to $536.8 million.

C. Cycle Billing

Q. Please explain your next foundation matter, cycle billing.

A. NJNG, as do most gas distribution utilities, bills its customers on a cycle basis. As of July 2006, NJNG had approximately 470,000 customers. Reading all the customers'

[3] See NJNG's Basic Gas Supply Service report for September 2006 filed November 1, 2006.

meters on the same day would be a waste of resources, given today's technology. Hence, most gas companies divide their meter reading schedules into cycles. Assuming there are five work days in a week, there would be 260 workdays in a year or 21.66 workdays per month. Because there are exceptions to reading customers' meters, such as disconnects, customers moving, or other actions requiring customers' meters to be read other than on their regularly scheduled days, gas distribution companies generally assume 20 working days in a month. On each cycle, a utility will read approximately 1/20th of its customers' meters. With 20 working days in a month, all the customers' meters would be read during that month. NJNG uses 20 cycles on a calendar month basis.[4]

The Company has a slightly different twist to its meter reading schedule from most gas distribution companies with which I am familiar. From May through September of each year, it only reads residential and regular commercial customers every other month. Residential and regular commercial customers with odd numbered meter reading cycles are read during odd numbered months and those with even numbered meter reading cycles are read during even numbered months. These customers are, however, billed on a monthly basis. For the months in which a customer's meter is not read, the customer receives a bill based on estimated usage.

A small portion of the Company's customers is billed on calendar month usage. There are approximately 5,500 large commercial accounts read at the end of each calendar month. In addition, there are approximately 20 large accounts and

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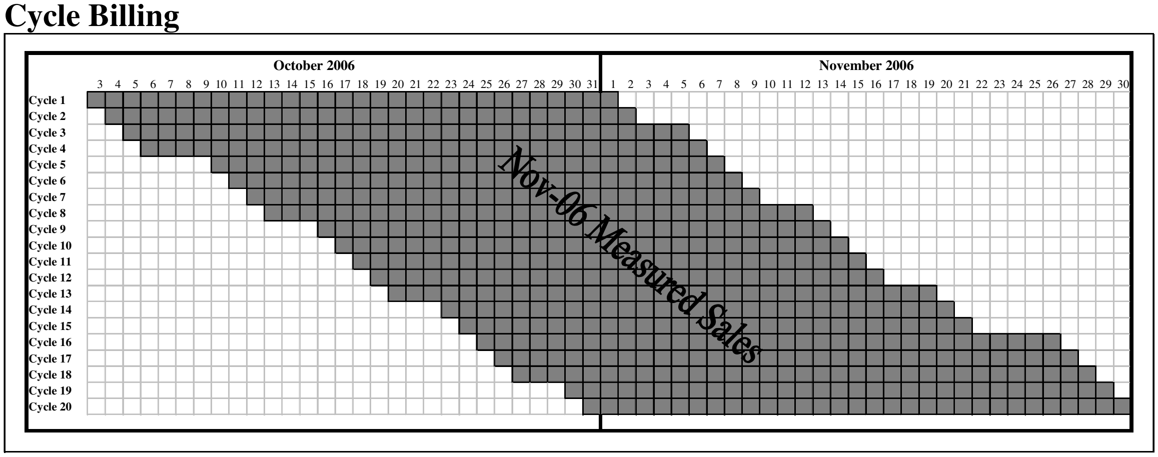
[4] See response to Data Request RCR-05.

approximately 1,480 other accounts that have meters with recording devices capable of providing actual usage for the calendar month.[5]

Figure 2 contains an illustration of cycle billing based on NJNG's actual billing cycles for November 2006. As shown in **Figure 2**, a significant portion of actual billed usage for customers subject to cycle billing was consumed in October 2006. For example, usage for customers read on Cycle 1 was for the period October 3, 2006 through November 1, 2006. Therefore, only one day's usage out of a total of 30 days was actually consumed in November. For Cycle 10 customers, 15 days of usage out of a total 29 days usage was actually consumed in November.

Figure 2
Cycle Billing



D. Unbilled Sales and Unbilled Revenue

Q. Please describe unbilled sales.

A. Unbilled sales are the volumes of gas that have been delivered to customers but not yet billed. Unbilled sales exist because of cycle billing. Unbilled sales would not exist if all

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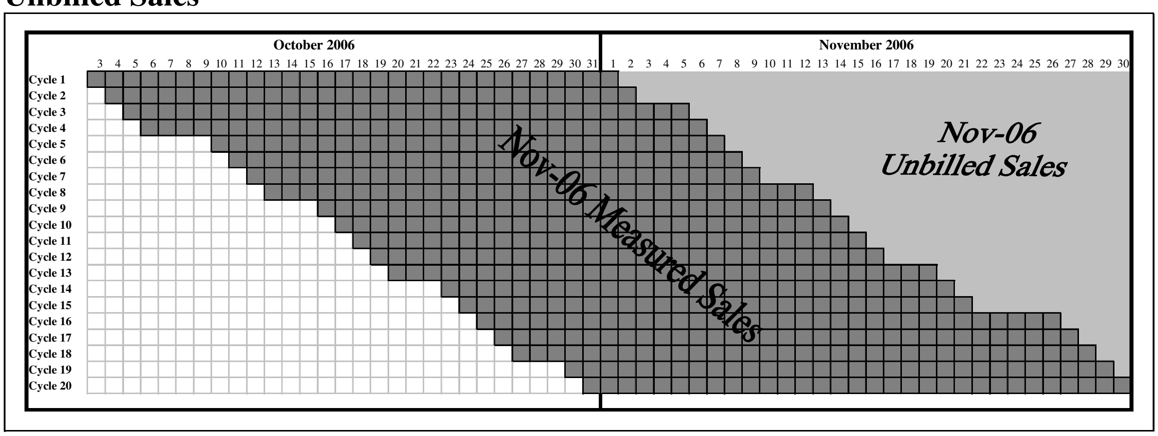
[5] Ibid.

meters were read on a calendar month basis. However, because of cycle billing, there are deliveries that have been made to customers, but the volume is unknown because the customers' meters have not yet been read. The revenue associated with unbilled sales is known as unbilled revenue.

Figure 3 contains an illustration of unbilled sales. **Figure 3** is a copy of NJNG's November 2006 billing cycle as contained in **Figure 2**, except that the period of time during which the Company made deliveries to customers after their most recent meter reading date is illustrated by the light gray triangular area labeled "Nov-06 Unbilled Sales." During this time, volumes have been delivered to and used by the customers, and the customers have an obligation to pay for that energy.

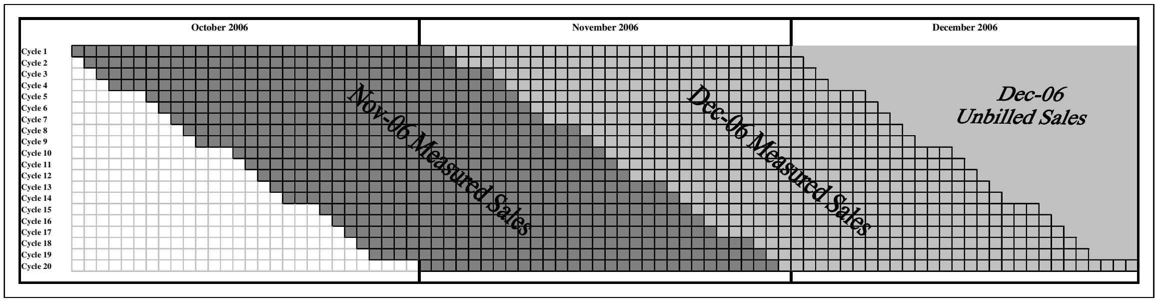
Figure 3
Unbilled Sales



Unbilled sales occur each month. In any given month, the unbilled sales from the previous month become part of the actual billed sales in the current month. Additionally, cycle billing gives rise to a new level of unbilled sales.

Figures 4 and 5 expand on **Figure 3** and help further illustrate this concept. **Figure 4** adds another month of information to **Figure 3**. November 2006's unbilled

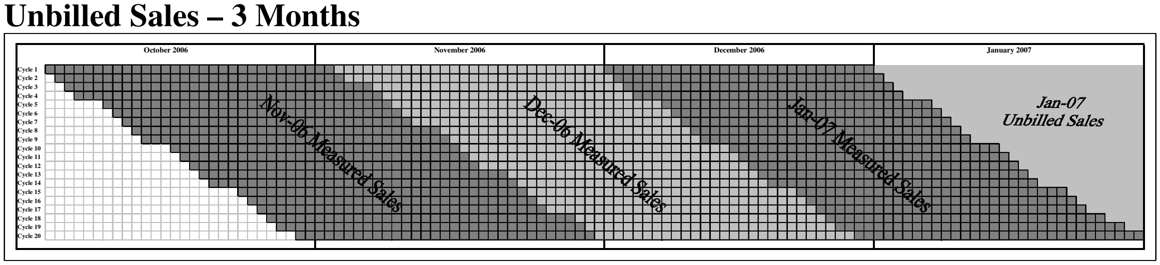
Figure 4
Unbilled Sales – 2 Months



sales become part of December 2006's billed sales. Cycle billing in turn creates a new set of unbilled sales relating to deliveries made in December 2006, but not yet billed to customers.

Figure 5 adds a third month to the illustration. January 2007 is added to illustrate unbilled sales for the three-month period. December 2006's unbilled sales become part

Figure 5
Unbilled Sales – 3 Months



of January 2006's actual sales and there are now unbilled sales related to January 2007's unbilled sales. This same pattern will continue for as long as sales are billed on a cycle basis. If this example were extended for a one-year period through November 2007, the unbilled sales would be limited to the unbilled sales during the month of November 2007. In fact, if this example were extended to a decade, the only unbilled sales would be those relating to the last month in the decade. This example also illustrates that there should never be an accumulation of unbilled sales.

Q. Please explain how unbilled sales relate to unbilled revenue.

A. Unbilled sales create unbilled revenue. Unbilled sales have been delivered to the customers, and the customers have incurred an obligation to pay for those deliveries. Historically, unbilled sales and the related unbilled revenue was not an issue. Utilities simply recognized revenue when it was billed. For financial reporting purposes, companies were still reporting 12 months of revenue, although the revenue reflected sales for a twelve month period that was slightly skewed.

This practice changed with the passage of the Tax Reform Act of 1986[6], which required, among other things, that utilities accrue unbilled revenue related to the unbilled sales due to cycle billing. In the year the utilities began recognizing unbilled revenue for tax purposes, they effectively recognized approximately one-half month of additional revenue, with no offsetting increase in expenses. The result was a one-time increase in taxable income. The following year, a utility would reverse its previous year's unbilled revenue and replace it with the current year's revenue.

Although the Tax Reform Act of 1986 only required utilities to reflect unbilled revenue for tax purposes, many utilities also began recognizing unbilled revenue for financial reporting purposes. Again, in the year a utility began recognizing unbilled revenue for financial reporting purposes, it would have effectively increased its reported revenue by approximately one-half month of revenue, thereby increasing reported net income. Again, this would have generated a one-time increase in net income. In the

[6] P.L. 99-514

following year, the company would have reversed the previous year's unbilled revenue and recorded the current year's unbilled revenue. For both tax and reporting purposes, there may have been a slight impact based on the difference between the current year's unbilled revenue and the previous year's unbilled revenue.

Q. Please explain how companies typically calculate unbilled revenue.

A. Although the concepts of unbilled sales and unbilled revenue are straightforward, determining their amounts can be problematic. The reason is that neither unbilled sales nor unbilled revenue can actually be measured. They are unknowns and must be estimated.

Even after the fact, i.e., after a month is completed and all actual data is available, neither unbilled sales nor unbilled revenue can be determined on an actual basis. This can be illustrated by considering a single customer whose meter is read on the 15th day of the month. Using January 2007 as an example, the customer's meter reading would have reflected usage from December 15, 2006 through January 15, 2007. The customer's usage for that period is a known quantity. However, since the customer's meter was not read on December 31, 2006, the portions of the customer's usage that occurred in December versus January are unknown.

As stated previously, the Tax Reform Act of 1986 required utilities to recognize unbilled revenue for tax purposes. It did not provide any direction in how they should be determined, and there is no apparent universally accepted methodology for determining unbilled revenue.

However, since revenues are contingent on sales, many utilities rely on estimating unbilled sales, and multiplying the resulting estimated unbilled sales times the utility's existing rates to determine the estimated unbilled revenue.

Q. How should unbilled revenue be reflected in total revenue for a given month?

A. As explained above and illustrated in **Figures 3, 4, and 5**, during each month the prior month's unbilled sales and the related revenue, which are unknown and immeasurable, become a part of the current month's measured sales and Actual Billed Revenue, which is known and measurable. Thus, for any given month, the current unbilled revenue should be recorded and the previous month's unbilled revenue removed. The result for any given month is total revenue attributable to deliveries during that month amount to the current month's Actual Billed Revenue, plus the current month's Unbilled Revenue, less the previous month's Unbilled Revenue. **Figure 6** contains the formula for calculating calendar-month revenue for November in simplified terms.

Figure 6
November Calendar Month Revenue

	November Actual Billed Revenue
+	November Unbilled Revenue
-	October Unbilled Revenue
=	November Calendar Month Revenue

Q. Does NJNG recognize unbilled revenue in its financial statements?

A. Yes. NJNG does recognize unbilled revenue for financial reporting purposes. In its 2006 Annual Report, it states:

> Revenues from the sale of natural gas to customers of the Company are recognized in the period that gas is delivered and consumed by customers, including an estimate for unbilled revenue.

> Natural gas sales to individual customers are based on their meter readings, which are performed on a systematic basis throughout the month. At the end of each month, the amount of natural gas delivered to each customer after the last meter reading is estimated and the Company recognizes unbilled revenues related to these amounts. The unbilled revenue estimates are based on monthly send-out amounts, estimated customer usage by customer type, weather effects, unaccounted-for gas and the most recent rates.[7]

Q. Does NJNG calculate Unbilled Revenue in the same manner you described above?

A. No. Rather than estimating unbilled revenue, it estimates total revenue attributable to deliveries in a calendar month, which the Company calls "Calendarized" revenue. **Figure 7** contains the Company's formula for calculating calendar-month revenue for November in simplified terms. As discussed later, I was unable to verify the process or the accuracy of the process NJNG uses for financial reporting purposes. Regardless, based on the Company's verbal explanation offered at the May 3, 2007 meeting, I believe **Figure 7** accurately portrays the process in simplified terms.[8]

Figure 7
NJNG's Calendarized Revenue

	November ***Estimated*** Revenue
+	October ***Actual*** Billed Revenue
-	October ***Estimated*** Revenue
=	November ***Calendarized*** Revenue

In comparing **Figure 6** and **Figure 7**, it is easy to see the different approaches: one estimates Unbilled Revenue while NJNG estimates total revenue.

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[7] New Jersey Natural Gas Company 2006 Annual Report, Notes to Financial Statements, Note 1 Summary of Significant Accounting Policies.

[8] How a company reverses the previous month's estimate is critical. If reversed inappropriately, it can result in an unreasonably large balance of unbilled revenue. I have not reviewed the method NJNG uses for reversing its previous month's estimate, because to date the Company has not provided the information needed in response to data requests.

Q. Assuming a gas company recognizes Unbilled Revenue for financial reporting purposes, is it necessary to recognize Unbilled Revenue in its GCR mechanism?

A. I believe Unbilled Revenue associated with gas cost is inherent in the calculation of Deferred Gas Cost, if a company determines Gas Cost Recoveries based on actual billed sales. Multiplying actual billed sales times the portion of the company's rate designed to recover gas cost, i.e., BGSS plus Base Gas Cost, yields Gas Cost Recoveries. The resulting Gas Cost Recoveries, which are based on cycle billed sales, are compared to Actual Gas Cost, which is based on calendar month receipts to derive Deferred Gas Cost. As a result, any deliveries not yet billed are not included in the amounts already recovered from ratepayers, and thus are included in the amount to be recovered the following year. Therefore, Deferred Gas Cost includes the impact of unbilled sales associated with gas cost.

For this reason, I do not believe it is necessary to separately identify the unbilled revenue associated with gas cost in determining Deferred Gas Cost included in a GCR mechanism. Additionally, I am aware of utilities that do not separately identify unbilled revenue in the calculation of their Deferred Gas Cost, although some do.

V. NJNG'S USE OF ESTIMATED SALES FOR BGSS GAS RECOVERIES

Q. How does NJNG treat unbilled revenue in its calculation of Deferred Gas Cost?

A. The Company treats unbilled revenue in its Deferred Gas Cost similar to the method I described previously—with one significant difference. It calculates its Gas Cost Recoveries based on its estimated sales, which it refers to as "calendarized" sales or therms, ***but without the crucial step of reconciling to actual billed sales***.

The Company explained how it calculates these amounts in its response to Rate Counsel Data Request RCR-4:

> Each month, the Company books calendarized therms and revenues associated with the calendar month therms-to-account-for. The calendar month therms-to-account-for are reduced by specific calendar month metered volumes and a standardized lost and unaccounted for gas percentage to determine the calendar month therms to be allocated to rate classes based on the rate class proration percentages of the total cycle billed therms. The booked calendar month revenues are calculated as the product of the booked calendar month therms per rate class times the effective tariff rates. The unbilled revenue and unbilled therms are the default results of this calculation versus the billed revenues and billed therms. Unbilled revenue and therms are not input components of the booked revenues; they are the net products of the process. This process has been in place for many years.

In simple terms, the Company calculates its total revenue for each calendar month by estimating its sales based on system sendout, then multiplying the estimated sales by the then-effective rates.

Q. Is NJNG's calculation of unbilled revenue for gas cost purposes the same as you described it used for financial reporting purposes?

A. No. There is a ***serious*** error in how the Company calculates unbilled revenue in its GCR mechanism. As explained above and shown in **Figure 7**, for financial reporting purposes, the Company reconciles the estimated revenue to actual revenue by subtracting the previous month's estimated revenue and adding the previous month's actual revenue. For purposes of its GCR mechanism, the Company ***simply uses each month's estimated revenue***. It fails to reconcile its estimated revenue to the actual revenue in calculating its Gas Cost Recoveries in its Deferred Gas Cost.

Figure 8 illustrates the difference between the Company's treatment of unbilled revenue for financial reporting purposes and BGSS purposes. **Figure 8** uses the same formula as contained in **Figure 7**, but the reconciliation steps have been crossed out. In calculating revenue for financial reporting purposes, it replaces one month of estimated revenue with one month of actual billed revenue. However, when it calculates the BGSS revenue it ***simply uses estimates, without any reconciliation***. Failing to reconcile to actual billed revenue for BGSS purposes is a significant error.

Figure 8
NJNG's Gas Cost Recoveries

	November ***Estimated*** Revenue
~~+~~	~~October *Actual* Billed Revenue~~
~~-~~	~~October *Estimated* Revenue~~
=	November ***Calendarized*** Revenue

Q. Are you aware of any other company that does not use either actual sales or reconcile to actual sales in calculating its Gas Cost Recoveries?

A. No.

Q. Do you have an example of how the Company estimates its Calendarized therms?

A. Yes. **Schedule MJM-1** contains the Company's calculation of its estimate of total sales for September 2006.[9] The calculation begins with total sendout as shown on line 1. Off-system sales, and deliveries to various cogeneration and other facilities, are subtracted to determine Firm Sendout as shown on line 5. The Company then subtracts 0.60% of this amount as an allowance for Lost and Unaccounted-for Gas ("L&U"). Deliveries to large

[9] See response to Data Request RCR-63. Also, Excel file titled "Therm and Revenue JE100 FY2006.xls" provided in email dated 1/31/07.

customers, whose meters are read on a calendar month basis, and gas used by the Company, are subtracted. The resulting amount, 15,715,495 therms, is referred to as Calendarized Sales. The estimated therm sales are then allocated to the various customer classes. The allocated estimated sales for each customer class are used to determine Gas Cost Recoveries in the calculation of Deferred Gas Cost for BGSS purposes.

Q. Why is it inappropriate for the Company to use estimated sales based on System Sendout to calculate Gas Cost Recoveries for BGSS purposes?

A. First and foremost, System Sendout volumes are not the volumes on which customers are billed. Customers are billed based on their usage as measured by the meter on their home or building, not on estimates of their usage based on the Company's total system sendout with various subtractions, adjustments, and allocations. In other words, actual Gas Cost Recoveries should be determined using actual metered sales, not the estimated "calendarized" sales. Estimated sales should never be used when Actual Billed Sales are known and measured. If, due to timing issues, the Company uses an estimate, it should be reconciled to the actual amounts the following month.

Second, there are numerous unknown factors reflected in the difference between the estimated sales based on System Sendout and actual billed sales. To explain some of these differences I will refer to **Schedule MJM-1**. In **Schedule MJM-1**, Total Sendout on line 1 is the receipts into NJNG's system as measured at a number of receipt points. The deliveries to the cogeneration, off-system sales customers, other generating facilities, and storage as contained on lines 2 and 3 are also metered deliveries. Deliveries to customers who are billed on a calendar month basis on line 10 and Company used gas on line 11 are also metered. Each one of these meters can be a source of problems. The meters are not 100% accurate. Each meter has a range of acceptable measurement inaccuracy; under the Company's tariff any meter recording usage within plus or minus 2% for example would be considered accurate.[10]

Third, meters measure volume, which must then be converted to therms by estimating the heat content of the gas. The heat content of a given measured volume of gas depends on various factors, including the altitude of the meter, and the atmospheric pressure and air temperature on any given day.

Fourth, there may be errors embedded in a company's billing system. For example, I am aware of one situation in which a company correctly billed several of its large transportation customers. However, in its internal reports, the company failed to convert the relevant volumetric measurements from thousands of cubic feet to hundreds of cubic feet. The misstated volumes were subtracted from its System Sendout and eventually filtered down to its firm sales customers.

Fifth, the L&U factor may be inaccurate. The American Gas Association defines "unaccounted for gas" as:

> The difference between the total gas available from all sources, and the total gas accounted for as sales, net interchange, and company use. This difference includes leakage or other actual losses, discrepancies due to meter inaccuracies, variations of temperature and/or pressure, and other variants,

[10] NJNG Tariff – BPU No. 7 Gas, Section 8.3, First Revised Sheet No. 25.

> particularly due to measurements being made at different times. In cycle billings, an amount of gas supply used but not billed as of the end of a period. See UNBILLED REVENUES. Compare SENDOUT, GAS.[11]

Inaccuracies in any of the components of L&U can result in an L&U factor that is not reflective of actual conditions.

Finally, it is important to note that as shown in **Schedule MJM-1**, the allocated firm deliveries are a residual amount. In other words, all other deliveries, as well as system losses, are subtracted from System Sendout to derive the estimated firm deliveries. If there are any errors or inaccuracies with any of the other amounts subtracted from System Sendout, the effect of the errors or inaccuracies falls entirely upon BGSS customers.

For example, if sales to customers that are billed on a calendar month basis, which are contained on line 10 of **Schedule MJM-1**, are overstated by 100,000 therms, sales to BGSS customers will be understated by 100,000 therms, and the resulting BGSS Gas Cost Recoveries will be understated. If company-used gas, which is on line 11 of **Schedule MJM-1**, is understated by 50,000 therms, then sales to BGSS customers will be overstated by 50,000 therms, and the BGSS Gas Cost Recoveries will be overstated.

[11] American Gas Association. Glossary: Unaccounted For Gas. http://www.aga.org/Kc/aboutnaturalgas/glossary/. (website visited October 2, 2007).

VI. "CALENDARIZED" VERSUS ACTUAL SALES & REVENUE

Q. Do you have reason to believe NJNG's failure to reconcile estimated therms to the actual billed therms in calculating the Gas Cost Recoveries has adversely affected its BGSS customers?

A. Yes. Since October 1, 1998 actual billed therms have exceeded the Company's estimate by 36,905,604 therms.[12] Failing to reconcile the estimated sales to the Actual Billed Sales understated Gas Cost Recoveries used in the calculation of the Deferred Gas Cost by $42,929,786.

Q. How did you calculate the $42.9 million difference?

A. I substituted the Actual Billed Sales into the Company's calculation of Deferred Gas Cost. **Schedule MJM-2** is a three-page exhibit containing the results of the calculation for each month of the eight year period. Column (c) contains the revenue used by the Company in its BGSS filings and totals $2,544,841,363. Column (d) contains the revenue using Actual Billed Sales for the same period and totals $2,587,771,150. The difference is the $42,929,787 understated Gas Cost Recoveries. Carrying costs on the $42.9 million from October 1998 through September 2006 at an annual rate of 10%, which is the rate used in the calculation of the BGSS, are $1,161,190.

Q. Would you please explain why this discrepancy is of concern to BGSS customers?

A. As explained above, each year's BGSS factor is designed in part to allow the Company to recover any prior years' under-recoveries or refund any over-recoveries to ratepayers.

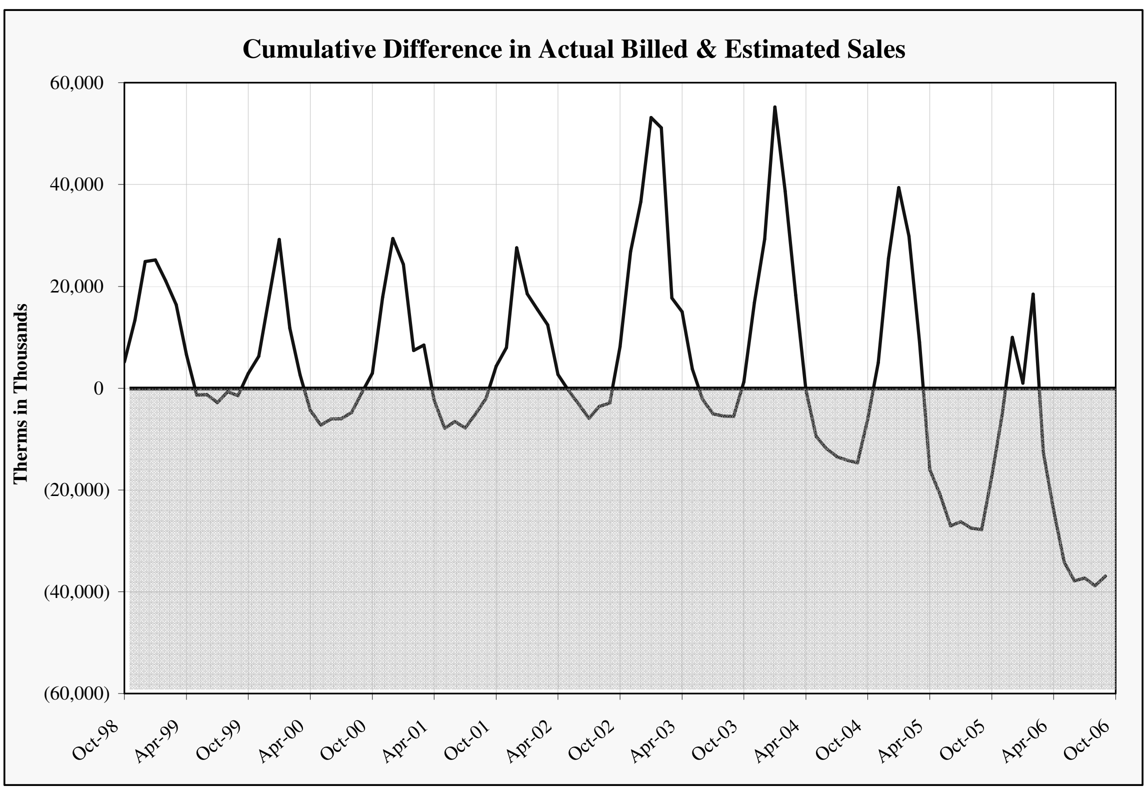
[12] See response to Data Request RCR-73.

Understated Gas Cost Recoveries in a given BGSS year will result in an overstatement of the amounts that need to be recovered from ratepayers, or an understatement of amounts that need to be refunded, during the following BGSS year.

Q. Do you have any further reasons for concern?

A. My concern about these issues has been intensified by an apparent increasing disparity between the Company's estimated firm deliveries and its actual billed deliveries. During my review of the differences between Actual Billed Sales and the Company's estimated sales for BGSS customers, I noticed the intensity of the differences began increasing in late 2002 or early 2003. **Figure 9** contains a chart that graphs the cumulative monthly difference between NJNG's Actual Billed Sales and its estimated sales based on System

Figure 9
Cumulative Difference in Actual Billed & Estimated Sales



Sendout. Points below the horizontal line labeled "0" represent months when NJNG's estimated "calendarized" sales were less than actual billed sales.

In the first few years, approximately from 1998 through 2002, the cumulative monthly difference "cycles" as one would expect: gradually building up going into the heating season and gradually declining coming out of the heating season. In the heating season of 2002-2003, the cumulative difference reaches a new high but declines to a level that was about the same as the previous years. In the next heating season it again reaches a level higher than the previous years, and then declines to a level lower than historically experienced. The curve then begins to decline further for the next couple years. I believe the changes in the cumulative difference experienced over the past few years are indicative of a problem with the Company's calculations.

Q. Do you have the amount of dollars that relate to the therms as illustrated in Figure 9?

A. **Schedule MJM-2** contains the dollar amount related to the therms as contained in **Figure 9**. However, to illustrate the increasing discrepancy between the Company's estimated sales and the actual billed sales, I believe it is helpful to look at the impact on an annual basis.

Schedule MJM-3 contains the understated Gas Cost Recoveries by year. In the first couple years, the amounts are relatively small. In the third and fourth year, the amounts are somewhat higher. From that point on, the amounts increase significantly.

If the eight-year period is divided into two four-year periods, it is clear the discrepancy is increasing. The understated Gas Cost Recoveries for the first four years of the eight-year period the difference amounted to approximately $6.1 million of the $42.9 million or 14% of the total difference. For the second four-year period, the difference amounted to approximately $41.3 million, or 86% of the total understated Gas Cost Recoveries of approximately $42.9 million It appears something has occurred with the Company's estimated or "calendarized" sales calculation approximately four years ago that has increased the magnitude of the error in the Company's calculation of Gas Cost Recoveries.

Q. Were you able to determine the reasons for the inaccuracies in the Company's estimates of "calendarized" sales and revenues?

A. No. Determining the reasons for the discrepancies would require a comprehensive investigation, which would have required time and resources considerably beyond the scope of a BGSS review. However, I did note some specific areas of concern.

Q. Please explain.

A. One concern is the Company's assumed L&U factor. The L&U factor should be based on actual measured volumes to the extent possible. In calculating its "calendarized" sales, the Company uses an assumed L&U factor of 0.60% that does not change from year to year. I requested copies of the Company's Annual Report of the U.S. Department of Transportation ("DOT") Form PHMSA F 7100.1-1 for the years 2004 through 2006. In each year, the Company reported an L&U percent of 0.60%. I believe the Company's report to the DOT was based on its "calendarized" therms. In other words, the Company calculates its L&U percentages based on estimated sales derived using the assumed L&U percentage of 0.60% —a circular process that will always result in a reported L&U of

0.60%. I am unaware of any gas company that would have the same L&U factor for three straight years.

To verify the Company's L&U, I requested copies of the Company's Energy Information Administration ("EIA") Form EIA-176 Annual Report for the same years. Using this information, I calculated the Company's L&U for these years. **Schedule MJM-4** contains my calculation. As illustrated, the L&U factor for 2004 was 1.3760%, for 2005 it was 0.5515%, and for 2006 it was 0.3845%. I am uncertain if these calculations are exact because the volumes are stated in thousands of cubic feet at 14.73 psia. I did not have the information available to verify the conversion of the volumes to this pressure basis. However, I believe these results are more realistic than the constant 0.60% reported to the DOT for three years running.

Q. What is the significance of the 0.60% L&U factor the Company uses to estimate BGSS sales?

A. As discussed previously, any errors or inaccuracies in the Company's estimate of firm sales as contained in **Schedule MJM-1** will be affected by any errors or inaccuracies that are subtracted from System Sendout. If the L&U factor is wrong, it also will affect the Company's calculation of estimated sales to BGSS customers.

Q. Do you have reason to believe there were any other errors in the amounts subtracted from system sendout?

A. Yes. During my review I became aware of a billing dispute between NJNG and one of its large customers.[13] The dispute pertains to the Company's deliveries to Lakewood Cogeneration, L.P. ("Lakewood Cogen"), which operates a cogeneration facility in Lakewood, New Jersey. There are three parties to the dispute: NJNG, Lakewood Cogen, and Jersey Central Power and Light Company ("Jersey Central"). Jersey Central purchases gas from NJNG, which NJNG delivers to Lakewood Cogen. Jersey Central then uses the amounts paid to NJNG as a credit to pay for electricity it receives from Lakewood Cogen.

Jersey Central claims that, beginning in June 2004, NJNG improperly changed the methodology it used in converting reported volumes of gas consumed at the Lakewood Cogen facility into therms. In papers filed with the BPU, NJNG has asserted that, in or about April 2004, the Company discovered that it had not been applying the correct factors to convert measured volumes of gas into therms, and that, as a result, it had been under-billing JCP&L for the gas delivered to Lakewood Cogen. NJNG claimed that the change in methodology was required to correct this asserted billing error. NJNG stated that it had begun applying the correct adjustment factors commencing in July 2004.

[13] Jersey Central Power & Light Co. v. New Jersey Natural Gas Co., BPU Docket No. EC07100043.

According to NJNG, the change in methodology increases the therms billed to JCP&L by 1.49% compared to the prior methodology.[14]

I have no knowledge regarding the validity of the claim. However, it is clear that a change in billing methodology for JCP&L would affect the estimated sales NJNG uses in the BGSS calculation. **Schedule MJM-5** shows how a change in deliveries to Lakewood Cogen would affect BGSS customers. Column (c) of **Schedule MJM-5** is the same as column (c) in **Schedule MJM-5**. Column (d) of **Schedule MJM-5** contains 1.49%, which is the amount NJNG says it has been under-billing JCP&L. Column (e) contains the adjusted therms JCP&L should have been billed, if NJNG is correct in its assertions. As this illustrates, a change in the deliveries to JCP&L on line 2, changes the allocated firm deliveries on line 12.

VII. COMPANY'S RESPONSES TO RATE COUNSEL'S CONCERNS

Q. You previously stated you discussed this matter with the Company on several occasions. What was the Company's response to your concerns?

A. During the several meetings and teleconferences the Company responded to Rate Counsel's concerns regarding using estimated sales based on System Sendout. The Company's responses included:

- The Company can not sell more gas that it receives, and therefore billed sales to BGSS customers can not be higher than the company's estimated "calendarized" sales.

[14] Ibid., NJNG Verified Answer (filed June 29, 2007).

- The difference between the estimated sales based on System Sendout was minor.
- My analysis failed to recognize the Company's practice of using estimated meter readings for a large number of customers from May through September.
- The difference corrects itself over time.
- The difference in the BGSS is corrected in the Company's financial statements when it reverses its total estimated revenue.

I do not believe any of these claims are valid and I address each below.

(1) The Company Can Not Sell More Gas Than It Receives. There are many possible sources of error in NJNG's estimate of "calendarized" sales and revenues. As addressed above, lost and unaccounted for gas can be a significant amount, and the Company uses a constant L&U factor that is not adjusted to reflect actual conditions from year to year. Additionally, the metered sales subtracted from system sendout to arrive at estimated BGSS sales, may be inaccurate due to inaccurate meters and other factors. In addition, BGSS customers are billed on the gas measured by the meter at their service locations. These meters also have an acceptable margin of error. Nevertheless, for billing purposes, the meters are presumed to be accurate. The customer's bill is based on that metered usage, the Company recognizes the revenue based on metered usage, and the customer pays his or her bill based on that metered usage.

(2) The Difference is Minor. The Company has suggested that the discrepancy of 36,905,604 therms and $42,929,786 is minor because it represents only a small percentage of the 4,012,264,607 therms sold for the eight-year period. I disagree.

While the percentage may seem minor, the $42,929,786 is not. Effectively, the Company is asking the Board to allow it to over-recover its gas cost by $42,929,786 because the percentage is minor. If the Company really believes the problem is minor, the Company could simply recognize the error, correct its future calculation of Gas Cost Recoveries, and reflect the $42,929,786 in its Deferred Gas Cost. Clearly, it is not a minor amount to the Company and I do not believe it is a minor amount to BGSS customers.

(3) May to September Estimated Meter Readings. As discussed previously, from May through September of each year, NJNG only reads residential and smaller commercial customers' meters every other month. The Company has claimed my analysis is faulty because of the Company's meter reading schedule. I strongly disagree.

During the months the customers meters are not read, the Company uses an estimated meter reading. Even though a customer's meter is not read, the customer nevertheless receives a bill based on the estimated meter reading. The revenue resulting from that bill is recorded, and the calculated usage is reported as actual billed usage. Furthermore, the following month the customers' meters are actually read and the estimated meter reading from the previous month becomes irrelevant.

My analysis is based on 96 months of billing data, of which 95 months is based on actual billing data. The 96th month, i.e., September 2006, has estimated meter readings for about fifty percent of the customers. Any impact on my analysis of the Company's practice of skipping meter readings for certain months for certain customers would be limited to the estimation error between the Company's estimated usage for a non-heating month and the actual usage for the skipped customers. Furthermore, for September 2006, the Company estimated BGSS sales at 13,327,206 therms and the BGSS Gas Cost Recoveries were approximately $15.2 million. Clearly, any estimation error resulting from the estimated meter readings would not offset the understated therms of 36,905,604 and understated Gas Cost Recoveries of $42.9 million caused by the company's failure to reconcile its estimated sales to actual billed sales.

(4) The Difference Will Correct Itself Over Time. I have examined the data provided by the Company to determine whether this might be the case. In analyzing the data initially provided by NJNG, I was concerned that the Company did not appear to be reconciling its estimated sales to its actual billed sales. For the BGSS year ending September 2006, I determined the estimated sales understated the Actual Billed Sales by 9,049,000 therms.

In order to examine whether this might be a temporary discrepancy, I requested data for the previous two BGSS reconciliation years. My analysis indicated that the Company's practice of using estimated sales understated the Actual Billed Sales an additional 13,115,000 therms for the year ending September 2005 and another 9,218,000 therms for the year ending September 2004. Additionally, I specifically asked the Company if it reconciled its estimated sales to the Actual Billed Sales in the BGSS. The Company stated it did not. A copy of the Company's response is attached **Schedule MJM-6**, with the pertinent portions of the reply highlighted.

At the May 3, 2007 meeting with NJNG and BPU Staff, the Company claimed the difference was temporary and would work itself out. The Company also claimed if I were to analyze the date back to 1998, it would be apparent that the difference was due to the fact that I limited my time frame.

Subsequent to the May 3, 2007 meeting, I requested the information necessary to review the previous five years. My analysis showed the therms used in the BGSS were 897,000 therms understated for 2003; 869,000 therms understated for 2002; 1,128,000 therms understated for 2001; 2,197,000 therms overstated for 2000; and 1,275,000 therms understated for 1999. While there was one year, 2000, in which the therms were overstated, ***in each of the other seven years the therms were understated.*** Clearly, the problem is not temporary and did not correct itself over time.

(5) Difference Reversed in the Financial Statements. In a response to an email question, and at the May 3, 2007 meeting, the Company claimed any difference between estimated sales and actual billed sales used in calculating the BGSS is reconciled when the Company reconciles total revenue for financial reporting purposes. I do not believe the error in the Company's BGSS Gas Cost Recoveries is corrected as a result of any adjustments the Company may have made in its financial statements.

First, as explained previously, accounting for Deferred Gas Cost removes the impact of gas costs from the Company's Income Statement. Therefore, any adjustments made to revenue on the Company's Income Statement, would also have to be reflected in the BGSS calculation. I have thoroughly reviewed the Company's BGSS calculations dating back to 1998, and I have found no evidence that any adjustments made on the Company's financial statements are reflected in the Company's calculation of Deferred Gas Costs.

Second, the work sheet the Company provided at the May 3, 2007 meeting reflected how the Company reconciled its revenue for financial reporting purposes through in its accounts receivable. The work sheets did not contain any reconciliation between actual and estimated Gas Cost Recoveries in the BGSS calculation.

Third, during a subsequent lengthy teleconference, the Company explained the work paper for its Journal Entry 115 ("JE115") line-by-line. The Company stated that this work paper contained the calculation reconciling the estimate to the actual for BGSS purposes. Although I had reviewed JE115 during my initial investigation, I listened to the line-by-line explanation. At the conclusion of the explanation, I pointed out that the revenue used in the calculation was based on the estimated or "calendarized" sales. Furthermore, the work paper was simply calculating the Deferred Gas Cost per month as is contained its BGSS report. Finally, I stated that the JE115 work paper did not reconcile the estimated sales with the actual billed sales used in the BGSS Deferred Gas Cost calculation.

Fourth, when I asked for any additional evidence showing how the difference reflected in the BGSS was reconciled as a result of adjustments made in NJNG's financial statements, the Company was unable to provide it. I did submit a set of data requests for information I believe would allow me to substantiate or refute the Company's claim. However, the Company's response to the pertinent data requests stated, "…the materials responsive to the request are voluminous, cumbersome, difficult to copy and/or not available."[15] In a letter dated July 3, 2007, Rate Counsel informed the Company that its responses were deficient, and that, if the matter were to proceed to a hearing, Rate Counsel would need the responses to the data requests. If NJNG continues to claim that estimated and actual sales used in the BGSS have been reconciled as a result of adjustments made on the Company's financial statements, I will need sufficient time to receive and analyze the responses to the data requests.

VIII. RECOMMENDATIONS

Q. Based on your analysis, do you have any recommendations for the Board?

A. Yes. I recommend the Board require NJNG to:

- use Actual Billed Sales to calculate Gas Cost Recoveries
- adjust its Deferred Gas Cost to reflect the understated Gas Cost Recoveries
- apply carrying costs to the understated recoveries for the period October 1998 through September 2006, and
- apply carrying costs for each month subsequent to September 2006 until the understated recoveries are reflected in the BGSS.

Each of these is discussed below.

(a) Use Actual Billed Sales. The Board should require the Company to ***immediately*** begin using Actual Billed Sales to calculate the Gas Cost Recoveries used in determining the Deferred Gas Costs included in its BGSS charges. Using actual billed sales to calculate Gas Cost Recoveries is necessary to ensure dollar-for-dollar recovery of gas costs.

[15] See responses to Data Request RCR-74, 75, 77, 82, 83, and 89.

As stated previously, I believe any unbilled revenue associated with gas costs is inherent in the calculation of deferred gas cost calculated using actual billed sales. Therefore, it is not necessary to separately identify the unbilled revenue associated with Deferred Gas Cost. If the Board determines it is appropriate to include unbilled revenue in Gas Cost Recoveries, I recommend the Board require NJNG to reconcile to Actual Billed Sales on a monthly basis.

(b) Adjust Deferred Gas Cost. I recommend the Board require the Company to adjust its Deferred Gas Cost to reflect the understated Gas Cost Recoveries by $42,929,786 for the eight year period ending September 30, 2006. Additionally, the Board should require NJNG to adjust its Deferred Gas Cost to reflect changes due to using estimated sales instead of Actual Billed Sales for each month subsequent to September 2006.

(c) Apply Carrying Costs for October 1998 through September 2006. I recommend the Board apply carrying costs to the understated Gas Cost Recoveries at an annual rate of 10%. The annual rate of 10% is the rate used in calculating carrying charges associated with the Deferred Gas Cost included in the BGSS. The carrying cost for the period October 1, 1998 through September 30, 2006 amounts to $1,161,190.

(d) Apply Carrying Costs subsequent to September 2006. For each month subsequent to September 2006, I recommend that carrying costs of $357,750 per month be applied until the understated Gas Cost Recoveries are returned to customers.

Q. What is the approximate amount of the refund that would result from your recommendations?

A. I estimate the refund to be in the range of $105 to $110 per customer, including interest through September 30, 2006 and including tax. Each month after September 2006 would increase the estimated refund by approximately $0.85 to $0.90 per customer per month. My estimate is based on information used by the Company in calculating a BGSS refund it made in December 2006. The information was contained in a letter dated December 1, 2006, which informed the Board of the refund.

Q. Do you have any other general suggestions for the Board?

A. Yes. I would recommend the Board carefully review the Company's subsequent BGSS filings to ensure Gas Cost Recoveries are properly based on actual billed sales.

Q. Does this conclude your testimony in this matter?

A. Yes.

SCHEDULES

New Jersey Natural Gas Company
Estimate of Total Sales
September 2006

(a) Line No.	(b) Description	(c) Amount	(d) Notes	(e) Line No.
1	Total Sendout =	39,082,633	direct input	1
2	Cogen	561,770	direct input	2
3	OSS-JCPL-OPP-SI	19,359,055		3
4				4
5	Firm Sendout=	19,161,808		5
6				6
7	System Loss=	114,971	assumes loss = 0.60%	7
8				8
9	Firm - Loss=	19,046,837		9
10	Less end of mo.	3,287,590		10
11	Company Use	43,752	direct input	11
12	Allocated =	15,715,495		12

New Jersey Natural Gas Company BGSS
Division of Rate Counsel
Calculation of Under Recognized BGSS Recoveries & Interest
(Amounts in Thousands)

(a) Line No.	(b) Month	(c) Calendarized Recoveries	(d) Actual Recoveries	(e) Monthly Difference	(f) Cumulative Difference	(g) Interest @ 10.00%	(h) Cumulative Interest	(i) Line No.
1	Oct-98	$ 9,349.000	$ 7,137.528	$ 2,211.472	$ 2,211.472	$ 9.210	$ 9.210	1
2	Nov-98	$ 18,524.000	$ 15,014.025	$ 3,509.975	$ 5,721.447	$ 33.050	$ 42.260	2
3	Dec-98	$ 25,026.000	$ 20,084.042	$ 4,941.958	$ 10,663.405	$ 68.270	$ 110.530	3
4	Jan-99	$ 34,843.000	$ 34,691.428	$ 151.572	$ 10,814.977	$ 89.490	$ 200.020	4
5	Feb-99	$ 26,621.000	$ 28,378.378	$ (1,757.378)	$ 9,057.599	$ 82.800	$ 282.820	5
6	Mar-99	$ 26,142.000	$ 28,181.211	$ (2,039.211)	$ 7,018.388	$ 66.980	$ 349.800	6
7	Apr-99	$ 13,550.000	$ 17,748.484	$ (4,198.484)	$ 2,819.904	$ 40.990	$ 390.790	7
8	May-99	$ 6,791.000	$ 10,174.267	$ (3,383.267)	$ (563.362)	$ 9.400	$ 400.190	8
9	Jun-99	$ 4,464.000	$ 4,443.606	$ 20.394	$ (542.968)	$ (4.610)	$ 395.580	9
10	Jul-99	$ 3,786.000	$ 4,427.131	$ (641.131)	$ (1,184.099)	$ (7.200)	$ 388.380	10
11	Aug-99	$ 3,968.000	$ 3,116.832	$ 851.168	$ (332.931)	$ (6.320)	$ 382.060	11
12	Sep-99	$ 3,846.000	$ 4,141.496	$ (295.496)	$ (628.427)	$ (4.010)	$ 378.050	12
13	Oct-99	$ 8,743.000	$ 7,038.493	$ 1,704.507	$ 1,076.080	$ 1.870	$ 379.920	13
14	Nov-99	$ 14,541.000	$ 13,188.808	$ 1,352.192	$ 2,428.272	$ 14.600	$ 394.520	14
15	Dec-99	$ 26,395.000	$ 21,857.451	$ 4,537.549	$ 6,965.820	$ 39.140	$ 433.660	15
16	Jan-00	$ 32,959.000	$ 28,416.963	$ 4,542.037	$ 11,507.857	$ 76.970	$ 510.630	16
17	Feb-00	$ 28,233.000	$ 35,123.560	$ (6,890.560)	$ 4,617.298	$ 67.190	$ 577.820	17
18	Mar-00	$ 19,950.000	$ 23,574.752	$ (3,624.752)	$ 992.546	$ 23.370	$ 601.190	18
19	Apr-00	$ 14,484.000	$ 17,255.243	$ (2,771.243)	$ (1,778.697)	$ (3.280)	$ 597.910	19
20	May-00	$ 6,092.000	$ 7,231.652	$ (1,139.652)	$ (2,918.349)	$ (19.570)	$ 578.340	20
21	Jun-00	$ 6,222.000	$ 5,754.735	$ 467.265	$ (2,451.084)	$ (22.370)	$ 555.970	21
22	Jul-00	$ 4,121.000	$ 4,085.121	$ 35.879	$ (2,415.205)	$ (20.280)	$ 535.690	22
23	Aug-00	$ 5,009.000	$ 4,557.824	$ 451.176	$ (1,964.029)	$ (18.250)	$ 517.440	23
24	Sep-00	$ 5,887.000	$ 4,275.923	$ 1,611.077	$ (352.952)	$ (9.650)	$ 507.790	24
25	Oct-00	$ 10,028.000	$ 8,569.249	$ 1,458.751	$ 1,105.799	$ 3.140	$ 510.930	25
26	Nov-00	$ 27,332.000	$ 19,591.850	$ 7,740.150	$ 8,845.949	$ 41.470	$ 552.400	26
27	Dec-00	$ 48,844.000	$ 42,577.561	$ 6,266.439	$ 15,112.388	$ 99.830	$ 652.230	27
28	Jan-01	$ 51,926.000	$ 54,775.320	$ (2,849.320)	$ 12,263.068	$ 114.060	$ 766.290	28
29	Feb-01	$ 42,010.000	$ 51,749.362	$ (9,739.362)	$ 2,523.706	$ 61.610	$ 827.900	29
30	Mar-01	$ 39,515.000	$ 38,881.453	$ 633.547	$ 3,157.253	$ 23.670	$ 851.570	30
31	Apr-01	$ 24,745.000	$ 31,332.869	$ (6,587.869)	$ (3,430.616)	$ (1.140)	$ 850.430	31
32	May-01	$ 10,944.000	$ 14,448.396	$ (3,504.396)	$ (6,935.012)	$ (43.190)	$ 807.240	32
33	Jun-01	$ 9,796.000	$ 8,929.196	$ 866.804	$ (6,068.208)	$ (54.180)	$ 753.060	33
34	Jul-01	$ 7,569.000	$ 8,413.593	$ (844.593)	$ (6,912.801)	$ (54.090)	$ 698.970	34
35	Aug-01	$ 8,715.000	$ 6,912.436	$ 1,802.564	$ (5,110.237)	$ (50.100)	$ 648.870	35
36	Sep-01	$ 10,932.000	$ 8,866.752	$ 2,065.248	$ (3,044.988)	$ (33.980)	$ 614.890	36
37	Oct-01	$ 18,119.000	$ 13,896.714	$ 4,222.286	$ 1,177.297	$ (7.780)	$ 607.110	37
38	Nov-01	$ 25,495.000	$ 23,094.505	$ 2,400.495	$ 3,577.792	$ 19.810	$ 626.920	38
39	Dec-01	$ 34,843.000	$ 24,346.715	$ 10,496.285	$ 14,074.077	$ 73.550	$ 700.470	39
40	Jan-02	$ 39,980.000	$ 44,814.454	$ (4,834.454)	$ 9,239.623	$ 97.140	$ 797.610	40
41	Feb-02	$ 33,673.000	$ 35,230.440	$ (1,557.440)	$ 7,682.182	$ 70.510	$ 868.120	41

New Jersey Natural Gas Company BGSS
Division of Rate Counsel
Calculation of Under Recognized BGSS Recoveries & Interest
(Amounts in Thousands)

(a) Line No.	(b) Month	(c) Calendarized Recoveries	(d) Actual Recoveries	(e) Monthly Difference	(f) Cumulative Difference	(g) Interest @ 10.00%	(h) Cumulative Interest	(i) Line No.
42	Mar-02	$ 32,873.000	$ 34,402.184	$ (1,529.184)	$ 6,152.998	$ 57.650	$ 925.770	42
43	Apr-02	$ 16,366.000	$ 21,314.518	$ (4,948.518)	$ 1,204.480	$ 30.660	$ 956.430	43
44	May-02	$ 11,264.000	$ 12,835.179	$ (1,571.179)	$ (366.699)	$ 3.490	$ 959.920	44
45	Jun-02	$ 6,150.000	$ 7,517.484	$ (1,367.484)	$ (1,734.183)	$ (8.750)	$ 951.170	45
46	Jul-02	$ 4,326.000	$ 5,751.345	$ (1,425.345)	$ (3,159.529)	$ (20.390)	$ 930.780	46
47	Aug-02	$ 7,292.000	$ 6,100.209	$ 1,191.791	$ (1,967.737)	$ (21.360)	$ 909.420	47
48	Sep-02	$ 6,150.000	$ 5,802.355	$ 347.645	$ (1,620.092)	$ (14.950)	$ 894.470	48
49	Oct-02	$ 14,721.000	$ 9,113.084	$ 5,607.916	$ 3,987.824	$ 9.870	$ 904.340	49
50	Nov-02	$ 28,577.000	$ 19,141.128	$ 9,435.872	$ 13,423.695	$ 72.550	$ 976.890	50
51	Dec-02	$ 43,420.000	$ 38,462.928	$ 4,957.072	$ 18,380.767	$ 132.520	$ 1,109.410	51
52	Jan-03	$ 57,011.000	$ 48,651.610	$ 8,359.390	$ 26,740.157	$ 188.000	$ 1,297.410	52
53	Feb-03	$ 51,469.000	$ 52,566.007	$ (1,097.007)	$ 25,643.150	$ 218.260	$ 1,515.670	53
54	Mar-03	$ 37,657.000	$ 56,353.480	$(18,696.480)	$ 6,946.670	$ 135.790	$ 1,651.460	54
55	Apr-03	$ 26,502.000	$ 27,990.474	$ (1,488.474)	$ 5,458.196	$ 51.690	$ 1,703.150	55
56	May-03	$ 14,452.601	$ 20,754.806	$ (6,302.204)	$ (844.009)	$ 19.230	$ 1,722.380	56
57	Jun-03	$ 8,739.213	$ 12,081.328	$ (3,342.115)	$ (4,186.124)	$ (20.960)	$ 1,701.420	57
58	Jul-03	$ 6,785.044	$ 8,360.203	$ (1,575.159)	$ (5,761.283)	$ (41.450)	$ 1,659.970	58
59	Aug-03	$ 6,762.950	$ 7,021.551	$ (258.601)	$ (6,019.884)	$ (49.090)	$ 1,610.880	59
60	Sep-03	$ 8,671.464	$ 8,713.541	$ (42.077)	$ (6,061.960)	$ (50.340)	$ 1,560.540	60
61	Oct-03	$ 19,894.751	$ 15,432.305	$ 4,462.446	$ (1,599.514)	$ (31.920)	$ 1,528.620	61
62	Nov-03	$ 30,087.984	$ 19,805.596	$ 10,282.389	$ 8,682.875	$ 29.510	$ 1,558.130	62
63	Dec-03	$ 55,999.315	$ 47,794.470	$ 8,204.845	$ 16,887.720	$ 106.540	$ 1,664.670	63
64	Jan-04	$ 81,099.741	$ 64,001.277	$ 17,098.463	$ 33,986.183	$ 211.970	$ 1,876.640	64
65	Feb-04	$ 61,823.152	$ 73,553.464	$(11,730.312)	$ 22,255.872	$ 234.340	$ 2,110.980	65
66	Mar-04	$ 48,067.871	$ 62,600.319	$(14,532.448)	$ 7,723.424	$ 124.910	$ 2,235.890	66
67	Apr-04	$ 28,631.342	$ 41,881.849	$(13,250.506)	$ (5,527.083)	$ 9.150	$ 2,245.040	67
68	May-04	$ 12,384.450	$ 18,836.679	$ (6,452.229)	$(11,979.312)	$ (72.940)	$ 2,172.100	68
69	Jun-04	$ 9,585.823	$ 11,232.424	$ (1,646.602)	$(13,625.914)	$ (106.690)	$ 2,065.410	69
70	Jul-04	$ 9,128.270	$ 10,292.294	$ (1,164.024)	$(14,789.937)	$ (118.400)	$ 1,947.010	70
71	Aug-04	$ 9,442.414	$ 9,956.360	$ (513.946)	$(15,303.883)	$ (125.390)	$ 1,821.620	71
72	Sep-04	$ 9,330.173	$ 9,676.218	$ (346.046)	$(15,649.929)	$ (128.970)	$ 1,692.650	72
73	Oct-04	$ 20,304.893	$ 13,847.963	$ 6,456.930	$ (9,192.999)	$ (103.510)	$ 1,589.140	73
74	Nov-04	$ 36,984.280	$ 28,443.060	$ 8,541.221	$ (651.778)	$ (41.020)	$ 1,548.120	74
75	Dec-04	$ 68,790.540	$ 51,975.236	$ 16,815.305	$ 16,163.527	$ 64.630	$ 1,612.750	75
76	Jan-05	$ 87,605.723	$ 76,182.836	$ 11,422.887	$ 27,586.414	$ 182.290	$ 1,795.040	76
77	Feb-05	$ 69,830.579	$ 77,708.623	$ (7,878.044)	$ 19,708.370	$ 197.060	$ 1,992.100	77
78	Mar-05	$ 68,032.467	$ 85,104.472	$(17,072.005)	$ 2,636.365	$ 93.100	$ 2,085.200	78
79	Apr-05	$ 29,315.868	$ 49,885.839	$(20,569.971)	$(17,933.606)	$ (63.740)	$ 2,021.460	79
80	May-05	$ 22,305.840	$ 26,336.122	$ (4,030.282)	$(21,963.888)	$ (166.240)	$ 1,855.220	80
81	Jun-05	$ 12,346.686	$ 17,517.853	$ (5,171.167)	$(27,135.055)	$ (204.580)	$ 1,650.640	81
82	Jul-05	$ 11,617.515	$ 10,943.939	$ 673.576	$(26,461.479)	$ (223.320)	$ 1,427.320	82

New Jersey Natural Gas Company BGSS
Division of Rate Counsel
Calculation of Under Recognized BGSS Recoveries & Interest
(Amounts in Thousands)

(a) Line No.	(b) Month	(c) Calendarized Recoveries	(d) Actual Recoveries	(e) Monthly Difference	(f) Cumulative Difference	(g) Interest @ 10.00%	(h) Cumulative Interest	(i) Line No.
83	Aug-05	$ 11,000.220	$ 12,072.459	$ (1,072.239)	$(27,533.717)	$ (224.980)	$ 1,202.340	83
84	Sep-05	$ 11,197.904	$ 11,485.076	$ (287.173)	$(27,820.890)	$ (230.640)	$ 971.700	84
85	Oct-05	$ 26,238.522	$ 16,787.093	$ 9,451.429	$(18,369.461)	$ (192.460)	$ 779.240	85
86	Nov-05	$ 46,464.779	$ 35,815.629	$ 10,649.149	$ (7,720.312)	$ (108.710)	$ 670.530	86
87	Dec-05	$ 101,566.936	$ 85,481.929	$ 16,085.007	$ 8,364.695	$ 2.680	$ 673.210	87
88	Jan-06	$ 96,219.582	$ 106,865.773	$(10,646.191)	$ (2,281.496)	$ 25.350	$ 698.560	88
89	Feb-06	$ 86,645.393	$ 68,995.021	$ 17,650.372	$ 15,368.876	$ 54.530	$ 753.090	89
90	Mar-06	$ 66,889.984	$ 98,340.856	$(31,450.872)	$(16,081.996)	$ (2.970)	$ 750.120	90
91	Apr-06	$ 32,970.342	$ 44,467.665	$(11,497.323)	$(27,579.319)	$ (181.920)	$ 568.200	91
92	May-06	$ 21,459.856	$ 33,552.917	$(12,093.061)	$(39,672.380)	$ (280.220)	$ 287.980	92
93	Jun-06	$ 15,389.520	$ 19,747.757	$ (4,358.237)	$(44,030.617)	$ (348.760)	$ (60.780)	93
94	Jul-06	$ 14,094.665	$ 13,434.875	$ 659.790	$(43,370.827)	$ (364.170)	$ (424.950)	94
95	Aug-06	$ 13,741.786	$ 15,570.332	$ (1,828.546)	$(45,199.373)	$ (369.040)	$ (793.990)	95
96	Sep-06	$ 15,150.926	$ 12,881.339	$ 2,269.586	$(42,929.786)	$ (367.200)	$ (1,161.190)	96
97	Total	$2,544,841.363	$2,587,771.150	$(42,929.786)		$ (1,161.190)		97
98	Monthly Thereafter					$ (357.750)		98

New Jersey Natural Gas Company BGSS
Division of Rate Counsel
Over/(Under) Stated Revenue by BGSS Reconciliation Year
(Amounts in Thousands)

(a) Line No.	(b) BGSS Year Ending		(c) Over/(Under) Stated Recoveries	(d) Line No.
1	September 30, 1999	$	(628.427)	1
2	September 30, 2000	$	275.475	2
3	September 30, 2001	$	(2,692.036)	3
4	September 30, 2002	$	1,424.896	4
5	September 30, 2003	$	(4,441.868)	5
6	September 30, 2004	$	(9,587.969)	6
7	September 30, 2005	$	(12,170.961)	7
8	September 30, 2006	$	(15,108.896)	8
9	Total	$	(42,929.786)	9

Division of Rate Counsel
Calculation of NJNG L&U Based on
Volumes Reported by NJNG Report to EIA

(a) Line No.	(b)	(c) 2006	(d) 2005	(e) 2004	(f) Line No.
1	Receipts	(Volumes - Mcf @ 14.73)			1
2	LNG Withdrawals	261,411	638,248	500,761	2
3	City Gate Receipts	57,875,451	69,305,460	70,807,458	3
4	Total Receipts	58,136,862	69,943,708	71,308,219	4
5	Deliveries				5
6	*Sales*				6
7	Residential	36,377,153	42,572,964	42,362,231	7
8	Commercial	8,015,200	10,293,828	9,677,318	8
9	Industrial	51,482	94,342	86,075	9
10	Electric Power	613,526	614,782	827,729	10
11	Vehicle Fuel	144	142	272	11
12	*Transportation*				12
13	Residential	788,520	1,206,044	1,343,045	13
14	Commercial	6,156,171	6,149,004	6,420,035	14
15	Industrial	2,866,501	3,000,848	3,515,064	15
16	Electric Power	2,653,265	4,808,223	5,432,695	16
17	Company Used	143,597	124,679	214,099	17
18	LNG Injections	247,772	693,082	448,429	18
19	Total Deliveries	57,913,331	69,557,938	70,326,992	19
20					20
21	L&U Volumes	223,531	385,770	981,227	21
22	Calculated L&U	0.3845%	0.5515%	1.3760%	22

SOURCE: FORM EIA 176

New Jersey Natural Gas Company
Impact of Cogen Sales on BGSS
September 2006

(a) Line No.	(b) Description	(c) Therms	(d) Billing Dispute	(e) Adjusted Therms	(f) Notes	(g) Line No.
1	Total Sendout =	39,082,633		39,082,633	direct input	1
2	Cogen	561,770	1.49%	589,297	direct input	2
3	OSS-JCPL-OPP-SI	19,359,055		19,359,055		3
4						4
5	Firm Sendout=	19,161,808	(27,527)	19,134,281		5
6						6
7	System Loss=	114,971	(165)	114,806	assumes loss = 0.60%	7
8						8
9	Firm - Loss=	19,046,837	(27,362)	19,019,475		9
10	Less end of mo.	3,287,590		3,287,590		10
11	Company Use	43,752		43,752	direct input	11
12	Allocated =	15,715,495	(27,362)	15,688,133		12

NEW JERSEY NATURAL GAS COMPANY
ANNUAL REVIEW AND REVISION OF ITS
BASIC GAS SUPPLY SERVICE (BGSS) FOR F/Y 2007
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Rate Counsel Questions in March 30, 2007 e-mail from Sarah Steindel:

1) In calculating its BGSS Gas Cost Recoveries, does the Company ever reconcile to actual billed therms?
2) If not, why doesn't the Company ever reconcile to actual billed therms in calculating BGSS Gas Cost Recoveries?
3) If so, where in the Company's calculation of BGSS Gas Cost Recoveries does the Company make its reconciliation?

   If the Company does reconcile to actual billed therms, we would like to see all supporting documentation and information detailing where in the calculation of BGSS Gas Cost Recoveries the Company reconciles to actual billed therms. It would be helpful if the Company could provide, in advance of the meeting, supporting calculations in a spreadsheet in electronic form, in a format that is compatible with Microsoft Excel.

NJNG Response to Rate Counsel Question:

1) Actual therms are billed to BGSS customers after cycle meter reads are input into the NJNG Customer Information System (CIS). Actual therm reads and billings will result in a "true-up" of all prior estimated billings to individual customers. Thus, there is a reconciliation process within the CIS to "true-up" each customer billing/balance based on actual reads (and their actual usage). Other than actual reads and individual customer balance "true-up," no monthly reconciliation adjustments of calendarized sales to billed sales is performed. Each month the total gas purchases are tracked and allocated by customer class, in order to properly record revenue and match the total natural gas purchased and delivered through the distribution system.

   NJNG properly matches its revenues (natural gas sales) and expenses (natural gas purchases) based on total therms passed through its distribution system (commonly referred to as "send-out"). This matching concept must take into consideration the fact that BGSS gas cost recoveries are for calendar months while actual billed therms are for cycle month billing periods. In a calendar month, NJNG's revenues comprise both billed and unbilled amounts, based on therms used by customers; therefore, because of bill cycles and timing, a reconciliation only to billed sales would not capture the true cost of gas utilized (purchased and consumed) during the month. By recognizing and capturing the wholesale cost of the natural gas on a monthly basis and limiting the amount of billed and unbilled revenue to the total physical amount of therms passing through the distribution system, NJNG is able to correctly capture its true BGSS Gas Cost recoveries in terms of the cost of gas versus the amounts used by customers.

   McFadden Consulting's analysis of the BGSS recoveries reduces the cycle billing therms by the calendarized Monthly BGSS therms in order to determine a level of Periodic BGSS therms to calculate recovery. Mixing cycle billing therms with calendarized therms

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provides a mismatch which inaccurately determines a level of Periodic BGSS therms. McFadden Consulting's analysis then uses its calculated level of Periodic BGSS therms which has cycle month data and applies the calendar month recovery rates. Due to the timing of various BGSS rate changes, the calendar month rates are not always applicable to the cycle month data.

Additional Information Regarding BGSS Gas Cost Billings and Recoveries:

New Jersey Natural Gas (NJNG) customers are segmented into 20 separate read and bill cycles. Customers with an odd numbered bill cycle (Cycles 1, 3, 5, etc.) are read on the odd numbered months and customers with an even numbered bill cycle (Cycles 2, 4, 6, etc.) are read on the even numbered months during the year. Residential and regular commercial customers are read in the above manner from September through May for each year. Certain large commercial customers are read 12-months per year.

For the months in which an individual customer's meter is not actually read, estimated bills are calculated based on the individual customer's base load and heat factor. The base load factor is multiplied by the number of days in the billing period, and the heat factor is multiplied by the number of heating degree days in the billing period. Estimated bills will be "trued-up" based upon actual meter reads.

Each month, the Company records revenues associated with the actual therms delivered through the system during that calendar month, referred to as "therms-to-account-for." The calendar month "therms-to-account-for" are reduced by specific calendar month metered volumes and a standardized lost and unaccounted for gas percentage to determine the calendar month therms to be allocated to rate classes based on the rate class proration percentages of the total cycle billed therms. The booked calendar month revenues are calculated as the product of the booked calendar month therms per rate class multiplied by the effective tariff rates.

On an annual basis both NJR and NJNG are audited by Deloitte and Touche, LLP (Deloitte), an independent external accounting firm, to ensure that both NJR's and NJNG's financial statements are free of any material misstatements. As part of that external audit, Deloitte reviews and assesses all of NJR's and NJNG's significant estimates, one of the most primary and important being that surrounding revenue recognition policies and procedures. Included in footnote number one to the financial statements, under the caption of Summary of Significant Accounting Policies, is a description of the policy surrounding the recognition of revenue at NJNG, which is as follows:

> Revenue from the sale of natural gas to customers of NJNG are recognized in the period that gas is delivered and consumed by customers, including an estimate for unbilled revenue. Unbilled revenues are associated solely with NJNG. Natural gas sales to individual customers are based on their meter readings, which are performed on a systematic basis throughout the month. At the end of each month, the amount of natural

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gas delivered to each customer after the last meter reading is estimated and NJNG recognizes unbilled revenues related to these amounts. The unbilled revenue estimates are based on monthly send-out amounts, estimated customer usage by customer type, weather effects, unaccounted for gas and the most recent rates.

The Periodic BGSS, Monthly BGSS and Air Conditioning recoveries included in the BGSS schedules are calculated as the product of the booked calendar month therms for each category, multiplied by the effective applicable BGSS rates. As stated above, the booked calendar month therms are derived from the calendar month "therms-to-account-for" and, therefore, are directly related to the gas costs purchased for the calendar month to serve the BGSS customers. These gas costs are reflected in the BGSS schedules. This matching principle appropriately recognizes the revenue, both billed and unbilled, and related cost of natural gas expense in NJNG's financial statements.

If the recovery were to be calculated from the cycle billed therms, which include estimates for at least half of NJNG's customers each month, there would be a mismatch between the therms included in the gas costs and the therms included in the recovery. No mismatch of revenues and expenses occurs as NJNG reconciles to total send-out on a monthly basis and properly accounts for all gas in its distribution system that is delivered to customers.

When customers' meters are actually read for gas consumed, any estimated readings ultimately reconcile the actual therms used with the billed amounts. Any timing differences between estimated and actual amounts are "trued-up" once the meter is read during the cycle revenue process. As a result, consistently over time, customers are billed only for the actual therms used and transported through the NJNG system.

In the summer months of 2006, four (4) meter read cycles related to residential and regular commercial customer meters were read in order to update base load and heat factors. This year, NJNG is anticipating that summer reads will assist in the process of updating base load and heat factors. Over time, the factors will incorporate customer behavior patterns, including declining use per customer.

NJNG believes that any timing issue associated with billed and calendarized sales will be automatically adjusted to actual usage consistently over time. To support the accuracy of the NJNG billing process, NJNG will read meters during the summer months of 2007 for all 20 cycles to provide more accurate data to heat factors and baseload factors in the CIS system.

2) Please see the response to Rate Counsel Question 1.

3) Please see the response to Rate Counsel Question 1.

APPENDIX

MICHAEL J. MCFADDEN

AREAS OF QUALIFICATION

Rates, regulatory affairs, strategic planning, gas and electric utility operations, corporate finance, financial analysis, asset valuation, fuel supply planning and procurement, accounting, and budgeting.

EMPLOYMENT HISTORY

President, McFadden Consulting Group, Inc., 1995-present
Chairman, Colorado Low-Income Energy Assistance Commission, appointed as member by Governor Owens 2002. Elected Chairman 2005
Board of Directors, Energy Outreach Colorado, formerly the Colorado Energy Assistance Foundation, 2003-present. Elected Treasurer 2007.
University of Phoenix, Colorado Division, Faculty Member, 1982-2005, Finance Area Chair, 1992-1993, Accounting Area Chair, 2000-2004
Board of Advisors, Full Power Corporation, Los Angeles, CA, 1998-2000
Senior Advisor, Hagler Bailly Consulting, Inc., Boulder, CO, 1995-2000
Metropolitan State College, Denver, CO, Adjunct Faculty Member, 1989-1995
Principal, Hagler Bailly Consulting, Inc., Boulder, CO, 1993-1995
Vice President, Treasurer, Secretary and Member of the Board of Directors, WestGas Gathering, Inc., WestGas InterState, Inc., WestGas TransColorado, Inc., 1989-1993
Manager, Financial Services and Administration, Assistant Treasurer and Assistant Secretary, Western Gas Supply Company, 1989-1993
Staff Assistant to Senior Vice President, Finance and Chief Financial Officer, Public Service Company of Colorado, 1986-1989
Director, Rate Regulatory Services Department, Public Service Company of Colorado, 1974-1986
Regis University, Adjunct Faculty Member, 1981-1982

EDUCATION

University of Denver, MBA, Business Administration, 1973
Regis University, BS, Business Administration, 1972

PROFESSIONAL EXPERIENCE

Michael J. McFadden is a rate, regulatory affairs, finance, strategic planning, and utility operations expert with 32 years experience in the natural gas and electric utility industries. He has appeared as an expert witness and provided testimony in numerous hearing before the Federal Energy Regulatory Commission (FERC), regulatory Commissions in Arkansas, Colorado, Georgia, Kansas, New Jersey, Ohio, Texas, Wyoming, Utah, and British Columbia, and the United States District Court. He has also filed testimony in Montana and

Ontario. Mr. McFadden headed a combination gas, electric, and steam heat utility company's rate regulatory services department where he was responsible for various submittals to regulatory agencies that had jurisdiction over the company's rates, facilities and services. In addition, he previously served as chief financial officer for a natural transmission, gas gathering, and processing company where he was responsible for rate and regulatory affairs, financial and managerial accounting, financial policy and planning, business opportunity and financial analysis, strategic planning, and information and computer administration. He has participated in numerous rate cases and regulatory proceedings and has been involved in such issues as Order 636 restructuring strategies, customer choice programs, development of gas transportation tariffs, practices and procedures, development and implementation of gas purchasing strategies, development of avoided costs, mains extensions policies and producer take or pay issues. On the electric side of the business, he has dealt with such issues as the utilization of purchased power, economic dispatching of generating stations, coal inventory measurement and management, generating station performance measures, incentive cost recovery mechanisms for a nuclear generating plant, generating plant maintenance schedules and management, unit coal train economics and management, and the development and administration of electric cost adjustment mechanisms. Mr. McFadden was also on the advisory board of Full Power Corporation, an electric marketing company serving the California markets. He previously served as the accounting area chair and the finance area chair for the University of Phoenix, Colorado Division. Mr. McFadden is the Chairman of the Colorado Low-Income Energy Assistance Commission and has been a member since his appointment by Governor Bill Owens in 2002. He is also a member of the Board of Directors and Treasurer for Energy Outreach Colorado, formerly known as the Colorado Energy Assistance Foundation.

PRESENTATIONS AND TESTIMONY

Testimony on cost allocation and rate design issues before the Texas Railroad Commission in Atmos Energy Corporation's request to increase rates for its Mid-Tex division in Texas on behalf of the City of Dallas, Texas. Austin, Texas. November 2006.

Testimony in Public Service Electric and Gas Company's rate case proceeding on the management of its gas distribution and transportation infrastructure on behalf of the New Jersey Division of the Ratepayer Advocate. Newark, New Jersey. July 2006.

Testimony on gas and electric department revenue requirement, cost allocation, and rate design analyses on behalf of Cheyenne Light, Fuel and Power Company before the Wyoming Public Service Commission. Cheyenne, Wyoming. October 2005.

Testimony on decoupling, revenue forecasting and rate design issues before the Georgia Public Service Commission in Atmos Energy Corporation's request to increase rates in Georgia. Atlanta, Georgia. October 2005.

Testimony on revenue forecasting, cost of service, and rate design issues before the Georgia Public Service Commission in Atlanta Gas Light Company's rate application. Atlanta, Georgia. March 2005.

Presentation to the Tennessee Valley Public Power Association, which is comprised of 158 municipal and cooperative distribution system served by the Tennessee Valley Authority on TVA's Cost of Service Methodologies. Franklin, Tennessee. November 2004.

Presentation to the Tennessee Valley Authority Board of Directors on TVA's Cost of Service Methodologies. Knoxville, Tennessee. August, 2004.

Testimony before the Arkansas Public Service Commission on Arkansas Oklahoma Gas Corporation's gas supply planning and procurement activities. Little Rock, Arkansas. May 2004.

Testimony on cost of service and rate design issues before the Georgia Public Service Commission in Atlanta Gas Light Company's earnings review proceeding. Atlanta, Georgia. April 2002.

Testimony before the Public Utilities Commission of Colorado in KN Wattenberg Transmission LLC application for a CPCN to operate facilities it constructed to serve two industrial customers within the city limits of Fort Morgan, Colorado. June 2001.

Testimony on behalf of the Colorado Office of Consumer Counsel before the Public Utilities Commission of Colorado in its investigation into price stabilization mechanisms of regulated gas utilities. June 2001.

Testimony before the Public Utilities Commission of Colorado in Totem Gas Storage Company, LLC's Application for a Certificate of Public Convenience and Necessity to Construct and Operate a Gas Storage Using Competitive Market-Based Rates. Denver, Colorado. June 2000.

Testimony before the Utah Public Service Commission in Questar Gas Company's Application for an Increase in Rates and Charges in Docket No. 99-057-20. Salt Lake City, Utah. June 2000.

Testimony before the Kansas Corporation Commission on Kansas Gas Service Company's Application for Approval to Restructure Gas Supply Contracts. Topeka, Kansas. March 2000.

Presentation to City Council on Proposed Electric and Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. January 2000.

Testimony on Questar Gas Company's Application to Recover Costs Associated with Constructing a CO_2 Extraction Plant. Salt Lake City, Utah. June 1999.

Presentation to City Council on Proposed Electric and Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. October 1998.

"Potholes on the Road to Unbundling" presented to the 57th Annual Western Conference of Public Service Commissioners. Sunriver, Oregon. June 1998.

Testimony on Incorporating Riders in Performance-Based Rate Mechanisms for Atlanta Gas Light Company. Atlanta, Georgia. March 1998.

Testimony on the Management and Financial Review of Atlanta Gas Light Company's Manufactured Gas Plant Site Environmental Clean-Up Efforts. Atlanta, Georgia. March 1998.

Keynote address on Electric Utility Restructuring at the University of Kansas' 21st Annual Economic Outlook Conference. Lawrence, Kansas. October 1997.

"An Analysis of the Impact of Retail Wheeling on the State of Kansas" presented to the Kansas Legislative Task Force on Retail Wheeling. Topeka, Kansas. August 1997.

A presentation to the Rocky Mountain Natural Gas Strategy Conference and Marketing Fair on restructuring of natural gas and electric utility industries. Denver, Colorado. August 1997.

Testimony on the Public Utilities Commission of Colorado's proposed rules on gas cost adjustments. Denver, Colorado. February 1997.

"Restructuring of the Natural Gas Industry" presented to the Governor's Energy Assistance Reform Task Force. Denver, Colorado. February 1997.

"The Feasibility of Allowing Nondiscriminatory Access to Retail Natural Gas Distribution Services in Colorado" presented to the Colorado Legislative Council. Denver, Colorado. December 1996.

Presentation to Rocky Mountain Natural Gas Association on the issues associated with providing transportation service to residential and small commercial customers. Denver, Colorado. October 1996.

Testimony and cross-examination on the Public Utilities Commission of Colorado's proposed rules on cost allocation between regulated and non-regulated affiliates. Denver, Colorado. July 1996.

"Planning in a Competitive Environment." Power Engineering Society, Institute of Electrical and Electronic Engineers Summer Conference. Denver, Colorado. July 1996.

Presentation to City Council on Proposed Electric Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. May 1996.

Testimony and cross examination on East Ohio Gas Company gas planning and procurement practices before the Ohio Public Utilities Commission. December 1995.

"Economic Impact of Fuel Switching at Selected Denver Area Power Plants," presented on behalf of Colorado Oil and Gas Association before the Colorado Air Quality Council and the Regional Air Quality Council. Denver, Colorado. November 1995.

Presentation to City Council on Proposed Gas Department Rate Changes. City of Fort Morgan, Colorado City Council Meeting. Fort Morgan, Colorado. November 1995.

Testimony and cross examination on BC Gas Utility, Ltd. extension policy before the British Columbia Utilities Commission. Vancouver, BC. June 1995.

Testimony and cross examination on BC Gas Utility, Ltd. avoided costs before the British Columbia Utilities Commission. Vancouver, BC. June 1995.

"Development of Long Run Avoided Costs for a Gas Distributor." Gas Research Institute Avoided Cost Conference. Milwaukee, Wisconsin. June 1994.

SPECIAL TRAINING

Cornell University, Johnson Graduate School of Management. Merger and Acquisitions Forum. 1989.

Irving Trust Company, New York City. Financial Seminar. 1985. Security analysis, types of securities, method of offering securities, project financing, capital structure and financial policy and others.

University of Idaho, Moscow, Idaho. Executive Development. 1982. Financing through capital markets, strategic planning and management, managing human resources, financial management and others.

PROFESSIONAL AFFILIATIONS

Board of Directors & Treasurer, Energy Outreach Colorado
Chairman, Colorado Commission on Low Income Energy Assistance
Rocky Mountain Natural Gas Association
Colorado Association of Commerce and Industry, 50 For Colorado
American Gas Association, former member
Interstate Natural Gas Association of America, former member of Rate and Policy Committee
Regis University Alumni Association
Former Member, Regis University Business and Industry Group
University of Denver Alumni Association
Listed in *Who's Who in America, Who's Who in Executives and Professionals, The National Registry of Who's Who, and Who's Who International*