national fuel

August 15, 2011

Hon. Jaclyn A. Brilling
Secretary
NYS Public Service Commission
Three Empire State Plaza
Albany, NY 12223

Re: Case 07-G-0141 – Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of National Fuel Gas Distribution Corporation for Gas Service – Conservation Incentive Program

Dear Secretary Brilling:

Enclosed is the Fourteenth Quarterly Program Status Report for National Fuel Gas Distribution Corporation's Conservation Incentive Program. This Report is submitted in compliance with the timetable provided in the implementation plan filed with the Commission on January 21, 2011.

If questions you have questions relating to this report, please contact the undersigned at (716) 857-7805, Robert Eck at (716) 857-7711 or Michael Reville at (716) 857-7313.

Respectfully submitted,

Eric H. Meinl
Gen. Manager, Rates & Regulatory Affairs

Attachments

cc: John Favreau, PSC (*via email*)
David A. Munro, NYSERDA (*via email*)

# CONSERVATION INCENTIVE PROGRAM
Quarterly Program Status Report
Program Results through June 30, 2011
Case 07-G-0141
Submitted to the New York State Department of Public Service
August 15, 2011

National Fuel Gas Distribution Corporation
6363 Main Street
Williamsville, NY 14221

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# I. Introduction

## A. Case History

On September 20, 2007 the Commission issued its Order Adopting Conservation Incentive Program ("CIP Order")[1] for National Fuel Gas Distribution Corporation ("Distribution" or "Company"). The CIP Order required, among other things, that the Company submit its timetable for the implementation of the 2007-08 Conservation Incentive Program ("CIP") by October 1, 2007, (CIP Order, Page 13, Ordering paragraph 2). Distribution submitted a timetable on October 1, 2007. Included in the timetable was an entry for the submission of an initial report to the New York State Department of Public Service including a program description and measurement and verification ("M&V") plan by November 30, 2007, ("initial report"), as well as quarterly status reports beginning May 30, 2008.

On October 19, 2009 the Commission issued its Order Approving The Continuation of National Fuel Gas Distribution Corporation's Conservation Incentive Program With Modifications ("2009 CIP Order").[2] The 2009 CIP Order, among other things, modified certain aspects of the Company's CIP.

On November 22, 2010 the Commission issued its Order Approving the Continuation of National Fuel Gas Distribution Corporation's Conservation Incentive Program with Modifications ("2010 CIP Order").[3] The Company filed a reporting

[1] Case 07-G-0141 - Proceeding on the Motion of the Commission as to the Rates, Rules, and Regulations of National Fuel Gas Distribution Corporation for Gas Service, Order Adopting Conservation Incentive Program, issued and effective September 20, 2007.

[2] Case 07-G-0141 - Proceeding on the Motion of the Commission as to the Rates, Rules, and Regulations of National Fuel Gas Distribution Corporation for Gas Service, Order Approving The Continuation of National Fuel Gas Distribution Corporation's Conservation Incentive Program With Modifications, issued and effective October 19, 2009.

[3] Case 07-G-0141 - Proceeding on the Motion of the Commission as to the Rates, Rules, and Regulations of National Fuel Gas Distribution Corporation for Gas Service, Order Approving the

timeline in its CIP implementation plan submitted to the Commission on January 21, 2011. The report is filed consistent with that timeline.

B. Report Overview

This report summarizes the status of the Company's CIP as of June 30, 2011. Included in this report is an update of the status of the M&V plan. As explained in the initial report and this August 2011 quarterly report, the Company anticipates that the M&V plan will be modified to incorporate suggestions from Staff and other parties. Also, it is anticipated that additional modifications will be made to incorporate insights being developed in the currently ongoing Commission investigation into development of a statewide energy efficiency initiative.[4]

A number of the Company's CIP initiatives are being administered by New York State Energy Research and Development Authority ("NYSERDA") through that authority's existing programs.

## II. Program Goal

Distribution has developed the CIP to foster more efficient use of natural gas on its system. The CIP Order recognized that "The CIP calls for the more efficient use of natural gas resources and it is consistent with the State's policy to encourage energy conservation." (CIP Order, p. 2). Distribution designed its CIP in conjunction with its proposed revenue decoupling mechanism ("RDM"). The Company's RDM is consistent with the guidelines established by the Commission for implementation of RDMs.[5]

A major challenge in the design of energy efficiency programs for Western New York is to promote the efficient use of energy in such a manner that it can be used as a strength when encouraging economic development in the region, among other things.

Further, the benefits of natural gas, both on an economic and environmental basis, should encourage the expansion of access to natural gas supplies to homes and businesses in Western New York.

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Continuation of National Fuel Gas Distribution Corporation's Conservation Incentive Program with Modifications, issued and effective November 22, 2010.

[4] Case 07-M-0548 - Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard, Order Instituting Processing, issued and effective May 16, 2007.

[5] Cases 03-E-0640 and 06-G-0746, RDM Proceeding, Order Requiring Proposals for Revenue Decoupling Mechanisms (issued and effective April 20, 2007).

III. CIP General Description

The CIP proposed by Distribution and approved by the Commission has three major components: (1) appliance rebates, (2) Low Income Usage Reduction Program ("LIURP"), and (3) general energy efficiency outreach initiative. Each of these programs and their subcomponents will be further described in detail later in this report. Included in those descriptions will be a planned M&V plan for each initiative.

The information to be provided for each program will be organized as follows:

1) Program Name
2) Program Description
3) General Program Goals
4) Program Information
5) Program Reporting
    a. Internal
    b. External
6) M&V Analysis
    a. General Description of Method Utilized for Determining Cost and Benefit Data Summary including:
        i. Cost Measurement
        ii. Calculation of Usage Savings over Life of Efficiency Measure
        iii. Natural Gas Supply ("NGS") Costs
        iv. Discount Rate Utilized for Discounting Future Benefits
        v. Cost Escalator utilized for NGS Costs
        vi. Western New York Benefit Variables
        vii. Societal Benefit Variables
    b. Savings Calculation Approach
        i. Account Specific
        ii. Sampling
        iii. Base Line
    c. Net Impact Evaluation
        i. Free Ridership
        ii. Spillover
        iii. Snapback
    d. Avoided Emissions Calculation

It should be recognized that Distribution envisions the CIP as an evolutionary program. That is, as knowledge is gained as to the effectiveness of various components of the program, it is likely that modifications will be made to individual components so that the overall benefits of the CIP are maximized. It is anticipated that future quarterly reports will identify successes and potential improvements in program design. Those quarterly reports may also include recommended changes to effectively meet the overall goal of the CIP.

## IV. M&V Plans

### A. General Description of M&V Plans

This report provides a preliminary estimate of the cost and benefits of the Company's CIP to date. This report reflects fourteen quarters of operation of the Company's CIP. This report also will present a pre and post equipment installation consumption analysis for residential customer rebates, currently inclusive of installations through March 2010.

The M&V plan includes a number of cost benefit analyses including: (1) Total Resource Cost Test ("TRC"), (2) Total Resource Cost Test – Western New York ("TRC-WNY"), and (3) Societal Test. The program results are provided (1) in total, (2) in summary of various program "portfolios", and (3) on an individual program basis. The table below summarizes program results to date in total and for the various program portfolios. Individual program results will be summarized in the individual program sections presented later in this report. Appendix E provides the detailed M&V program results.

| Program M&V Summary Based on Deemed Savings Assumptions Included in the Company's Base Rate Case 07-G-0141 | | | | |
|---|---|---|---|---|
| | Total | Residential | Non Residential | Outreach |
| Base | | | | |
| TRC | 1.96 | 1.80 | 1.92 | 4.84 |
| TRC-WNY | 2.92 | 2.67 | 2.85 | 7.59 |
| Societal Test | 3.10 | 2.83 | 3.03 | 8.03 |
| Adjusted | | | | |
| TRC | 1.88 | 1.74 | 1.87 | 4.36 |
| TRC-WNY | 2.82 | 2.58 | 2.77 | 6.87 |
| Societal Test | 2.99 | 2.74 | 2.94 | 7.27 |

The measurement of the cost and benefits of energy efficiency programs proceeds along a continuum of complexity. The TRC is perhaps the simplest to understand and implement while the Societal Test can be the most complex. Various additional measurements are added to the TRC leading up to a complete Societal Test. The three cost benefit analyses will be presented for each component of the CIP program.

The TRC utilized in this report will measure the cost expended under the program by the Company and customers for each initiative to the overall savings in customer costs. The NGS costs exclude the delivery and minimum charge rates billed to customers since in the long run these costs are not avoided.

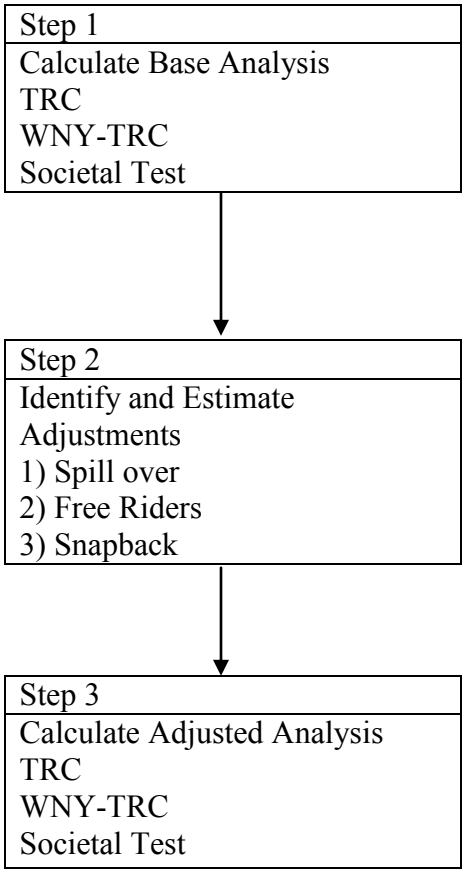
The TRC –WNY attempts to quantify the specific regional benefits derived from the specific CIP initiatives. For example, the LIURP will reduce the consumption of natural gas by low-income customers. That will be achieved by improving the energy efficiency of low-income customer homes. The cost of that program will largely consist

of the efforts of local contractors in installing energy efficiency applications. The payments for energy efficiency improvements to local contractors effectively utilizes energy dollars that otherwise would have left the service territory with payments to local contractors that will largely stay in the service territory. The overall net savings of customers will also have a beneficial ripple effect on the WNY economy. The calculation of WNY expenditure multipliers and WNY income multipliers will be explained in Appendix F. The TRC-WNY is an attempt to quantify these benefits.

The Societal Test takes the TRC-WNY one step further by measuring the environmental benefits of the individual CIP initiatives and other societal costs and benefits that may result from these energy efficiency initiatives. The Company developed an estimate of the societal benefits associated with reduced CO2 emissions. The societal benefit of $15 per ton CO2 reduction was provided by the Commission in Appendix 3, page 2 of its June 23, 2008 Order in Case 07-M-0548.

The Company employed three general steps in its M&V analysis. The first step was the determination of a base analysis. The base analysis would utilize specific and discrete program results associated with changes in energy efficiency behavior of participating customers.

Figure 1 – Summary of the General Steps Employed in the M&V Analysis



The Company employed a deemed savings approach for determining savings under the program to date. A TRC test has also been calculated for the residential rebate program and LIURP based on a customer pre and post equipment installation consumption analysis. A summary of this information will be presented in the residential rebate section of this report.

Deemed savings apply stipulated values of savings for installed or promoted energy efficiency initiatives. Deemed savings calculations apply accepted savings amounts for an application or initiative to determine the amount of actual energy savings. A more detailed description of the deemed savings approach utilized in this preliminary estimate of cost and benefits will be provided in the description of individual programs. This report reflects deemed savings estimates based on information included in the October 15, 2010 Technical Market Manual.[6] This is the second report filed by the Company that utilizes such deemed savings estimates. Past reports utilized the deemed savings estimates utilized in the Company's last base rate case where the CIP was first approved by the Commission. The pre and post equipment installation analysis identified changes in annual weather normalized consumption for residential customers installing energy efficient appliances under the CIP rebate initiative and LIURP. Appendix I provides a summary of the pre and post equipment installation consumption analysis.

The Company utilized a projection of the average natural gas supply costs for the upcoming year of approximately $10.00 per Mcf. As has been demonstrated during the recent past, the market prices of natural gas can be extremely volatile. Long range projections of natural gas prices can be dramatically off base. The $10.00 per Mcf price of natural gas utilized in this study is equal to the trend of natural gas prices experienced by customers from October 2003 through June 2011 and has been used in previous quarterly reports. The price trend has been updated through June 2011 and presented on the graph included in the last page of Appendix E. As can be seen from this graph, recent declines in prices have dropped the historical trend to approximately $10.00 per Mcf. In previous quarterly reports the Company has utilized a $12.00 and $11.00 per Mcf price variable included in the base analysis of Appendix E. The Company has updated the price variable to $10.00 per Mcf since this price reduction has occurred consistently over the recent past. Lines 246 through 257 of Appendix E provide a sensitivity analysis for the price variable. The Company will continue to monitor price changes and update the price variable if circumstances warrant in future reports. The potential volatility of key variables utilized in the M&V analysis highlights the importance of sensitivity analysis to gauge the robustness of program results over a reasonable range of values for key variables in the analysis.

Step 2 would identify and estimate adjustments to the base analysis. These adjustments would include estimates of: (1) spillover, (2) free ridership, and (3) snapback. Spillover results when there are additional customer behavioral changes that produce a positive increase in energy efficiency on the part of the customer. For

[6] New York Standard Approach for Estimating Savings from Energy Efficiency Programs, Residential, Multi-Family and Commercial/Industrial Measures, October 15, 2010. Prepared for New York Department of Public Service by TecMarket Works ("Standard Technical Manual").

example, under the residential rebate program, the Company will inform customers of NYSERDA's whole house energy audit initiative. To the extent that customers receiving a rebate under the Company's CIP become aware of NYSERDA's whole house energy audits, and such audits result in increased savings, this would be considered a spillover benefit of the Company's CIP. Free riders are customers that would have implemented the program measure or practice in the absence of the CIP. Snapback occurs when customers actually increase their energy consumption due to reductions in the cost of energy. For example, increases in consumption can result when prices decline due to energy saving initiatives. In the pre and post equipment installation consumption analysis the snapback adjustment is set to zero because any snapback effect would be included in post equipment installation consumption.

The third step will add the results of the base analysis from Step 1 to the estimated adjustments in Step 2, to provide the final analysis of program results.

The Company believes that the measurement and evaluation analysis will evolve as more information is developed over the years. The Company will not only attempt to identify unique measurement issues associated with its programs, it will also strive to include pertinent information and best practices identified in other energy efficiency initiatives, including: (1) the New York Energy Efficiency Proceeding (Case 07-M-0548), (2) the National Action Plan for Energy Efficiency ("NAPEE"), (3) the North American Energy Standards Board ("NAESB"), (4) the National Association of Regulatory Commissioners ("NARUC"), and (5) other state initiatives.

B. Status of Data Development for M&V Plan

The Company has developed a preliminary report based on the program results to date. The Company has developed preliminary M&V results using four broad categories of data: (1) customer specific impact data from Company developed data bases, (2) M&V information that it believes is consistent with the requirements being developed through the statewide energy efficiency initiative (Case 07-M-0548), (3) M&V information consistent with that utilized in the New York Energy $mart$^{SM}$ Program, Evaluation and Status Report, Year Ending December 31, 2007, Final Report, March 2008 ("Energy $mart$^{SM}$ evaluation"), and (4) a sensitivity analysis on key variables. A brief description of each of these four broad categories of information follows.

1. Customer Impact Data from Company Developed Date Bases

The Company has developed a "before and after" consumption analyses for individual residential customers that are participating in the Company's rebate programs. A summary of the results for the rebate program is provided in the residential rebate section of this report. In this report the Company has also continued to provide deemed savings values as well as annual customer participation and cost information experienced to date to develop a preliminary estimate of the costs and benefits of the program.

The Company is also tracking the changes in consumption for the Company's service classifications subject to the revenue decoupling mechanism ("RDM") approved by the Commission in the Company's last base rate case. This information is summarized in the table below.[7]

| Summary of Revenue Decoupling Usage per Account Information (Mcf/Account) | | |
|---|---|---|
| | SC 1 | SC 3 * |
| Case 07-G-0141 Imputed RDM Usage per Account | 106.910 | 414.31 |
| Consumption at Start of CIP Program 12 ME 12/2007 | 107.837 | 404.17 |
| Consumption 12 ME 6/2011 | 103.85 | 399.75 |
| * SC 3 actual data adjusted for actual TC 1.1 and 2.0 migrations included in latest RDM filing. | | |

2. M&V Information Consistent with the Requirements Being Developed Through the Statewide Energy Efficiency Initiative

On June 23, 2008, the Commission issued its Order Establishing Energy Efficiency Portfolio Standard and Approving Programs ("EEPS Program Order"), in Case 07-M-0548. On August 7, 2008, Staff issued Evaluation Guidelines for incorporation into gas energy efficiency programs as required by the EEPS Program Order. TecMarket Works has prepared for staff the New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs dated March 25, 2009. On January 4, 2010 the Commission issued its Order Approving Certain Commercial and Industrial; Residential; and Low-Income Residential Customer Energy Efficiency Programs With Modifications. Included in that January 4, 2010 Order was reference to an updated New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs, Single Family Residential Measures, dated March 16, 2009. On October 18, 2010 the Commission issued its Order Approving Consolidation and Revision of Technical Manuals in Case 07-M-0548 ("October 2010 Technical Manual Order"). The October 2010 Technical Manual Order, among other things, approved effective January 1, 2011, the "New York Standard Approach for Estimating Energy Savings – Residential, Multi-family and Commercial/Industrial Measures." The Company has incorporated the updated Technical Manual deemed savings and appliance life values in this report.

The table below provides estimated deemed savings from the updated October 2010 Technical Manual for the Company's residential rebate programs. The table

[7] The information presented in this table is normalized for adjustments to service classification consumption for the "best rate" requirement in the Company's tariff. The "best rate" requirement is a statutory requirement that certain accounts (i.e., religious and veteran organizations) be placed in the service classification that would provide them with the lowest ("best") annual bill. In order to effectuate this provision, the Company annually reviews the bills for qualifying accounts and adjusts their service classifications as needed. In the Company's last rate case, a rate design change was effectuated such that this year's "best rate" review resulted in a significant migration of accounts. The table above eliminates the effect of this migration in order to provide a more consistent "before and after" analysis of consumption changes.

provides summaries of deemed savings from the October 2010 Technical Manual, deemed savings based on the savings estimates included in the Company's last base rate case ("NFGDC Deemed" savings estimates), savings calculated through the Company's pre-post consumption analysis, and pre and post consumption results using the Princeton Scorekeeping Method[8] ("PRISM"). Also included in the table are the estimated appliance lives presented in the Company's last base rate case and appliance measure life estimates included in the latest TecMarket Manual.

| Summary of Residential Rebate Savings Estimates | | | | | | |
|---|---|---|---|---|---|---|
| | Heating Systems | | | Thermostats | Hot Water Systems | |
| | Forced Air Furnace | Water Boilers | Steam Boilers | | Tank | Tankless |
| NFGDC Deemed (Dth)[9] | 23.3 | 19.8 | 19.0 | 2.5 | 5.6 | 11.7 |
| NFGDC Appliance Life (Years) | 17 | 17 | 17 | 17 | 14 | 14 |
| October 2010 Technical Manual (Dth)[10] | 18.22 | 21.37 | 19.04 | 7.83 | 3.01 | 7.04 |
| Tec Market Manual Appliance Life (Years) | 20 | 25 | 25 | 11 | --- | 20 |
| NFG Pre Post Analysis (Dth) | 14.3 | | | 5.9 | 4.3 | 7.7 |
| PRISM | 13.2 | | | NA | | |

### 3. M&V Information Consistent with the Energy $mart$^{SM}$ Evaluation

The Energy $mart$^{SM}$ evaluation includes an analysis of macroeconomic impacts. Consistent with the Energy $mart$^{SM}$ evaluation, the Company has utilized IMPLAN Pro® Version 2.0 to develop macroeconomic multipliers for its service territory. The development of these multipliers is provided in Appendix F. Also included in this evaluation is a measurement of environmental benefits. As mentioned previously the Company utilized Commission provided CO2 cost per ton information and AGA lbs CO2 per Mmbtu of natural gas in determining societal cost savings from the CIP.

### 4. Sensitivity Analysis on Key Variables

As mentioned previously, the potential volatility of key variables utilized in the M&V analysis highlights the importance of sensitivity analysis to gauge the robustness of program results over a reasonable range of values for key variables in the analysis. Pages 13 through 19 of Appendix E provide a sensitivity analysis for key variables included in the M&V analysis.

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[8] Appendix I provides greater detail on the PRISM method.

[9] Based on deemed savings provided in the Company's last base rate case.

[10] Based on TecMarket manual formulas and formula variable values for the Company's service territory.

V. Summary of Programs

A. Low Income Usage Reduction Program ("LIURP")

1. Description

LIURP is a weatherization program for low-income customers. Participants receive a heating system check, an energy audit, installation of weatherization, infiltration reduction, natural gas usage reduction measures and consumer education. The program design is consistent with, and is being administered as part of, NYSERDA's EmPower New York[SM] ("EmPower) program, and contractors will follow procedures and guidelines developed for that program. Households receiving gas efficiency services paid for by Distribution will be evaluated for electric reduction measures to be paid for by NYSERDA with System Benefits Charge ("SBC") funds.

2. Goals

Conserve energy, reduce residential energy bills, and improve the health, safety, and comfort levels for participating households. Also reduce the incidence and risk of pay delinquencies and the costs associated with uncollectible accounts, late payment collections, and termination of service expenses. Measures installed will be cost effective and pay for themselves through energy savings in a specified time frame.

3. Program Information

a. Eligibility

Customers meeting the following criteria will be eligible to participate in the Company's LIURP:

- Preferred status to participants in Low Income Customer Affordability Assistance Program ("LICAAP").
- Income less than or equal to 60% New York State median income (HEAP eligible).
- Active account and residency in the premises for at least one year prior to weatherization.
- High consumption - minimum of 132 Mcf (start with 180 – 200+ Mcf or thousand cubic feet) per year.
- Owners and tenants eligible.
- Must be a single-family dwelling or two units if each has its own meter and both meet eligibility requirements.

b. Administrative Tasks Related to Start-Up

- NYSERDA negotiated and modified existing EmPower contracts, including budgets and statements of work with current Program Implementer,

Honeywell International ("Honeywell"), and current Quality Assurance ("QA") Contractor, CSG Services, to include activities related to LIURP.

- NYSERDA modified current EmPower Contractor and Vendor Agreements for use in LIURP. NYSERDA procured contracts from area contractors and vendors, is monitoring contractor eligibility and has established a payment system for participating contractors.
- NYSERDA has modified the online tracking system, CRIS, the EmPower software tool, EmPCalc, and the online Contractor Portal to accommodate changes required for the inclusion of LIURP in the EmPower system.
- NYSERDA has modified current EmPower forms and integrated Distribution forms to accommodate LIURP.

c. Ongoing Administrative Tasks

- NYSERDA will reassess and enhance program procedures on an ongoing basis, ensuring that practices are consistent with standards of the Building Performance Institute ("BPI") and best practices as followed by contactors participating in EmPower. Forms, guidelines, software, and other materials will be modified as needed. NYSERDA program staff will consult with Counsel and Contract Management as needed to ensure that the program is implemented correctly.
- NYSERDA will monitor program progress and expenditure levels to ensure that program objectives are met within budget allocations. NYSERDA will conduct weekly meetings with the Program Implementer, and maintain daily contact as needed, to ensure that the program is progressing as required.
- NYSERDA will conduct weekly and monthly meetings with the QA Contractor, and maintain daily contact as needed, to ensure that QA procedures are being followed in accordance with the contract, and that QA issues are being resolved.
- NYSERDA and NYSERDA Program Implementer will meet with contractors on a regular basis, both on-site and by teleconference, to ensure that contractors understand and are following program procedures, and to elicit feedback regarding the program.
- NYSERDA will conduct an annual review of pricing to ensure that fees are appropriate, and provide financial support to the New York State Weatherization Director's Association for their bulk purchase bidding procedure. NYSERDA will ensure that appliance pricing is consistent with this bid.
- NYSERDA will conduct periodic reviews of the database to ensure quality of data entry.
- NYSERDA will develop and process incentives for contractors who participate in the program and become BPI accredited. These incentives will consist of 75% reimbursement of BPI contractor fees for training, accreditation and quality assurance.

- NYSERDA will collaborate with the Weatherization Assistance Program to ensure consistency between programs and to maximize opportunities for collaboration, thereby allowing for enhanced work scopes.
- NYSERDA will modify energy efficiency and financial management workshops currently provided in Distribution service territory to include information related to Distribution low income programs.
- At Distribution's request, NYSERDA shall permit Company personnel to monitor and participate in these administrative tasks.
- NYSERDA will use its best efforts to accommodate an interface platform with Distribution's customer information systems to assure the proper transfer of customer information necessary to perform the obligations hereunder.

d. Process

- Distribution generated referrals from:
  - LICAAP
  - HEAP status/consumption report
  - CAC/Outside Agencies/Other

- Distribution screens for:
  - 12-month consumption history. Must be more than 132 Mcf (Ideally, 180-200+ Mcf initially).

- NYSERDA Program Implementer Screen for eligibility:
  - NYSERDA Program Implementer is sending a cover letter from Distribution with a LIURP/EmPower application to each potential participant. A second application will be sent if the first is not returned within a reasonable time frame.
  - Upon receipt of completed application NYSERDA Program Implementer will examine potential for natural gas energy efficiency services funded through Distribution, and determine eligibility for electric reduction services funded through the SBC and available to low-income electricity customers of National Grid and New York State Electric and Gas Corporation.
    - If the customer is a tenant, NYSERDA Program Implementer will send a letter (on Distribution letterhead) to landlord outlining requirements and soliciting landlord participation. Upon receipt of satisfactory landlord agreement, the customer may be accepted for energy services.
    - If the customer resides in a multifamily home (three units or greater), the customer will be ineligible for gas efficiency measures.

- If not eligible, NYSERDA Program Implementer will:
  - Send a "no further services" letter to the customer (printed on Distribution letterhead).

- If referral was from Distribution or an outside agency, inform referring office/agency reason(s) why customer not eligible.
- Do nothing else with account.

- If above criteria met for eligibility, NYSERDA Program Implementer performs the following:
  - Assigns the customer to a participating contractor. Assignments will be made on the basis of current backlog, contractor availability, and past performance.
  - Sends a letter, on Distribution letterhead, to the customer informing them of their acceptance and providing contact information for the assigned contractor.

- When the customer is eligible for weatherization, NYSERDA Program Implementer will:
  - Enter relevant customer data into the EmPower database, including county designations and other information required by Distribution.
  - Enter weatherization-approved status.
  - System to accept periodic information verifying that the customer is still eligible and that service has not been shut off for non-payment, no pending close orders, no active shut off notices, and account is still active. Until automated, Honeywell will need to accept e-mail notifying an account is no longer eligible.

- Once work is in progress:
  - Distribution has access to the EmPower database. Distribution has access to screens/reports to identify, among other things, placed jobs that have yet to be picked up by contractors and the status of any placed jobs. Distribution has the ability to retrieve customer energy services record and to obtain an electronic report of jobs with information required by Distribution, such as first name, last name, address, city, state, postal code, contractor, home phone number, account number, meter number, mailing address, mailing city, mailing zip, and sent to contractor date.
  - NYSERDA Program Implementer is administering customer interactions/document procurements (letters sent to Distribution's customers on Distribution letterhead), including:
    - Customer Acceptance Letter
    - CIP/EmPower Audit Forms
    - Landlord/Tenant Agreements
    - Distribution LIURP Eligibility Affidavit/Information Waiver
    - Distribution Work Proposal Agreement
    - Customer Agreement
    - National Fuel Safety Check List
    - Certificate of Completion NYSERDA Program Implementer

- Contractor duties:

- Within two weeks of receiving job, contractor calls customer to set up initial appointment.
- Contractor goes to property and performs a comprehensive home assessment, including:
  - Heating system inspection and combustion efficiency test.
  - Blower door test for air leakage.
  - Inspection and measurement for insulation.
  - Health and safety checks, such as ambient CO testing and gas leak checks.
  - Energy education.
  - Instrumented audit and documentation on EmPower forms.
  - Discussion of work scope with appropriate household member.
  - If household is eligible for SBC-funded measures, installation of minor electric reduction measures, such as compact fluorescent light bulbs and evaluation of electric appliances.
- If furnace problems are identified, contractor follows appropriate emergency and referral procedures outlined in Section 5 of the EmPower Guidelines and Procedures Manual.
- If issues or problems are identified which preclude successful installation of measures, such as severe structural damage or serious code violations related to the work, contractor will notify the EmPower Program Implementer and further work will be cancelled until conditions are corrected.
- NYSERDA Program Implementer will send letter (on Distribution letterhead) to customers explaining why work was cancelled and offering a timeline by which work may be resumed if conditions are corrected.
- Contractor develops work scopes and proceeds with work according to EmPower Guidelines and Procedures Manual.
- If customer does not respond to contractor calls or letters, contractor advises NYSERDA Program Implementer. (Contractor may be reimbursed for services rendered such as customer education, etc. despite the weatherization job not being completed. Reason why job may not have been completed could include customer not getting back to contractor, etc.).
- Once a job is completed, Contactor sends all completed forms and invoice to the Program Implementer for processing.
- Jobs to be completed within 60 days from referral.

- Invoice processing:
  - Invoices submitted must follow Invoicing Requirements listed on Section 15.3 of the EmPower Guidelines and Procedures Manual.
  - Honeywell reviews all forms and verifies invoice for accuracy. (Use a standard invoice for all contractors).
  - If any discrepancies found with invoice, NYSERDA Program Implementer contacts contractor.

- If any forms not returned or incomplete, NYSERDA Program Implementer contacts the contractor.
- Honeywell provides the third-party QA Contractor with information for QA inspections.
- If the invoice is ok, NYSERDA Program Implementer recommends approval of the invoice, enters the final approved costs into the CRIS database, and locks the costs in place.
- NYSERDA approves and process contractor and vendor invoices, arrange payment, and resolve payment issues.
- NYSERDA tracks program expenditures and maintains payment records. Accounts payable forms and invoice maintained for six years.

- Job completion processing:
  - NYSERDA Program Implementer maintains a file of the following household data:
    - Customer application.
    - Energy usage.
    - Audit forms and work scope write-up.
    - Certificate of Completion.
    - Required permissions.
  - NYSERDA QA Contractor (currently CSG Services) will perform independent third-party QA field inspections on approximately 20% of completed jobs and phone QA interviews on an additional 15% of completed jobs. QA will be completed within one month of completion of work.

4. Reporting

a. Internal

As of June 30, 2011, a total of 32,863 customers have been referred to the contractor for LIURP services. Of these, 25,378 have been sent a letter/application, and 6,897 applications have been returned. This has resulted in 3,529 customers referred for services, 550 applications on hold and 2,818 customers deemed ineligible. Of the 2,955 currently active program participants, 2,397 jobs have been completed, with 312 jobs in process and another 246 energy audits in process. The 2,397 completed jobs consisted of insulation measures for 1,822 customers, air sealing measures for 1,905 customers, heating system repairs/replacements for 1,079 customers and low flow showerheads for 580 customers. The total cost of all the measures to date is $7,871,569, with an average cost per measure of $3,230.

Refer to Appendix A of this report for more detailed program summary information.

b. External

As of June 30, 2011, the Company estimates that the 2,397 completed conservation measure jobs will result in 97,926 Mcf of annual energy savings, which equates to $1,278,202 annually in energy bill savings.

The Company has developed an analysis of the changes in LIURP customer consumption characteristics after the installation of energy efficiency applications at the customer's household. Appendix I provides a summary of this analysis.

5. M&V Analysis

Appendix E, Pages 7 through 9, Column K, provide the preliminary M&V results for the LIURP program.

The Table below summarizes a number of results included in Appendix E.

| LIURP M&V Summary Based on Deemed Savings Analysis | |
|---|---|
| TRC Base Analysis | 1.38 |
| Base Societal Test w/WNY Benefits | 2.15 |
| TRC Adjusted | 1.38 |
| Adjusted Societal Test w/WNY Benefits | 2.15 |

The Mcf saved per participant, Row 20, on Appendix E, is the deemed LIURP program savings based on average participant program savings as reported in Appendix A. Previous reports[11] based deemed savings on savings assumptions assumed when the CIP program was initially established in the Company's last base rate case. In developing the adjusted analysis no free ridership is assumed since it is unlikely that low income customers would have sufficient resources to make the energy efficiency improvements without the CIP initiatives. The "Snapback" assumption included in previous quarterly reports was removed in this report consistent with the October 2010 Technical Manual.

Appendix E, pages 10 through 12, Column U, provides the M&V results based on pre and post installation energy efficiency improvement savings for residential customers receiving LIURP services.

| LIURP M&V Summary Based on Pre Post Savings Analysis | |
|---|---|
| TRC Base Analysis | 0.81 |
| Base Societal Test w/WNY Benefits | 1.25 |
| TRC Adjusted | 0.81 |
| Adjusted Societal Test w/WNY Benefits | 1.25 |

[11] Reports through December 31, 2010.

While the pre and post cost benefit analysis provides results that are less than those presented under the deemed savings analysis, the overall benefits of the residential rebate programs still exceeds the costs. As explained in Appendix I, the pre and post analysis utilized twenty-five months of data. When analyzing the pre-post savings results for the LIURP program consideration must also be given to the relatively slower startup time needed for this program. The slower startup for the LIURP program resulted in fewer accounts receiving services in the early months compared to the later months. Also after analysis of early month results, the Company and NYSERDA were able to develop improvements in services provided to customers. As can be seen from the graph at Appendix I, Attachment 2, page 6 it appears that the average savings generated by LIURP customers has improved in the more recent months that service was provided. The Company will update this study as more data becomes available.

B. Rebate Program - Residential

1. Description

The residential program is an equipment replacement program, modeled after a Vermont Gas Systems program, which was cited by the ACEEE, as one of the nation's exemplary natural gas energy efficiency programs. Distribution's program offers equipment replacement rebate incentives for single family and multi-family dwellings, to encourage them to install high efficiency space heating and water heating appliances. These appliances are by far the largest two users of natural gas in residential buildings, and are therefore most likely to show the largest savings to our customers when they upgrade their appliances. Distribution set minimum efficiency levels for each appliance type based on federal Energy Star and New York State Energy Smart guidelines.

2. Goals

The goal of this program is to encourage the installation of high efficiency appliances by customers. The installation of high efficiency appliances was identified by Staff in its fast track[12] proposal as offering one of the greatest potentials for cost effective natural gas energy efficiency initiatives.

3. Program Information

Rebates were available for qualifying natural gas equipment, beginning with installations made on or after November 1, 2007. Available for existing homes only, not new construction.

For residential customers in Distribution's New York service area, rebates were available on the purchase of the following items during Year 1 and 2 of the CIP (11/1/07 – 11/30/09):

[12] Case 07-M-0548, Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard; New York State Department of Public Service, Staff Preliminary Proposal for Energy Efficiency Program Design and Delivery; August 28, 2007, p. 101.

| | Required Minimum Efficiency | Rebate Amount |
|---|---|---|
| **Space Heating** | | |
| Hot Air Furnace | 90% AFUE [13] | $300 |
| Hot Water Boiler | 85% AFUE | $400 |
| Steam Boiler | 81% AFUE | $200 |
| Programmable Thermostat | Energy Star –Rated | $25 |
| **Water Heating** | | |
| Storage Tank Heater | 0.61 EF[14] | $150 |
| Tankless Heater | 0.78 EF | $350 |

For Year 3 of the CIP (12/1/09 – 11/30/10), rebates were available on the purchase of the following items:

| | Required Minimum Efficiency | Rebate Amount |
|---|---|---|
| **Space Heating** | | |
| Hot Air Furnace | 90% AFUE | $300 |
| Hot Air Furnace with ECM | 90% AFUE | $400 |
| Hot Water Boiler | 85% AFUE | $400 |
| Steam Boiler | 81% AFUE | $200 |
| Programmable Thermostat | Energy Star –Rated | $25 |
| **Water Heating** | | |
| Indirect Water Heater | N/A | $300 |
| | | |

For Year 4 of the CIP, beginning 12/1/10, rebates are available on the purchase of the following items:

| | Required Minimum Efficiency | Rebate Amount |
|---|---|---|
| **Space Heating** | | |
| Hot Air Furnace | 90% AFUE | $250 |
| Hot Air Furnace with ECM | 90% AFUE | $350 |
| Hot Water Boiler | 85% AFUE | $350 |
| Steam Boiler | 81% AFUE | $200 |
| Programmable Thermostat | Energy Star –Rated | $25 |
| **Water Heating** | | |
| Indirect Water Heater | N/A | $250 |

[13] Annual Fuel Utilization Efficiency ("AFUE") is the most widely used measure of a furnace's heating efficiency. It measures the amount of heat actually delivered to a house compared to the amount of fuel that must supply the furnace.

[14] Energy Factor ("EF") is the efficiency of a storage water heater is indicated by its EF. An overall efficiency measure based on the use of 64 gallons of hot water per day, the EF takes into consideration both the transfer of heat to the water from the fuel used, and the standby loss of heat from the water.

Rebates were processed beginning on December 1, 2007. The following documentation was needed in order to complete the application for a rebate:

| **Purchased Item** | **Required Documentation** |
|---|---|
| Programmable thermostat | Receipt; make and model number, UPC (bar code) label from the package (only Energy Star-rated models qualify). |
| Furnaces, Boilers and Water Heaters | Paid invoice or receipt(s) indicating the retailer/contractor name, business address, phone and Federal ID (tax) number.<br>Itemized description of each product, including:<br>1. Manufacturer, and complete model number.<br>2. EF for natural gas water heaters.<br>3. AFUE (efficiency) rating for natural gas furnace or boiler.<br>Product installation date. |

The Company contracted with Energy Federation Inc. ("EFI") to administer the rebate processing. EFI has more than 15 years experience in administering energy efficiency programs for utilities nationwide.

4. Reporting

a. Internal

As of June 30, 2011, a total of 62,834 rebates were processed by EFI, for a total rebate amount of $11,723,305. This represents approximately 393% of the estimated total annual budget of $2,980,677 for this program, in the first forty-four months since becoming effective. As of June 30, 2011, EFI was paid $746,731 to administer this program per Distribution's contract with them. This represents approximately 258% of the estimated total annual administration budget of $289,050 for this program. The table below illustrates a summary of the rebate activity to date versus the estimated annual projections by major rebate and program administration category:

| | - Estimated Annual - | | - Actual Cumulative - | |
|---|---|---|---|---|
| | Rebates | Rebate $ | Rebates | Rebate $ |
| Space Heating | 3,853 | $1,258,534 | 30,861 | $9,879,200 |
| Water Heating | 5,783 | $1,312,388 | 5,285 | $1,177,450 |
| Thermostat | 16,390 | $409,755 | 26,688 | $666,655 |
| **Total Rebate** | 26,025 | **$2,980,677** | 62,834 | **$11,723,305** |
| General Admin. | | | | $124,000 |
| Processing | | | | $375,009 |
| Inspections | | | 2,835 | $247,722 |
| **Total Admin**. | | **$289,050** | | **$746,731** |
| **Total Program** | | **$3,269,727** | | **$12,470,035** |

Refer to Appendix B of this report for more detailed program summary information.

Customer response to this program has been outstanding. Program inquiries to EFI have been very steady since the program began. Typical daily call levels have been in the range 40 - 50 calls per day, with peak levels reaching 75 - 80 calls per day during the first few months of the program introduction. The program administrator, EFI, who handles a large majority of the utility rebate programs in the northeast U.S., stated that this was by far the largest initial response to a residential rebate program that they have ever seen. According to Tim Brown, Chief Operating Officer of EFI, "this one certainly took off like no other program we've started up."

EFI also coordinates the process of conducting two additional quality control aspects of the program. First, they work with Conservation Services Group (CSG) to conduct random monthly on-site inspections of equipment installations to verify that the equipment receiving a rebate was actually installed. As of June 30, 2011, 2,835 of these inspections have been completed, which represents approximately a 5% sample of the total rebate population of 62,834 rebates, and no fraudulent claims have been discovered. Second, EFI has conducted a phone survey to a random sample of 1,720 customers (approximately 4% of the 39,684 customers receiving a rebate through June 2011), to gain their insight into issues such as program awareness source, impact of the rebate on the purchase decision and satisfaction with the rebate process. Regarding program awareness, the top 3 sources of program information to rebate customers were contractors (65%), National Fuel bill inserts (14%) and friends/word of mouth (11%). A total of 86% of rebate participants indicated the rebate was important in influencing them to make their equipment upgrade decision. Finally, 95% of rebate customers were satisfied with the overall rebate program process. A more detailed summary of the results of these surveys is included in Appendix H of this quarterly report.

b. External

The Company has developed an analysis of the changes in customer consumption characteristics after the installation of high efficiency appliances. Appendix I provides a summary of this analysis.

5. M&V Analysis

Appendix E, Pages 1 through 6, Columns B through I, provide the preliminary M&V results for each of the residential rebate programs. Appendix E, Pages 7 through 9, Column J, provide the preliminary M&V results for the total of the residential rebate programs.

The Table below summarizes a number of results included in Appendix E.

| Residential Rebates M&V Summary Based on a Deemed Savings Analysis | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Heating Systems | | | | | Hot Water | | |
| | | Furnace | | Boiler | | | | | |
| | Total Res | Air | ECM | HW | Steam | T Stats | Indirect | Tank | Tank less |
| TRC Base Analysis | 1.88 | 2.01 | 0.94 | 1.31 | 2.57 | 9.91 | 0.50 | 0.87 | 1.02 |
| Base Societal Test w/WNY Benefits | 2.97 | 3.17 | 1.47 | 2.06 | 4.05 | 15.71 | 0.78 | 1.39 | 1.62 |
| TRC Adjusted | 1.82 | 1.93 | 0.92 | 1.28 | 2.49 | 9.30 | 0.49 | 0.83 | 0.96 |
| Adjusted Societal Test w/WNY Benefits | 2.87 | 3.05 | 1.44 | 2.01 | 3.93 | 14.74 | 0.76 | 1.32 | 1.53 |

The Mcf saved per participant, Row 20, on Appendix E, are the deemed rebate program savings calculated based on the October 2010 Technical Manual.

In developing the adjusted analysis a 10% free ridership value is assumed. The October 2010 Technical Manual recommends a free ridership value of 10%. Sensitivity analysis for the free ridership variable is provided in the free ridership section of Appendix E. The "Snapback" assumption included in previous quarterly reports was removed from this report consistent with the October 2010 Technical Manual.

The Company has also performed a cost benefit analysis for residential appliance rebates based on a "before-and-after" analysis of the total natural gas consumption of residential customers receiving rebates. Appendix I provides a summary of the procedures used by the Company in determining pre and post efficient appliance installation consumption.

Appendix E, pages 10 through 12, provides the M&V results based on pre and post appliance installation savings for residential customers receiving rebates.

| Residential Rebates M&V Summary Based on a Pre and Post Appliance Installation Savings Analysis | | | | | |
|---|---|---|---|---|---|
| | Total Res | Heating Systems | T Stats | HW Tank | Tankless HW |
| TRC Base Analysis | 1.85 | 1.42 | 10.35 | 1.05 | 0.92 |
| Base Societal Test w/WNY Benefits | 2.92 | 2.25 | 16.40 | 1.66 | 1.47 |
| TRC Adjusted | 1.77 | 1.37 | 9.70 | 0.99 | 0.87 |
| Adjusted Societal Test w/WNY Benefits | 2.80 | 2.16 | 15.38 | 1.58 | 1.39 |

While the pre and post cost benefit analysis provides results that are somewhat less than those presented under the deemed savings analysis, the overall benefits of the residential rebate programs still exceeds the costs. As explained in Appendix I, the pre

and post analysis utilized twenty-nine months of data. The Company will update this study as more data becomes available.

C. Rebate Program – Small Non-Residential

1. Description

The small non-residential program is also an equipment replacement program, modeled after a Vermont Gas Systems program, which was cited by the ACEEE, as one of the nation's exemplary natural gas energy efficiency programs. Distribution's proposed program will offer equipment replacement customized rebate incentives to customers using less than 12,000 Mcf, to encourage them to install high efficiency space heating, water heating and process heating equipment. However, customers will also be eligible to receive rebates for non-equipment replacement changes made to heating, water heating and process heating equipment, such as adding insulation to a process heating oven, or updating controls to a space heating boiler. These custom incentives are set on a case-by-case basis, based upon the incremental installed cost of the new equipment and the estimated resulting gas energy savings. A technical engineering analysis must first be performed to confirm energy savings. The rebate amount will be up to 50% of the incremental cost, with a cap of $25,000. The Company has contracted with NYSERDA to administer the day-to-day project management of this program.

2. Goals

The goal of the small non-residential rebate program is to provide cost effective incentives to small non-residential customers to utilize natural gas efficiently in their business operations.

3. Program Information

a. Administrative Tasks Related to Start-Up

- NYSERDA has modified existing Energy Efficiency Technical Assistance ("TA") contracts, including statements of work to include activities related to NRCIP.
- NYSERDA has modified the on-line tracking system, Buildings Portal, to accommodate changes required for the tracking of Distribution energy projects.
- NYSERDA has modified current Enhanced Commercial/Industrial Performance Program opportunity notices and Tier II forms to accommodate Distribution energy projects.

b. Ongoing Administrative Tasks

- NYSERDA will monitor program progress and expenditure levels to ensure that program objectives are met within budget allocations.
- NYSERDA will discuss by teleconference as needed with NYSERDA's TA Contractors, to ensure that contractors understand and are following program procedures, and to elicit feedback regarding the program.
- NYSERDA will conduct periodic reviews of the database to ensure quality of data entry and will provide Distribution with project data obtained on the application.
- NYSERDA will promote Distribution programs in any upcoming energy efficiency workshops /seminars/conferences provided in Distribution service territory.
- At Distribution's request, NYSERDA shall permit Distribution personnel to monitor and participate in these administrative tasks.

4. Process

- NYSERDA Application In-Take and Review:
  - Upon receipt of a completed Application (includes application and Technical Engineering Study) NYSERDA assigns the gas energy project and send a copy of the Application to a NYSERDA TA Contractor.
  - NYSERDA will enter data into the Buildings Portal Database to track the energy project.

- NYSERDA's TA Contractor will perform the following:
  - Will review the Application for completeness and eligibility and will review the engineering study for technical merit.
  - Will contact customer and/or contractor to conduct a pre-installation site visit to verify existing conditions.
  - Will provide NYSERDA with written correspondence on the Application summarizing the gas energy project and provide NYSERDA with a recommendation of the potential gas energy savings and financial incentive.
  - Will provide NYSERDA with a scope of work and budget to complete all phases related to the gas project.

- NYSERDA offers Purchase Order:

  - NYSERDA will review the TA Contractor's recommendation and, if approved, will request Distribution to send correspondence via an approval memorandum to the customer. In the alternative, NYSERDA may itself send such correspondence on letterhead supplied to NYSERDA by Distribution.

- NYSERDA will develop a Purchase Order to contractually secure the financial incentives available for the gas energy project and offer a Purchase Order to the customer for their approval and signature.
- NYSERDA will review the scope of work and budget and modify the existing TA Contractor's contract.
- NYSERDA will update the data of the project in the Buildings Portal database.

- Customer completes Construction:

  - NYSERDA's TA Contractor will conduct a post-installation site-inspection of the energy project to verify that the energy project is completed and the same equipment and efficiency ratings that was specified in the Application was installed.
  - NYSERDA's TA Contractor will provide NYSERDA with correspondence in writing with a recommendation of the potential gas energy savings and financial incentives and notify any changes to the project.
  - NYSERDA will request Distribution to provide the customer with correspondence in writing indicating the amount of financial incentive that the customer can invoice. In the alternative, NYSERDA may send such correspondence on letterhead supplied to NYSERDA by Distribution.
  - NYSERDA will update the data of the project in the Buildings Portal database.

- Invoice Processing:
  - NYSERDA will review all invoices for accuracy, and if acceptable NYSERDA will process the invoice for payment following NYSERDA prompt payment policy.

5. Reporting

a. Internal

As of June 30, 2011, a total of 1,092 rebates were processed by EFI and NYSERDA, for a total rebate amount of $1,280,604. This represents approximately 97% of the estimated total annual budget of $1,319,860 for this program, since commencement of rebate processing on December 1, 2007, (for equipment purchases and installations completed on or after November 1, 2007). As of June 30, 2011, EFI and NYSERDA were paid a total of $114,761 to administer this program per Distribution's contract with them. This represents approximately 89% of the estimated total annual administration budget of $127,993 for this program. The table below illustrates a summary of the rebate activity to date versus the estimated annual projections by major rebate and program administration category:

| | - Estimated Annual- | | - Actual Cumulative- | |
|---|---|---|---|---|
| | Rebates | Rebate $ | Rebates | Rebate $ |
| Space Heating | N/A | N/A | 613 | $1,666,806 |
| Water Heating | N/A | N/A | 66 | $35,713 |
| Cooking | N/A | N/A | 6 | $6,250 |
| Process Heating | N/A | N/A | 2 | $50,000 |
| Thermostat | N/A | N/A | 405 | $21,835 |
| **Total Rebate** | N/A | **$1,319,860** | 1,092 | **$1,280,604** |
| General Admin. | | | | $0 |
| Processing | | | | $112,096 |
| Inspections | | | 88 | $4,630 |
| **Total Admin**. | | **$127,993** | | **$114,761** |
| **Total Program** | | **$1,447,853** | | **$1,397,329** |

Refer to Appendix C of this report for more detailed program summary information.

Customer response to this program was very slow at the outset, but has been improving as a result of a series of direct mailings, print advertising and contractor meetings the Company has conducted over the past few years. Program inquiries to NYSERDA have grown since the increased advertising and marketing campaigns began. Typical daily call levels have been in the range of 10-15 calls, with peak levels reaching 20-30 calls per day in some instances.

However, even with the increased call activity, the results to date have been less than expected. We feel this is due primarily to two factors. First, the majority of customers calling NYSERDA were very small businesses, typically with usage of less than 1,000 Mcf. Due to their small size, they were relatively unsophisticated when it came to knowledge of their existing energy equipment and their overall energy usage. They did not have any in-house energy expertise and many did not have any outside source (contractor, engineer, consultant, etc.) to rely upon. Second, even if they did have some level of energy expertise, either in-house or outside, they were typically too busy to spend any time analyzing their project as called for in the design of the customized rebate program. They were looking for something VERY easy to understand and apply for, such as our fixed rebate design in the residential market. This is the main reason NYSERDA ended up referring most of the rebates for the small non-residential program to EFI so the customer could take advantage of the simpler, albeit likely lower value, rebate through that source. These customers simply did not want to take the time or effort to complete even a simple analysis of their project to achieve the higher potential rebate level.

Over the first three years of the program, we have seen greater activity on the customized rebate design front. Even though only 50 rebates have been processed through this method as of June 30, 2011, NYSERDA currently has several applications in progress, with a few projects already approved for payment or pending, several of which

are for substantial amounts of money. We feel this trend will continue as more customers become aware of the program, as well as becoming more comfortable with completing the simple technical analysis required.

Due to the issues cited above, the Company implemented a modification to this program design for year 2 of the program, effective December 1, 2008, that created a two-tiered approach –

1. A new, simpler, fixed rebate component for the smallest of the non-residential customers, similar to the residential program design, although at slightly higher rebate levels
2. The existing, more complex, customized rebate design for those customers willing and able to do the analysis required to likely achieve a greater rebate level through this approach than via the fixed rebate design.

The Company reviewed this concept with all the participants of the Collaborative Session held at the NYPSC office in Albany on March 25, 2009. Since the new fixed rebate became effective on December 1, 2008, the Company is encouraged by the growing response we have seen from our small non-residential customers. Through June 30, 2011, 649 customers have taken advantage of this simpler rebate option available to them.

Finally, now that the program introduction phase has passed, the Company plans on working with NYSERDA to finalize a phone survey which will be conducted to a random sample of customers receiving a rebate, to gain their insight into issues such as program awareness source, satisfaction with the rebate process and impact of the rebate on the purchase decision.

b. External

At this point, the Company does not have sufficient data for most rebate participants to accurately compare pre-versus post-installation consumption. As more data is available, we expect to conduct these analyses to estimate the energy efficiency savings realized for each rebate participant, as well as aggregate those results into the TRC test to evaluate the overall program effectiveness, and include them in future quarterly reports.

6. M&V Analysis

Appendix E, Pages 7 through 9, Column M, provide the preliminary M&V results for the non-residential rebate program.

The Table below summarizes a number of results included in Appendix E.

| Non-Residential M&V Summary | |
|---|---|
| TRC Base Analysis | 1.92 |
| Base Societal Test w/WNY Benefits | 3.03 |
| TRC Adjusted | 1.87 |
| Adjusted Societal Test w/WNY Benefits | 2.94 |

The Mcf saved per participant, Row 20, on Appendix E, is the deemed non-residential program savings for the participants provided CIP rebates to date.

In developing the adjusted analysis a 10% free ridership is assumed. Sensitivity analysis for the free ridership variable is provided in the free ridership section of Appendix E. No level of snapback was assumed for non-residential customers.

D. General Customer Outreach and Energy Efficiency Education

1. Description

The Company developed a communications plan to introduce the CIP to its customers, to help them become fully aware of its benefits and to encourage customers to take advantage of the rebate program.

The CIP is a well-established program in Distribution's service territory that continues to generate robust levels of customer participation, acceptance and satisfaction. It also is producing data showing that it is effectively promoting conservation and efficiency, consistent with state objectives and program design.

Currently in year four of the CIP, Distribution is transitioning the program from an introductory phase to "one that maintains a solid awareness of the program."

2. Goal

The goal of the communications plan is to educate customers on the need for and the benefit of employing energy efficiency measures. CIP rebate and low-income programs are cornerstones for improving energy efficiency in homes and businesses throughout our Company's service territory.

The design, delivery and focus of outreach and education all continue to be directed at program maintenance and customer awareness of energy efficiency, while maintaining current levels of customer awareness and participation.

3. Program Information

Formal advertising and public relations initiatives associated with the CIP launched December 1, 2007. These initiatives included bill inserts, direct mail, outdoor advertising, transit and bus shelter advertising, online advertising, a dedicated website, print advertisements and grassroots efforts. Tactics executed during this reporting period (April 1, 2011 –June 30, 2011) included:

**Print Advertisements:**

- No Print Advertising from April 1 – June 30

**Television Advertisement:**

- No Television Advertising from April 1 – June 30.

**Radio Advertisement:**

- No Radio Advertising from April 1 – June 30

**Transit Advertising (Bus Shelters and Bus Cards)**

- No Transit Advertising from April 1 – June 30

**Outdoor Advertising – Billboards, Bulletins and Posters**

- No Outdoor Advertising from April 1 – June 30

**Website** (NationalFuelForThought.com)

- This program-specific website generated approximately 3,133 visits (with 8,853 page views among those visits) from April 1 to June 30, 2011.

**Other Website Outreach**

- No Banner Advertising from April 1 – June 30.

**Other Website Outreach**

**Buffalo.com**

- No Banner Advertising from April 1 – June 30.

**Handouts and Program Materials:**

- Conservation kits and program materials were distributed at community events by employees, to customers throughout our service area, through heating and cooling appliance dealers, area not-for-profit organizations, health and human service agencies, the offices of local elected officials and at local appliance stores.
  - Approximately 14,500 kits were distributed between April 1 and June 30, 2011, including 8,000 with the National Energy Education Department Program.
- Along with starter-materials to help customers weatherize their homes and a flyer on programs and services for our customers, the conservation kits included:

- **Program brochures, describing rebate program features for residential and non-residential customers.** These were also distributed upon request to employees, customers, heating and cooling appliance dealers and local appliance stores.
- **Conservation Tip Sheet, including tips and facts about energy conservation and websites that contain conservation information.** This tip sheet was redesigned and updated during June and July 2010. These were also distributed upon request to employees, customers, heating and cooling appliance dealers and local appliance stores.
- **Online Energy Analysis Flyer, including tips and facts about energy conservation and websites that contain conservation information.** This flyer was redesigned and updated in 2010. These were also distributed upon request to employees, customers, heating and cooling appliance dealers and local appliance stores.

**Community Outreach:**

- Program materials and conservation kits were distributed at the following:
  - Buffalo Shoreline Sweeps/Buffalo Riverkeepers
  - Jamestown Community College Earth Day
  - Ecology & Environment Sustainability Conference
  - Buffalo Niagara Green Expo
  - Hugh O'Brien Youth Leadership Conference
  - General Motors Powertrain Open House
  - WNY Earth Day Family Expo

- The third year of the National Energy Education Department Program's Energy Detectives' School of the Year, Students of the Year and Teacher of the Year were awarded in April 2011 to Depew Middle School, two sixth grade students and a teacher who has implemented the energy efficiency program each year in her classroom. The award acknowledges those who have promoted energy efficiency within their school and the community.
  - A copy of the news release is included in Appendix D.

- Completed sponsorship of the Buffalo Sabres Green Team's "Blue & Gold Make Green" Initiative:
  - As of June 30, 2011, 5,682 Green Team members have signed up to participate in the program through the Sabres website. When new members joined the program, they were directed to a website that contained 10 energy efficiency tips. In addition, these tips were forwarded to their e-mail addresses. Green Team members are also mailed the Conservation Tip Sheet, the Online Energy Analysis flyer, a one-page flyer about the

residential and non-residential rebate program and a CIP Savings Card.
    - During this quarter, 3 CIP television spots ran and 4 games featured in-arena advertisements. The Sabres produced 1 Green Team spot.
    - Green Team sponsored games –None during this time period.
    - Impressions from in-arena activities included:
        - Ribbon Board –twice per game – average attendance (estimate) 18,550 equals 37,100 per game (1 impression for spot in-arena and 1 impression for ribbon (2 per game) - 4 Games Total during 4/1 - 6/30
        - Two 30 second commercial spots per game
        - Two live mentions during sponsored games
    - Green Team online advertisements were placed on the Buffalo Sabres' website periodically throughout the April 1 – June 30, providing 4,860 impressions.
    - CIP information and conservation tips are prominently featured on the Sabres' dedicated Green Team website.
    - CIP materials are distributed to all new registrants.
    - Three e-mail blasts about the CIP, including a link to our CIP website were sent between April 30 and June 30, 2011, to more than 128,000 Sabres Insider Club members and all Green Team members.
    - The Sabres posted eight stories on the CIP or the Green Team to the Sabres website during the quarter.

- Activated sponsorship with the Buffalo Bisons to establish the Bisons' Green Team
    - Bisons' Green Team encourages fans to sign up for the Green Team via the HD scoreboard as part of the Message of the Game. Those who join will receive 2 free tickets to an upcoming game.
    - Feature runs in-game at every 2011 Monday-Thursday home game and pre-game for weekend games.
    - Sponsorship includes one 3'x5' concourse sign for 2011 season
    - Bisons' Green Team logo on Bisons.com with click-through to NationalFuelforThrought.com
    - Handed out 8,000 Energy Conservation Kits to children at the Bisons' Kids Day game on June 9th.
        - Kits included energy-saving materials to use at home with parents, as well as a flyer explaining the importance of gas safety
        - Total attendance at game: 14,412
        - Three energy conservation tips broadcast during game

**Media Relations:**

- The April 1st WNY Energy Detectives ceremony was coordinated with the Buffalo Sabres Green Team and featured Sabre Derek Roy at Depew Middle School to award the recipients. News releases were distributed to the WNY media and were featured in the Buffalo News picture page, YNN News, WGRZ-TV and WIVB-TV.

4. Reporting

The Company is monitoring the progress and success of the communication activities related to CIP. A benchmark customer survey was created in October 2007 to measure customer awareness of energy efficiency and current practices and behaviors associated with the efficient use of natural gas. Through the customer survey, the Company is also monitoring the progress and success of the communication activities related to the CIP.

Follow-up surveys during the course of CIP have been and will continue to be conducted to measure changes in customer behavior and awareness of the conservation messaging being advanced as part of the CIP.

The most recent round of surveying was completed in June 2010. Key findings from the June 2010 survey included:

- Respondents continue to rank National Fuel as a leading source for information about energy efficiency and conservation. National Fuel was also ranked the top source for how well natural gas energy efficiency information is provided.
- General awareness of programs offering rebates to replace appliances is at 74 percent, the highest awareness rate since the beginning of the survey. Awareness of and participation in National Fuel's Conservation Incentive Program were slightly higher, compared to the last survey.
- 95 percent think it is important to conserve energy and they also consider themselves knowledgeable about how to conserve.
- 86 percent conserve energy in order to save money, which is consistent with prior results.
- 65 percent believe that natural gas is the most cost-effective type of energy for their personal use.
- As seen in prior studies, existing appliances would only be replaced for new, energy-efficient models only if the appliance stopped working.
- 83 percent of respondents felt that energy savings could offset the cost of a more efficient furnace over the life of a unit.
- Low-cost conservation tactics continue to be implemented prior to considering equipment upgrades. These tactics include: lowering thermostats, adding

weather stripping or caulk, adding insulation, setting hot water tank temperatures to medium and preheating ovens only when necessary.

- Similar to what we have seen in past studies, respondents in the lower income brackets (<$40k) are the least likely to replace their furnace next year, even though they see value in more energy-efficient models.
- 59 percent of respondents expressed that they were somewhat or very likely to seek additional information on rebates.

At November 30, 2010, approximately $5.897 million was spent on communications initiatives for Years 1 - 3 of the CIP. From December 1, 2010 through June 30, 2011, $300,015 was spent for a total CIP Outreach and Education spend of $6.197 million since the program's inception.

5. M&V Analysis

Appendix E, Pages 7 through 9, Column N, provide the preliminary M&V results for the Outreach program.

The Table below summarizes a number of results included in Appendix E.

| Outreach M&V Summary | |
|---|---|
| TRC Base Analysis | 4.84 |
| Base Societal Test w/WNY Benefits | 8.03 |
| TRC Adjusted | 4.36 |
| Adjusted Societal Test w/WNY Benefits | 7.27 |

Gauging the exact customer behavioral changes due to the Company's outreach effort is perhaps the most difficult part of this M&V analysis. The Company's outreach effort is broad based and cuts across a number of programs and initiatives as demonstrated in the program details above. The first step in the M&V analysis was to assign a portion of the outreach costs to the rebate programs since a significant effort was made to inform customers about the rebate programs. The assignment of outreach costs to the rebate programs was 50% of total outreach costs. Outreach costs associated with the rebate programs were included in the M&V results for the rebate programs. The Mcf saved per participant, Row 20, on Appendix E, is a deemed Mcf savings associated with the general outreach efforts. The sensitivity analysis section of the M&V report provides an analysis of the sensitivity of the adjusted TRC results to the volume savings assumption. The adjusted TRC results range from 6.54 if the volume savings resulting from general outreach are 50% greater than those assumed in the base analysis to 2.18 if the volume savings are 50% less than that assumed in the base analysis. The Company's general energy efficiency initiative included a broad based energy savings message as well as distribution of thousands of conservation kits; therefore, the isolation of any single activity on the part of individual customers is difficult to obtain. Perhaps the best estimate of outreach results will be to determine total changes in average usage less the impact associated with the rebate and LIURP programs.

In developing the adjusted analysis a 10% free ridership is assumed. Sensitivity analysis for the free ridership variable is provided in the free ridership section of Appendix E. No level of snapback was assumed related to the outreach effort.

## VI. Conclusions

All aspects of the Company's CIP began operation on December 1, 2007. This is the Company's fourteenth quarterly report, which has provided an overview of each component of the CIP along with a summary of results to date for each component. This report provided a preliminary analysis of M&V results based on program results to date. Appendix G provides a summary of allowances by program, Company expenditures for each CIP initiative, and NYSERDA expenditures under the Company's program through June 30, 2011. More information regarding M&V variables resulting from the actual operation of the CIP and the ongoing state-wide energy efficiency initiative should be available for inclusion in future quarterly reports. The Company also anticipates including reasonable data reporting modifications that may be suggested by Staff and others involved in making the energy efficiency initiatives included in the CIP available to the Company's customers.

# Appendix A - Low Income Usage Reduction Program Cumulative Results through 6/30/11

## I. PROGRAM INTAKE *( Cumulative / Program Years 1, 2, 3 & 4 )*

| | | | | |
|---|---|---|---|---|
| Customers Referred (NFG & Other) | 32,863 | | | |
| Customer Letter/Application Sent | 25,378 | * | 77% | of 32,863 Referrals |
| Applications Returned | 6,897 | | 27% | of 25,378 Applications Sent |

## II. STATUS of APPLICATION TRIAGE *( Cumulative / Program Years 1, 2, 3 & 4 )*

| | | | |
|---|---|---|---|
| Applications on Hold (Landlord Authorization): | 526 | 8% | of 6,897 Applications Returned |
| Applications on Hold (Additional Information/Other): | 24 | 0% | of 6,897 Applications Returned |
| Deemed Ineligible (house for sale etc) | 2,818 | 41% | of 6,897 Applications Returned |
| **Assigned to Contractors for Service** | **3,529** | 51% | of 6,897 Applications Returned |

## III. STATUS OF AUDITS/MEASURES *( Cumulative / Program Years 1, 2, 3 & 4 )*

| | | | |
|---|---|---|---|
| Audits in Process | 246 | 7% | of 3,529 Households assigned to Contractors for Service |
| Jobs in Process | 312 | 9% | of 3,529 Households assigned to Contractors for Service |
| **Jobs Completed** | **2,397** | 68% | of 3,529 Households assigned to Contractors for Service |
| Program Participants | 2,955 | | |
| Jobs Cancelled | 574 | 16% | of 3,529 Households assigned to Contractors for Service |

## III. PROGRAM RESULTS *( Cumulative / Program Years 1, 2, 3 & 4 )*

| Conservation Measure | Jobs | Estimated Annual Energy Savings (Mcf) | Estimated Annual* Savings ($) | **Total Cost of Measures** | Average Cost per Measure |
|---|---|---|---|---|---|
| Audit Fee/Education | 2,437 | tbd | tbd | **$823,089** | $338 |
| Insulation | 1,822 | 51,715 | $666,977 | **$5,220,965** | $2,866 |
| Air Sealing | 1,905 | 30,609 | $404,284 | **$811,238** | $426 |
| Heating System Repair/Replacement | 1,079 | 11,076 | $148,787 | **$559,344** | $518 |
| Thermostats | 214 | 3,157 | $40,097 | **$22,179** | $104 |
| DHW Improvements | 197 | 718 | $9,603 | **$193,685** | $983 |
| Showerheads | 580 | 402 | $5,152 | **$10,312** | $18 |
| Pipe Wrapping | 543 | 221 | $2,938 | **$9,120** | $17 |
| Other | 891 | 28 | $364 | **$221,637** | $249 |
| Total | **2,437** | 97,926 | $1,278,202 | **$7,871,569** | $3,230 |

'* *Therm cost savings are based on the National Fuel Residential Utility Prices for Jan 2008 as posted by the PSC minus the non-bypassable service charge ($1.35 per therm).*

**Appendix B - Residential CIP Rebate Program Cumulative Results through 6/30/11**

| Equipment | Quantity | Rebate Amount | Total Rebate | Processing Fee | Total Fee | Total |
|---|---|---|---|---|---|---|
| I. Space Heating | | | | | | |
| Boiler - Hot Water | 2167 | $400.00 | $866,800.00 | | | |
| Boiler - Hot Water | 188 | $350.00 | $65,800.00 | | | |
| Subtotal | 2355 | | $932,600.00 | $7.50 | $17,662.50 | $950,262.50 |
| Boiler - Steam | 86 | $200.00 | $17,200.00 | $7.50 | $645.00 | $17,845.00 |
| Furnace >= 90% with ECM | 4355 | $400.00 | $1,742,000.00 | | | |
| Furnace >= 90% with ECM | 917 | $350.00 | $323,750.00 | | | |
| Subtotal | 5272 | | $2,065,750.00 | $7.50 | $39,540.00 | $2,105,290.00 |
| Furnace >= 90% | 21539 | $300.00 | $6,461,700.00 | | | |
| Furnace >= 90% | 1609 | $250.00 | $401,950.00 | | | |
| Subtotal | 23148 | | $6,863,650.00 | $7.50 | $173,602.50 | $7,037,252.50 |
| Subtotal | 30861 | | $9,879,200.00 | | $231,450.00 | $10,110,650.00 |
| II. Water Heating | | | | | | |
| Indirect Water Heater | 236 | $300.00 | $70,800.00 | | | |
| Indirect Water Heater | 39 | $250.00 | $9,750.00 | | | |
| Subtotal | 275 | | $80,550.00 | $6.50 | $1,787.50 | $82,337.50 |
| Water Heater - Storage Tank | 3285 | $150.00 | $492,750.00 | $6.50 | $21,352.50 | $514,102.50 |
| Water Heater - Tankless | 1725 | $350.00 | $604,150.00 | $6.50 | $11,212.50 | $615,362.50 |
| Subtotal | 5285 | | $1,177,450.00 | | $34,352.50 | $1,211,802.50 |
| III. Programmable Thermostat | 26688 | $24.98 * | $666,654.95 | $4.09 * | $109,206.00 ** | $775,860.95 |
| Total all Equipment | 62,834 | | $11,723,304.95 | | $375,008.50 | $12,098,313.45 |
| Program Administration | 14 | months (11/07 - 12/08) | | $2,000.00 | $28,000.00 | |
| | 30 | months (1/09 - 6/11) | | $3,200.00 | $96,000.00 | |
| | | | | | $124,000.00 | |
| Inspections | 2476 | | | $87.00 | $215,412.00 | |
| | 359 | | | $90.00 | $32,310.00 | |
| | 2835 | | | | $247,722.00 | |
| PROGRAM TOTAL | | | | | | **$12,470,035.45** |

* Average thermostat rebate amount. Rebate amount cannot exceed actual purchase price.

** Thermostat "Total Fee" and "Processing Fee" reflects no fee charged after initial thermostat, on multiple thermostat installations.

**Appendix C - Small Non-Residential CIP Rebate Program Cumulative Results through 6/30/11**

**I. FIXED Rebates**

**A. Through Residential CIP, Installed before 12/1/08 - Administered by EFI**

| Equipment | Quantity | Individual Rebate Amount | | Total Rebate | Processing Fee | Total Fee | | Total |
|---|---|---|---|---|---|---|---|---|
| I. Space Heating | | | | | | | | |
| Boiler - Hot Water | 19 | $400.00 | | $7,600.00 | $7.50 | $142.50 | | $7,742.50 |
| Boiler - Steam | 0 | $200.00 | | $0.00 | $7.50 | $0.00 | | $0.00 |
| Furnace | 144 | $300.00 | | $43,200.00 | $7.50 | $1,080.00 | | $44,280.00 |
| Subtotal | 163 | | | $50,800.00 | | $1,222.50 | | $52,022.50 |
| II. Water Heating | | | | | | | | |
| Water Heater - Storage Tank | 12 | $150.00 | | $1,800.00 | $6.50 | $78.00 | | $1,878.00 |
| Water Heater - Tankless | 8 | $350.00 | | $2,800.00 | $6.50 | $52.00 | | $2,852.00 |
| Subtotal | 20 | | | $4,600.00 | | $130.00 | | $4,730.00 |
| III. Programmable Thermostat | 210 | $24.88 | * | $5,224.96 | $4.50 | $945.00 | ** | $6,169.96 |
| Total all Equipment | 393 | | | $60,624.96 | | $2,297.50 | | $62,922.46 |
| Inspections | 27 | | | | $87.00 | $2,349.00 | | |
| PROGRAM SUBTOTAL | | | | | | | | $65,271.46 |

* Average thermostat rebate amount. Rebate amount cannot exceed actual purchase price.

** Thermostat "Total Fee" reflects no fee charged after initial thermostat, on multiple thermostat installations.

**Appendix C - Small Non-Residential CIP Rebate Program Cumulative Results through 6/30/11**

**I. FIXED Rebates (continued)**

**B. Through Small Non-Residential CIP, Installed after 12/1/08 - Administered by NYSERDA**

| Equipment | Quantity | Individual Rebate Amount | Total Rebate | Processing Fee | Total Fee | Total |
|---|---|---|---|---|---|---|
| I. Space Heating | | | | | | |
| Boiler - Hot Water | 97 | $2,288.66 * | $222,000.00 | 9.00% | $19,980.00 | $241,980.00 |
| Boiler - Steam | 5 | $2,010.40 * | $10,052.00 | 9.00% | $904.68 | $10,956.68 |
| Unit Heater | 37 | $1,581.08 * | $58,500.00 | 9.00% | $5,265.00 | $63,765.00 |
| Furnace | 267 | $946.22 * | $252,640.00 | 9.00% | $22,737.60 | $275,377.60 |
| Subtotal | 406 | | $543,192.00 | | $48,887.28 | $592,079.28 |
| II. Water Heating | | | | | | |
| Water Heater - Storage Tank | 19 | $150.00 | $3,000.00 | 9.00% | $270.00 | $3,270.00 |
| Water Heater - Tankless | 23 | $350.00 | $9,800.00 | 9.00% | $882.00 | $10,682.00 |
| Subtotal | 42 | | $12,800.00 | | $1,152.00 | $13,952.00 |
| III. Cooking | 6 | $1,041.67 * | $6,250.00 | 9.00% | $562.50 | $6,812.50 |
| IV. Programmable Thermostat | 195 | $85.18 * | $16,610.00 | 9.00% | $1,494.90 ** | $18,104.90 |
| Total all Equipment | 649 | | $578,852.00 | | $52,096.68 | $630,948.68 |
| Inspections | 11 | | | N/A | $2,281.00 | |
| PROGRAM SUBTOTAL | | | | | | $633,229.68 |

* Average rebate amount. Rebate amount cannot exceed actual purchase price.

** Thermostat "Total Fee" reflects no fee charged after initial thermostat, on multiple thermostat installations.

**Appendix C - Small Non-Residential CIP Rebate Program Cumulative Results through 6/30/11**

**II. CUSTOMIZED Rebates**

**Through Small Non-Residential CIP - Administered by NYSERDA**

| Equipment | Quantity | Average Rebate Amount | Total Rebate | Processing Fee | Total Fee | Total |
|---|---|---|---|---|---|---|
| I. Space Heating | | | | | | |
| Boiler - Hot Water | 32 | $13,204.80 | $422,553.47 | 9.00% | $38,029.81 | $460,583.28 |
| Boiler - Steam | 0 | $0.00 | $0.00 | 9.00% | $0.00 | $0.00 |
| Unit Heater | 2 | $16,975.00 | $21,375.00 | 9.00% | $1,923.75 | $23,298.75 |
| Furnace | 0 | $0.00 | $0.00 | 9.00% | $0.00 | $0.00 |
| Other | 10 | $12,888.51 * | $128,885.12 | 9.00% | $11,599.66 | $140,484.78 |
| Subtotal | 44 | $13,018.49 | $572,813.59 | | $51,553.22 | $624,366.81 |
| II. Water Heating | | | | | | |
| Water Heater - Storage Tank | 4 | $4,578.25 | $18,313.00 | 9.00% | $1,648.17 | $19,961.17 |
| Water Heater - Tankless | 0 | | $0.00 | 9.00% | $0.00 | $0.00 |
| Subtotal | 4 | $4,578.25 | $18,313.00 | | $1,648.17 | $19,961.17 |
| III. Process Heating | 2 | | $50,000.00 | 9.00% | $4,500.00 | $54,500.00 |
| IV. Programmable Thermostat | 0 | | $0.00 | 9.00% | $0.00 | $0.00 |
| Total all Equipment | 50 | | $641,126.59 | | $57,701.39 | $698,827.98 |
| Inspections | 50 | | | N/A | $0.00 | |
| PROGRAM SUBTOTAL | | | | | | $698,827.98 |

**Appendix C - Small Non-Residential CIP Rebate Program Cumulative Results through 6/30/11**

**III. TOTAL Rebates**

**Through Residential and Small Non-Residential CIP - Administered by EFI & NYSERDA**

| Equipment | Quantity | Average Rebate Amount | Total Rebate | Total Processing Fee | Total |
|---|---|---|---|---|---|
| I. Space Heating | | | | | |
| Boiler - Hot Water | 148 | $4,406.44 | $652,153.47 | $58,152.31 | $710,305.78 |
| Boiler - Steam | 5 | $0.00 | $10,052.00 | $904.68 | $10,956.68 |
| Unit Heater | 39 | $2,048.08 | $79,875.00 | $7,188.75 | $87,063.75 |
| Furnace | 411 | $719.81 | $295,840.00 | $23,817.60 | $319,657.60 |
| Other | 10 | $12,888.51 | $128,885.12 | $11,599.66 | $140,484.78 |
| Subtotal | 613 | $1,903.43 | $1,166,805.59 | $101,663.00 | $1,268,468.59 |
| II. Water Heating | | | | | |
| Water Heater - Storage Tank | 35 | $660.37 | $23,113.00 | $1,996.17 | $25,109.17 |
| Water Heater - Tankless | 31 | $406.45 | $12,600.00 | $934.00 | $13,534.00 |
| Subtotal | 66 | $541.11 | $35,713.00 | $2,930.17 | $38,643.17 |
| III. Cooking | 6 | $1,041.67 | $6,250.00 | $562.50 | $6,812.50 |
| IV. Process Heating | 2 | $0.00 | $50,000.00 | $4,500.00 | $54,500.00 |
| V. Programmable Thermostat | 405 | $53.91 | $21,834.96 | $2,439.90 | $24,274.86 |
| Total all Equipment | 1,092 | | $1,280,603.55 | $112,095.57 | $1,392,699.12 |
| Inspections | 88 | | | $4,630.00 | |
| PROGRAM TOTAL | | | | | **$1,397,329.12** |

**NEWS** National Fuel

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www.nationalfuelgas.com

FOR ADDITIONAL INFORMATION PLEASE CALL

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# Western New York's Top "Energy Detectives" Announced

(March 31, 2011) Williamsville, N.Y.: National Fuel Gas Distribution Corporation ("National Fuel"), the Buffalo Sabres ("Sabres") and the National Energy Education Development Project ("NEED") are pleased to name Depew Middle School the School of the Year in New York State for promoting energy efficiency in their school and community. Two Depew Middle sixth grade students were also named Western New York's top Energy Detectives of the Year.

Buffalo Sabre Derek Roy joined Sabres mascot Sabretooth in congratulating Kaitlyn Biggs and Joshua Bleasdale as the NEED program's top students in the Energy Detectives curriculum. A pizza party featuring hands-on conservation and energy efficiency experiments was followed by a sixth grade assembly featuring the Buffalo Sabres representatives. The top Energy Detectives each received an autographed Sabres' hockey stick and baseball caps. Their science teacher Barbara DeMarco was recognized for her participation in the classroom program for the past three years and for serving as an energy advocate within her school.

The Energy Detectives Program includes hands-on classroom materials and take-home kits that make it possible for participating students and their families to learn about energy efficiency while adopting conservation measures. Materials provided to students and their families include: information on National Fuel's Conservation Incentive Program (CIP), energy efficiency tip brochures, electric outlet and switch draft stoppers, window insulation kits, weather strip caulking cords, faucet aerators, water-saving showerheads and other tools. In addition to energy-saving classroom materials and kits, a formal structure for students is created by integrating classroom lessons and activities with energy education and community outreach projects. Todd Rogers, Certified Energy Manger Northeast Coordinator, worked with the Depew Middle School students

Sixth graders Kaitlyn and Joshua were acknowledged for serving as exemplary role models in energy conservation. Not only did both incorporate the home energy kits into their families' daily living, they have encouraged, and insisted, that their homes reduce, reuse and recycle many household products including paper, glass, and bottles while regularly replacing regular light bulbs with compact fluorescent bulbs.

As part of National Fuel's CIP, National Fuel, the Sabres and NEED have partnered to offer a no-cost, innovative program for fifth through 12$^{th}$ grade teachers through National Fuel's New York service territory to help their students to become Energy Detectives by learning about energy efficiency, conservation and energy sources. Since 2008, the Energy Detectives Program has involved nearly 27,000 students and more than 270 teachers from across National Fuel's service territory.

**-more-**

**2-2-2/Energy Detectives**

The Sabres' Green Team helps hockey fans and environmentally-concerned individuals alike reduce their environmental footprints while educating them on conservation issues, providing them conservation tips to promote cost-effective energy use and directing them to additional resources where they can learn more about the environment, current issues and current events within their communities. To date, the Green Team has more than 5,500 members.

The mission of NEED is to promote an energy conscious and educated society by creating effective networks of students, educators, business, government and community leaders to design and deliver objective, multi-sided energy education programs. NEED works with energy companies, agencies and organizations to bring balanced energy programs to the nation's schools with a focus on strong teacher professional development, timely and balanced curriculum materials, signature program capabilities and turn-key program management. To learn more about NEED, visit www.need.org.

National Fuel's CIP was approved by the New York State Public Service Commission in September 2007 and, in addition to the Energy Detectives Program, includes free weatherization services for low-income customers and rebates for residential and non-residential customers for purchasing high-efficiency natural gas equipment. Since its inception, CIP has provided more than $5 million in weatherization improvements for 1,500 low-income customers across western New York with an expectation that more than 2,700 homes will be completed by the end of 2011. The CIP has funded nearly 35,000 residential furnace and water heater rebates and equipment rebates to more than 900 commercial customers. Each of these rebates helps to drive down individual and combined natural gas usage in National Fuel's service area. For more information about the program, its consumer rebates for high efficient natural gas appliances and equipment along with useful energy efficiency tips and a home energy analysis tool, visit www.NationalFuelForThought.com.

National Fuel is an integrated energy company with $5 billion in assets comprised of the following four operating segments: Exploration and Production, Pipeline and Storage, Utility and Energy Marketing. Additional information about National Fuel is available on its website: http://www.nationalfuelgas.com or through its investor information service at 1-800-334-2188.


Join the Bisons Green Team
Presented by National Fuel
The Bisons and National Fuel are teaming up to promote a greener Buffalo. Visit Bisons.com to sign up to be a member of the Bisons Green Team and receive two free tickets to a future game! You will also receive monthly energy saving tips via email!
BISONS
green team
National Fuel

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 12 | **Base Analysis** | | | | | | |
| 13 | **I. Customer and Volume Information** | | | | | | |
| 14 | Number of Customers Eligible | 351,219 | 93,658 | 23,415 | 351,219 | 468,292 | 468,292 |
| 15 | Participation Rate | 6.55% | 2.49% | 0.37% | 1.50% | 5.65% | 0.06% |
| 16 | Total Number of Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 17 | Total Annual Mcf Saved | 419,060 | 48,238 | 1,582 | 96,039 | 200,251 | 1,523 |
| 18 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 19 | Total DTH Saved | 433,727 | 49,926 | 1,638 | 99,400 | 207,260 | 1,577 |
| 20 | Mcf Saved per Participant Base | 18.22 | 20.65 | 18.40 | 18.22 | 7.56 | 5.54 |
| 21 | Multiple Factor for Sensitivity Analysis | 0% | 0% | 0% | 0% | 0% | 0% |
| 22 | Mcf Saved per Participant | 18.22 | 20.65 | 18.40 | 18.22 | 7.56 | 5.54 |
| 23 | DTH Saved per Participant | 18.85 | 21.37 | 19.04 | 18.85 | 7.83 | 5.73 |
| 24 | Estimated Peak Day Impact Mcf | 3,827 | 441 | 14 | 877 | 1,829 | 14 |
| 25 | Estimated Peak Day Impact DTH | 3,961 | 456 | 15 | 908 | 1,893 | 14 |
| 26 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 |
| 27 | Impact on Total Average Annual Usage Per Account Per Mcf | 0.87 | 0.10 | 0.00 | 0.20 | 0.41 | 0.00 |
| 28 | **II. Program Cost Information** | | | | | | |
| 29 | Company Direct Costs | $ 6,992,973 | $ 942,520 | $ 17,845 | $ 2,105,290 | $ 769,691 | $ 82,338 |
| 30 | Company Admin Costs | $ 215,983 | $ 29,110 | $ 551 | $ 65,023 | $ 23,772 | $ 2,543 |
| 31 | Company Advertising Costs | $ 1,627,094 | $ 219,301 | $ 4,152 | $ 489,850 | $ 179,088 | $ 19,158 |
| 32 | Total Initial Program Costs - Company | $ 8,836,049 | $ 1,190,932 | $ 22,548 | $ 2,660,163 | $ 972,552 | $ 104,038 |
| 33 | Total Initial Program Costs - Participant | $ 16,102,800 | $ 3,737,600 | $ 60,200 | $ 8,435,200 | $ 661,950 | $ 302,500 |
| 34 | Total Initial Program Costs | $ 24,938,849 | $ 4,928,532 | $ 82,748 | $ 11,095,363 | $ 1,634,502 | $ 406,538 |
| 35 | Per Participant Initial Program Costs - Company | $ 303.99 | $ 403.48 | $ 207.50 | $ 399.33 | $ 29.07 | $ 299.41 |
| 36 | Per Participant Initial Program Costs - Participant | $ 700.00 | $ 1,600.00 | $ 700.00 | $ 1,600.00 | $ 25.00 | $ 1,100.00 |
| 37 | Total Initial Program Costs per Annual Participant | $ 1,003.99 | $ 2,003.48 | $ 907.50 | $ 1,999.33 | $ 54.07 | $ 1,399.41 |
| 38 | Annual Ongoing Costs - Company per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 39 | Annual Ongoing Costs - Participant per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 40 | Total Annual Ongoing Costs per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 41 | Annual Ongoing Costs - Company | $ - | $ - | $ - | $ - | $ - | $ - |
| 42 | Annual Ongoing Costs - Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 43 | Total Annual Ongoing Costs | $ - | $ - | $ - | $ - | $ - | $ - |
| 44 | **III. Discount Assumptions** | | | | | | |
| 45 | Anticipated Life of Program Measure (Years) | 20 | 25 | 25 | 17 | 11 | 25 |
| 46 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 47 | PVIFA | 11.9504 | 13.4139 | 13.4139 | 10.8646 | 8.0925 | 13.4139 |
| 48 | **IV. Incremental Savings** | | | | | | |
| 49 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 |
| 50 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 |
| 51 | Annual NGS Savings per Participant | $ 182.17 | $ 206.50 | $ 184.00 | $ 182.17 | $ 75.63 | $ 55.39 |
| 52 | Total NGS Savings | $ 4,190,595 | $ 482,378 | $ 15,824 | $ 960,390 | $ 2,002,511 | $ 15,233 |
| 53 | **V. Direct Cost Benefit Summary** | | | | | | |
| 54 | Present Value of Participant Savings | $ 2,176.98 | $ 2,769.94 | $ 2,468.16 | $ 1,979.19 | $ 612.03 | $ 743.05 |
| 55 | Present Value of Total Savings | $ 50,079,217 | $ 6,470,581 | $ 212,262 | $ 10,434,265 | $ 16,205,396 | $ 204,339 |
| 56 | Present Value of Total Initial Program Costs per Annual Participant | $ 1,004 | $ 2,003 | $ 908 | $ 1,999 | $ 54 | $ 1,399 |
| 57 | Present Value of Total Initial Program Costs | $ 24,938,849 | $ 4,928,532 | $ 82,748 | $ 11,095,363 | $ 1,634,502 | $ 406,538 |
| 58 | TRC | 2.01 | 1.31 | 2.57 | 0.94 | 9.91 | 0.50 |
| 59 | **VI. TRC-WNY** | | | | | | |
| 60 | WNY Incremental Expenditures | $ 23,311,756 | $ 4,709,230 | $ 78,596 | $ 10,605,513 | $ 1,455,413 | $ 387,381 |
| 61 | WNY Expenditure Multiplier | 0.46 | 0.46 | 0.46 | 0.46 | 0.49 | 0.46 |
| 62 | WNY Expenditure Benefits | $ 10,723,408 | $ 2,166,246 | $ 36,154 | $ 4,878,536 | $ 713,153 | $ 178,195 |
| 63 | Advertising | $ 1,627,094 | $ 219,301 | $ 4,152 | $ 489,850 | $ 179,088 | $ 19,158 |
| 64 | Adverttising Multiplier | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| 65 | Advertising Benefits | $ 1,415,572 | $ 190,792 | $ 3,612 | $ 426,169 | $ 155,807 | $ 16,667 |
| 66 | WNY Expenditure & Adv Benefits | $ 12,138,979 | $ 2,357,038 | $ 39,767 | $ 5,304,705 | $ 868,959 | $ 194,862 |
| 67 | Customer Net Savings | $ 25,140,368 | $ 1,542,049 | $ 129,514 | $ (661,098) | $ 14,570,894 | $ (202,199) |
| 68 | WNY Income Multiplier | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 |
| 69 | WNY Customer Net Savings Benefits | $ 12,318,780 | $ 755,604 | $ 63,462 | $ (323,938) | $ 7,139,738 | $ (99,078) |
| 70 | Total WNY Benefits | $ 24,457,759 | $ 3,112,642 | $ 103,228 | $ 4,980,767 | $ 8,008,698 | $ 95,785 |
| 71 | TRC-WNY | 2.99 | 1.94 | 3.81 | 1.39 | 14.81 | 0.74 |
| 72 | **VII. Societal Test** | | | | | | |
| 73 | Environmental | | | | | | |
| 74 | Total | $ 4,548,257 | $ 587,666 | $ 19,278 | $ 947,653 | $ 1,471,794 | $ 18,558 |
| 75 | Other | | | | | | |
| 76 | Total | | | | | | |
| 77 | Total Incremental Societal Benefits | $ 4,548,257 | $ 587,666 | $ 19,278 | $ 947,653 | $ 1,471,794 | $ 18,558 |
| 78 | Total Benefits W/ TRC WNY | $ 79,085,234 | $ 10,170,889 | $ 334,768 | $ 16,362,685 | $ 25,685,888 | $ 318,683 |
| 79 | Societal Test | 3.17 | 2.06 | 4.05 | 1.47 | 15.71 | 0.78 |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 80 | **Adjustment Detail** | | | | | | |
| 81 | **I. Spillover** | | | | | | |
| 82 | Total Spillover Impact (Mcf) | - | - | - | - | - | - |
| 83 | Total Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 84 | Adjustment to Per Participant Volume Due to Spillover | - | - | - | - | - | - |
| 85 | **II. Free Riders** | | | | | | |
| 86 | Mcf Saved per Participant | 18.22 | 20.65 | 18.40 | 18.22 | 7.56 | 5.54 |
| 87 | Free Ridership % | 10% | 10% | 10% | 10% | 10% | 10% |
| 88 | Adjustment to Per Participant Volume Due to Free Riders | 1.82 | 2.06 | 1.84 | 1.82 | 0.76 | 0.55 |
| 89 | **III. Snapback** | | | | | | |
| 90 | Total Snapback Impact (Mcf) | - | - | - | - | - | - |
| 91 | Total Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 92 | Adjustment to Per Participant Volume Due to Snapback | - | - | - | - | - | - |
| 93 | **IV. Total Volume Adjustment** | | | | | | |
| 94 | Total Volume Adjustments | (1.82) | (2.06) | (1.84) | (1.82) | (0.76) | (0.55) |
| 95 | **Adjustment Impact** | | | | | | |
| 96 | **I. Customer and Volume Information** | | | | | | |
| 97 | Number of Customers Eligible | 351,219 | 93,658 | 23,415 | 351,219 | 468,292 | 468,292 |
| 98 | Participation Rate | 6.55% | 2.49% | 0.37% | 1.50% | 5.65% | 0.06% |
| 99 | Annual Number of Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 100 | Total Mcf Adjusted | (41,906) | (4,824) | (158) | (9,604) | (20,025) | (152) |
| 101 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 102 | Total DTH Adjusted | (43,373) | (4,993) | (164) | (9,940) | (20,726) | (158) |
| 103 | Mcf Adjusted per Participant | (1.82) | (2.06) | (1.84) | (1.82) | (0.76) | (0.55) |
| 104 | DTH Adjusted per Participant | (1.89) | (2.14) | (1.90) | (1.89) | (0.78) | (0.57) |
| 105 | **II. Program Cost Information** | | | | | | |
| 106 | Company Direct Costs | $ - | $ - | $ - | $ - | $ - | $ - |
| 107 | Company Admin Costs | | | | | | |
| 108 | Company Advertising Costs | | | | | | |
| 109 | Total Initial Program Costs - Company | $ - | $ - | $ - | $ - | $ - | $ - |
| 110 | Total Initial Program Costs - Participant | $ (1,610,280) | $ (373,760) | $ (6,020) | $ (843,520) | $ (66,195) | $ (30,250) |
| 111 | Total Initial Program Costs | $ (1,610,280) | $ (373,760) | $ (6,020) | $ (843,520) | $ (66,195) | $ (30,250) |
| 112 | Per Participant Initial Program Costs - Company | $ - | $ - | $ - | $ - | $ - | $ - |
| 113 | Per Participant Initial Program Costs - Participant | $ (70.00) | $ (160.00) | $ (70.00) | $ (160.00) | $ (2.50) | $ (110.00) |
| 114 | Total Initial Program Costs per Annual Participant | $ (70.00) | $ (160.00) | $ (70.00) | $ (160.00) | $ (2.50) | $ (110.00) |
| 115 | Annual Ongoing Costs - Company per Participant | | | | | | |
| 116 | Annual Ongoing Costs - Participant per Participant | | | | | | |
| 117 | Total Annual Ongoing Costs per Participant | | | | | | |
| 118 | Annual Ongoing Costs - Company | | | | | | |
| 119 | Annual Ongoing Costs - Participant | | | | | | |
| 120 | Total Annual Ongoing Costs | | | | | | |
| 121 | **III. Discount Assumptions** | | | | | | |
| 122 | Anticipated Life of Program Measure (Years) | - | - | - | - | - | - |
| 123 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 124 | PVIFA | - | - | - | - | - | - |
| 125 | **IV. Incremental Savings** | | | | | | |
| 126 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 |
| 127 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 |
| 128 | Annual NGS Savings per Participant | $ (18.22) | $ (20.65) | $ (18.40) | $ (18.22) | $ (7.56) | $ (5.54) |
| 129 | Total NGS Savings | $ (419,060) | $ (48,238) | $ (1,582) | $ (96,039) | $ (200,251) | $ (1,523) |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 130 | **Adjusted Analysis** | | | | | | |
| 131 | **I. Customer and Volume Information** | | | | | | |
| 132 | Number of Customers Eligible | 351,219 | 93,658 | 23,415 | 351,219 | 468,292 | 468,292 |
| 133 | Participation Rate | 6.55% | 2.49% | 0.37% | 1.50% | 5.65% | 0.06% |
| 134 | Total Number of Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 135 | Total Mcf Saved | 377,154 | 43,414 | 1,424 | 86,435 | 180,226 | 1,371 |
| 136 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 137 | Total DTH Saved | 390,354 | 44,933 | 1,474 | 89,460 | 186,534 | 1,419 |
| 138 | Mcf Saved per Participant | 16.40 | 18.58 | 16.56 | 16.40 | 6.81 | 4.99 |
| 139 | DTH Saved per Participant | 16.97 | 19.24 | 17.14 | 16.97 | 7.04 | 5.16 |
| 140 | | | | | | | |
| 141 | Estimated Peak Day Impact Mcf | 3,444.32 | 396.47 | 13.01 | 789.36 | 1,645.90 | 12.52 |
| 142 | Estimated Peak Day Impact Dth | 3,564.88 | 410.35 | 13.46 | 816.99 | 1,703.51 | 12.96 |
| 143 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 |
| 144 | Impact on Total Average Annual Usage Per Account | 0.78 | 0.09 | 0.00 | 0.18 | 0.37 | 0.00 |
| 145 | **II. Program Cost Information** | | | | | | |
| 146 | Company Direct Costs | $ 6,992,973 | $ 942,520 | $ 17,845 | $ 2,105,290 | $ 769,691 | $ 82,338 |
| 147 | Company Admin Costs | $ 215,983 | $ 29,110 | $ 551 | $ 65,023 | $ 23,772 | $ 2,543 |
| 148 | Company Advertising Costs | $ 1,627,094 | $ 219,301 | $ 4,152 | $ 489,850 | $ 179,088 | $ 19,158 |
| 149 | Total Initial Program Costs - Company | $ 8,836,049 | $ 1,190,932 | $ 22,548 | $ 2,660,163 | $ 972,552 | $ 104,038 |
| 150 | Total Initial Program Costs - Participant | $ 14,492,520 | $ 3,363,840 | $ 54,180 | $ 7,591,680 | $ 595,755 | $ 272,250 |
| 151 | Total Initial Program Costs | $ 23,328,569 | $ 4,554,772 | $ 76,728 | $ 10,251,843 | $ 1,568,307 | $ 376,288 |
| 152 | Per Participant Initial Program Costs - Company | $ 384.11 | $ 509.82 | $ 262.19 | $ 504.58 | $ 36.73 | $ 378.32 |
| 153 | Per Participant Initial Program Costs - Participant | $ 630.00 | $ 1,440.00 | $ 630.00 | $ 1,440.00 | $ 22.50 | $ 990.00 |
| 154 | Total Initial Program Costs per Annual Participant | $ 1,014.11 | $ 1,949.82 | $ 892.19 | $ 1,944.58 | $ 59.23 | $ 1,368.32 |
| 155 | Annual Ongoing Costs - Company per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 156 | Annual Ongoing Costs - Participant per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 157 | Total Annual Ongoing Costs per Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 158 | Annual Ongoing Costs - Company | $ - | $ - | $ - | $ - | $ - | $ - |
| 159 | Annual Ongoing Costs - Participant | $ - | $ - | $ - | $ - | $ - | $ - |
| 160 | Total Annual Ongoing Costs | $ - | $ - | $ - | $ - | $ - | $ - |
| 161 | **III. Discount Assumptions** | | | | | | |
| 162 | Anticipated Life of Program Measure (Years) | 20 | 25 | 25 | 17 | 11 | 25 |
| 163 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 164 | PVIFA | 11.95 | 13.41 | 13.41 | 10.86 | 8.09 | 13.41 |
| 165 | **IV. Incremental Savings** | | | | | | |
| 166 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 |
| 167 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 |
| 168 | Annual NGS Savings per Participant | $ 163.95 | $ 185.85 | $ 165.60 | $ 163.95 | $ 68.07 | $ 49.85 |
| 169 | Total NGS Savings | $ 3,771,536 | $ 434,140 | $ 14,242 | $ 864,351 | $ 1,802,260 | $ 13,710 |
| 170 | **V. Direct Cost Benefit Summary** | | | | | | |
| 171 | Present Value of Participant Savings | $ 1,959.28 | $ 2,492.95 | $ 2,221.35 | $ 1,781.27 | $ 550.83 | $ 668.75 |
| 172 | Present Value of Total Savings | $ 45,071,295 | $ 5,823,523 | $ 191,036 | $ 9,390,838 | $ 14,584,857 | $ 183,905 |
| 173 | Present Value of Total Initial Program Costs per Annual Participant | $ 1,014 | $ 1,950 | $ 892 | $ 1,945 | $ 59 | $ 1,368 |
| 174 | Present Value of Total Initial Program Costs | $ 23,328,569 | $ 4,554,772 | $ 76,728 | $ 10,251,843 | $ 1,568,307 | $ 376,288 |
| 175 | TRC | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 176 | **VI. TRC-WNY** | | | | | | |
| 177 | WNY Incremental Expenditures | $ 21,701,476 | $ 4,335,470 | $ 72,576 | $ 9,761,993 | $ 1,389,218 | $ 357,131 |
| 178 | WNY Expenditure Multiplier | 0.46 | 0.46 | 0.46 | 0.46 | 0.49 | 0.46 |
| 179 | WNY Expenditure Benefits | $ 9,982,679 | $ 1,994,316 | $ 33,385 | $ 4,490,517 | $ 680,717 | $ 164,280 |
| 180 | Advertising | $ 1,627,094 | $ 219,301 | $ 4,152 | $ 489,850 | $ 179,088 | $ 19,158 |
| 181 | Adverttising Multiplier | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| 182 | Advertising Benefits | $ 1,415,572 | $ 190,792 | $ 3,612 | $ 426,169 | $ 155,807 | $ 16,667 |
| 183 | WNY Expenditure & Adv Benefits | $ 11,398,250 | $ 2,185,109 | $ 36,997 | $ 4,916,686 | $ 836,524 | $ 180,947 |
| 184 | Customer Net Savings | $ 21,742,726 | $ 1,268,751 | $ 114,308 | $ (861,005) | $ 13,016,550 | $ (192,383) |
| 185 | WNY Income Multiplier | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 |
| 186 | WNY Customer Net Savings Benefits | $ 10,653,936 | $ 621,688 | $ 56,011 | $ (421,892) | $ 6,378,109 | $ (94,268) |
| 187 | Total WNY Benefits | $ 22,052,186 | $ 2,806,796 | $ 93,008 | $ 4,494,794 | $ 7,214,633 | $ 86,680 |
| 188 | TRC-WNY | 2.88 | 1.89 | 3.70 | 1.35 | 13.90 | 0.72 |
| 189 | **VII. Societal Test** | | | | | | |
| 190 | Environmental | | | | | | |
| 191 | Total | $ 4,093,431 | $ 528,900 | $ 17,350 | $ 852,888 | $ 1,324,615 | $ 16,703 |
| 192 | Other | | | | | | |
| 193 | Total | $ - | $ - | $ - | $ - | $ - | $ - |
| 194 | Total Incremental Societal Benefits | $ 4,093,431 | $ 528,900 | $ 17,350 | $ 852,888 | $ 1,324,615 | $ 16,703 |
| 195 | Total Benefits W/TRC-WNY | $ 71,216,913 | $ 9,159,219 | $ 301,394 | $ 14,738,520 | $ 23,124,105 | $ 287,288 |
| 196 | Societal Test | 3.05 | 2.01 | 3.93 | 1.44 | 14.74 | 0.76 |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
| 2 | New York Division | | |
| 3 | Conservation Incentive Program | | |
| 4 | Program Measurement and Verification Summary | | |
| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 12 | **Base Analysis** | | |
| 13 | **I. Customer and Volume Information** | | |
| 14 | Number of Customers Eligible | 468,292 | 23,415 |
| 15 | Participation Rate | 0.70% | 7.33% |
| 16 | Total Number of Participants | 3,273 | 1,717 |
| 17 | Total Annual Mcf Saved | 9,513 | 11,686 |
| 18 | DTH Conversion | 1.035 | 1.035 |
| 19 | Total DTH Saved | 9,846 | 12,095 |
| 20 | Mcf Saved per Participant Base | 2.91 | 6.81 |
| 21 | Multiple Factor for Sensitivity Analysis | 0% | 0% |
| 22 | Mcf Saved per Participant | 2.91 | 6.81 |
| 23 | DTH Saved per Participant | 3.01 | 7.04 |
| 24 | Estimated Peak Day Impact Mcf | 87 | 107 |
| 25 | Estimated Peak Day Impact DTH | 90 | 110 |
| 26 | Total Average Annual Accounts | 482,775 | 482,775 |
| 27 | Impact on Total Average Annual Usage Per Account Per Mcf | 0.02 | 0.02 |
| 28 | **II. Program Cost Information** | | |
| 29 | Company Direct Costs | $ 512,225 | $ 612,511 |
| 30 | Company Admin Costs | $ 15,820 | $ 18,918 |
| 31 | Company Advertising Costs | $ 119,182 | $ 142,516 |
| 32 | Total Initial Program Costs - Company | $ 647,227 | $ 773,945 |
| 33 | Total Initial Program Costs - Participant | $ 654,600 | $ 600,950 |
| 34 | Total Initial Program Costs | $ 1,301,827 | $ 1,374,895 |
| 35 | Per Participant Initial Program Costs - Company | $ 156.50 | $ 356.73 |
| 36 | Per Participant Initial Program Costs - Participant | $ 200.00 | $ 350.00 |
| 37 | Total Initial Program Costs per Annual Participant | $ 356.50 | $ 706.73 |
| 38 | Annual Ongoing Costs - Company per Participant | $ - | $ - |
| 39 | Annual Ongoing Costs - Participant per Participant | $ - | $ - |
| 40 | Total Annual Ongoing Costs per Participant | $ - | $ - |
| 41 | Annual Ongoing Costs - Company | $ - | $ - |
| 42 | Annual Ongoing Costs - Participant | $ - | $ - |
| 43 | Total Annual Ongoing Costs | $ - | $ - |
| 44 | **III. Discount Assumptions** | | |
| 45 | Anticipated Life of Program Measure (Years) | 20 | 20 |
| 46 | Discount Rate | 5.50% | 5.50% |
| 47 | PVIFA | 11.9504 | 11.9504 |
| 48 | **IV. Incremental Savings** | | |
| 49 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 |
| 50 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 |
| 51 | Annual NGS Savings per Participant | $ 29.07 | $ 68.06 |
| 52 | Total NGS Savings | $ 95,131 | $ 116,858 |
| 53 | **V. Direct Cost Benefit Summary** | | |
| 54 | Present Value of Participant Savings | $ 347.34 | $ 813.33 |
| 55 | Present Value of Total Savings | $ 1,136,847 | $ 1,396,496 |
| 56 | Present Value of Total Initial Program Costs per Annual Participant | $ 357 | $ 707 |
| 57 | Present Value of Total Initial Program Costs | $ 1,301,827 | $ 1,374,895 |
| 58 | TRC | 0.87 | 1.02 |
| 59 | **VI. TRC-WNY** | | |
| 60 | WNY Incremental Expenditures | $ 1,182,645 | $ 1,232,378 |
| 61 | WNY Expenditure Multiplier | 0.46 | 0.46 |
| 62 | WNY Expenditure Benefits | $ 544,017 | $ 566,894 |
| 63 | Advertising | $ 119,182 | $ 142,516 |
| 64 | Adverttising Multiplier | 0.87 | 0.87 |
| 65 | Advertising Benefits | $ 103,688 | $ 123,989 |
| 66 | WNY Expenditure & Adv Benefits | $ 647,705 | $ 690,883 |
| 67 | Customer Net Savings | $ (164,980) | $ 21,601 |
| 68 | WNY Income Multiplier | 0.49 | 0.49 |
| 69 | WNY Customer Net Savings Benefits | $ (80,840) | $ 10,585 |
| 70 | Total WNY Benefits | $ 566,865 | $ 701,468 |
| 71 | TRC-WNY | 1.31 | 1.53 |
| 72 | **VII. Societal Test** | | |
| 73 | Environmental | | |
| 74 | Total | $ 103,250 | $ 126,832 |
| 75 | Other | | |
| 76 | Total | | |
| 77 | Total Incremental Societal Benefits | $ 103,250 | $ 126,832 |
| 78 | Total Benefits W/ TRC WNY | $ 1,806,962 | $ 2,224,795 |
| 79 | Societal Test | 1.39 | 1.62 |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
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| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 80 | **Adjustment Detail** | | |
| 81 | **I. Spillover** | | |
| 82 | Total Spillover Impact (Mcf) | - | - |
| 83 | Total Participants | 3,273 | 1,717 |
| 84 | Adjustment to Per Participant Volume Due to Spillover | - | - |
| 85 | **II. Free Riders** | | |
| 86 | Mcf Saved per Participant | 2.91 | 6.81 |
| 87 | Free Ridership % | 10% | 10% |
| 88 | Adjustment to Per Participant Volume Due to Free Riders | 0.29 | 0.68 |
| 89 | **III. Snapback** | | |
| 90 | Total Snapback Impact (Mcf) | - | - |
| 91 | Total Participants | 3,273 | 1,717 |
| 92 | Adjustment to Per Participant Volume Due to Snapback | - | - |
| 93 | **IV. Total Volume Adjustment** | | |
| 94 | Total Volume Adjustments | (0.29) | (0.68) |
| 95 | **Adjustment Impact** | | |
| 96 | **I. Customer and Volume Information** | | |
| 97 | Number of Customers Eligible | 468,292 | 23,415 |
| 98 | Participation Rate | 0.70% | 7.33% |
| 99 | Annual Number of Participants | 3,273 | 1,717 |
| 100 | Total Mcf Adjusted | (951) | (1,169) |
| 101 | DTH Conversion | 1.035 | 1.035 |
| 102 | Total DTH Adjusted | (985) | (1,209) |
| 103 | Mcf Adjusted per Participant | (0.29) | (0.68) |
| 104 | DTH Adjusted per Participant | (0.30) | (0.70) |
| 105 | **II. Program Cost Information** | | |
| 106 | Company Direct Costs | $ - | $ - |
| 107 | Company Admin Costs | | |
| 108 | Company Advertising Costs | | |
| 109 | Total Initial Program Costs - Company | $ - | $ - |
| 110 | Total Initial Program Costs - Participant | $ (65,460) | $ (60,095) |
| 111 | Total Initial Program Costs | $ (65,460) | $ (60,095) |
| 112 | Per Participant Initial Program Costs - Company | $ - | $ - |
| 113 | Per Participant Initial Program Costs - Participant | $ (20.00) | $ (35.00) |
| 114 | Total Initial Program Costs per Annual Participant | $ (20.00) | $ (35.00) |
| 115 | Annual Ongoing Costs - Company per Participant | | |
| 116 | Annual Ongoing Costs - Participant per Participant | | |
| 117 | Total Annual Ongoing Costs per Participant | | |
| 118 | Annual Ongoing Costs - Company | | |
| 119 | Annual Ongoing Costs - Participant | | |
| 120 | Total Annual Ongoing Costs | | |
| 121 | **III. Discount Assumptions** | | |
| 122 | Anticipated Life of Program Measure (Years) | - | - |
| 123 | Discount Rate | 5.50% | 5.50% |
| 124 | PVIFA | - | - |
| 125 | **IV. Incremental Savings** | | |
| 126 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 |
| 127 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 |
| 128 | Annual NGS Savings per Participant | $ (2.91) | $ (6.81) |
| 129 | Total NGS Savings | $ (9,513) | $ (11,686) |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
| 2 | New York Division | | |
| 3 | Conservation Incentive Program | | |
| 4 | Program Measurement and Verification Summary | | |
| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 130 | **Adjusted Analysis** | | |
| 131 | **I. Customer and Volume Information** | | |
| 132 | Number of Customers Eligible | 468,292 | 23,415 |
| 133 | Participation Rate | 0.70% | 7.33% |
| 134 | Total Number of Participants | 3,273 | 1,717 |
| 135 | Total Mcf Saved | 8,562 | 10,517 |
| 136 | DTH Conversion | 1.035 | 1.035 |
| 137 | Total DTH Saved | 8,861 | 10,885 |
| 138 | Mcf Saved per Participant | 2.62 | 6.13 |
| 139 | DTH Saved per Participant | 2.71 | 6.34 |
| 140 | | | |
| 141 | Estimated Peak Day Impact Mcf | 78.19 | 96.05 |
| 142 | Estimated Peak Day Impact Dth | 80.93 | 99.41 |
| 143 | Total Average Annual Accounts | 482,775 | 482,775 |
| 144 | Impact on Total Average Annual Usage Per Account | 0.02 | 0.02 |
| 145 | **II. Program Cost Information** | | |
| 146 | Company Direct Costs | $ 512,225 | $ 612,511 |
| 147 | Company Admin Costs | $ 15,820 | $ 18,918 |
| 148 | Company Advertising Costs | $ 119,182 | $ 142,516 |
| 149 | Total Initial Program Costs - Company | $ 647,227 | $ 773,945 |
| 150 | Total Initial Program Costs - Participant | $ 589,140 | $ 540,855 |
| 151 | Total Initial Program Costs | $ 1,236,367 | $ 1,314,800 |
| 152 | Per Participant Initial Program Costs - Company | $ 197.75 | $ 450.75 |
| 153 | Per Participant Initial Program Costs - Participant | $ 180.00 | $ 315.00 |
| 154 | Total Initial Program Costs per Annual Participant | $ 377.75 | $ 765.75 |
| 155 | Annual Ongoing Costs - Company per Participant | $ - | $ - |
| 156 | Annual Ongoing Costs - Participant per Participant | $ - | $ - |
| 157 | Total Annual Ongoing Costs per Participant | $ - | $ - |
| 158 | Annual Ongoing Costs - Company | $ - | $ - |
| 159 | Annual Ongoing Costs - Participant | $ - | $ - |
| 160 | Total Annual Ongoing Costs | $ - | $ - |
| 161 | **III. Discount Assumptions** | | |
| 162 | Anticipated Life of Program Measure (Years) | 20 | 20 |
| 163 | Discount Rate | 5.50% | 5.50% |
| 164 | PVIFA | 11.95 | 11.95 |
| 165 | **IV. Incremental Savings** | | |
| 166 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 |
| 167 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 |
| 168 | Annual NGS Savings per Participant | $ 26.16 | $ 61.25 |
| 169 | Total NGS Savings | $ 85,618 | $ 105,172 |
| 170 | **V. Direct Cost Benefit Summary** | | |
| 171 | Present Value of Participant Savings | $ 312.61 | $ 732.00 |
| 172 | Present Value of Total Savings | $ 1,023,162 | $ 1,256,846 |
| 173 | Present Value of Total Initial Program Costs per Annual Participant | $ 378 | $ 766 |
| 174 | Present Value of Total Initial Program Costs | $ 1,236,367 | $ 1,314,800 |
| 175 | TRC | 0.83 | 0.96 |
| 176 | **VI. TRC-WNY** | | |
| 177 | WNY Incremental Expenditures | $ 1,117,185 | $ 1,172,283 |
| 178 | WNY Expenditure Multiplier | 0.46 | 0.46 |
| 179 | WNY Expenditure Benefits | $ 513,905 | $ 539,250 |
| 180 | Advertising | $ 119,182 | $ 142,516 |
| 181 | Adverttising Multiplier | 0.87 | 0.87 |
| 182 | Advertising Benefits | $ 103,688 | $ 123,989 |
| 183 | WNY Expenditure & Adv Benefits | $ 617,594 | $ 663,239 |
| 184 | Customer Net Savings | $ (213,205) | $ (57,953) |
| 185 | WNY Income Multiplier | 0.49 | 0.49 |
| 186 | WNY Customer Net Savings Benefits | $ (104,470) | $ (28,397) |
| 187 | Total WNY Benefits | $ 513,123 | $ 634,842 |
| 188 | TRC-WNY | 1.24 | 1.44 |
| 189 | **VII. Societal Test** | | |
| 190 | Environmental | | |
| 191 | Total | $ 92,925 | $ 114,148 |
| 192 | Other | | |
| 193 | Total | $ - | $ - |
| 194 | Total Incremental Societal Benefits | $ 92,925 | $ 114,148 |
| 195 | Total Benefits W/TRC-WNY | $ 1,629,210 | $ 2,005,837 |
| 196 | Societal Test | 1.32 | 1.53 |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 12 | **Base Analysis** | | | | | | |
| 13 | **I. Customer and Volume Information** | | | | | | |
| 14 | Number of Customers Eligible | | 15,000 | | 34,100 | 482,775 | |
| 15 | Participation Rate | | 15.98% | | 3.20% | 100.00% | |
| 16 | Total Number of Participants | | 2,397 | | 1,092 | 482,775 | |
| 17 | Total Annual Mcf Saved | 787,892 | 94,614 | 882,507 | 114,525 | 482,775 | 1,479,807 |
| 18 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 19 | Total DTH Saved | 815,468 | 97,926 | 913,394 | 118,534 | 499,672 | 1,531,600 |
| 20 | Mcf Saved per Participant Base | | 39.47 | | 104.88 | 1.00 | |
| 21 | Multiple Factor for Sensitivity Analysis | | 0% | | 0% | 0% | |
| 22 | Mcf Saved per Participant | | 39.47 | | 104.88 | 1.00 | |
| 23 | DTH Saved per Participant | | 40.85 | | 108.55 | 1.04 | |
| 24 | Estimated Peak Day Impact Mcf | 7,195 | 864 | 8,059 | 1,046 | 4,409 | 13,514 |
| 25 | Estimated Peak Day Impact DTH | 7,447 | 894 | 8,342 | 1,082 | 4,563 | 13,987 |
| 26 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | 34,100 | 482,775 | |
| 27 | Impact on Total Average Annual Usage Per Account Per Mcf | 1.63 | 0.20 | 1.83 | 3.36 | 1.00 | |
| 28 | **II. Program Cost Information** | | | | | | |
| 29 | Company Direct Costs | $ 12,035,391 | $ 7,871,569 | $ 19,906,960 | $ 1,280,604 | | $ 21,187,564 |
| 30 | Company Admin Costs | $ 371,722 | $ 1,336,879 | $ 1,708,601 | $ 116,726 | | $ 1,825,327 |
| 31 | Company Advertising Costs | $ 2,800,341 | $ - | $ 2,800,341 | $ 297,965 | $ 3,098,307 | $ 6,196,613 |
| 32 | Total Initial Program Costs - Company | $ 15,207,454 | $ 9,208,448 | $ 24,415,903 | $ 1,695,294 | $ 3,098,307 | $ 29,209,503 |
| 33 | Total Initial Program Costs - Participant | $ 30,555,800 | $ - | $ 30,555,800 | $ 4,782,420 | $ - | $ 35,338,220 |
| 34 | Total Initial Program Costs | $ 45,763,254 | $ 9,208,448 | $ 54,971,703 | $ 6,477,714 | $ 3,098,307 | $ 64,547,723 |
| 35 | Per Participant Initial Program Costs - Company | | $ 3,841.66 | | $ 1,552.47 | $ 6.42 | |
| 36 | Per Participant Initial Program Costs - Participant | | $ - | | $ 4,379.51 | $ - | |
| 37 | Total Initial Program Costs per Annual Participant | | $ 3,841.66 | | $ 5,931.97 | $ 6.42 | |
| 38 | Annual Ongoing Costs - Company per Participant | | $ - | | $ - | $ - | |
| 39 | Annual Ongoing Costs - Participant per Participant | | $ - | | $ - | $ - | |
| 40 | Total Annual Ongoing Costs per Participant | | $ - | | $ - | $ - | |
| 41 | Annual Ongoing Costs - Company | | $ - | | $ - | $ - | |
| 42 | Annual Ongoing Costs - Participant | | $ - | | $ - | $ - | |
| 43 | Total Annual Ongoing Costs | | $ - | | $ - | $ - | |
| 44 | **III. Discount Assumptions** | | | | | | |
| 45 | Anticipated Life of Program Measure (Years) | 19.54 | 25 | 20 | 17 | 3.50 | 19.3 |
| 46 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 47 | PVIFA | 8.9693 | 13.4139 | 12.1011 | 10.8646 | 3.1069 | 11.7111 |
| 48 | **IV. Incremental Savings** | | | | | | |
| 49 | Natural Gas Supply Rate ($/Mcf) | | $ 10.00 | | $ 10.00 | $ 10.00 | |
| 50 | Natural Gas Supply Rate ($/Dth) | | $ 9.66 | | $ 9.66 | $ 9.66 | |
| 51 | Annual NGS Savings per Participant | | $ 394.72 | | $ 1,048.77 | $ 10.00 | |
| 52 | Total NGS Savings | $ 7,878,920 | $ 946,145 | $ 8,825,065 | $ 1,145,253 | $ 4,827,750 | $ 14,798,068 |
| 53 | **V. Direct Cost Benefit Summary** | | | | | | |
| 54 | Present Value of Participant Savings | | $ 5,294.75 | | $ 11,394.43 | $ 31.07 | |
| 55 | Present Value of Total Savings | $ 86,139,403 | $ 12,691,524 | $ 98,830,927 | $ 12,442,722 | $ 14,999,548 | $ 126,273,197 |
| 56 | Present Value of Total Initial Program Costs per Annual Participant | | $ 3,842 | | $ 5,932 | $ 6 | |
| 57 | Present Value of Total Initial Program Costs | $ 45,763,254 | $ 9,208,448 | $ 54,971,703 | $ 6,477,714 | $ 3,098,307 | $ 64,547,723 |
| 58 | TRC | 1.88 | 1.38 | 1.80 | 1.92 | 4.84 | 1.96 |
| 59 | **VI. TRC-WNY** | | | | | | |
| 60 | WNY Incremental Expenditures | $ 42,962,913 | $ 9,208,448 | $ 52,171,361 | $ 6,179,749 | $ - | $ 58,351,110 |
| 61 | WNY Expenditure Multiplier | | 0.46 | | 0.46 | 0.46 | |
| 62 | WNY Expenditure Benefits | $ 19,806,602 | $ 4,235,886 | $ 24,042,489 | $ 2,842,684 | $ - | $ 26,885,173 |
| 63 | Advertising | $ 2,800,341 | $ - | $ 2,800,341 | $ 297,965 | $ 3,098,307 | $ 6,196,613 |
| 64 | Adverttising Multiplier | | 0.87 | | 0.87 | 0.87 | |
| 65 | Advertising Benefits | $ 2,436,297 | $ - | $ 2,436,297 | $ 259,230 | $ 2,695,527 | $ 5,391,053 |
| 66 | WNY Expenditure & Adv Benefits | $ 22,242,899 | $ 4,235,886 | $ 26,478,786 | $ 3,101,914 | $ 2,695,527 | $ 32,276,226 |
| 67 | Customer Net Savings | $ 40,376,149 | $ 3,483,076 | $ 43,859,225 | $ 5,965,008 | $ 11,901,241 | $ 61,725,474 |
| 68 | WNY Income Multiplier | | 0.49 | | 0.49 | 0.49 | |
| 69 | WNY Customer Net Savings Benefits | $ 19,784,313 | $ 1,706,707 | $ 21,491,020 | $ 2,922,854 | $ 5,831,608 | $ 30,245,482 |
| 70 | Total WNY Benefits | $ 42,027,212 | $ 5,942,593 | $ 47,969,806 | $ 6,024,768 | $ 8,527,135 | $ 62,521,709 |
| 71 | TRC-WNY | 2.80 | 2.02 | 2.67 | 2.85 | 7.59 | 2.92 |
| 72 | **VII. Societal Test** | | | | | | |
| 73 | Environmental | | | | | | |
| 74 | Total | $ 7,823,288 | $ 1,152,660 | $ 8,975,948 | $ 1,130,064 | $ 1,362,278 | $ 11,468,290 |
| 75 | Other | | | | | | |
| 76 | Total | | | | | | |
| 77 | Total Incremental Societal Benefits | $ 7,823,288 | $ 1,152,660 | $ 8,975,948 | $ 1,130,064 | $ 1,362,278 | $ 11,468,290 |
| 78 | Total Benefits W/ TRC WNY | $ 135,989,903 | $ 19,786,778 | $ 155,776,681 | $ 19,597,553 | $ 24,888,961 | $ 200,263,195 |
| 79 | Societal Test | 2.97 | 2.15 | 2.83 | 3.03 | 8.03 | 3.10 |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 80 | **Adjustment Detail** | | | | | | |
| 81 | **I. Spillover** | | | | | | |
| 82 | Total Spillover Impact (Mcf) | | - | | - | - | |
| 83 | Total Participants | | 2,397 | | 1,092 | 482,775 | |
| 84 | Adjustment to Per Participant Volume Due to Spillover | | - | | - | - | |
| 85 | **II. Free Riders** | | | | | | |
| 86 | Mcf Saved per Participant | | 39.47 | | 104.88 | 1.00 | |
| 87 | Free Ridership % | | 0% | | 10% | 10% | |
| 88 | Adjustment to Per Participant Volume Due to Free Riders | | - | | 10.49 | 0.10 | |
| 89 | **III. Snapback** | | | | | | |
| 90 | Total Snapback Impact (Mcf) | | - | | - | - | |
| 91 | Total Participants | | 2,397 | | 1,092 | 482,775 | |
| 92 | Adjustment to Per Participant Volume Due to Snapback | | - | | - | - | |
| 93 | **IV. Total Volume Adjustment** | | | | | | |
| 94 | Total Volume Adjustments | | - | | (10.49) | (0.10) | |
| 95 | **Adjustment Impact** | | | | | | |
| 96 | **I. Customer and Volume Information** | | | | | | |
| 97 | Number of Customers Eligible | | 15,000 | | 34,100 | 482,775 | |
| 98 | Participation Rate | | 15.98% | | 3.20% | 100.00% | |
| 99 | Annual Number of Participants | | 2,397 | | 1,092 | 482,775 | |
| 100 | Total Mcf Adjusted | | - | | (11,453) | (48,278) | |
| 101 | DTH Conversion | | 1.035 | | 1.035 | 1.035 | |
| 102 | Total DTH Adjusted | | - | | (11,853) | (49,967) | |
| 103 | Mcf Adjusted per Participant | | - | | (10.49) | (0.10) | |
| 104 | DTH Adjusted per Participant | | - | | (10.85) | (0.10) | |
| 105 | **II. Program Cost Information** | | | | | | |
| 106 | Company Direct Costs | | $ - | | $ - | $ - | |
| 107 | Company Admin Costs | | | | | | |
| 108 | Company Advertising Costs | | | | | | |
| 109 | Total Initial Program Costs - Company | | $ - | $ - | $ - | $ - | $ - |
| 110 | Total Initial Program Costs - Participant | | $ - | | $ (478,242) | $ - | |
| 111 | Total Initial Program Costs | | $ - | | $ (478,242) | $ - | |
| 112 | Per Participant Initial Program Costs - Company | | $ - | | $ - | $ - | |
| 113 | Per Participant Initial Program Costs - Participant | | $ - | | $ (437.95) | $ - | |
| 114 | Total Initial Program Costs per Annual Participant | | $ - | | $ (437.95) | $ - | |
| 115 | Annual Ongoing Costs - Company per Participant | | | | | | |
| 116 | Annual Ongoing Costs - Participant per Participant | | | | | | |
| 117 | Total Annual Ongoing Costs per Participant | | | | | | |
| 118 | Annual Ongoing Costs - Company | | | | | | |
| 119 | Annual Ongoing Costs - Participant | | | | | | |
| 120 | Total Annual Ongoing Costs | | | | | | |
| 121 | **III. Discount Assumptions** | | | | | | |
| 122 | Anticipated Life of Program Measure (Years) | | - | | - | - | |
| 123 | Discount Rate | | 5.50% | | 5.50% | 5.50% | |
| 124 | PVIFA | | - | | - | - | |
| 125 | **IV. Incremental Savings** | | | | | | |
| 126 | Natural Gas Supply Rate ($/Mcf) | | $ 10.00 | | $ 10.00 | $ 10.00 | |
| 127 | Natural Gas Supply Rate ($/Dth) | | $ 9.66 | | $ 9.66 | $ 9.66 | |
| 128 | Annual NGS Savings per Participant | | $ - | | $ (104.88) | $ (1.00) | |
| 129 | Total NGS Savings | | $ - | | $ (114,525) | $ (482,775) | |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 130 | **Adjusted Analysis** | | | | | | |
| 131 | **I. Customer and Volume Information** | | | | | | |
| 132 | Number of Customers Eligible | | 15,000 | | 34,100 | 482,775 | |
| 133 | Participation Rate | | 15.98% | | 3.20% | 100.00% | |
| 134 | Total Number of Participants | | 2,397 | | 1,092 | 482,775 | |
| 135 | Total Mcf Saved | 709,103 | 94,614 | 803,717 | 103,073 | 434,498 | 1,341,288 |
| 136 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 137 | Total DTH Saved | 733,921 | 97,926 | 831,847 | 106,680 | 449,705 | 1,388,233 |
| 138 | Mcf Saved per Participant | | 39.47 | | 94.39 | 0.90 | |
| 139 | DTH Saved per Participant | | 40.85 | | 97.69 | 0.93 | |
| 140 | | | | | | | |
| 141 | Estimated Peak Day Impact Mcf | 6,475.83 | 864.06 | 7,339.88 | 941.30 | 3,968.01 | 12,249.20 |
| 142 | Estimated Peak Day Impact Dth | 6,702.48 | 894.30 | 7,596.78 | 974.25 | 4,106.89 | 12,677.92 |
| 143 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | | 482,775 | |
| 144 | Impact on Total Average Annual Usage Per Account | 1.47 | 0.20 | 1.66 | | 0.90 | |
| 145 | **II. Program Cost Information** | | | | | | |
| 146 | Company Direct Costs | $ 12,035,391 | $ 7,871,569 | $ 19,906,960 | $ 1,280,604 | $ - | $ 21,187,564 |
| 147 | Company Admin Costs | $ 371,722 | $ 1,336,879 | $ 1,708,601 | $ 116,726 | $ - | $ 1,825,327 |
| 148 | Company Advertising Costs | $ 2,800,341 | $ - | $ 2,800,341 | $ 297,965 | $ 3,098,307 | $ 6,196,613 |
| 149 | Total Initial Program Costs - Company | $ 15,207,454 | $ 9,208,448 | $ 24,415,903 | $ 1,695,294 | $ 3,098,307 | $ 29,209,503 |
| 150 | Total Initial Program Costs - Participant | $ 27,500,220 | $ - | $ 27,500,220 | $ 4,304,178 | $ - | $ 31,804,398 |
| 151 | Total Initial Program Costs | $ 42,707,674 | $ 9,208,448 | $ 51,916,123 | $ 5,999,472 | $ 3,098,307 | $ 61,013,901 |
| 152 | Per Participant Initial Program Costs - Company | | $ 3,841.66 | | $ 1,552.47 | $ 6.42 | |
| 153 | Per Participant Initial Program Costs - Participant | | $ - | | $ 3,941.55 | $ - | |
| 154 | Total Initial Program Costs per Annual Participant | | $ 3,841.66 | | $ 5,494.02 | $ 6.42 | |
| 155 | Annual Ongoing Costs - Company per Participant | | $ - | | $ - | $ - | |
| 156 | Annual Ongoing Costs - Participant per Participant | | $ - | | $ - | $ - | |
| 157 | Total Annual Ongoing Costs per Participant | | $ - | | $ - | $ - | |
| 158 | Annual Ongoing Costs - Company | | $ - | | $ - | $ - | |
| 159 | Annual Ongoing Costs - Participant | | $ - | | $ - | $ - | |
| 160 | Total Annual Ongoing Costs | | $ - | | $ - | $ - | |
| 161 | **III. Discount Assumptions** | | | | | | |
| 162 | Anticipated Life of Program Measure (Years) | 19.54 | 25 | 21 | 17 | 3.50 | 19 |
| 163 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 164 | PVIFA | 8.97 | 13.41 | 12.12 | 10.86 | 3.11 | 11.71 |
| 165 | **IV. Incremental Savings** | | | | | | |
| 166 | Natural Gas Supply Rate ($/Mcf) | | $ 10.00 | | $ 10.00 | $ 10.00 | |
| 167 | Natural Gas Supply Rate ($/Dth) | | $ 9.66 | | $ 9.66 | $ 9.66 | |
| 168 | Annual NGS Savings per Participant | | $ 394.72 | | $ 943.89 | $ 9.00 | |
| 169 | Total NGS Savings | $ 7,091,028 | $ 946,145 | $ 8,037,173 | $ 1,030,727 | $ 4,344,975 | $ 13,412,876 |
| 170 | **V. Direct Cost Benefit Summary** | | | | | | |
| 171 | Present Value of Participant Savings | | $ 5,294.75 | | $ 10,254.99 | $ 27.96 | |
| 172 | Present Value of Total Savings | $ 77,525,463 | $ 12,691,524 | $ 90,216,987 | $ 11,198,450 | $ 13,499,593 | $ 114,915,030 |
| 173 | Present Value of Total Initial Program Costs per Annual Participant | | $ 3,842 | | $ 5,494 | $ 6 | |
| 174 | Present Value of Total Initial Program Costs | $ 42,707,674 | $ 9,208,448 | $ 51,916,123 | $ 5,999,472 | $ 3,098,307 | $ 61,013,901 |
| 175 | TRC | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 176 | **VI. TRC-WNY** | | | | | | |
| 177 | WNY Incremental Expenditures | $ 39,907,333 | $ 9,208,448 | $ 49,115,781 | $ 5,701,507 | $ - | $ 54,817,288 |
| 178 | WNY Expenditure Multiplier | | 0.46 | | 0.46 | 0.46 | |
| 179 | WNY Expenditure Benefits | $ 18,399,050 | $ 4,235,886 | $ 22,634,936 | $ 2,622,693 | $ - | $ 25,257,629 |
| 180 | Advertising | $ 2,800,341 | $ - | $ 2,800,341 | $ 297,965 | $ 3,098,307 | $ 6,196,613 |
| 181 | Adverttising Multiplier | | 0.87 | | 0.87 | 0.87 | |
| 182 | Advertising Benefits | $ 2,436,297 | $ - | $ 2,436,297 | $ 259,230 | $ 2,695,527 | $ 5,391,053 |
| 183 | WNY Expenditure & Adv Benefits | $ 20,835,347 | $ 4,235,886 | $ 25,071,233 | $ 2,881,923 | $ 2,695,527 | $ 30,648,682 |
| 184 | Customer Net Savings | $ 34,817,788 | $ 3,483,076 | $ 38,300,865 | $ 5,198,978 | $ 10,401,287 | $ 53,901,129 |
| 185 | WNY Income Multiplier | | 0.49 | | 0.49 | 0.49 | |
| 186 | WNY Customer Net Savings Benefits | $ 17,060,716 | $ 1,706,707 | $ 18,767,424 | $ 2,547,499 | $ 5,096,630 | $ 26,411,553 |
| 187 | Total WNY Benefits | $ 37,896,063 | $ 5,942,593 | $ 43,838,656 | $ 5,429,422 | $ 7,792,157 | $ 57,060,235 |
| 188 | TRC-WNY | 2.70 | 2.02 | 2.58 | 2.77 | 6.87 | 2.82 |
| 189 | **VII. Societal Test** | | | | | | |
| 190 | Environmental | | | | | | |
| 191 | Total | $ 7,040,959 | $ 1,152,660 | $ 8,193,620 | $ 1,017,057 | $ 1,226,050 | $ 10,436,727 |
| 192 | Other | | | | | | |
| 193 | Total | | $ - | | $ - | $ - | |
| 194 | Total Incremental Societal Benefits | $ 7,040,959 | $ 1,152,660 | $ 8,193,620 | $ 1,017,057 | $ 1,226,050 | $ 10,436,727 |
| 195 | Total Benefits W/TRC-WNY | $ 122,462,485 | $ 19,786,778 | $ 142,249,263 | $ 17,644,929 | $ 22,517,800 | $ 182,411,992 |
| 196 | Societal Test | 2.87 | 2.15 | 2.74 | 2.94 | 7.27 | 2.99 |

| | A | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | Pre/Post Analysis | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Appliance Rebates - Heating Systems Residential** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Water Heater Tank Residential** | **Appliance Rebates - Tankless Water Heater Residential** | **Total Res Rebates** | **LIURP** |
| 12 | **Base Analysis** | | | | | | |
| 13 | **I. Customer and Volume Information** | | | | | | |
| 14 | Number of Customers Eligible | 468,292 | 468,292 | 468,292 | 468,292 | | 15,000 |
| 15 | Participation Rate | 5.43% | 5.65% | 0.70% | 0.37% | | 15.98% |
| 16 | Total Number of Participants | 25,426 | 26,478 | 3,273 | 1,717 | | 2,397 |
| 17 | Total Annual Mcf Saved | 362,872 | 156,790 | 14,210 | 13,217 | 547,089 | 55,695 |
| 18 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 19 | Total DTH Saved | 375,573 | 162,277 | 14,708 | 13,679 | 566,237 | 57,644 |
| 20 | Mcf Saved per Participant Base | 14.27 | 5.92 | 4.34 | 7.70 | | 23.24 |
| 21 | Multiple Factor for Sensitivity Analysis | 0% | 0% | 0% | 0% | | 0% |
| 22 | Mcf Saved per Participant | 14.27 | 5.92 | 4.34 | 7.70 | | 23.24 |
| 23 | DTH Saved per Participant | 14.77 | 6.13 | 4.49 | 7.97 | | 24.05 |
| 24 | Estimated Peak Day Impact Mcf | 3,314 | 1,432 | 130 | 121 | 4,996 | 509 |
| 25 | Estimated Peak Day Impact DTH | 3,430 | 1,482 | 134 | 125 | 5,171 | 526 |
| 26 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 | 482,775 |
| 27 | Impact on Total Average Annual Usage Per Account Per Mcf | 0.75 | 0.32 | 0.03 | 0.03 | 1.13 | 0.12 |
| 28 | **II. Program Cost Information** | | | | | | |
| 29 | Company Direct Costs | $ 7,818,495 | $ 778,983 | $ 512,225 | $ 612,511 | $ 9,722,213 | $ 7,871,569 |
| 30 | Company Admin Costs | $ 241,480 | $ 24,059 | $ 15,820 | $ 18,918 | $ 300,278 | $ 1,336,879 |
| 31 | Company Advertising Costs | $ 1,819,173 | $ 181,250 | $ 119,182 | $ 142,516 | $ 2,262,121 | $ - |
| 32 | Total Initial Program Costs - Company | $ 9,879,148 | $ 984,292 | $ 647,227 | $ 773,945 | $ 12,284,612 | $ 9,208,448 |
| 33 | Total Initial Program Costs - Participant | $ 17,798,200 | $ 661,950 | $ 654,600 | $ 600,950 | $ 19,715,700 | $ - |
| 34 | Total Initial Program Costs | $ 27,677,348 | $ 1,646,242 | $ 1,301,827 | $ 1,374,895 | $ 32,000,312 | $ 9,208,448 |
| 35 | Per Participant Initial Program Costs - Company | $ 307.50 | $ 29.42 | $ 156.50 | $ 356.73 | | $ 3,841.66 |
| 36 | Per Participant Initial Program Costs - Participant | $ 700.00 | $ 25.00 | $ 200.00 | $ 350.00 | | $ - |
| 37 | Total Initial Program Costs per Annual Participant | $ 1,007.50 | $ 54.42 | $ 356.50 | $ 706.73 | | $ 3,841.66 |
| 38 | Annual Ongoing Costs - Company per Participant | $ - | $ - | $ - | $ - | | $ - |
| 39 | Annual Ongoing Costs - Participant per Participant | $ - | $ - | $ - | $ - | | $ - |
| 40 | Total Annual Ongoing Costs per Participant | $ - | $ - | $ - | $ - | | $ - |
| 41 | Annual Ongoing Costs - Company | $ - | $ - | $ - | $ - | | $ - |
| 42 | Annual Ongoing Costs - Participant | $ - | $ - | $ - | $ - | | $ - |
| 43 | Total Annual Ongoing Costs | $ - | $ - | $ - | $ - | | $ - |
| 44 | **III. Discount Assumptions** | | | | | | |
| 45 | Anticipated Life of Program Measure (Years) | 17 | 17 | 14 | 14 | 16.7 | 25 |
| 46 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 47 | PVIFA | 10.8646 | 10.8646 | 9.5896 | 9.5896 | 10.7656 | 13.4139 |
| 48 | **IV. Incremental Savings** | | | | | | |
| 49 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | | $ 10.00 |
| 50 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | | $ 9.66 |
| 51 | Annual NGS Savings per Participant | $ 142.72 | $ 59.22 | $ 43.42 | $ 76.97 | | $ 232.35 |
| 52 | Total NGS Savings | $ 3,628,724 | $ 1,567,898 | $ 142,103 | $ 132,166 | $ 5,470,891 | $ 556,950 |
| 53 | **V. Direct Cost Benefit Summary** | | | | | | |
| 54 | Present Value of Participant Savings | $ 1,550.56 | $ 643.35 | $ 416.35 | $ 738.16 | | $ 3,116.76 |
| 55 | Present Value of Total Savings | $ 39,424,663 | $ 17,034,602 | $ 1,362,718 | $ 1,267,423 | $ 59,089,406 | $ 7,470,885 |
| 56 | Present Value of Total Initial Program Costs per Annual Participant | $ 1,008 | $ 54 | $ 357 | $ 707 | | $ 3,842 |
| 57 | Present Value of Total Initial Program Costs | $ 27,677,348 | $ 1,646,242 | $ 1,301,827 | $ 1,374,895 | $ 32,000,312 | $ 9,208,448 |
| 58 | TRC | 1.42 | 10.35 | 1.05 | 0.92 | 1.85 | 0.81 |
| 59 | **VI. TRC-WNY** | | | | | | |
| 60 | WNY Incremental Expenditures | $ 25,858,175 | $ 1,464,992 | $ 1,182,645 | $ 1,232,378 | $ 29,738,191 | $ 9,208,448 |
| 61 | WNY Expenditure Multiplier | 0.46 | 0.49 | 0.46 | 0.46 | | 0.46 |
| 62 | WNY Expenditure Benefits | $ 11,894,761 | $ 717,846 | $ 544,017 | $ 566,894 | $ 13,723,517 | $ 4,235,886 |
| 63 | Advertising | $ 1,819,173 | $ 181,250 | $ 119,182 | $ 142,516 | $ 2,262,121 | $ - |
| 64 | Adverttising Multiplier | 0.87 | 0.87 | 0.87 | 0.87 | | 0.87 |
| 65 | Advertising Benefits | $ 1,582,680 | $ 157,688 | $ 103,688 | $ 123,989 | $ 1,968,046 | $ - |
| 66 | WNY Expenditure & Adv Benefits | $ 13,477,441 | $ 875,534 | $ 647,705 | $ 690,883 | $ 15,691,563 | $ 4,235,886 |
| 67 | Customer Net Savings | $ 11,747,316 | $ 15,388,360 | $ 60,891 | $ (107,472) | $ 27,089,094 | $ (1,737,563) |
| 68 | WNY Income Multiplier | 0.49 | 0.49 | 0.49 | 0.49 | | 0.49 |
| 69 | WNY Customer Net Savings Benefits | $ 5,756,185 | $ 7,540,296 | $ 29,837 | $ (52,661) | $ 13,273,656 | $ (851,406) |
| 70 | Total WNY Benefits | $ 19,233,625 | $ 8,415,830 | $ 677,542 | $ 638,222 | $ 28,965,219 | $ 3,384,480 |
| 71 | TRC-WNY | 2.12 | 15.46 | 1.57 | 1.39 | 2.75 | 1.18 |
| 72 | **VII. Societal Test** | | | | | | |
| 73 | Environmental | | | | | | |
| 74 | Total | $ 3,580,597 | $ 1,547,104 | $ 123,764 | $ 115,109 | $ 5,366,574 | $ 678,515 |
| 75 | Other | | | | | | |
| 76 | Total | | | | | | |
| 77 | Total Incremental Societal Benefits | $ 3,580,597 | $ 1,547,104 | $ 123,764 | $ 115,109 | $ 5,366,574 | $ 678,515 |
| 78 | Total Benefits W/ TRC WNY | $ 62,238,886 | $ 26,997,536 | $ 2,164,023 | $ 2,020,753 | $ 93,421,199 | $ 11,533,880 |
| 79 | Societal Test | 2.25 | 16.40 | 1.66 | 1.47 | 2.92 | 1.25 |

| | A | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | Pre/Post Analysis | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Appliance Rebates - Heating Systems Residential** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Water Heater Tank Residential** | **Appliance Rebates - Tankless Water Heater Residential** | **Total Res Rebates** | **LIURP** |
| 80 | **Adjustment Detail** | | | | | | |
| 81 | **I. Spillover** | | | | | | |
| 82 | Total Spillover Impact (Mcf) | - | - | - | - | | - |
| 83 | Total Participants | 25,426 | 26,478 | 3,273 | 1,717 | | 2,397 |
| 84 | Adjustment to Per Participant Volume Due to Spillover | - | - | - | - | | - |
| 85 | **II. Free Riders** | | | | | | |
| 86 | Mcf Saved per Participant | 14.27 | 5.92 | 4.34 | 7.70 | | 23.24 |
| 87 | Free Ridership % | 10% | 10% | 10% | 10% | | 0% |
| 88 | Adjustment to Per Participant Volume Due to Free Riders | 1.43 | 0.59 | 0.43 | 0.77 | | - |
| 89 | **III. Snapback** | | | | | | |
| 90 | Total Snapback Impact (Mcf) | - | - | - | - | | - |
| 91 | Total Participants | 25,426 | 26,478 | 3,273 | 1,717 | | 2,397 |
| 92 | Adjustment to Per Participant Volume Due to Snapback | - | - | - | - | | - |
| 93 | **IV. Total Volume Adjustment** | | | | | | |
| 94 | Total Volume Adjustments | (1.43) | (0.59) | (0.43) | (0.77) | | - |
| 95 | **Adjustment Impact** | | | | | | |
| 96 | **I. Customer and Volume Information** | | | | | | |
| 97 | Number of Customers Eligible | 468,292 | 468,292 | 468,292 | 468,292 | | 15,000 |
| 98 | Participation Rate | 5.43% | 5.65% | 0.70% | 0.37% | | 15.98% |
| 99 | Annual Number of Participants | 25,426 | 26,478 | 3,273 | 1,717 | | 2,397 |
| 100 | Total Mcf Adjusted | (36,287) | (15,679) | (1,421) | (1,322) | | - |
| 101 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | | 1.035 |
| 102 | Total DTH Adjusted | (37,557) | (16,228) | (1,471) | (1,368) | | - |
| 103 | Mcf Adjusted per Participant | (1.43) | (0.59) | (0.43) | (0.77) | | - |
| 104 | DTH Adjusted per Participant | (1.48) | (0.61) | (0.45) | (0.80) | | - |
| 105 | **II. Program Cost Information** | | | | | | |
| 106 | Company Direct Costs | $ - | $ - | $ - | $ - | | $ - |
| 107 | Company Admin Costs | | | | | | |
| 108 | Company Advertising Costs | | | | | | |
| 109 | Total Initial Program Costs - Company | $ - | $ - | $ - | $ - | | $ - |
| 110 | Total Initial Program Costs - Participant | $ (1,779,820) | $ (66,195) | $ (65,460) | $ (60,095) | | $ - |
| 111 | Total Initial Program Costs | $ (1,779,820) | $ (66,195) | $ (65,460) | $ (60,095) | | $ - |
| 112 | Per Participant Initial Program Costs - Company | $ - | $ - | $ - | $ - | | $ - |
| 113 | Per Participant Initial Program Costs - Participant | $ (70.00) | $ (2.50) | $ (20.00) | $ (35.00) | | $ - |
| 114 | Total Initial Program Costs per Annual Participant | $ (70.00) | $ (2.50) | $ (20.00) | $ (35.00) | | $ - |
| 115 | Annual Ongoing Costs - Company per Participant | | | | | | |
| 116 | Annual Ongoing Costs - Participant per Participant | | | | | | |
| 117 | Total Annual Ongoing Costs per Participant | | | | | | |
| 118 | Annual Ongoing Costs - Company | | | | | | |
| 119 | Annual Ongoing Costs - Participant | | | | | | |
| 120 | Total Annual Ongoing Costs | | | | | | |
| 121 | **III. Discount Assumptions** | | | | | | |
| 122 | Anticipated Life of Program Measure (Years) | - | - | - | - | | - |
| 123 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | | 5.50% |
| 124 | PVIFA | - | - | - | - | | - |
| 125 | **IV. Incremental Savings** | | | | | | |
| 126 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | | $ 10.00 |
| 127 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | | $ 9.66 |
| 128 | Annual NGS Savings per Participant | $ (14.27) | $ (5.92) | $ (4.34) | $ (7.70) | | $ - |
| 129 | Total NGS Savings | $ (362,872) | $ (156,790) | $ (14,210) | $ (13,217) | | $ - |

| | A | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | Pre/Post Analysis | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Appliance Rebates - Heating Systems Residential** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Water Heater Tank Residential** | **Appliance Rebates - Tankless Water Heater Residential** | **Total Res Rebates** | **LIURP** |
| 130 | **Adjusted Analysis** | | | | | | |
| 131 | **I. Customer and Volume Information** | | | | | | |
| 132 | Number of Customers Eligible | 468,292 | 468,292 | 468,292 | 468,292 | | 15,000 |
| 133 | Participation Rate | 5.43% | 5.65% | 0.70% | 0.37% | | 15.98% |
| 134 | Total Number of Participants | 25,426 | 26,478 | 3,273 | 1,717 | | 2,397 |
| 135 | Total Mcf Saved | 326,585 | 141,111 | 12,789 | 11,895 | 492,380 | 55,695 |
| 136 | DTH Conversion | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 137 | Total DTH Saved | 338,016 | 146,050 | 13,237 | 12,311 | 509,613 | 57,644 |
| 138 | Mcf Saved per Participant | 12.84 | 5.33 | 3.91 | 6.93 | | 23.24 |
| 139 | DTH Saved per Participant | 13.29 | 5.52 | 4.04 | 7.17 | | 24.05 |
| 140 | | | | | | | |
| 141 | Estimated Peak Day Impact Mcf | 2,982.51 | 1,288.68 | 116.80 | 108.63 | 4,496.62 | 508.63 |
| 142 | Estimated Peak Day Impact Dth | 3,086.90 | 1,333.79 | 120.88 | 112.43 | 4,654.00 | 526.43 |
| 143 | Total Average Annual Accounts | 482,775 | 482,775 | 482,775 | 482,775 | | 482,775 |
| 144 | Impact on Total Average Annual Usage Per Account | 0.68 | 0.29 | 0.03 | 0.02 | | 0.12 |
| 145 | **II. Program Cost Information** | | | | | | |
| 146 | Company Direct Costs | $ 7,818,495 | $ 778,983 | $ 512,225 | $ 612,511 | $ 9,722,213 | $ 7,871,569 |
| 147 | Company Admin Costs | $ 241,480 | $ 24,059 | $ 15,820 | $ 18,918 | $ 300,278 | $ 1,336,879 |
| 148 | Company Advertising Costs | $ 1,819,173 | $ 181,250 | $ 119,182 | $ 142,516 | $ 2,262,121 | $ - |
| 149 | Total Initial Program Costs - Company | $ 9,879,148 | $ 984,292 | $ 647,227 | $ 773,945 | $ 12,284,612 | $ 9,208,448 |
| 150 | Total Initial Program Costs - Participant | $ 16,018,380 | $ 595,755 | $ 589,140 | $ 540,855 | $ 17,744,130 | $ - |
| 151 | Total Initial Program Costs | $ 25,897,528 | $ 1,580,047 | $ 1,236,367 | $ 1,314,800 | $ 30,028,742 | $ 9,208,448 |
| 152 | Per Participant Initial Program Costs - Company | $ 388.55 | $ 37.17 | $ 197.75 | $ 450.75 | | $ 3,841.66 |
| 153 | Per Participant Initial Program Costs - Participant | $ 630.00 | $ 22.50 | $ 180.00 | $ 315.00 | | $ - |
| 154 | Total Initial Program Costs per Annual Participant | $ 1,018.55 | $ 59.67 | $ 377.75 | $ 765.75 | | $ 3,841.66 |
| 155 | Annual Ongoing Costs - Company per Participant | $ - | $ - | $ - | $ - | | $ - |
| 156 | Annual Ongoing Costs - Participant per Participant | $ - | $ - | $ - | $ - | | $ - |
| 157 | Total Annual Ongoing Costs per Participant | $ - | $ - | $ - | $ - | | $ - |
| 158 | Annual Ongoing Costs - Company | $ - | $ - | $ - | $ - | | $ - |
| 159 | Annual Ongoing Costs - Participant | $ - | $ - | $ - | $ - | | $ - |
| 160 | Total Annual Ongoing Costs | $ - | $ - | $ - | $ - | | $ - |
| 161 | **III. Discount Assumptions** | | | | | | |
| 162 | Anticipated Life of Program Measure (Years) | 17 | 17 | 14 | 14 | 17 | 25 |
| 163 | Discount Rate | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% | 5.50% |
| 164 | PVIFA | 10.86 | 10.86 | 9.59 | 9.59 | 10.77 | 13.41 |
| 165 | **IV. Incremental Savings** | | | | | | |
| 166 | Natural Gas Supply Rate ($/Mcf) | $ 10.00 | $ 10.00 | $ 10.00 | $ 10.00 | | $ 10.00 |
| 167 | Natural Gas Supply Rate ($/Dth) | $ 9.66 | $ 9.66 | $ 9.66 | $ 9.66 | | $ 9.66 |
| 168 | Annual NGS Savings per Participant | $ 128.45 | $ 53.29 | $ 39.08 | $ 69.28 | | $ 232.35 |
| 169 | Total NGS Savings | $ 3,265,851 | $ 1,411,109 | $ 127,893 | $ 118,949 | $ 4,923,802 | $ 556,950 |
| 170 | **V. Direct Cost Benefit Summary** | | | | | | |
| 171 | Present Value of Participant Savings | $ 1,395.51 | $ 579.01 | $ 374.72 | $ 664.34 | | $ 3,116.76 |
| 172 | Present Value of Total Savings | $ 35,482,197 | $ 15,331,142 | $ 1,226,446 | $ 1,140,680 | $ 53,180,465 | $ 7,470,885 |
| 173 | Present Value of Total Initial Program Costs per Annual Participant | $ 1,019 | $ 60 | $ 378 | $ 766 | | $ 3,842 |
| 174 | Present Value of Total Initial Program Costs | $ 25,897,528 | $ 1,580,047 | $ 1,236,367 | $ 1,314,800 | $ 30,028,742 | $ 9,208,448 |
| 175 | TRC | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 176 | **VI. TRC-WNY** | | | | | | |
| 177 | WNY Incremental Expenditures | $ 24,078,355 | $ 1,398,797 | $ 1,117,185 | $ 1,172,283 | $ 27,766,621 | $ 9,208,448 |
| 178 | WNY Expenditure Multiplier | 0.46 | 0.49 | 0.46 | 0.46 | | 0.46 |
| 179 | WNY Expenditure Benefits | $ 11,076,043 | $ 685,411 | $ 513,905 | $ 539,250 | $ 12,814,609 | $ 4,235,886 |
| 180 | Advertising | $ 1,819,173 | $ 181,250 | $ 119,182 | $ 142,516 | $ 2,262,121 | $ - |
| 181 | Adverttising Multiplier | 0.87 | 0.87 | 0.87 | 0.87 | | 0.87 |
| 182 | Advertising Benefits | $ 1,582,680 | $ 157,688 | $ 103,688 | $ 123,989 | $ 1,968,046 | $ - |
| 183 | WNY Expenditure & Adv Benefits | $ 12,658,724 | $ 843,098 | $ 617,594 | $ 663,239 | $ 14,782,655 | $ 4,235,886 |
| 184 | Customer Net Savings | $ 9,584,669 | $ 13,751,094 | $ (9,921) | $ (174,119) | $ 23,151,723 | $ (1,737,563) |
| 185 | WNY Income Multiplier | 0.49 | 0.49 | 0.49 | 0.49 | | 0.49 |
| 186 | WNY Customer Net Savings Benefits | $ 4,696,488 | $ 6,738,036 | $ (4,861) | $ (85,318) | $ 11,344,345 | $ (851,406) |
| 187 | Total WNY Benefits | $ 17,355,212 | $ 7,581,135 | $ 612,732 | $ 577,921 | $ 26,126,999 | $ 3,384,480 |
| 188 | TRC-WNY | 2.04 | 14.50 | 1.49 | 1.31 | 2.64 | 1.18 |
| 189 | **VII. Societal Test** | | | | | | |
| 190 | Environmental | | | | | | |
| 191 | Total | $ 3,222,537 | $ 1,392,393 | $ 111,387 | $ 103,598 | $ 4,829,916 | $ 678,515 |
| 192 | Other | | | | | | |
| 193 | Total | $ - | $ - | $ - | $ - | $ - | $ - |
| 194 | Total Incremental Societal Benefits | $ 3,222,537 | $ 1,392,393 | $ 111,387 | $ 103,598 | $ 4,829,916 | $ 678,515 |
| 195 | Total Benefits W/TRC-WNY | $ 56,059,946 | $ 24,304,670 | $ 1,950,566 | $ 1,822,199 | $ 84,137,381 | $ 11,533,880 |
| 196 | Societal Test | 2.16 | 15.38 | 1.58 | 1.39 | 2.80 | 1.25 |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 221 | Sensitivity Analysis | | | | | | |
| 222 | TRC - Free Ridership Sensitivity | Adjusted Analysis - TRC | | | | | |
| 223 | | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 224 | 0% | 2.01 | 1.31 | 2.57 | 0.94 | 9.91 | 0.50 |
| 225 | 10% | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 226 | 20% | 1.84 | 1.24 | 2.40 | 0.89 | 8.63 | 0.47 |
| 227 | 30% | 1.74 | 1.19 | 2.30 | 0.85 | 7.90 | 0.45 |
| 228 | 40% | 1.62 | 1.13 | 2.17 | 0.81 | 7.10 | 0.43 |
| 229 | 50% | 1.48 | 1.06 | 2.02 | 0.76 | 6.22 | 0.40 |
| 230 | 60% | 1.31 | 0.96 | 1.82 | 0.69 | 5.24 | 0.36 |
| 231 | 70% | 1.10 | 0.84 | 1.57 | 0.60 | 4.15 | 0.31 |
| 232 | 80% | 0.83 | 0.67 | 1.23 | 0.48 | 2.93 | 0.25 |
| 233 | | | | | | | |
| 234 | Societal - Test Free Ridership Sensitivity | Adjusted Analysis - Societal TRC | | | | | |
| 235 | | 3.05 | 2.01 | 3.93 | 1.44 | 14.74 | 0.76 |
| 236 | 0% | 3.17 | 2.06 | 4.05 | 1.47 | 15.71 | 0.78 |
| 237 | 10% | 3.05 | 2.01 | 3.93 | 1.44 | 14.74 | 0.76 |
| 238 | 20% | 2.92 | 1.95 | 3.79 | 1.39 | 13.69 | 0.74 |
| 239 | 30% | 2.76 | 1.87 | 3.63 | 1.34 | 12.54 | 0.71 |
| 240 | 40% | 2.57 | 1.78 | 3.43 | 1.28 | 11.27 | 0.68 |
| 241 | 50% | 2.35 | 1.67 | 3.19 | 1.20 | 9.88 | 0.63 |
| 242 | 60% | 2.09 | 1.53 | 2.89 | 1.10 | 8.34 | 0.58 |
| 243 | 70% | 1.76 | 1.34 | 2.49 | 0.96 | 6.62 | 0.51 |
| 244 | 80% | 1.34 | 1.07 | 1.96 | 0.78 | 4.70 | 0.41 |
| 245 | | | | | | | |
| 246 | TRC Gas Cost Sensitivity | Adjusted Analysis - TRC | | | | | |
| 247 | | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 248 | $ 16.00 | 3.09 | 2.05 | 3.98 | 1.47 | 14.88 | 0.78 |
| 249 | $ 15.00 | 2.90 | 1.92 | 3.73 | 1.37 | 13.95 | 0.73 |
| 250 | $ 14.00 | 2.70 | 1.79 | 3.49 | 1.28 | 13.02 | 0.68 |
| 251 | $ 13.00 | 2.51 | 1.66 | 3.24 | 1.19 | 12.09 | 0.64 |
| 252 | $ 12.00 | 2.32 | 1.53 | 2.99 | 1.10 | 11.16 | 0.59 |
| 253 | $ 11.00 | 2.13 | 1.41 | 2.74 | 1.01 | 10.23 | 0.54 |
| 254 | $ 10.00 | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 255 | $ 9.00 | 1.74 | 1.15 | 2.24 | 0.82 | 8.37 | 0.44 |
| 256 | $ 8.00 | 1.55 | 1.02 | 1.99 | 0.73 | 7.44 | 0.39 |
| 257 | $ 7.00 | 1.35 | 0.89 | 1.74 | 0.64 | 6.51 | 0.34 |
| 258 | Discount Rate Sensitivity | Adjusted Analysis - TRC | | | | | |
| 259 | | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 260 | 1% | 2.92 | 2.10 | 4.09 | 1.31 | 11.91 | 0.80 |
| 261 | 2% | 2.64 | 1.86 | 3.62 | 1.20 | 11.25 | 0.71 |
| 262 | 3% | 2.41 | 1.66 | 3.23 | 1.11 | 10.63 | 0.63 |
| 263 | 4% | 2.20 | 1.49 | 2.90 | 1.03 | 10.07 | 0.57 |
| 264 | 5% | 2.01 | 1.34 | 2.62 | 0.95 | 9.55 | 0.51 |
| 265 | 6% | 1.85 | 1.22 | 2.37 | 0.88 | 9.06 | 0.47 |
| 266 | 7% | 1.71 | 1.11 | 2.16 | 0.82 | 8.62 | 0.42 |
| 267 | | | | | | | |
| 268 | Volume Savings Sensitiviity | Adjusted Analysis - TRC | | | | | |
| 269 | | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 270 | 50% | 2.90 | 1.92 | 3.73 | 1.37 | 13.95 | 0.73 |
| 271 | 40% | 2.70 | 1.79 | 3.49 | 1.28 | 13.02 | 0.68 |
| 272 | 30% | 2.51 | 1.66 | 3.24 | 1.19 | 12.09 | 0.64 |
| 273 | 20% | 2.32 | 1.53 | 2.99 | 1.10 | 11.16 | 0.59 |
| 274 | 10% | 2.13 | 1.41 | 2.74 | 1.01 | 10.23 | 0.54 |
| 275 | 0% | 1.93 | 1.28 | 2.49 | 0.92 | 9.30 | 0.49 |
| 276 | -10% | 1.74 | 1.15 | 2.24 | 0.82 | 8.37 | 0.44 |
| 277 | -20% | 1.55 | 1.02 | 1.99 | 0.73 | 7.44 | 0.39 |
| 278 | -30% | 1.35 | 0.89 | 1.74 | 0.64 | 6.51 | 0.34 |
| 279 | -40% | 1.16 | 0.77 | 1.49 | 0.55 | 5.58 | 0.29 |
| 280 | -50% | 0.97 | 0.64 | 1.24 | 0.46 | 4.65 | 0.24 |
| 281 | | | | | | | |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 282 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | | | | | |
| 283 | Gas Cost | Free Ridership | | | | | |
| 284 | 1.88 | 0% | 10% | 20% | 30% | 40% | 50% |
| 285 | $ 16.00 | 3.12 | 3.01 | 2.89 | 2.72 | 2.53 | 2.31 |
| 286 | $ 15.00 | 2.93 | 2.83 | 2.71 | 2.55 | 2.37 | 2.17 |
| 287 | $ 14.00 | 2.73 | 2.64 | 2.53 | 2.38 | 2.21 | 2.02 |
| 288 | $ 13.00 | 2.54 | 2.45 | 2.35 | 2.21 | 2.05 | 1.88 |
| 289 | $ 12.00 | 2.34 | 2.26 | 2.17 | 2.04 | 1.90 | 1.73 |
| 290 | $ 11.00 | 2.15 | 2.07 | 1.99 | 1.87 | 1.74 | 1.59 |
| 291 | $ 10.00 | 1.95 | 1.88 | 1.81 | 1.70 | 1.58 | 1.45 |
| 292 | $ 9.00 | 1.76 | 1.70 | 1.63 | 1.53 | 1.42 | 1.30 |
| 293 | $ 8.00 | 1.56 | 1.51 | 1.44 | 1.36 | 1.26 | 1.16 |
| 294 | $ 7.00 | 1.37 | 1.32 | 1.26 | 1.19 | 1.11 | 1.01 |
| 295 | | | | | | | |
| 296 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | | | | | |
| 297 | Gas Cost | Free Ridership | | | | | |
| 298 | 2.99 | 0% | 10% | 20% | 30% | 40% | 50% |
| 299 | $ 16.00 | 4.84 | 4.67 | 4.48 | 4.22 | 3.93 | 3.60 |
| 300 | $ 15.00 | 4.55 | 4.39 | 4.22 | 3.97 | 3.69 | 3.38 |
| 301 | $ 14.00 | 4.26 | 4.11 | 3.95 | 3.72 | 3.46 | 3.17 |
| 302 | $ 13.00 | 3.97 | 3.83 | 3.68 | 3.46 | 3.22 | 2.95 |
| 303 | $ 12.00 | 3.68 | 3.55 | 3.41 | 3.21 | 2.99 | 2.74 |
| 304 | $ 11.00 | 3.39 | 3.27 | 3.14 | 2.96 | 2.75 | 2.52 |
| 305 | $ 10.00 | 3.10 | 2.99 | 2.87 | 2.70 | 2.52 | 2.31 |
| 306 | $ 9.00 | 2.80 | 2.71 | 2.60 | 2.45 | 2.28 | 2.09 |
| 307 | $ 8.00 | 2.51 | 2.43 | 2.33 | 2.20 | 2.05 | 1.88 |
| 308 | $ 7.00 | 2.22 | 2.15 | 2.06 | 1.94 | 1.81 | 1.66 |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
| 2 | New York Division | | |
| 3 | Conservation Incentive Program | | |
| 4 | Program Measurement and Verification Summary | | |
| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 221 | Sensitivity Analysis | | |
| 222 | TRC - Free Ridership Sensitivity | | |
| 223 | | 0.83 | 0.96 |
| 224 | 0% | 0.87 | 1.02 |
| 225 | 10% | 0.83 | 0.96 |
| 226 | 20% | 0.78 | 0.89 |
| 227 | 30% | 0.72 | 0.82 |
| 228 | 40% | 0.66 | 0.74 |
| 229 | 50% | 0.58 | 0.65 |
| 230 | 60% | 0.50 | 0.55 |
| 231 | 70% | 0.40 | 0.44 |
| 232 | 80% | 0.29 | 0.31 |
| 233 | | | |
| 234 | Societal - Test Free Ridership Sensitivity | | |
| 235 | | 1.32 | 1.53 |
| 236 | 0% | 1.39 | 1.62 |
| 237 | 10% | 1.32 | 1.53 |
| 238 | 20% | 1.24 | 1.42 |
| 239 | 30% | 1.15 | 1.31 |
| 240 | 40% | 1.05 | 1.19 |
| 241 | 50% | 0.94 | 1.05 |
| 242 | 60% | 0.81 | 0.90 |
| 243 | 70% | 0.67 | 0.73 |
| 244 | 80% | 0.49 | 0.53 |
| 245 | | | |
| 246 | TRC Gas Cost Sensitivity | | |
| 247 | | 0.83 | 0.96 |
| 248 | $ 16.00 | 1.32 | 1.53 |
| 249 | $ 15.00 | 1.24 | 1.43 |
| 250 | $ 14.00 | 1.16 | 1.34 |
| 251 | $ 13.00 | 1.08 | 1.24 |
| 252 | $ 12.00 | 0.99 | 1.15 |
| 253 | $ 11.00 | 0.91 | 1.05 |
| 254 | $ 10.00 | 0.83 | 0.96 |
| 255 | $ 9.00 | 0.74 | 0.86 |
| 256 | $ 8.00 | 0.66 | 0.76 |
| 257 | $ 7.00 | 0.58 | 0.67 |
| 258 | Discount Rate Sensitivity | | |
| 259 | | 0.83 | 0.96 |
| 260 | 1% | 1.25 | 1.44 |
| 261 | 2% | 1.13 | 1.31 |
| 262 | 3% | 1.03 | 1.19 |
| 263 | 4% | 0.94 | 1.09 |
| 264 | 5% | 0.86 | 1.00 |
| 265 | 6% | 0.79 | 0.92 |
| 266 | 7% | 0.73 | 0.85 |
| 267 | | | |
| 268 | Volume Savings Sensitiviity | | |
| 269 | | 0.83 | 0.96 |
| 270 | 50% | 1.24 | 1.43 |
| 271 | 40% | 1.16 | 1.34 |
| 272 | 30% | 1.08 | 1.24 |
| 273 | 20% | 0.99 | 1.15 |
| 274 | 10% | 0.91 | 1.05 |
| 275 | 0% | 0.83 | 0.96 |
| 276 | -10% | 0.74 | 0.86 |
| 277 | -20% | 0.66 | 0.76 |
| 278 | -30% | 0.58 | 0.67 |
| 279 | -40% | 0.50 | 0.57 |
| 280 | -50% | 0.41 | 0.48 |
| 281 | | | |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
| 2 | New York Division | | |
| 3 | Conservation Incentive Program | | |
| 4 | Program Measurement and Verification Summary | | |
| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 282 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | |
| 283 | Gas Cost | | |
| 284 | 1.88 | 60% | 70% |
| 285 | $ 16.00 | 2.07 | 1.79 |
| 286 | $ 15.00 | 1.94 | 1.68 |
| 287 | $ 14.00 | 1.81 | 1.57 |
| 288 | $ 13.00 | 1.68 | 1.45 |
| 289 | $ 12.00 | 1.55 | 1.34 |
| 290 | $ 11.00 | 1.42 | 1.23 |
| 291 | $ 10.00 | 1.29 | 1.12 |
| 292 | $ 9.00 | 1.16 | 1.01 |
| 293 | $ 8.00 | 1.03 | 0.90 |
| 294 | $ 7.00 | 0.91 | 0.78 |
| 295 | | | |
| 296 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | |
| 297 | Gas Cost | | |
| 298 | 2.99 | 60% | 70% |
| 299 | $ 16.00 | 3.23 | 2.80 |
| 300 | $ 15.00 | 3.03 | 2.63 |
| 301 | $ 14.00 | 2.84 | 2.47 |
| 302 | $ 13.00 | 2.65 | 2.30 |
| 303 | $ 12.00 | 2.46 | 2.13 |
| 304 | $ 11.00 | 2.26 | 1.97 |
| 305 | $ 10.00 | 2.07 | 1.80 |
| 306 | $ 9.00 | 1.88 | 1.63 |
| 307 | $ 8.00 | 1.69 | 1.47 |
| 308 | $ 7.00 | 1.49 | 1.30 |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 221 | Sensitivity Analysis | | | | | | |
| 222 | TRC - Free Ridership Sensitivity | | | | | | |
| 223 | | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 224 | 0% | 1.88 | 1.38 | 1.80 | 1.87 | 4.84 | 1.95 |
| 225 | 10% | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 226 | 20% | 1.74 | 1.36 | 1.67 | 1.87 | 3.87 | 1.81 |
| 227 | 30% | 1.65 | 1.23 | 1.56 | 1.87 | 3.39 | 1.70 |
| 228 | 40% | 1.54 | 1.09 | 1.44 | 1.87 | 2.90 | 1.58 |
| 229 | 50% | 1.41 | 0.95 | 1.31 | 1.87 | 2.42 | 1.45 |
| 230 | 60% | 1.26 | 0.81 | 1.14 | 1.87 | 1.94 | 1.29 |
| 231 | 70% | 1.06 | 0.68 | 0.95 | 1.87 | 1.45 | 1.12 |
| 232 | 80% | 0.81 | 0.54 | 0.73 | 1.87 | 0.97 | 0.92 |
| 233 | | | | | | | |
| 234 | Societal - Test Free Ridership Sensitivity | | | | | | |
| 235 | | 2.87 | 2.15 | 2.74 | 2.94 | 7.27 | 2.99 |
| 236 | 0% | 2.97 | 2.15 | 2.83 | 2.94 | 8.03 | 3.10 |
| 237 | 10% | 2.87 | 2.15 | 2.74 | 2.94 | 7.27 | 2.99 |
| 238 | 20% | 2.75 | 2.13 | 2.63 | 2.94 | 6.50 | 2.87 |
| 239 | 30% | 2.61 | 1.91 | 2.47 | 2.94 | 5.74 | 2.70 |
| 240 | 40% | 2.44 | 1.69 | 2.28 | 2.94 | 4.97 | 2.52 |
| 241 | 50% | 2.24 | 1.47 | 2.06 | 2.94 | 4.21 | 2.31 |
| 242 | 60% | 2.00 | 1.26 | 1.81 | 2.94 | 3.44 | 2.07 |
| 243 | 70% | 1.69 | 1.04 | 1.51 | 2.94 | 2.68 | 1.80 |
| 244 | 80% | 1.30 | 0.82 | 1.16 | 2.94 | 1.91 | 1.49 |
| 245 | | | | | | | |
| 246 | TRC Gas Cost Sensitivity | | | | | | |
| 247 | | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 248 | $ 16.00 | 2.90 | 2.21 | 2.78 | 2.99 | 6.97 | 3.01 |
| 249 | $ 15.00 | 2.72 | 2.07 | 2.61 | 2.80 | 6.54 | 2.83 |
| 250 | $ 14.00 | 2.54 | 1.93 | 2.43 | 2.61 | 6.10 | 2.64 |
| 251 | $ 13.00 | 2.36 | 1.79 | 2.26 | 2.43 | 5.66 | 2.45 |
| 252 | $ 12.00 | 2.18 | 1.65 | 2.09 | 2.24 | 5.23 | 2.26 |
| 253 | $ 11.00 | 2.00 | 1.52 | 1.91 | 2.05 | 4.79 | 2.07 |
| 254 | $ 10.00 | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 255 | $ 9.00 | 1.63 | 1.24 | 1.56 | 1.68 | 3.92 | 1.70 |
| 256 | $ 8.00 | 1.45 | 1.10 | 1.39 | 1.49 | 3.49 | 1.51 |
| 257 | $ 7.00 | 1.27 | 0.96 | 1.22 | 1.31 | 3.05 | 1.32 |
| 258 | Discount Rate Sensitivity | | | | | | |
| 259 | | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 260 | 1% | 2.66 | 2.26 | 2.59 | 2.67 | 4.80 | 2.71 |
| 261 | 2% | 2.43 | 2.01 | 2.36 | 2.46 | 4.70 | 2.48 |
| 262 | 3% | 2.23 | 1.79 | 2.15 | 2.26 | 4.59 | 2.28 |
| 263 | 4% | 2.05 | 1.61 | 1.97 | 2.09 | 4.50 | 2.11 |
| 264 | 5% | 1.89 | 1.45 | 1.81 | 1.94 | 4.40 | 1.95 |
| 265 | 6% | 1.75 | 1.31 | 1.67 | 1.80 | 4.31 | 1.82 |
| 266 | 7% | 1.62 | 1.20 | 1.55 | 1.68 | 4.22 | 1.70 |
| 267 | | | | | | | |
| 268 | Volume Savings Sensitiviity | | | | | | |
| 269 | | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 270 | 50% | 2.72 | 2.07 | 2.61 | 2.80 | 6.54 | 2.83 |
| 271 | 40% | 2.54 | 1.93 | 2.43 | 2.61 | 6.10 | 2.64 |
| 272 | 30% | 2.36 | 1.79 | 2.26 | 2.43 | 5.66 | 2.45 |
| 273 | 20% | 2.18 | 1.65 | 2.09 | 2.24 | 5.23 | 2.26 |
| 274 | 10% | 2.00 | 1.52 | 1.91 | 2.05 | 4.79 | 2.07 |
| 275 | 0% | 1.82 | 1.38 | 1.74 | 1.87 | 4.36 | 1.88 |
| 276 | -10% | 1.63 | 1.24 | 1.56 | 1.68 | 3.92 | 1.70 |
| 277 | -20% | 1.45 | 1.10 | 1.39 | 1.49 | 3.49 | 1.51 |
| 278 | -30% | 1.27 | 0.96 | 1.22 | 1.31 | 3.05 | 1.32 |
| 279 | -40% | 1.09 | 0.83 | 1.04 | 1.12 | 2.61 | 1.13 |
| 280 | -50% | 0.91 | 0.69 | 0.87 | 0.93 | 2.18 | 0.94 |
| 281 | | | | | | | |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 282 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | | | | | |
| 283 | Gas Cost | Free Ridership | | | | | |
| 284 | 1.88 | 80% | 90% | 100% | | | |
| 285 | $ 16.00 | 1.47 | 1.09 | 0.65 | | | |
| 286 | $ 15.00 | 1.38 | 1.03 | 0.61 | | | |
| 287 | $ 14.00 | 1.29 | 0.96 | 0.57 | | | |
| 288 | $ 13.00 | 1.19 | 0.89 | 0.53 | | | |
| 289 | $ 12.00 | 1.10 | 0.82 | 0.49 | | | |
| 290 | $ 11.00 | 1.01 | 0.75 | 0.45 | | | |
| 291 | $ 10.00 | 0.92 | 0.68 | 0.41 | | | |
| 292 | $ 9.00 | 0.83 | 0.62 | 0.37 | | | |
| 293 | $ 8.00 | 0.73 | 0.55 | 0.32 | | | |
| 294 | $ 7.00 | 0.64 | 0.48 | 0.28 | | | |
| 295 | | | | | | | |
| 296 | Gas Cost/Free Ridership Total Program TRC Sensitivity | | | | | | |
| 297 | Gas Cost | Free Ridership | | | | | |
| 298 | 2.99 | 80% | 90% | 100% | | | |
| 299 | $ 16.00 | 2.31 | 1.73 | 1.05 | | | |
| 300 | $ 15.00 | 2.17 | 1.63 | 0.99 | | | |
| 301 | $ 14.00 | 2.03 | 1.53 | 0.93 | | | |
| 302 | $ 13.00 | 1.90 | 1.43 | 0.87 | | | |
| 303 | $ 12.00 | 1.76 | 1.32 | 0.81 | | | |
| 304 | $ 11.00 | 1.62 | 1.22 | 0.75 | | | |
| 305 | $ 10.00 | 1.49 | 1.12 | 0.69 | | | |
| 306 | $ 9.00 | 1.35 | 1.02 | 0.63 | | | |
| 307 | $ 8.00 | 1.21 | 0.92 | 0.57 | | | |
| 308 | $ 7.00 | 1.08 | 0.82 | 0.51 | | | |

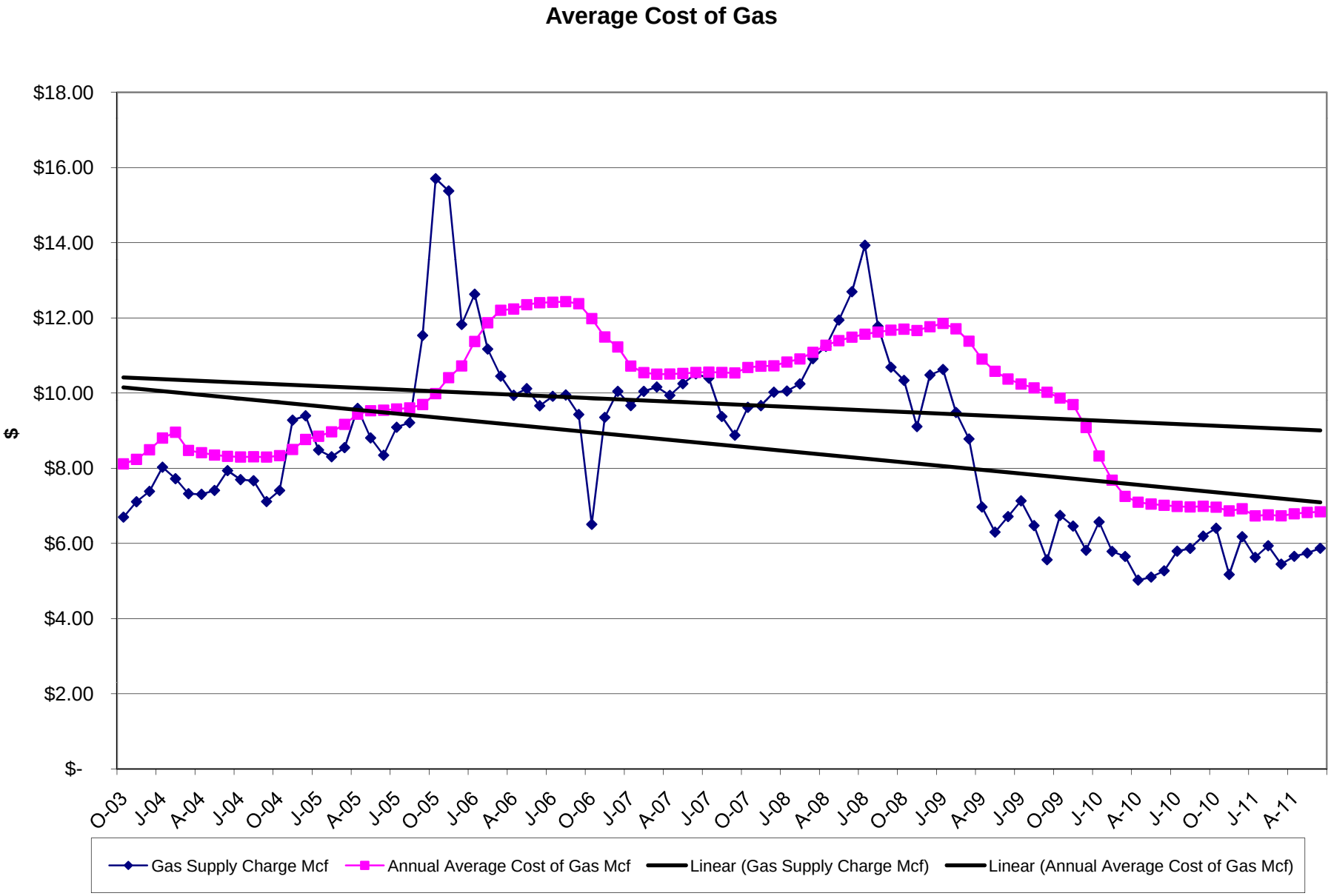
| | A | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | Pre/Post Analysis | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Appliance Rebates - Heating Systems Residential** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Water Heater Tank Residential** | **Appliance Rebates - Tankless Water Heater Residential** | **Total Res Rebates** | **LIURP** |
| 221 | Sensitivity Analysis | | | | | | |
| 222 | TRC - Free Ridership Sensitivity | | | | | | |
| 223 | | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 224 | 0% | 1.42 | 10.35 | 1.05 | 0.92 | 1.85 | 0.81 |
| 225 | 10% | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 226 | 20% | 1.31 | 9.00 | 0.93 | 0.81 | 1.68 | 0.80 |
| 227 | 30% | 1.24 | 8.24 | 0.86 | 0.74 | 1.59 | 0.72 |
| 228 | 40% | 1.15 | 7.40 | 0.79 | 0.67 | 1.47 | 0.64 |
| 229 | 50% | 1.05 | 6.48 | 0.70 | 0.59 | 1.33 | 0.56 |
| 230 | 60% | 0.93 | 5.46 | 0.60 | 0.50 | 1.17 | 0.48 |
| 231 | 70% | 0.78 | 4.32 | 0.48 | 0.40 | 0.97 | 0.40 |
| 232 | 80% | 0.59 | 3.05 | 0.35 | 0.28 | 0.73 | 0.32 |
| 233 | | | | | | | |
| 234 | Societal - Test Free Ridership Sensitivity | | | | | | |
| 235 | | 2.16 | 15.38 | 1.58 | 1.39 | 2.80 | 1.25 |
| 236 | 0% | 2.25 | 16.40 | 1.66 | 1.47 | 2.92 | 1.25 |
| 237 | 10% | 2.16 | 15.38 | 1.58 | 1.39 | 2.80 | 1.25 |
| 238 | 20% | 2.07 | 14.28 | 1.48 | 1.29 | 2.67 | 1.24 |
| 239 | 30% | 1.96 | 13.07 | 1.38 | 1.19 | 2.51 | 1.11 |
| 240 | 40% | 1.83 | 11.75 | 1.26 | 1.08 | 2.33 | 0.98 |
| 241 | 50% | 1.67 | 10.29 | 1.13 | 0.96 | 2.12 | 0.85 |
| 242 | 60% | 1.48 | 8.68 | 0.97 | 0.82 | 1.87 | 0.73 |
| 243 | 70% | 1.25 | 6.89 | 0.79 | 0.66 | 1.56 | 0.60 |
| 244 | 80% | 0.95 | 4.88 | 0.59 | 0.48 | 1.18 | 0.47 |
| 245 | | | | | | | |
| 246 | TRC Gas Cost Sensitivity | | | | | | |
| 247 | | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 248 | $ 16.00 | 2.19 | 15.52 | 1.59 | 1.39 | 2.83 | 1.30 |
| 249 | $ 15.00 | 2.06 | 14.55 | 1.49 | 1.30 | 2.66 | 1.22 |
| 250 | $ 14.00 | 1.92 | 13.58 | 1.39 | 1.21 | 2.48 | 1.14 |
| 251 | $ 13.00 | 1.78 | 12.61 | 1.29 | 1.13 | 2.30 | 1.05 |
| 252 | $ 12.00 | 1.64 | 11.64 | 1.19 | 1.04 | 2.13 | 0.97 |
| 253 | $ 11.00 | 1.51 | 10.67 | 1.09 | 0.95 | 1.95 | 0.89 |
| 254 | $ 10.00 | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 255 | $ 9.00 | 1.23 | 8.73 | 0.89 | 0.78 | 1.59 | 0.73 |
| 256 | $ 8.00 | 1.10 | 7.76 | 0.79 | 0.69 | 1.42 | 0.65 |
| 257 | $ 7.00 | 0.96 | 6.79 | 0.69 | 0.61 | 1.24 | 0.57 |
| 258 | Discount Rate Sensitivity | | | | | | |
| 259 | | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 260 | 1% | 1.96 | 13.90 | 1.35 | 1.18 | 2.53 | 1.33 |
| 261 | 2% | 1.80 | 12.76 | 1.25 | 1.10 | 2.33 | 1.18 |
| 262 | 3% | 1.66 | 11.76 | 1.17 | 1.02 | 2.14 | 1.05 |
| 263 | 4% | 1.53 | 10.86 | 1.09 | 0.96 | 1.98 | 0.94 |
| 264 | 5% | 1.42 | 10.07 | 1.02 | 0.90 | 1.84 | 0.85 |
| 265 | 6% | 1.32 | 9.36 | 0.96 | 0.84 | 1.71 | 0.77 |
| 266 | 7% | 1.23 | 8.72 | 0.90 | 0.79 | 1.59 | 0.70 |
| 267 | | | | | | | |
| 268 | Volume Savings Sensitiviity | | | | | | |
| 269 | | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 270 | 50% | 2.06 | 14.55 | 1.49 | 1.30 | 2.66 | 1.22 |
| 271 | 40% | 1.92 | 13.58 | 1.39 | 1.21 | 2.48 | 1.14 |
| 272 | 30% | 1.78 | 12.61 | 1.29 | 1.13 | 2.30 | 1.05 |
| 273 | 20% | 1.64 | 11.64 | 1.19 | 1.04 | 2.13 | 0.97 |
| 274 | 10% | 1.51 | 10.67 | 1.09 | 0.95 | 1.95 | 0.89 |
| 275 | 0% | 1.37 | 9.70 | 0.99 | 0.87 | 1.77 | 0.81 |
| 276 | -10% | 1.23 | 8.73 | 0.89 | 0.78 | 1.59 | 0.73 |
| 277 | -20% | 1.10 | 7.76 | 0.79 | 0.69 | 1.42 | 0.65 |
| 278 | -30% | 0.96 | 6.79 | 0.69 | 0.61 | 1.24 | 0.57 |
| 279 | -40% | 0.82 | 5.82 | 0.60 | 0.52 | 1.06 | 0.49 |
| 280 | -50% | 0.69 | 4.85 | 0.50 | 0.43 | 0.89 | 0.41 |
| 281 | | | | | | | |

| | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | Year | Month | | | | |
| 8 | 14 | Jun-11 | 43 | | | | |
| 9 | | Total Residential | | | | | |
| 10 | | Residential Appliance Rebates | | | | | |
| 11 | | **Appliance Rebates - Hot Air Furnace Residential** | **Appliance Rebates - Hot Water Boiler Residential** | **Appliance Rebates - Steam Boiler Residential** | **Appliance Rebates - Hot Air Furnace Residential ECM Motors** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Indirect Heater Residential** |
| 197 | Work Paper 1 | | | | | | |
| 198 | Participant Calculations | | | | | | |
| 199 | | | | | | | |
| 200 | Program Participants | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 201 | Annualization Factor | 1 | 1 | 1 | 1 | 1 | 1 |
| 202 | Total Participants for Analysis | 23,004 | 2,336 | 86 | 5,272 | 26,478 | 275 |
| 203 | | | | | | | |
| 204 | Workpaper 2 | | | | | | |
| 205 | | | | | | | |
| 206 | CO2 Benefit | | | | | | |
| 207 | | | | | | | |
| 208 | Cost of CO2 $/Ton | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 |
| 209 | | | | | | | |
| 210 | Cost of CO2 $/Pound | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 |
| 211 | | | | | | | |
| 212 | Lbs CO2 / Billion BTU | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 |
| 213 | | | | | | | |
| 214 | Lbs CO2 / Million BTU | 117 | 117 | 117 | 117 | 117 | 117 |
| 215 | | | | | | | |
| 216 | DTH Conversion Factor | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 217 | | | | | | | |
| 218 | Lbs CO2 / Mcf | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 |
| 219 | | | | | | | |
| 220 | Cost of CO2 $/Mcf | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 |

| | A | H | I |
|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | |
| 2 | New York Division | | |
| 3 | Conservation Incentive Program | | |
| 4 | Program Measurement and Verification Summary | | |
| 5 | | | |
| 6 | 8/15/2011 | | |
| 7 | Quarter | | |
| 8 | 14 | | |
| 9 | | | |
| 10 | Resic | | |
| 11 | | **Appliance Rebates - Storage Tank Water Heater Residential** | **Appliance Rebates - Storage Tankless Water Heater Residential** |
| 197 | Work Paper 1 | | |
| 198 | Participant Calculations | | |
| 199 | | | |
| 200 | Program Participants | 3,273 | 1,717 |
| 201 | Annualization Factor | 1 | 1 |
| 202 | Total Participants for Analysis | 3,273 | 1,717 |
| 203 | | | |
| 204 | Workpaper 2 | | |
| 205 | | | |
| 206 | CO2 Benefit | | |
| 207 | | | |
| 208 | Cost of CO2 $/Ton | $ 15.00 | $ 15.00 |
| 209 | | | |
| 210 | Cost of CO2 $/Pound | $ 0.01 | $ 0.01 |
| 211 | | | |
| 212 | Lbs CO2 / Billion BTU | 117,000 | 117,000 |
| 213 | | | |
| 214 | Lbs CO2 / Million BTU | 117 | 117 |
| 215 | | | |
| 216 | DTH Conversion Factor | 1.035 | 1.035 |
| 217 | | | |
| 218 | Lbs CO2 / Mcf | 121.095 | 121.095 |
| 219 | | | |
| 220 | Cost of CO2 $/Mcf | $ 0.91 | $ 0.91 |

| | A | J | K | L | M | N | O |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Total Res Rebates** | **LIURP** | **Total Res** | **Total Non Res Rebates** | **General Outreach** | **Total Program** |
| 197 | Work Paper 1 | | | | | | |
| 198 | Participant Calculations | | | | | | |
| 199 | | | | | | | |
| 200 | Program Participants | | | | 1,092 | | |
| 201 | Annualization Factor | | | | 1 | | |
| 202 | Total Participants for Analysis | | | | 1,092 | | |
| 203 | | | | | | | |
| 204 | Workpaper 2 | | | | | | |
| 205 | | | | | | | |
| 206 | CO2 Benefit | | | | | | |
| 207 | | | | | | | |
| 208 | Cost of CO2 $/Ton | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 |
| 209 | | | | | | | |
| 210 | Cost of CO2 $/Pound | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 |
| 211 | | | | | | | |
| 212 | Lbs CO2 / Billion BTU | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 |
| 213 | | | | | | | |
| 214 | Lbs CO2 / Million BTU | 117 | 117 | 117 | 117 | 117 | 117 |
| 215 | | | | | | | |
| 216 | DTH Conversion Factor | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 217 | | | | | | | |
| 218 | Lbs CO2 / Mcf | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 |
| 219 | | | | | | | |
| 220 | Cost of CO2 $/Mcf | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 |

| | A | P | Q | R | S | T | U |
|---|---|---|---|---|---|---|---|
| 1 | National Fuel Gas Distribution Corporation | | | | | | |
| 2 | New York Division | | | | | | |
| 3 | Conservation Incentive Program | | | | | | |
| 4 | Program Measurement and Verification Summary | | | | | | |
| 5 | | | | | | | |
| 6 | 8/15/2011 | | | | | | |
| 7 | Quarter | | | | | | |
| 8 | 14 | | | | | | |
| 9 | | Pre/Post Analysis | | | | | |
| 10 | Resic | | | | | | |
| 11 | | **Appliance Rebates - Heating Systems Residential** | **Appliance Rebates - Programable Tstat Residential** | **Appliance Rebates - Water Heater Tank Residential** | **Appliance Rebates - Tankless Water Heater Residential** | **Total Res Rebates** | **LIURP** |
| 197 | Work Paper 1 | | | | | | |
| 198 | Participant Calculations | | | | | | |
| 199 | | | | | | | |
| 200 | Program Participants | | | | | | |
| 201 | Annualization Factor | | | | | | |
| 202 | Total Participants for Analysis | | | | | | |
| 203 | | | | | | | |
| 204 | Workpaper 2 | | | | | | |
| 205 | | | | | | | |
| 206 | CO2 Benefit | | | | | | |
| 207 | | | | | | | |
| 208 | Cost of CO2 $/Ton | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 | $ 15.00 |
| 209 | | | | | | | |
| 210 | Cost of CO2 $/Pound | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 | $ 0.01 |
| 211 | | | | | | | |
| 212 | Lbs CO2 / Billion BTU | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 | 117,000 |
| 213 | | | | | | | |
| 214 | Lbs CO2 / Million BTU | 117 | 117 | 117 | 117 | 117 | 117 |
| 215 | | | | | | | |
| 216 | DTH Conversion Factor | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 | 1.035 |
| 217 | | | | | | | |
| 218 | Lbs CO2 / Mcf | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 | 121.095 |
| 219 | | | | | | | |
| 220 | Cost of CO2 $/Mcf | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 | $ 0.91 |


Average Cost of Gas
$18.00
$16.00
$14.00
$12.00
$10.00
$8.00
$6.00
$4.00
$2.00
$-
$
O-03
J-04
A-04
J-04
O-04
J-05
A-05
J-05
O-05
J-06
A-06
J-06
O-06
J-07
A-07
J-07
O-07
J-08
A-08
J-08
O-08
J-09
A-09
J-09
O-09
J-10
A-10
J-10
O-10
J-11
A-11
Gas Supply Charge Mcf
Annual Average Cost of Gas Mcf
Linear (Gas Supply Charge Mcf)
Linear (Annual Average Cost of Gas Mcf)

National Fuel Gas Distribution Corporation

Conservation Incentive Program

Preliminary Measurement and Verification Analysis

# Development of Multipliers Used in Development of the Western New York – Total Resource Cost Test

August 15, 2008

Introduction

Included in the Preliminary Measurement and Verification ("M&V) analysis of National Fuel Gas Distribution Corporation's ("Distribution" or "the Company") conservation incentive program ("CIP") is an estimate of the Western New York Total Resource Cost Test ("WNY-TRC"). The WNY-TRC test was included in the CIP's M&V analysis to provide an estimate of the impact of the benefits of the program directly to the economy of the Company's service territory. The Company's CIP provides two direct benefits to its service territory: (1) overall net natural gas supply cost savings to customers, and (2) increased economic activity associated with program spending.

For purposes of this analysis the Company focused on net program benefits. That is, the overall natural gas supply cost savings are the difference between savings to customers from reduced consumption less the costs incurred by the Company and the customer to bring those savings about. The direct effect of energy efficiency savings is to increase the overall income of customers within the Company's service territory. In order to capture the ripple effect of this increase in income the Company developed an "income multiplier" for use in the CIP's M&V analysis.

The analysis also recognizes that the cost incurred to bring those savings about has an additional benefit to the service territory since the costs incurred to bring about those savings were largely spent in the service territory. In effect, expenditures on energy efficiency initiatives by the customer and the Company transfer costs from natural gas supply charges that, for the most part, leave the service territory, to purchases of equipment and services within the service territory that ripple through the local economy to the overall benefit of the service territory. In order to capture the ripple effect of these expenditures the Company developed "expenditure multipliers" for use in the CIP M&V analysis.

The table below summarizes the multipliers used in the M&V analysis for the WNY-TRC calculation.

| Multipliers Used in the CIP's M&V Analysis | |
|---|---|
| Description | Multiplier |
| WNY Income Multiplier | 0.49 |
| Expenditure Multiplier – Appliance Rebates and LIURP | 0.46 |
| Expenditure Multiplier – Thermostats | 0.49 |
| Expenditure Multiplier – Advertising | 0.87 |

Development of Multipliers

The Company utilized IMPLAN Pro® Version 2.0 to develop macroeconomic multipliers for its service territory. IMPLAN Pro® Version 2.0, uses Input-output analysis to develop multipliers for specific regions that the user can define. For purposes of the development of multipliers to be used in the WNY-TRC test the region was defined as the major counties in the Company's service territory. As explained in the IMPLAN Pro® Version 2.0 user manual:

> "***Input-output analysis*** is a means of examining relationships within an economy, both between businesses and between businesses and final consumers. It captures all monetary market transactions for consumption in a given time period. The resulting mathematical formulae allow examination of the effects of a change in one or several economic activities on an entire economy (impact analysis)."[1]

The Table below lists the counties in the Company's service territory, including, the number of customers, and identifies whether the county was included in the analysis.

| Counties in National Fuel Gas Distribution Corporation's New York Service Territory | | |
|---|---|---|
| Counties | Customers | Included in Study? |
| Allegany | 10,955 | Yes |
| Cattaraugus | 13,775 | Yes |
| Chautauqua | 44,999 | Yes |
| Erie | 353,057 | Yes |
| Genesee | 11,066 | Yes |
| Livingston | 841 | No |
| Monroe | 1,039 | No |
| Niagara | 50,824 | Yes |
| Ontario | 1,792 | Yes |
| Steuben | 6,671 | No |
| Wyoming | 5,721 | Yes |
| Total | 499,740 | |

The counties included in the analysis were counties where the Company has a significant presence and where there are no larger population areas within the county that are served by another local natural gas distribution company.

Spending within an economy will result in three overall ripple effects: (1) direct, (2) indirect, and (3) induced. Direct effects are the impacts that result from the direct purchase of a product or service within the study area (for example, the payments made by a customer to a contractor for the installation of a furnace). Indirect effects result from the industries purchasing from other industries in order to meet the initial demand. (Continuing with the example, the contractor must purchase supplies and services from other vendors in order to support its business). Induced effects result from the impact on all local industries generated by the direct and indirect effects of the initial demand. Throughout these iterations dollars of demand "leak" from the local economy to other domestic regional (United States) and foreign economies. The energy efficiency initiatives of CIP can be seen as transferring the satisfaction of BTU demand from extra-

[1] IMPLAN Pro® Version 2.0; User Guide, Analysis Guide, Data Guide, Page 95.

regional natural gas commodity purchases to intra-regional energy efficiency purchases. In other words, without the CIP 100% of the satisfaction customer BTU demand "leaks" out of the service territory, with CIP some portion of the benefits of satisfying that demand remains in the local economy.

IMPLAN Pro® Version 2.0 provides the impact of such spending into two general categories: (1) Overall demand ("Output"), and (2) Value Added which is equal to labor income, other property type income, and indirect business taxes. For purposes of this analysis multipliers were developed focusing only on value added results in order to be conservative.

Calculation of WNY Income Multiplier

The WNY Income multiplier was developed by determining: (1) the propensity of households to spend on products and services within the service territory and, (2) a calculation of the ripple effect of such spending through the economy. Utilizing IMPLAN Pro® Version 2.0, it was determined that approximately 87% of household income in the service territory was spent on goods and services.

Page 1 of Attachment 1 to this appendix provides the various income multipliers for the households reported in IMPLAN Pro® Version 2.0. The value added multiplier for household spending within the service territory is estimated to be 56%. That is for every dollar of household spending, an additional $0.56 of value will be added to the local economy through increased labor income, other property type income, and indirect business taxes resulting from that spending. Based on the approximately 87% of household income that is spent on goods and services by households within the service territory and the 56% value added associated with local spending an overall income multiplier to apply to savings under the CIP was calculated at 49% (49% = 87% multiplied by 56%).

Calculation of Expenditure Multipliers

The analysis developed three expenditure multipliers to be applied in the M&V analysis to program expenditures: (1) Appliance Rebates and LIURP, (2) Thermostats, and (3) Advertising. Each of these expenditures will be satisfied from purchases of goods and services from various industries in the local economy. IMPLAN Pro® Version 2.0 can be utilized to determine the ripple effects of these purchases in the local economy. The table below provides a summary of the allocation of program costs to the selected industries in the local economy.

| Expenditure Industry Allocations | | | |
|---|---|---|---|
| | Expenditures | | |
| Industry Segment | Appliance Rebates and LIURP | Thermostats | Advertising |
| Contractors | 50% | 50% | |
| Wholesale Equipment and Insulation | 50% | | |
| Retail Building Supplies | | 50% | |
| Advertising | | | 100% |

Utilizing IMPLAN Pro® Version 2.0, the ripple effect of an assumed $1,000,000 of purchases in each of the industries was utilized to develop the multipliers. Page 2 of Attachment 1 to this appendix provides the various multipliers reported in IMPLAN Pro® Version 2.0 for the industries utilized by the Company's CIP.

The value added multipliers for each industry are summarized in the table below.

| Industry Value Added Multipliers | |
|---|---|
| Industry Segment | Multiplier |
| Contractors | 72.2% |
| Wholesale Equipment and Insulation | 20.0% |
| Retail Building Supplies | 26.1% |
| Advertising | 86.8% |

Applying the value added multipliers to the allocations from the previous table determines the program multipliers used in the M&V analysis.

| Expenditure Industry Multipliers | | | |
|---|---|---|---|
| | Expenditures | | |
| Industry Segment | Appliance Rebates and LIURP | Thermostats | Advertising |
| Contractors | 36.1% | 36.1% | |
| Wholesale Equipment and Insulation | 10.0% | | |
| Retail Building Supplies | | 13.0% | |
| Advertising | | | 86.8% |
| Total | 46.1% | 49.1% | 86.8% |

New York Division

Calculation of WNY Multipliers

Impact of Income Change in Selected Segment
Income Impact $ 1,000,000

| Segment: | LT $10K | | | |
|---|---|---|---|---|
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 354,320 | $ 97,114 | $ 111,270 | $ 562,704 |
| Output | $ 950,950 | $ 183,718 | $ 186,854 | $1,321,522 |
| Employment | 5.6 | 1.4 | 1.7 | 8.7 |
| Multiplier | | | | |
| Value Added | 35% | 10% | 11% | 56% |
| Output | 95% | 18% | 19% | 132% |
| Segment: | $10K-15K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 354,632 | $ 97,016 | $ 112,265 | $ 563,913 |
| Output | $ 950,994 | $ 182,732 | $ 188,524 | $1,322,250 |
| Employment | 5.9 | 1.4 | 1.8 | 9.1 |
| Multiplier | | | | |
| Value Added | 35% | 10% | 11% | 56% |
| Output | 95% | 18% | 19% | 132% |
| Segment: | $15K-25K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 354,632 | $ 97,016 | $ 112,265 | $ 563,913 |
| Output | $ 950,994 | $ 182,732 | $ 188,524 | $1,322,250 |
| Employment | 5.9 | 1.4 | 1.8 | 9.1 |
| Multiplier | | | | |
| Value Added | 35% | 10% | 11% | 56% |
| Output | 95% | 18% | 19% | 132% |
| Segment: | $25K-35K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 354,126 | $ 95,425 | $ 111,538 | $ 561,089 |
| Output | $ 951,628 | $ 178,951 | $ 187,303 | $1,317,882 |
| Employment | 5.9 | 1.4 | 1.7 | 9 |
| Multiplier | | | | |
| Value Added | 35% | 10% | 11% | 56% |
| Output | 95% | 18% | 19% | 132% |
| Segment: | $35K-50K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 363,948 | $ 93,021 | $ 107,496 | $ 564,465 |
| Output | $ 951,775 | $ 173,671 | $ 180,517 | $1,305,963 |
| Employment | 5.7 | 1.3 | 1.7 | 8.7 |
| Multiplier | | | | |
| Value Added | 36% | 9% | 11% | 56% |
| Output | 95% | 17% | 18% | 131% |
| Segment: | $50K-75K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 374,539 | $ 92,880 | $ 107,337 | $ 574,756 |
| Output | $ 951,627 | $ 172,513 | $ 180,249 | $1,304,389 |
| Employment | 5.8 | 1.3 | 1.7 | 8.8 |
| Multiplier | | | | |
| Value Added | 37% | 9% | 11% | 57% |
| Output | 95% | 17% | 18% | 130% |
| Segment: | $75K-100K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 383,411 | $ 93,743 | $ 109,380 | $ 586,534 |
| Output | $ 951,115 | $ 173,102 | $ 183,680 | $1,307,897 |
| Employment | 6.1 | 1.4 | 1.7 | 9.2 |
| Multiplier | | | | |
| Value Added | 38% | 9% | 11% | 59% |
| Output | 95% | 17% | 18% | 131% |
| Segment: | $100K-150K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 383,411 | $ 93,743 | $ 109,380 | $ 586,534 |
| Output | $ 951,115 | $ 173,102 | $ 183,680 | $1,307,897 |
| Employment | 6.1 | 1.4 | 1.7 | 9.2 |
| Multiplier | | | | |
| Value Added | 38% | 9% | 11% | 59% |
| Output | 95% | 17% | 18% | 131% |
| Segment: | GT $150K | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 383,411 | $ 93,743 | $ 109,380 | $ 586,534 |
| Output | $ 951,115 | $ 173,102 | $ 183,680 | $1,307,897 |
| Employment | 6.1 | 1.4 | 1.7 | 9.2 |
| Multiplier | | | | |
| Value Added | 38% | 9% | 11% | 59% |
| Output | 95% | 17% | 18% | 131% |

National Fuel Gas Distribution Corporation
New York Division

Calculation of WNY Multipliers

Impact of Spending in Selected Segment
Spending Amount $ 1,000,000

| Segment: | Contractors | | | |
|---|---|---|---|---|
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 341,429 | $ 183,832 | $ 197,232 | $ 722,493 |
| Output | $ 968,335 | $ 360,096 | $ 331,211 | $ 1,659,642 |
| Employment | 6.8 | 2.8 | 3.1 | 12.7 |
| Multiplier | | | | |
| Value Added | 34.1% | 18.4% | 19.7% | 72.2% |
| Output | 96.8% | 36.0% | 33.1% | 166.0% |
| Segment: | Retail Building Supplies | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 159,549 | $ 46,063 | $ 55,770 | $ 261,382 |
| Output | $ 265,187 | $ 79,724 | $ 93,651 | $ 438,562 |
| Employment | 3.4 | 0.7 | 0.9 | 5 |
| Multiplier | | | | |
| Value Added | 16.0% | 4.6% | 5.6% | 26.1% |
| Output | 26.5% | 8.0% | 9.4% | 43.9% |
| Segment: | Wholesale | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 131,938 | $ 27,898 | $ 40,221 | $ 200,057 |
| Output | $ 195,701 | $ 49,399 | $ 67,541 | $ 312,641 |
| Employment | 6.8 | 2.8 | 3.1 | 12.7 |
| Multiplier | | | | |
| Value Added | 13.2% | 2.8% | 4.0% | 20.0% |
| Output | 19.6% | 4.9% | 6.8% | 31.3% |
| Segment: | Advertising | | | |
| Impact | Direct | Indirect | Induced | Total |
| Value Added | $ 486,679 | $ 164,745 | $ 216,583 | $ 868,007 |
| Output | $ 948,478 | $ 317,323 | $ 363,704 | $ 1,629,505 |
| Employment | 7.1 | 2.4 | 3.4 | 12.9 |
| Multiplier | | | | |
| Value Added | 48.7% | 16.5% | 21.7% | 86.8% |
| Output | 94.8% | 31.7% | 36.4% | 163.0% |

| M&V Multipliers | | | | |
|---|---|---|---|---|
| | Direct | Indirect | Induced | Total |
| LIURP, Res Appliance Rebates & Commercial Rebates | | | | |
| % Contractors | 50% | 50% | 50% | 50% |
| % Wholesale | 50% | 50% | 50% | 50% |
| Value Added | 24% | 11% | 12% | 46% |
| Output | 58% | 20% | 20% | 99% |
| Tstat Rebates | | | | |
| % Contractors | 50% | 50% | 50% | 50% |
| % Retail | 50% | 50% | 50% | 50% |
| Value Added | 25% | 11% | 13% | 49% |
| Output | 62% | 22% | 21% | 105% |
| Outreach | | | | |
| % Advertising | 100% | 100% | 100% | 100% |
| Value Added | 48.7% | 16.5% | 21.7% | 86.8% |
| Output | 94.8% | 31.7% | 36.4% | 163.0% |

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
CIP SUMMARY THROUGH JUNE 30, 2011

| | | CIP Expenditures | CIP Funding | NYSERDA Spending [1] |
|---|---|---|---|---|
| **LIURP** | | | | |
| Payments to NYSERDA | | | | |
| 2007 payments | | $500,000.00 | | |
| 2008 payments | | 2,440,000.00 | | |
| 2009 payments | | 3,140,000.00 | | |
| 2010 payments | | 2,740,000.00 | | |
| 2011 payments | | | | |
| | 5/31/2011 | 760,000.00 | | |
| | | $9,580,000.00 | | |
| Expenditures made by NYSERDA | | | | |
| Audit Fee/Education | | | | $823,089.00 |
| Insulation | | | | 5,220,965.00 |
| Air Sealing | | | | 811,238.00 |
| Heating System Repair/Replacement | | | | 559,344.00 |
| Thermostats | | | | 22,179.00 |
| DHW Improvements | | | | 193,685.00 |
| Showerheads | | | | 10,312.00 |
| Pipe Wrapping | | | | 9,120.00 |
| Other | | | | 221,637.00 |
| Total Through 6/30/11 | | | | $7,871,569.00 |
| **Residential Rebate Program** | | | | |
| Payments to EFI | | | | |
| 2007 payments | | $0.00 | | |
| 2008 payments | | 3,103,257.08 | | |
| 2009 payments | | 3,491,608.84 | | |
| 2010 payments | | 4,298,665.06 | | |
| | 1/28/2011 | 244,039.50 | | |
| | 2/3/2011 | 242,619.00 | | |
| | 2/11/2011 | 230,571.00 | | |
| | 2/23/2011 | 144,558.50 | | |
| | 3/11/2011 | 167,560.50 | | |
| | 3/23/2011 | 103,283.46 | | |
| | 4/11/2011 | 120,923.00 | | |
| | 4/27/2011 | 104,140.50 | | |
| | 5/6/2011 | 72,567.00 | | |
| | 5/25/2011 | 65,900.50 | | |
| | 6/8/2011 | 44,810.00 | | |
| | 6/29/2011 | 56,363.50 | | |
| | | $12,490,867.44 | | |
| Mailing to Contractors May 2008 | | $123.00 | | |
| Non-residential rebates paid by EFI | | $38,048.96 | | |
| Residential Rebates paid by EFI | | $12,452,941.48 | | |
| **Non Residential Rebate Program** | | | | |
| Payments to NYSERDA | | | | |
| 2007 payments | | $200,000.00 | | |
| 2008 payments | | $1,161,951.04 | | |
| 2009 payments | | $0.00 | | |
| 2010 payments | | $900,000.00 | | |
| | | $2,261,951.04 | | |
| Non-residential rebates paid by EFI | | $38,048.96 | | |
| Subtotal Non-residential Rebates | | $2,300,000.00 | | |
| Transfer to Multi Family Program | | 522,516.00 | | |
| Total Non-residential Rebates | | $1,777,484.00 | | |
| Expenditures by NYSERDA through 6/30/11 | | | | $968,033.27 |
| Jobs Encumbered through 6/30/11 or Paid by NYSERDA after 6/30/11 | | | | $253,854.32 |

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
CIP SUMMARY THROUGH JUNE 30, 2011

| | CIP Expenditures | CIP Funding | NYSERDA Spending [1] |
|---|---|---|---|
| **General Outreach and Education** | | | |
| Expenditures (In House) | Cumulative | | |
| Material | $3,567.32 | | |
| Transportation | 191.50 | | |
| Contractors | 809,085.82 | | |
| Office Employee | 6,946.91 | | |
| Print Advertising | 504,902.49 | | |
| Radio Advertising | 400,319.62 | | |
| TV Advertising | 477,940.15 | | |
| Brochures | 70,437.69 | | |
| Bill Inserts | 80,295.67 | | |
| Direct mail | 287,007.54 | | |
| Internet | 169,842.61 | | |
| Billboards | 322,532.91 | | |
| Misc. Advertising | 1,086,963.17 | | |
| Postage | 2,052.74 | | |
| Transfer to Austerity Bill Credit [2] | 800,000.00 | | |
| | $5,022,086.14 | | |
| **Low Income Outreach and Education** | | | |
| Expenditures (In House) | Cumulative | | |
| Material | $216.30 | | |
| Transportation | 168.50 | | |
| Contractors | 195,211.06 | | |
| Office Employee | 2,431.12 | | |
| Print Advertising | 213,783.79 | | |
| Radio Advertising | 181,945.74 | | |
| TV Advertising | 219,616.94 | | |
| Brochures | 27,125.19 | | |
| Bill Inserts | 33,387.69 | | |
| Direct mail | 136,894.10 | | |
| Internet | 77,317.20 | | |
| Billboards | 162,597.70 | | |
| Misc. Advertising | 723,530.75 | | |
| Postage | 300.78 | | |
| | $1,974,526.86 | | |
| **EEPS Payments to NYSERDA** (Spending Assumed to be Same as Funding) | | | |
| Calendar 2010 | $5,261,392.72 | | |
| Calendar 2011 (See Page 2) | 1,637,712.75 | | |
| | $6,899,105.47 | | $6,899,105.47 |
| **Conservation Incentive Program Surcharge (through 6/30/11)** | | | |
| | | Cumulative | |
| Funding of CIPs by CMR (3/7/08) | | $1,716,259.04 | |
| Surcharge | | $40,771,396.88 | |
| Reconciliations | | $1,778,839.40 | |
| NYSERDA Administration Fees per NYSERDA Reconciliation through November 2009 | | | $608,458.00 |
| NYSERDA Interest per NYSERDA Reconciliation (NYSERDA estimate) through November 2009 | | | ($76,422.00) |
| Total | $37,706,143.95 | $44,266,495.32 | $16,524,598.06 |

1 - NYSERDA Spending updated through June 30, 2011
2 - Transfer to Austerity Bill Credit C 09-M-0435

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
EEPS NYSERDA FUNDING SCHEDULE

| Calendar 2010 | | C 09G0363 | | | | C 10M0457 | |
|---|---|---|---|---|---|---|---|
| | 7/27/09 | 8/24/09 | 10/23/09 | 1/4/10 | 6/24/10 | 12/30/10 | Total |
| **Obligations** | | | | | | | |
| MultiFamily Performance Program | 1,061,296.00 | | | | | | 1,061,296.00 |
| Low Income MultiFamily Performance Program | 265,324.00 | | | | 276,868.00 | | 542,192.00 |
| Industrial and Process Efficiency Program | | 581,128.00 | | | 202,731.00 | | 783,859.00 |
| Large Commercial and Industrial Energy Efficiency Program | | | | | | | 0.00 |
| Existing Facilities Program | | | 79,590.00 | | | | 79,590.00 |
| FlexTech Program | | | 23,417.00 | | 27,115.00 | | 50,532.00 |
| High Performance New Construction Program | | | | 56,329.00 | | | 56,329.00 |
| Home Performance with Energy Star Program | | | | 1,112,377.00 | | | 1,112,377.00 |
| NY Energy Star Homes (New Construction) | | | | 819,646.00 | | | 819,646.00 |
| Assisted Home Performance with Energy Star Program | | | | 325,688.00 | | | 325,688.00 |
| EmPower New York | | | | 325,688.00 | 86,683.00 | | 412,371.00 |
| Agriculture Energy Efficiency | | | | | 17,512.00 | | 17,512.00 |
| Low Income Single Family Home Performance (New & Existing) | | | | | | | 0.00 |
| Low Income Multifamily Building Performance | | | | | | | 0.00 |
| | 1,326,620.00 | 581,128.00 | 103,007.00 | 2,639,728.00 | 610,909.00 | 0.00 | 5,261,392.00 |
| **Payments to NYSERDA** | | | | | | | |
| 2/10/2010 | 17,546.75 | 581,128.00 | 103,007.00 | | | | 701,681.75 |
| 4/15/2010 | | | | 879,909.66 | | | 879,909.66 |
| 4/30/2010 | 436,357.75 | | | | | | 436,357.75 |
| 5/27/2010 | | | | 879,909.75 | | | 879,909.75 |
| 7/31/2010 | 436,357.75 | | | | | | 436,357.75 |
| 8/31/2010 | | | | 879,909.31 | | | 879,909.31 |
| 10/5/2010 | | | | | 524,226.00 | | 524,226.00 |
| 10/29/2010 | 436,357.75 | | | | 86,683.00 | | 523,040.75 |
| | 1,326,620.00 | 581,128.00 | 103,007.00 | 2,639,728.72 | 610,909.00 | 0.00 | 5,261,392.72 |

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
EEPS NYSERDA FUNDING SCHEDULE

| Calendar 2011 | | C 09G0363 | | | | C 10M0457 | |
|---|---|---|---|---|---|---|---|
| | 7/27/09 | 8/24/09 | 10/23/09 | 1/4/10 | 6/24/10 | 12/30/10 | Total |
| **Obligations** | | | | | | | |
| MultiFamily Performance Program | 849,036.00 | | | | | | 849,036.00 |
| Low Income MultiFamily Performance Program | 212,260.00 | | | | 562,125.00 | | 774,385.00 |
| Industrial and Process Efficiency Program | | 581,128.00 | | | | | 581,128.00 |
| Large Commercial and Industrial Energy Efficiency Program | | | | | 405,463.00 | | 405,463.00 |
| Existing Facilities Program | | | 106,120.00 | | | | 106,120.00 |
| FlexTech Program | | | 35,459.00 | | 54,230.00 | | 89,689.00 |
| High Performance New Construction Program | | | | 89,482.00 | | | 89,482.00 |
| Home Performance with Energy Star Program | | | | 1,483,170.00 | | | 1,483,170.00 |
| NY Energy Star Homes (New Construction) | | | | 1,092,861.00 | | | 1,092,861.00 |
| Assisted Home Performance with Energy Star Program | | | | 434,251.00 | | | 434,251.00 |
| EmPower New York | | | | 434,251.00 | 175,992.00 | | 610,243.00 |
| Agriculture Energy Efficiency | | | | | 35,023.00 | | 35,023.00 |
| Low Income Single Family Home Performance (New & Existing) | | | | | | | 0.00 |
| Low Income Multifamily Building Performance | | | | | | | 0.00 |
| | 1,061,296.00 | 581,128.00 | 141,579.00 | 3,534,015.00 | 1,232,833.00 | 0.00 | 6,550,851.00 |
| **Payments to NYSERDA** | | | | | | | |
| 1/28/2011 | 265,324.00 | 145,282.00 | | | | | 410,606.00 |
| 4/30/2011 | | | 35,394.75 | 883,503.75 | 308,208.25 | | 1,227,106.75 |
| | | | | | | | 0.00 |
| | 265,324.00 | 145,282.00 | 35,394.75 | 883,503.75 | 308,208.25 | 0.00 | 1,637,712.75 |

# Appendix H - Residential CIP Rebate Program Customer Survey Results Cumulative thru 06/30/2011

| | Total | | |
|---|---|---|---|
| **Rebates Received** | 44,907 | | |
| **Flawed Rebates** | 5,223 | 12% | of 44,907 Rebates Received |
| **Rebates Processed** | 39,684 | 88% | of 44,907 Rebates Received |
| **Randomly Selected Customers** | 4157 | 10% | of 39,684 Rebates Processed |
| **Customers Actually Contacted** | 2948 | 7% | of 39,684 Rebates Processed |
| **Responsive Customers** | 1720 | 4% | of 39,684 Rebates Processed |
| **Non-Responsive Customers** (refused to participate or hung up on phone rep) | 1228 | 3% | of 39,684 Rebates Processed |
| **Q1 - Program Awareness** | | | |
| Contractor | 1113 | 65% | of Customers Responding |
| NFG Bill Insert | 238 | 14% | " " " |
| News/Newspapers | 172 | 10% | " " " |
| Friends/Word of Mouth | 188 | 11% | " " " |
| TV | 144 | 8% | " " " |
| NFG Website | 119 | 7% | " " " |
| NFG Letters | 24 | 1% | " " " |
| NFG Billboards | 19 | 1% | " " " |
| Radio | 62 | 4% | " " " |
| Other | 2 | | |
| ***Note: responses total > 1669 since many customers cited several sources** | **2079** | | |
| **Q2 - Rebate Influence on Upgrade Decision** | | | |
| Not Important | 228 | 13% | 13% of the Customers were NOT Influenced by the NFG rebate in their purchase |
| Somewhat Important | 626 | 36% | |
| Very Important | 865 | 50% | 86% of the Customers were Influenced by the NFG rebate in their purchase |
| | 1719 | | |
| **Q3 - Received Rebate Check** | | | |
| Yes | 1672 | 97% | of the Customers had received their rebate check |
| No | 47 | 3% | |
| | 1719 | | |
| **Q4 - Satisfaction with Time to Receive Rebate** | | | |
| 1- Very Dissatisfied | 41 | 2% | 5% of the Customers were NOT satisfied with the time it took to receive rebate |
| 2- Dissatisfied | 43 | 3% | |
| 3- Neither Dissatisfied or Satisfied | 159 | 10% | |
| 4- Satisfied | 348 | 21% | |
| 5- Very Satisfied | 1082 | 65% | 86% of the Customers were satisfied with the time it took to receive rebate |
| | 1673 | | |
| N/A | 50 | 3% | of the Customers had NOT received their rebate check |
| | 1723 | | |
| **Q5 - Satisfaction with the Application Process** | | | |
| 1- Very Dissatisfied | 35 | 2% | 4% of the Customers were NOT satisfied with the application process |
| 2- Dissatisfied | 35 | 2% | |
| 3- Neither Dissatisfied or Satisfied | 131 | 8% | |
| 4- Satisfied | 381 | 22% | |
| 5- Very Satisfied | 1135 | 66% | 88% of the Customers were satisfied with the application process |
| | 1717 | | |
| **Q6 - Satisfaction with Administrator, EFI** | | | |
| 1- Very Dissatisfied | 21 | 5% | 7% of the Customers contacting EFI by phone were NOT satisfied with EFI |
| 2- Dissatisfied | 8 | 2% | |
| 3- Neither Dissatisfied or Satisfied | 49 | 11% | |
| 4- Satisfied | 86 | 19% | |
| 5- Very Satisfied | 291 | 64% | 83% of the Customers contacting EFI by phone were satisfied with EFI |
| | 455 | | |
| N/A | 1262 | 74% | of the Customers did not contact EFI by phone |
| | 1717 | | |
| **Q7 - Satisfaction with Inspection by CSG** | | | |
| 1- Very Dissatisfied | 7 | 2% | 2% of the Customers with inspections were NOT satisfied with CSG |
| 2- Dissatisfied | 3 | 0% | |
| 3- Neither Dissatisfied or Satisfied | 16 | 4% | |
| 4- Satisfied | 39 | 11% | |
| 5- Very Satisfied | 291 | 82% | 93% of the Customers with inspections were satisfied with CSG |
| | 356 | | |
| N/A | 1361 | 79% | of the Customers had no inspection done |
| | 1717 | | |
| **Q8 - Overall Satisfaction with Rebate Program** | | | |
| 1- Very Dissatisfied | 19 | 1% | 1% of the Customers were NOT satisfied with rebate program |
| 2- Dissatisfied | 7 | 0% | |
| 3- Neither Dissatisfied or Satisfied | 58 | 3% | |
| 4- Satisfied | 235 | 14% | |
| 5- Very Satisfied | 1398 | 81% | 95% of the Customers were satisfied with rebate program |
| | 1717 | | |

Pre-/Post Consumption Analysis Methodology

The pre/post analysis of customer consumption reviewed the consumption characteristics for customers receiving rebates twelve months before the customer installed the high efficiency natural gas equipment and twelve months after the customer installed the high efficiency natural gas equipment. All consumption information was normalized to remove the effects of weather from the pre/post consumption analysis.

The procedure for conducting the analysis followed the following steps. From the customer's rebate application the month that the customer installed the high efficiency natural gas equipment was determined. The customer's consumption for the twelve months previous to the equipment installation was determined, summed for all customers receiving rebates during the month, and the changes in consumption due to weather were eliminated. That is, the customers' previous months consumption was "weather normalized". The analysis next determined the customer's consumption for the twelve months after the equipment was installed, summed the consumption information, and weather normalized that data stream. If a customer did not have twelve months of pre or post equipment consumption available for analysis that customer was removed from the analysis.

The Company currently has twenty-nine months of complete pre and post consumption data for the following residential rebate categories: (1) Heating Systems, (2) Programmable Thermostats, (3) Heating Systems with Programmable Thermostats, (4) Hot Water Tank Systems, and (5) Tankless Hot water Systems. In order to isolate the impact of the effect of installing individual units, customers that installed multiple high efficiency applications were removed from the analysis. Twenty-five months of data is available for the Company's Low Income Usage Reduction Program ("LIURP"). The Company currently has pre/post consumption data for the time periods provided in Table 1 below.

Table 1

| Month Equipment Installed | Pre Equipment Installation Consumption Month | Post Equipment Installation Consumption Month |
|---|---|---|
| November 2007 | November 2006-October 2007 | December 2007 – November 2008 |
| December 2007 | December 2006-November 2007 | January 2008-December 2008 |
| January 2008 | January 2007-December 2007 | February 2008-January 2009 |
| February 2008 | February 2007-January 2008 | March 2008-February 2009 |
| March 2008 | March 2007-February 2008 | April 2008-March 2009 |
| April 2008 | April 2007-March 2008 | May 2008–April 2009 |
| May 2008 | May 2007 – April 2008 | June 2008–May 2009 |
| June 2008 | June 2007 – May 2008 | July 2008-June 2009 |
| July 2008 | July 2007-June 2008 | August 2008-July 2009 |
| August 2008 | August 2007-July 2008 | September 2008–August 2009 |
| September 2008 | September 2007-August 2008 | October 2008-September 2009 |
| October 2008 | October 2007-September 2008 | November 2008-October 2009 |
| November 2008 | November 2007-October 2008 | December 2008-November 2009 |
| December 2008 | December 2007-November 2008 | January 2009-December 2009 |
| January 2009 | January 2008-December 2008 | February 2009-January 2010 |
| February 2009 | February 2008-January 2009 | March 2009-February 2010 |
| March 2009 | March 2008-February 2009 | April 2009-March 2010 |
| April 2009 | April 2008-March 2009 | May 2009–April 2010 |
| May 2009 | May 2008 – April 2009 | June 2009–May 2010 |
| June 2009 | June 2008 – May 2009 | July 2009-June 2010 |
| July 2009 | July 2008 – June 2009 | August 2009 – July 2010 |
| August 2009 | August 2008 – July 2009 | September 2009 – August 2010 |
| September 2009 | September 2008 – August 2009 | October 2009 – September 2010 |
| October 2009 | October 2008-September 2009 | November 2009-October 2010 |
| November 2009 | November 2008-October 2009 | December 2009-November 2010 |
| December 2009 | December 2008-November 2009 | January 2010-December 2010 |
| January 2010 | January 2009-December 2009 | February 2010-January 2011 |
| February 2010 | February 2009-January 2010 | March 2010-February 2011 |
| March 2010 | March 2009-February 2010 | April 2010-March 2011 |
| | | |

The average consumption change over the fourteen months period tested is summarized in Table 2 below.

| Table 2 | | |
|---|---|---|
| | Change in Consumption Per Account | |
| Equipment | Mcf per Account | Percent Change |
| Heating Systems | 14.272 | 12.9% |
| Programmable Thermostats | 5.922 | 5.8% |
| Heating Systems W/P.Tstats | 14.408 | 13.5% |
| Storage Tank Water Heater | 4.342 | 4.1% |
| Tankless Water Heater | 7.697 | 7.6% |
| LIURP (Data for 25 Mths) | 23.235 | 13.4% |
| | | |

Attachment 1 to this appendix provides the consumption change for each piece of equipment by month.

How do these results compare to the changes in consumption for the average residential account on the Company's system and the average usage per account for non-participating customers? Attachment 2 provides a response to these questions. Attachment 2 provides a graphical representation of pre and post rebate percent average annual savings by month, percent average changes in residential usage per account by month, and estimated percent average changes in non-participant usage per account by month. As can be seen from these graphs the percent average reduction in usage for customers receiving heating system rebates and LIURP program participants is significantly greater than the average for the residential customer class as a whole and the estimated percent average reduction in the usage per account of the non-participating customers. Reductions in usage for customers receiving rebates for thermostats only was lower than LIURP customers and customers receiving rebates for heating systems. Customers receiving rebates for hot water systems had usage reductions only slightly above the average for the residential class as a whole and non-participating customers. Attachment 3 provides a description of how the average changes in normalized residential class usage per account and changes in non-participant usage per account were estimated. Attachment 3 also explains why using such total system averages is a reasonable benchmark the National Fuel Gas Distribution Corporations service territory.

The Company has compared its weather normalization method used in its pre and post consumption analysis with the Princeton Scorekeeping Method (PRISM). The weather normalization technique utilized by the Company is the standard weather normalization technique utilized by the Company for reporting purposes for rate cases, Company sales forecasts, gas supply planning, etc. PRISM is a statistical procedure that utilizes simple regression analysis for determining weather normalized consumption.

Both the Company weather normalization method and PRISM share the basic formula that customer consumption will be equal to the summation of a customer's non-heating sensitive (eg., cooking, water heating, clothes drying, etc) requirements and heat sensitive requirements

(eg., the space heating applications of furnaces and boilers). Both models also share the assumption that heat sensitive requirements will be the function of usage per heating degree day multiplied by the total number of heating degree days. Where the methods differ is in the calculation of the non-heating variable and the usage per heating degree day variable. Under the Company method the non-heating usage per month is determined to be the average monthly consumption in months with no heating degree days (typically July and August). The Company then determines the usage per heating degree day by month to be the ratio of monthly consumption less non-heating usage per month divided by the number of heating degree days in the month. The Company method defines heating degree days using the same definition of the National Oceanic and Atmospheric Administration ("NOAA"), namely, total heating degree days are the difference between the base temperature of 65º F and actual daily temperature (actual temperatures above 65º F are consider to be cooling degree days). The PRISM methodology utilizes simple regression analysis for determining these variables. The PRISM methodology utilizes an iterative analysis to determine base consumption. That is the PRISM methodology adjusts the base temperature used for determining HDD in a step by step manner recalculating the regression analysis. The PRSIM method determines the level of base temperature for calculating HDDs, the non-heating (constant) variable, and the heating usage per degree day variables by using the regression model that yields the best $R^2$ (a statistical measure of the explanatory power of the model – ie., the higher the $R^2$ the better the variables in the model explain consumption). Where the Company method uses a constant base temperature (65º F) for each set of pre and post consumption analysis, the PRISM model will determine base temperature upon the "best fitting" regression line.

The purpose of this report is not to identify the merits of the PRISM methodology or the methodology used by the Company. The purpose is to identify what the differences in those methods are. The Table 3 below summarizes the total results of the two methods for heating system rebates and the LIURP program. Attachment 4 provides additional results on a monthly basis.

Table 3

Weather Normalized Consumption – Mcf

| | Usage Per Account | | | | Weighted Annual Consumption | |
|---|---|---|---|---|---|---|
| | 1 Year Prior | 1 Year After | Change | % Change | Pre | Post |
| Heating Systems – Total Installed 11/07-03/09 | | | | | | |
| Company Method | 113.463 | 100.209 | -13.254 | -11.7% | 355,820.4 | 314,255.4 |
| PRISM | 113.171 | 99.998 | -13.173 | -11.6% | 354,904.3 | 313,594.6 |
| | | | | | | |
| LIURP | | | | | | |
| Company Method | 191.197 | 166.165 | -25.032 | -13.1% | 89,671.3 | 77,931.1 |
| PRISM | 190.729 | 166.031 | -24.699 | -12.9% | 89,452.1 | 77,868.4 |
| | | | | | | |

The Company's pre-post billing methodology has also been reviewed independently by The Cadmus Group, Inc. / Energy Services ("Cadmus"). A copy of the Cadmus draft report is provided in Attachment 5 to this appendix. The Cadmus report concluded with the following recommendation:

> "In the current evaluation methodology, National Fuel incorporates a simple yet robust monthly level billing analysis method. Cadmus does not recommend that National Fuel change its method since it is an excellent method for determining savings. The method provides both reliable savings estimates and a simple weather normalization method. Furthermore, the Company method yields transparent monthly estimates of savings, and can be used to calculate savings for each month, ideal for savings reporting. This is also helpful for finding the weather normalized savings on a monthly basis for a specific measure category in a given installation month."

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| Heating System Only | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| November-07 | 204 | 111.995 | 98.316 | -13.679 | -12.2% | 22,847.0 | 20,056.5 | 111.995 | 96.789 | -15.206 | -13.6% | 22,847.0 | 19,745.0 | 111.995 | 93.171 | -18.824 | -16.8% | 22,847.0 | 19,006.9 |
| December-07 | 366 | 113.628 | 98.962 | -14.666 | -12.9% | 41,587.8 | 36,220.1 | 113.628 | 95.312 | -18.316 | -16.1% | 41,587.8 | 34,884.2 | 113.628 | 92.815 | -20.813 | -18.3% | 41,587.8 | 33,970.3 |
| January-08 | 215 | 116.798 | 105.897 | -10.901 | -9.3% | 25,111.6 | 22,767.9 | 116.798 | 102.288 | -14.510 | -12.4% | 25,111.6 | 21,991.9 | 116.798 | 100.744 | -16.054 | -13.7% | 25,111.6 | 21,660.0 |
| February-08 | 150 | 114.378 | 100.963 | -13.415 | -11.7% | 17,156.7 | 15,144.5 | 114.378 | 99.365 | -15.013 | -13.1% | 17,156.7 | 14,904.8 | 114.378 | 98.432 | -15.946 | -13.9% | 17,156.7 | 14,764.8 |
| March-08 | 115 | 115.664 | 102.825 | -12.839 | -11.1% | 13,301.4 | 11,824.9 | 115.664 | 99.661 | -16.003 | -13.8% | 13,301.4 | 11,461.0 | 115.664 | 97.840 | -17.824 | -15.4% | 13,301.4 | 11,251.6 |
| April-08 | 97 | 110.421 | 98.718 | -11.703 | -10.6% | 10,710.8 | 9,575.6 | 110.421 | 96.015 | -14.406 | -13.0% | 10,710.8 | 9,313.5 | | | | | | |
| May-08 | 101 | 103.957 | 90.811 | -13.146 | -12.6% | 10,499.7 | 9,171.9 | 103.957 | 87.860 | -16.097 | -15.5% | 10,499.7 | 8,873.9 | | | | | | |
| June-08 | 95 | 112.103 | 99.062 | -13.041 | -11.6% | 10,649.8 | 9,410.9 | 112.103 | 97.850 | -14.253 | -12.7% | 10,649.8 | 9,295.8 | | | | | | |
| July-08 | 122 | 100.142 | 90.397 | -9.745 | -9.7% | 12,217.3 | 11,028.4 | 100.142 | 87.968 | -12.174 | -12.2% | 12,217.3 | 10,732.1 | | | | | | |
| August-08 | 137 | 105.998 | 91.530 | -14.468 | -13.6% | 14,521.7 | 12,539.6 | 105.998 | 90.408 | -15.590 | -14.7% | 14,521.7 | 12,385.9 | | | | | | |
| September-08 | 163 | 107.441 | 91.271 | -16.170 | -15.1% | 17,512.9 | 14,877.2 | 107.441 | 89.560 | -17.881 | -16.6% | 17,512.9 | 14,598.3 | | | | | | |
| October-08 | 224 | 117.405 | 101.197 | -16.208 | -13.8% | 26,298.7 | 22,668.1 | 117.405 | 97.670 | -19.735 | -16.8% | 26,298.7 | 21,878.1 | | | | | | |
| November-08 | 225 | 108.470 | 93.802 | -14.668 | -13.5% | 24,405.8 | 21,105.5 | 108.470 | 90.883 | -17.587 | -16.2% | 24,405.8 | 20,448.7 | | | | | | |
| December-08 | 233 | 105.149 | 93.167 | -11.982 | -11.4% | 24,499.7 | 21,707.9 | 105.149 | 91.149 | -14.000 | -13.3% | 24,499.7 | 21,237.7 | | | | | | |
| January-09 | 187 | 115.694 | 105.018 | -10.676 | -9.2% | 21,634.8 | 19,638.4 | 115.694 | 102.997 | -12.697 | -11.0% | 21,634.8 | 19,260.4 | | | | | | |
| February-09 | 147 | 112.479 | 98.898 | -13.581 | -12.1% | 16,534.4 | 14,538.0 | 112.479 | 96.387 | -16.092 | -14.3% | 16,534.4 | 14,168.9 | | | | | | |
| March-09 | 118 | 121.587 | 106.854 | -14.733 | -12.1% | 14,347.3 | 12,608.8 | 121.587 | 108.018 | -13.569 | -11.2% | 14,347.3 | 12,746.1 | | | | | | |
| April-09 | 82 | 103.643 | 89.520 | -14.123 | -13.6% | 8,498.7 | 7,340.6 | | | | | | | | | | | | |
| May-09 | 85 | 104.827 | 92.015 | -12.812 | -12.2% | 8,910.3 | 7,821.3 | | | | | | | | | | | | |
| June-09 | 88 | 112.257 | 92.382 | -19.875 | -17.7% | 9,878.6 | 8,129.6 | | | | | | | | | | | | |
| July-09 | 90 | 108.040 | 90.382 | -17.658 | -16.3% | 9,723.6 | 8,134.4 | | | | | | | | | | | | |
| August-09 | 101 | 106.859 | 90.962 | -15.897 | -14.9% | 10,792.8 | 9,187.2 | | | | | | | | | | | | |
| September-09 | 169 | 105.037 | 90.995 | -14.042 | -13.4% | 17,751.3 | 15,378.2 | | | | | | | | | | | | |
| October-09 | 296 | 109.105 | 94.302 | -14.803 | -13.6% | 32,295.1 | 27,913.4 | | | | | | | | | | | | |
| November-09 | 318 | 106.260 | 89.116 | -17.144 | -16.1% | 33,790.7 | 28,338.9 | | | | | | | | | | | | |
| December-09 | 226 | 114.204 | 97.396 | -16.808 | -14.7% | 25,810.1 | 22,011.5 | | | | | | | | | | | | |
| January-10 | 150 | 105.988 | 91.024 | -14.964 | -14.1% | 15,898.2 | 13,653.6 | | | | | | | | | | | | |
| February-10 | 117 | 106.213 | 93.463 | -12.750 | -12.0% | 12,426.9 | 10,935.2 | | | | | | | | | | | | |
| March-10 | 74 | 113.280 | 98.146 | -15.134 | -13.4% | 8,382.7 | 7,262.8 | | | | | | | | | | | | |
| Total | 4,695 | 110.329 | 96.058 | -14.272 | -12.9% | 517,996.3 | 450,990.6 | 111.707 | 95.870 | -15.837 | -14.2% | 323,837.3 | 277,926.1 | 114.290 | 95.861 | -18.429 | -16.1% | 120,004.5 | 100,653.5 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| Programmable Thermostats Only<br>Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| November-07 | 42 | 106.453 | 102.160 | -4.293 | -4.0% | 4,471.0 | 4,290.7 | 106.453 | 99.131 | -7.322 | -6.9% | 4,471.0 | 4,163.5 | 106.453 | 95.212 | -11.241 | -10.6% | 4,471.0 | 3,998.9 |
| December-07 | 123 | 100.215 | 98.799 | -1.416 | -1.4% | 12,326.4 | 12,152.3 | 100.215 | 95.378 | -4.837 | -4.8% | 12,326.4 | 11,731.5 | 100.215 | 92.855 | -7.360 | -7.3% | 12,326.4 | 11,421.2 |
| January-08 | 114 | 106.515 | 102.861 | -3.654 | -3.4% | 12,142.7 | 11,726.2 | 106.515 | 97.272 | -9.243 | -8.7% | 12,142.7 | 11,089.0 | 106.515 | 94.651 | -11.864 | -11.1% | 12,142.7 | 10,790.2 |
| February-08 | 76 | 104.288 | 96.114 | -8.174 | -7.8% | 7,925.9 | 7,304.7 | 104.288 | 95.357 | -8.931 | -8.6% | 7,925.9 | 7,247.1 | 104.288 | 93.445 | -10.843 | -10.4% | 7,925.9 | 7,101.8 |
| March-08 | 82 | 93.550 | 87.471 | -6.079 | -6.5% | 7,671.1 | 7,172.6 | 93.550 | 83.800 | -9.750 | -10.4% | 7,671.1 | 6,871.6 | 93.550 | 84.646 | -8.904 | -9.5% | 7,671.1 | 6,941.0 |
| April-08 | 48 | 94.348 | 86.161 | -8.187 | -8.7% | 4,528.7 | 4,135.7 | 94.348 | 86.976 | -7.372 | -7.8% | 4,528.7 | 4,174.8 | | | | | | |
| May-08 | 38 | 94.918 | 89.182 | -5.736 | -6.0% | 3,606.9 | 3,388.9 | 94.918 | 85.233 | -9.685 | -10.2% | 3,606.9 | 3,238.9 | | | | | | |
| June-08 | 39 | 102.434 | 96.147 | -6.287 | -6.1% | 3,994.9 | 3,749.7 | 102.434 | 94.319 | -8.115 | -7.9% | 3,994.9 | 3,678.4 | | | | | | |
| July-08 | 42 | 92.087 | 89.190 | -2.897 | -3.1% | 3,867.7 | 3,746.0 | 92.087 | 85.674 | -6.413 | -7.0% | 3,867.7 | 3,598.3 | | | | | | |
| August-08 | 32 | 109.322 | 101.076 | -8.246 | -7.5% | 3,498.3 | 3,234.4 | 109.322 | 97.112 | -12.210 | -11.2% | 3,498.3 | 3,107.6 | | | | | | |
| September-08 | 27 | 92.991 | 90.620 | -2.371 | -2.5% | 2,510.8 | 2,446.7 | 92.991 | 87.005 | -5.986 | -6.4% | 2,510.8 | 2,349.1 | | | | | | |
| October-08 | 97 | 105.068 | 96.604 | -8.464 | -8.1% | 10,191.6 | 9,370.6 | 105.068 | 92.969 | -12.099 | -11.5% | 10,191.6 | 9,018.0 | | | | | | |
| November-08 | 146 | 115.279 | 107.227 | -8.052 | -7.0% | 16,830.7 | 15,655.1 | 115.279 | 104.129 | -11.150 | -9.7% | 16,830.7 | 15,202.8 | | | | | | |
| December-08 | 110 | 103.552 | 97.137 | -6.415 | -6.2% | 11,390.7 | 10,685.1 | 103.552 | 95.765 | -7.787 | -7.5% | 11,390.7 | 10,534.2 | | | | | | |
| January-09 | 77 | 109.735 | 103.527 | -6.208 | -5.7% | 8,449.6 | 7,971.6 | 109.735 | 103.853 | -5.882 | -5.4% | 8,449.6 | 7,996.7 | | | | | | |
| February-09 | 62 | 102.200 | 96.192 | -6.008 | -5.9% | 6,336.4 | 5,963.9 | 102.200 | 94.867 | -7.333 | -7.2% | 6,336.4 | 5,881.8 | | | | | | |
| March-09 | 51 | 105.615 | 96.908 | -8.707 | -8.2% | 5,386.4 | 4,942.3 | 105.615 | 96.653 | -8.962 | -8.5% | 5,386.4 | 4,929.3 | | | | | | |
| April-09 | 34 | 102.889 | 96.758 | -6.131 | -6.0% | 3,498.2 | 3,289.8 | | | | | | | | | | | | |
| May-09 | 27 | 103.252 | 94.884 | -8.368 | -8.1% | 2,787.8 | 2,561.9 | | | | | | | | | | | | |
| June-09 | 29 | 111.262 | 110.175 | -1.087 | -1.0% | 3,226.6 | 3,195.1 | | | | | | | | | | | | |
| July-09 | 40 | 100.641 | 94.361 | -6.280 | -6.2% | 4,025.6 | 3,774.4 | | | | | | | | | | | | |
| August-09 | 38 | 92.066 | 90.991 | -1.075 | -1.2% | 3,498.5 | 3,457.7 | | | | | | | | | | | | |
| September-09 | 32 | 94.582 | 90.776 | -3.806 | -4.0% | 3,026.6 | 2,904.8 | | | | | | | | | | | | |
| October-09 | 124 | 97.785 | 90.491 | -7.294 | -7.5% | 12,125.3 | 11,220.9 | | | | | | | | | | | | |
| November-09 | 212 | 96.712 | 89.800 | -6.912 | -7.1% | 20,502.9 | 19,037.6 | | | | | | | | | | | | |
| December-09 | 59 | 98.823 | 95.063 | -3.760 | -3.8% | 5,830.6 | 5,608.7 | | | | | | | | | | | | |
| Total | 1,801 | 101.972 | 96.051 | -5.922 | -5.8% | 183,652.0 | 172,987.4 | 103.756 | 95.201 | -8.555 | -8.2% | 125,129.8 | 114,812.6 | 101.916 | 92.112 | -9.803 | -9.6% | 44,537.2 | 40,253.1 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| Heating System and Programmable Thermostat Only<br>Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| November-07 | 172 | 105.051 | 89.755 | -15.296 | -14.6% | 18,068.8 | 15,437.9 | 105.051 | 88.277 | -16.774 | -16.0% | 18,068.8 | 15,183.6 | 105.051 | 85.364 | -19.687 | -18.7% | 18,068.8 | 14,682.6 |
| December-07 | 309 | 110.942 | 94.487 | -16.455 | -14.8% | 34,281.1 | 29,196.5 | 110.942 | 90.818 | -20.124 | -18.1% | 34,281.1 | 28,062.8 | 110.942 | 88.222 | -22.720 | -20.5% | 34,281.1 | 27,260.6 |
| January-08 | 230 | 114.541 | 99.807 | -14.734 | -12.9% | 26,344.4 | 22,955.6 | 114.541 | 95.442 | -19.099 | -16.7% | 26,344.4 | 21,951.7 | 114.541 | 92.713 | -21.828 | -19.1% | 26,344.4 | 21,324.0 |
| February-08 | 158 | 108.513 | 93.457 | -15.056 | -13.9% | 17,145.1 | 14,766.2 | 108.513 | 89.802 | -18.711 | -17.2% | 17,145.1 | 14,188.7 | 108.513 | 88.277 | -20.236 | -18.6% | 17,145.1 | 13,947.8 |
| March-08 | 178 | 111.875 | 97.184 | -14.691 | -13.1% | 19,913.8 | 17,298.8 | 111.875 | 95.522 | -16.353 | -14.6% | 19,913.8 | 17,002.9 | 111.875 | 94.610 | -17.265 | -15.4% | 19,913.8 | 16,840.6 |
| April-08 | 206 | 109.071 | 94.697 | -14.374 | -13.2% | 22,468.6 | 19,507.6 | 109.071 | 92.403 | -16.668 | -15.3% | 22,468.6 | 19,035.0 | | | | | | |
| May-08 | 169 | 102.262 | 86.654 | -15.608 | -15.3% | 17,282.3 | 14,644.5 | 102.262 | 85.107 | -17.155 | -16.8% | 17,282.3 | 14,383.1 | | | | | | |
| June-08 | 199 | 97.114 | 84.772 | -12.342 | -12.7% | 19,325.7 | 16,869.6 | 97.114 | 82.678 | -14.436 | -14.9% | 19,325.7 | 16,452.9 | | | | | | |
| July-08 | 208 | 107.895 | 94.723 | -13.172 | -12.2% | 22,442.2 | 19,702.4 | 107.895 | 91.737 | -16.158 | -15.0% | 22,442.2 | 19,081.3 | | | | | | |
| August-08 | 197 | 107.364 | 91.611 | -15.753 | -14.7% | 21,150.7 | 18,047.4 | 107.364 | 89.509 | -17.855 | -16.6% | 21,150.7 | 17,633.3 | | | | | | |
| September-08 | 302 | 107.846 | 93.836 | -14.010 | -13.0% | 32,569.5 | 28,338.5 | 107.846 | 90.595 | -17.251 | -16.0% | 32,569.5 | 27,359.7 | | | | | | |
| October-08 | 466 | 110.650 | 95.048 | -15.602 | -14.1% | 51,562.9 | 44,292.4 | 110.650 | 91.098 | -19.552 | -17.7% | 51,562.9 | 42,451.7 | | | | | | |
| November-08 | 520 | 105.988 | 91.342 | -14.646 | -13.8% | 55,113.8 | 47,497.8 | 105.988 | 89.005 | -16.983 | -16.0% | 55,113.8 | 46,282.6 | | | | | | |
| December-08 | 376 | 108.096 | 94.000 | -14.096 | -13.0% | 40,644.1 | 35,344.0 | 108.096 | 92.230 | -15.866 | -14.7% | 40,644.1 | 34,678.5 | | | | | | |
| January-09 | 293 | 110.921 | 94.745 | -16.176 | -14.6% | 32,499.9 | 27,760.3 | 110.921 | 92.880 | -18.041 | -16.3% | 32,499.9 | 27,213.8 | | | | | | |
| February-09 | 265 | 110.334 | 95.702 | -14.632 | -13.3% | 29,238.5 | 25,361.0 | 110.334 | 94.702 | -15.632 | -14.2% | 29,238.5 | 25,096.0 | | | | | | |
| March-09 | 240 | 110.089 | 94.460 | -15.629 | -14.2% | 26,421.4 | 22,670.4 | 110.089 | 93.964 | -16.125 | -14.6% | 26,421.4 | 22,551.4 | | | | | | |
| April-09 | 238 | 104.828 | 91.459 | -13.369 | -12.8% | 24,949.1 | 21,767.2 | | | | | | | | | | | | |
| May-09 | 243 | 105.178 | 91.001 | -14.177 | -13.5% | 25,558.3 | 22,113.2 | | | | | | | | | | | | |
| June-09 | 284 | 102.360 | 88.888 | -13.472 | -13.2% | 29,070.2 | 25,244.2 | | | | | | | | | | | | |
| July-09 | 262 | 104.679 | 91.008 | -13.671 | -13.1% | 27,425.9 | 23,844.1 | | | | | | | | | | | | |
| August-09 | 311 | 104.507 | 90.177 | -14.330 | -13.7% | 32,501.7 | 28,045.0 | | | | | | | | | | | | |
| September-09 | 389 | 103.721 | 88.508 | -15.213 | -14.7% | 40,347.5 | 34,429.6 | | | | | | | | | | | | |
| October-09 | 642 | 105.174 | 90.056 | -15.118 | -14.4% | 67,521.7 | 57,816.0 | | | | | | | | | | | | |
| November-09 | 691 | 106.255 | 90.280 | -15.975 | -15.0% | 73,422.2 | 62,383.5 | | | | | | | | | | | | |
| December-09 | 643 | 106.460 | 91.387 | -15.073 | -14.2% | 68,453.8 | 58,761.8 | | | | | | | | | | | | |
| January-10 | 466 | 106.756 | 96.066 | -10.690 | -10.0% | 49,748.3 | 44,766.8 | | | | | | | | | | | | |
| February-10 | 324 | 107.106 | 95.232 | -11.874 | -11.1% | 34,702.3 | 30,855.2 | | | | | | | | | | | | |
| March-10 | 281 | 104.575 | 93.935 | -10.640 | -10.2% | 29,385.6 | 26,395.7 | | | | | | | | | | | | |
| Total | 9,262 | 106.841 | 92.433 | -14.408 | -13.5% | 989,559.0 | 856,113.2 | 108.394 | 91.045 | -17.349 | -16.0% | 486,472.5 | 408,609.0 | 110.557 | 89.833 | -20.724 | -18.7% | 115,753.1 | 94,055.5 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

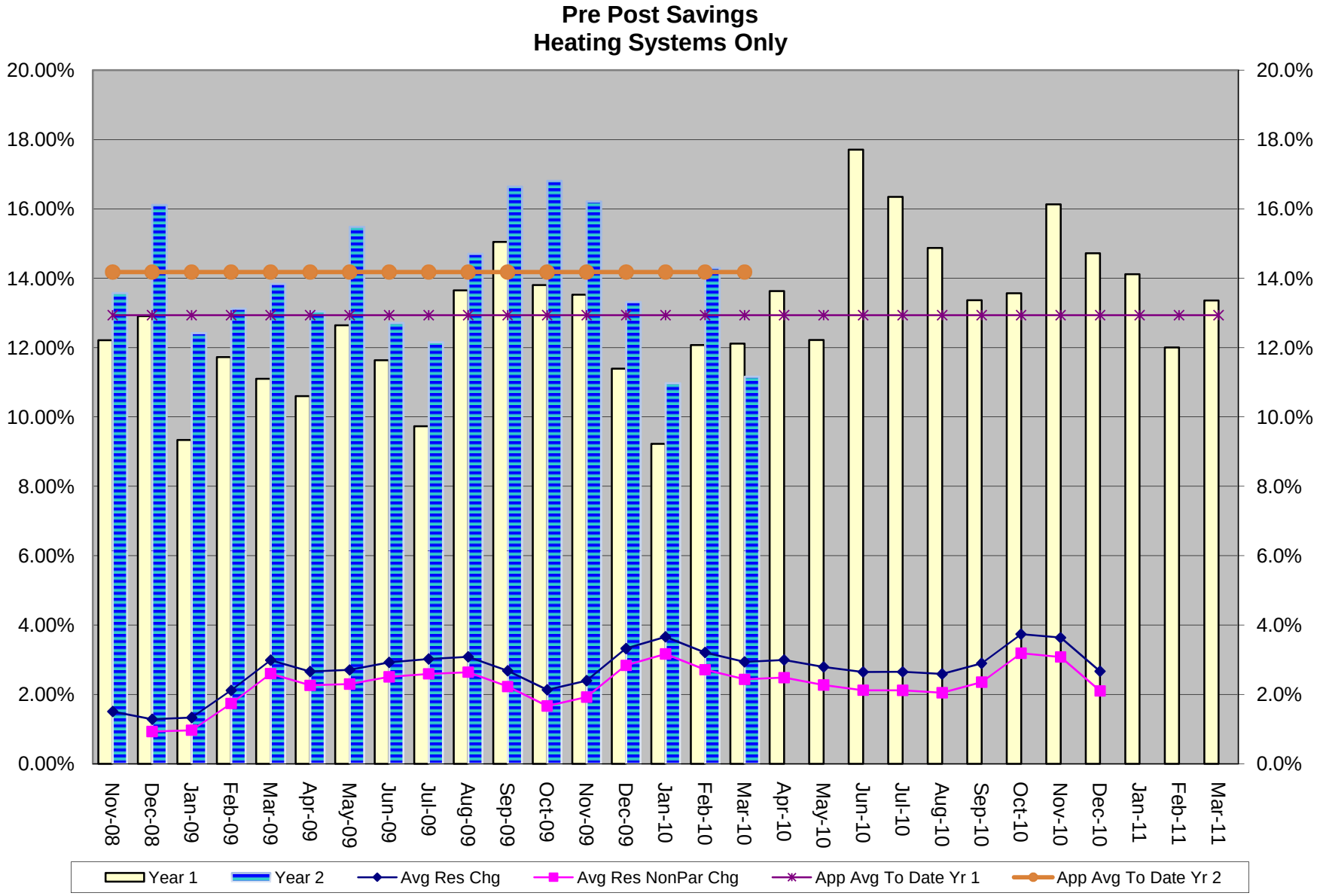
| Storage Tank Water Heating Only<br>Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| November-07 | 12 | 96.865 | 93.346 | -3.519 | -3.6% | 1,162.4 | 1,120.2 | 96.865 | 88.101 | -8.764 | -9.0% | 1,162.4 | 1,057.2 | 96.865 | 87.731 | -9.134 | -9.4% | 1,162.4 | 1,052.8 |
| December-07 | 46 | 106.288 | 101.758 | -4.530 | -4.3% | 4,889.2 | 4,680.9 | 106.288 | 97.861 | -8.427 | -7.9% | 4,889.2 | 4,501.6 | 106.288 | 96.288 | -10.000 | -9.4% | 4,889.2 | 4,429.2 |
| January-08 | 79 | 109.032 | 108.258 | -0.774 | -0.7% | 8,613.5 | 8,552.4 | 109.032 | 105.568 | -3.464 | -3.2% | 8,613.5 | 8,339.9 | 109.032 | 103.502 | -5.530 | -5.1% | 8,613.5 | 8,176.7 |
| February-08 | 45 | 109.553 | 104.491 | -5.062 | -4.6% | 4,929.9 | 4,702.1 | 109.553 | 102.352 | -7.201 | -6.6% | 4,929.9 | 4,605.8 | 109.553 | 101.622 | -7.931 | -7.2% | 4,929.9 | 4,573.0 |
| March-08 | 60 | 108.963 | 106.543 | -2.420 | -2.2% | 6,537.8 | 6,392.6 | 108.963 | 102.587 | -6.376 | -5.9% | 6,537.8 | 6,155.2 | 108.963 | 102.274 | -6.689 | -6.1% | 6,537.8 | 6,136.4 |
| April-08 | 103 | 108.910 | 105.672 | -3.238 | -3.0% | 11,217.7 | 10,884.2 | 108.910 | 102.374 | -6.536 | -6.0% | 11,217.7 | 10,544.5 | | | | | | |
| May-08 | 74 | 106.879 | 100.849 | -6.030 | -5.6% | 7,909.0 | 7,462.8 | 106.879 | 97.337 | -9.542 | -8.9% | 7,909.0 | 7,202.9 | | | | | | |
| June-08 | 43 | 106.820 | 101.654 | -5.166 | -4.8% | 4,593.3 | 4,371.1 | 106.820 | 97.072 | -9.748 | -9.1% | 4,593.3 | 4,174.1 | | | | | | |
| July-08 | 49 | 98.538 | 95.565 | -2.973 | -3.0% | 4,828.4 | 4,682.7 | 98.538 | 96.767 | -1.771 | -1.8% | 4,828.4 | 4,741.6 | | | | | | |
| August-08 | 43 | 111.462 | 107.824 | -3.638 | -3.3% | 4,792.9 | 4,636.4 | 111.462 | 104.222 | -7.240 | -6.5% | 4,792.9 | 4,481.5 | | | | | | |
| September-08 | 52 | 102.455 | 94.992 | -7.463 | -7.3% | 5,327.7 | 4,939.6 | 102.455 | 95.064 | -7.391 | -7.2% | 5,327.7 | 4,943.3 | | | | | | |
| October-08 | 45 | 105.253 | 101.189 | -4.064 | -3.9% | 4,736.4 | 4,553.5 | 105.253 | 97.070 | -8.183 | -7.8% | 4,736.4 | 4,368.2 | | | | | | |
| November-08 | 54 | 113.609 | 109.950 | -3.659 | -3.2% | 6,134.9 | 5,937.3 | 113.609 | 105.606 | -8.003 | -7.0% | 6,134.9 | 5,702.7 | | | | | | |
| December-08 | 68 | 108.036 | 103.652 | -4.384 | -4.1% | 7,346.4 | 7,048.3 | 108.036 | 101.354 | -6.682 | -6.2% | 7,346.4 | 6,892.1 | | | | | | |
| January-09 | 60 | 102.865 | 95.580 | -7.285 | -7.1% | 6,171.9 | 5,734.8 | 102.865 | 93.277 | -9.588 | -9.3% | 6,171.9 | 5,596.6 | | | | | | |
| February-09 | 76 | 106.402 | 102.461 | -3.941 | -3.7% | 8,086.6 | 7,787.0 | 106.402 | 101.243 | -5.159 | -4.8% | 8,086.6 | 7,694.5 | | | | | | |
| March-09 | 77 | 111.353 | 104.166 | -7.187 | -6.5% | 8,574.2 | 8,020.8 | 111.353 | 104.582 | -6.771 | -6.1% | 8,574.2 | 8,052.8 | | | | | | |
| April-09 | 69 | 107.189 | 103.119 | -4.070 | -3.8% | 7,396.0 | 7,115.2 | | | | | | | | | | | | |
| May-09 | 65 | 103.993 | 96.827 | -7.166 | -6.9% | 6,759.5 | 6,293.8 | | | | | | | | | | | | |
| June-09 | 70 | 94.170 | 90.466 | -3.704 | -3.9% | 6,591.9 | 6,332.6 | | | | | | | | | | | | |
| July-09 | 52 | 109.144 | 108.245 | -0.899 | -0.8% | 5,675.5 | 5,628.7 | | | | | | | | | | | | |
| August-09 | 59 | 114.263 | 110.849 | -3.414 | -3.0% | 6,741.5 | 6,540.1 | | | | | | | | | | | | |
| September-09 | 56 | 108.022 | 104.710 | -3.312 | -3.1% | 6,049.2 | 5,863.8 | | | | | | | | | | | | |
| October-09 | 84 | 102.952 | 98.024 | -4.928 | -4.8% | 8,648.0 | 8,234.0 | | | | | | | | | | | | |
| November-09 | 89 | 99.549 | 95.501 | -4.048 | -4.1% | 8,859.9 | 8,499.6 | | | | | | | | | | | | |
| December-09 | 58 | 113.778 | 107.995 | -5.783 | -5.1% | 6,599.1 | 6,263.7 | | | | | | | | | | | | |
| Total | 1,588 | 106.532 | 102.190 | -4.342 | -4.1% | 169,172.8 | 162,278.2 | 107.355 | 100.461 | -6.894 | -6.4% | 105,852.1 | 99,054.6 | 107.987 | 100.695 | -7.292 | -6.8% | 26,132.8 | 24,368.1 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| Tankless Water Heating Only<br>Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| November-07 | 18 | 93.863 | 91.315 | -2.548 | -2.7% | 1,689.5 | 1,643.7 | 93.863 | 89.192 | -4.671 | -5.0% | 1,689.5 | 1,605.5 | 93.863 | 85.173 | -8.690 | -9.3% | 1,689.5 | 1,533.1 |
| December-07 | 55 | 101.693 | 96.495 | -5.198 | -5.1% | 5,593.1 | 5,307.2 | 101.693 | 94.620 | -7.073 | -7.0% | 5,593.1 | 5,204.1 | 101.693 | 93.545 | -8.148 | -8.0% | 5,593.1 | 5,145.0 |
| January-08 | 56 | 112.378 | 103.281 | -9.097 | -8.1% | 6,293.2 | 5,783.7 | 112.378 | 101.127 | -11.251 | -10.0% | 6,293.2 | 5,663.1 | 112.378 | 98.977 | -13.401 | -11.9% | 6,293.2 | 5,542.7 |
| February-08 | 35 | 91.611 | 83.824 | -7.787 | -8.5% | 3,206.4 | 2,933.8 | 91.611 | 84.679 | -6.932 | -7.6% | 3,206.4 | 2,963.8 | 91.611 | 84.782 | -6.829 | -7.5% | 3,206.4 | 2,967.4 |
| March-08 | 19 | 107.459 | 98.278 | -9.181 | -8.5% | 2,041.7 | 1,867.3 | 107.459 | 94.937 | -12.522 | -11.7% | 2,041.7 | 1,803.8 | 107.459 | 94.565 | -12.894 | -12.0% | 2,041.7 | 1,796.7 |
| April-08 | 34 | 107.814 | 99.256 | -8.558 | -7.9% | 3,665.7 | 3,374.7 | 107.814 | 94.195 | -13.619 | -12.6% | 3,665.7 | 3,202.6 | | | | | | |
| May-08 | 28 | 104.094 | 98.264 | -5.830 | -5.6% | 2,914.6 | 2,751.4 | 104.094 | 96.718 | -7.376 | -7.1% | 2,914.6 | 2,708.1 | | | | | | |
| June-08 | 25 | 97.189 | 92.955 | -4.234 | -4.4% | 2,429.7 | 2,323.9 | 97.189 | 92.907 | -4.282 | -4.4% | 2,429.7 | 2,322.7 | | | | | | |
| July-08 | 22 | 102.236 | 90.924 | -11.312 | -11.1% | 2,249.2 | 2,000.3 | 102.236 | 92.080 | -10.156 | -9.9% | 2,249.2 | 2,025.8 | | | | | | |
| August-08 | 23 | 83.218 | 75.409 | -7.809 | -9.4% | 1,914.0 | 1,734.4 | 83.218 | 72.210 | -11.008 | -13.2% | 1,914.0 | 1,660.8 | | | | | | |
| September-08 | 29 | 104.746 | 101.895 | -2.851 | -2.7% | 3,037.6 | 2,955.0 | 104.746 | 97.816 | -6.930 | -6.6% | 3,037.6 | 2,836.7 | | | | | | |
| October-08 | 24 | 103.487 | 96.619 | -6.868 | -6.6% | 2,483.7 | 2,318.9 | 103.487 | 91.439 | -12.048 | -11.6% | 2,483.7 | 2,194.5 | | | | | | |
| November-08 | 20 | 110.416 | 105.112 | -5.304 | -4.8% | 2,208.3 | 2,102.2 | 110.416 | 104.652 | -5.764 | -5.2% | 2,208.3 | 2,093.0 | | | | | | |
| December-08 | 22 | 111.151 | 98.540 | -12.611 | -11.3% | 2,445.3 | 2,167.9 | 111.151 | 95.931 | -15.220 | -13.7% | 2,445.3 | 2,110.5 | | | | | | |
| January-09 | 25 | 93.713 | 86.888 | -6.825 | -7.3% | 2,342.8 | 2,172.2 | 93.713 | 85.212 | -8.501 | -9.1% | 2,342.8 | 2,130.3 | | | | | | |
| February-09 | 31 | 109.429 | 103.996 | -5.433 | -5.0% | 3,392.3 | 3,223.9 | 109.429 | 98.084 | -11.345 | -10.4% | 3,392.3 | 3,040.6 | | | | | | |
| March-09 | 38 | 96.625 | 89.845 | -6.780 | -7.0% | 3,671.8 | 3,414.1 | 96.625 | 88.517 | -8.108 | -8.4% | 3,671.8 | 3,363.6 | | | | | | |
| April-09 | 51 | 109.495 | 97.645 | -11.850 | -10.8% | 5,584.2 | 4,979.9 | | | | | | | | | | | | |
| May-09 | 39 | 88.898 | 81.397 | -7.501 | -8.4% | 3,467.0 | 3,174.5 | | | | | | | | | | | | |
| June-09 | 41 | 91.189 | 83.653 | -7.536 | -8.3% | 3,738.7 | 3,429.8 | | | | | | | | | | | | |
| July-09 | 37 | 95.129 | 86.333 | -8.796 | -9.2% | 3,519.8 | 3,194.3 | | | | | | | | | | | | |
| August-09 | 42 | 102.899 | 97.702 | -5.197 | -5.1% | 4,321.8 | 4,103.5 | | | | | | | | | | | | |
| September-09 | 45 | 97.619 | 87.587 | -10.032 | -10.3% | 4,392.9 | 3,941.4 | | | | | | | | | | | | |
| October-09 | 43 | 96.083 | 84.824 | -11.259 | -11.7% | 4,131.6 | 3,647.4 | | | | | | | | | | | | |
| November-09 | 54 | 108.630 | 100.105 | -8.525 | -7.8% | 5,866.0 | 5,405.7 | | | | | | | | | | | | |
| December-09 | 85 | 103.067 | 96.086 | -6.981 | -6.8% | 8,760.7 | 8,167.3 | | | | | | | | | | | | |
| Total | 941 | 101.341 | 93.643 | -7.697 | -7.6% | 95,361.7 | 88,118.4 | 102.339 | 93.114 | -9.225 | -9.0% | 51,579.0 | 46,929.5 | 102.863 | 92.814 | -10.049 | -9.8% | 18,823.9 | 16,984.9 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| LIURP | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normalized Consumption (Mcf) | | | | | | | | | | | | | | | | | | | |
| | | | | | | Weighted Annual Consumption | | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 2nd Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation | 3rd Year After Installation | Change | % Change | Pre | Post |
| March-08 | 2 | 225.583 | 207.221 | -18.362 | -8.1% | 451.2 | 414.4 | 225.583 | 208.972 | -16.611 | -7.4% | 451.2 | 417.9 | 225.583 | 197.036 | -28.547 | -12.7% | 451.2 | 394.1 |
| April-08 | 14 | 216.962 | 197.512 | -19.450 | -9.0% | 3,037.5 | 2,765.2 | 216.962 | 181.110 | -35.852 | -16.5% | 3,037.5 | 2,535.5 | | | | | | |
| May-08 | 20 | 193.173 | 172.299 | -20.874 | -10.8% | 3,863.5 | 3,446.0 | 193.173 | 163.487 | -29.686 | -15.4% | 3,863.5 | 3,269.7 | | | | | | |
| June-08 | 14 | 185.551 | 176.739 | -8.812 | -4.7% | 2,597.7 | 2,474.3 | 185.551 | 172.999 | -12.552 | -6.8% | 2,597.7 | 2,422.0 | | | | | | |
| July-08 | 10 | 182.309 | 170.260 | -12.049 | -6.6% | 1,823.1 | 1,702.6 | 182.309 | 158.149 | -24.160 | -13.3% | 1,823.1 | 1,581.5 | | | | | | |
| August-08 | 22 | 200.738 | 177.723 | -23.015 | -11.5% | 4,416.2 | 3,909.9 | 200.738 | 166.312 | -34.426 | -17.1% | 4,416.2 | 3,658.9 | | | | | | |
| September-08 | 25 | 210.164 | 181.105 | -29.059 | -13.8% | 5,254.1 | 4,527.6 | 210.164 | 170.365 | -39.799 | -18.9% | 5,254.1 | 4,259.1 | | | | | | |
| October-08 | 33 | 191.145 | 174.357 | -16.788 | -8.8% | 6,307.8 | 5,753.8 | 191.145 | 169.754 | -21.391 | -11.2% | 6,307.8 | 5,601.9 | | | | | | |
| November-08 | 54 | 199.552 | 172.997 | -26.555 | -13.3% | 10,775.8 | 9,341.8 | 199.552 | 166.601 | -32.951 | -16.5% | 10,775.8 | 8,996.5 | | | | | | |
| December-08 | 25 | 202.905 | 177.472 | -25.433 | -12.5% | 5,072.6 | 4,436.8 | 202.905 | 163.471 | -39.434 | -19.4% | 5,072.6 | 4,086.8 | | | | | | |
| January-09 | 45 | 197.579 | 171.084 | -26.495 | -13.4% | 8,891.1 | 7,698.8 | 197.579 | 160.339 | -37.240 | -18.8% | 8,891.1 | 7,215.3 | | | | | | |
| February-09 | 57 | 180.538 | 153.387 | -27.151 | -15.0% | 10,290.7 | 8,743.1 | 180.538 | 152.957 | -27.581 | -15.3% | 10,290.7 | 8,718.5 | | | | | | |
| March-09 | 93 | 177.461 | 149.516 | -27.945 | -15.7% | 16,503.9 | 13,905.0 | 177.461 | 148.543 | -28.918 | -16.3% | 16,503.9 | 13,814.5 | | | | | | |
| April-09 | 76 | 183.755 | 151.269 | -32.486 | -17.7% | 13,965.4 | 11,496.4 | | | | | | | | | | | | |
| May-09 | 39 | 166.332 | 145.231 | -21.101 | -12.7% | 6,486.9 | 5,664.0 | | | | | | | | | | | | |
| June-09 | 46 | 144.821 | 132.306 | -12.515 | -8.6% | 6,661.8 | 6,086.1 | | | | | | | | | | | | |
| July-09 | 63 | 147.724 | 124.957 | -22.767 | -15.4% | 9,306.6 | 7,872.3 | | | | | | | | | | | | |
| August-09 | 105 | 155.435 | 133.154 | -22.281 | -14.3% | 16,320.7 | 13,981.2 | | | | | | | | | | | | |
| September-09 | 104 | 161.239 | 139.944 | -21.295 | -13.2% | 16,768.9 | 14,554.2 | | | | | | | | | | | | |
| October-09 | 105 | 160.686 | 139.637 | -21.049 | -13.1% | 16,872.0 | 14,661.9 | | | | | | | | | | | | |
| November-09 | 38 | 162.352 | 140.932 | -21.420 | -13.2% | 6,169.4 | 5,355.4 | | | | | | | | | | | | |
| December-09 | 2 | 144.841 | 139.750 | -5.091 | -3.5% | 289.7 | 279.5 | | | | | | | | | | | | |
| January-10 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | | | | | | | | | | | | |
| February-10 | 0 | 0 | 0 | 0 | 0% | 0 | 0 | | | | | | | | | | | | |
| March-10 | 3 | 141.846 | 120.842 | -21.004 | -14.8% | 425.5 | 362.5 | | | | | | | | | | | | |
| Total | 995 | 173.419 | 150.184 | -23.235 | -13.4% | 172,551.9 | 149,432.8 | 191.510 | 160.817 | -30.693 | -16.0% | 79,285.0 | 66,578.1 | 225.583 | 197.036 | -28.547 | -12.7% | 451.2 | 394.1 |


Pre Post Savings
Heating Systems Only
20.00%
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
20.0%
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16.0%
14.0%
12.0%
10.0%
8.0%
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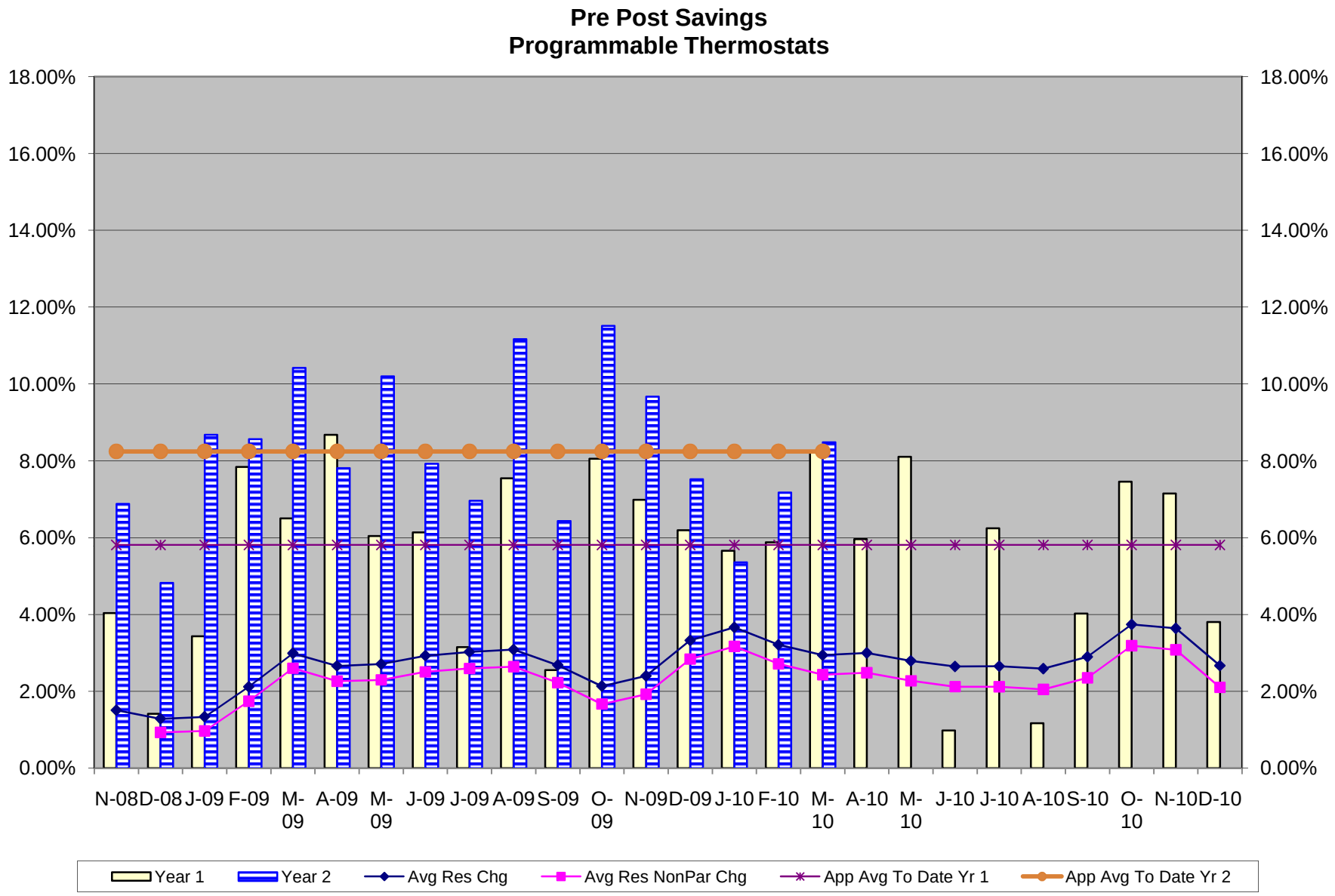
Feb-11
Mar-11
Year 1
Year 2
Avg Res Chg
Avg Res NonPar Chg
App Avg To Date Yr 1
App Avg To Date Yr 2


Pre Post Savings
Programmable Thermostats
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
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2.00%
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Year 1
Year 2
Avg Res Chg
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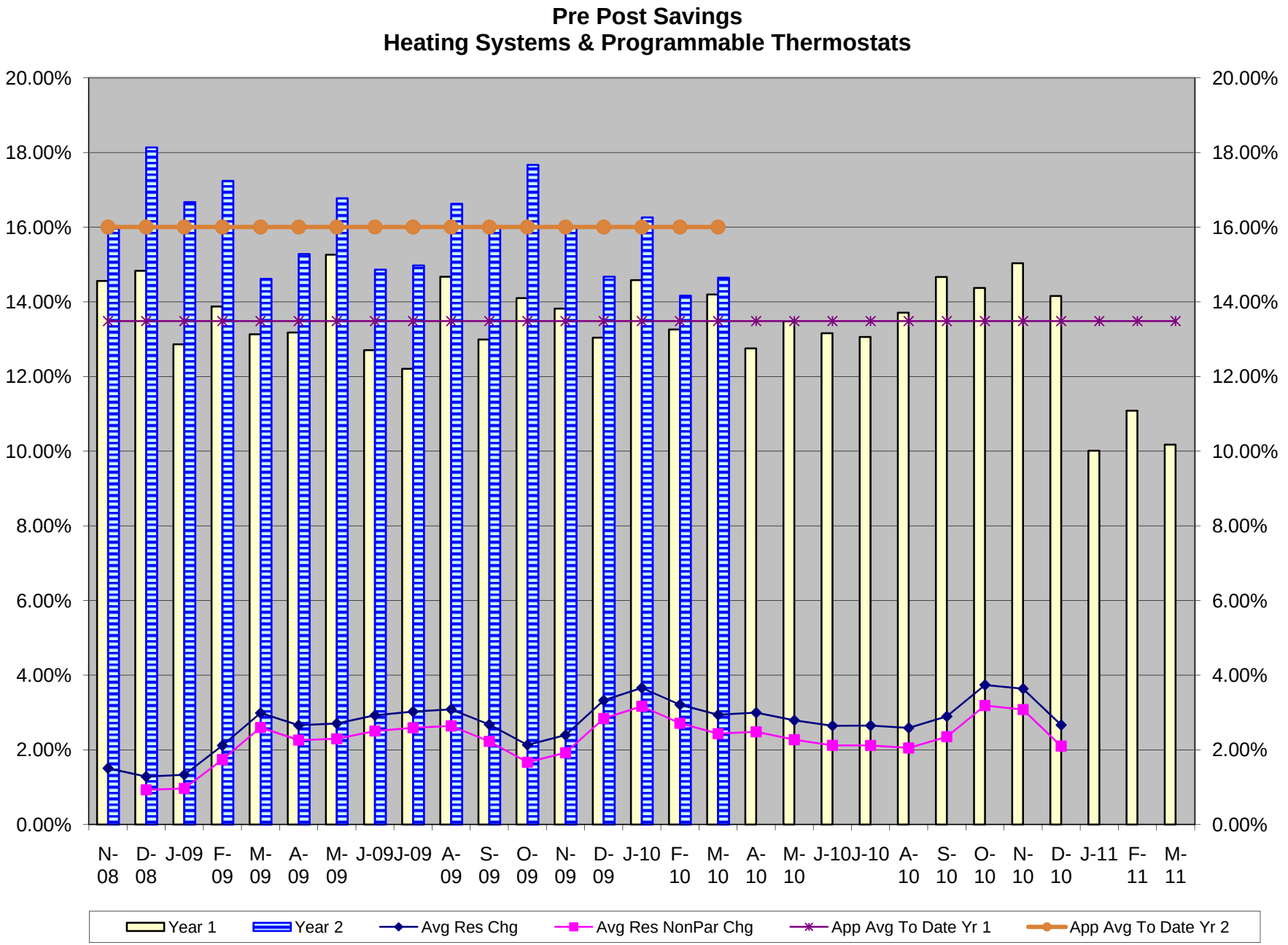
App Avg To Date Yr 1
App Avg To Date Yr 2


Pre Post Savings
Heating Systems & Programmable Thermostats
20.00%
18.00%
16.00%
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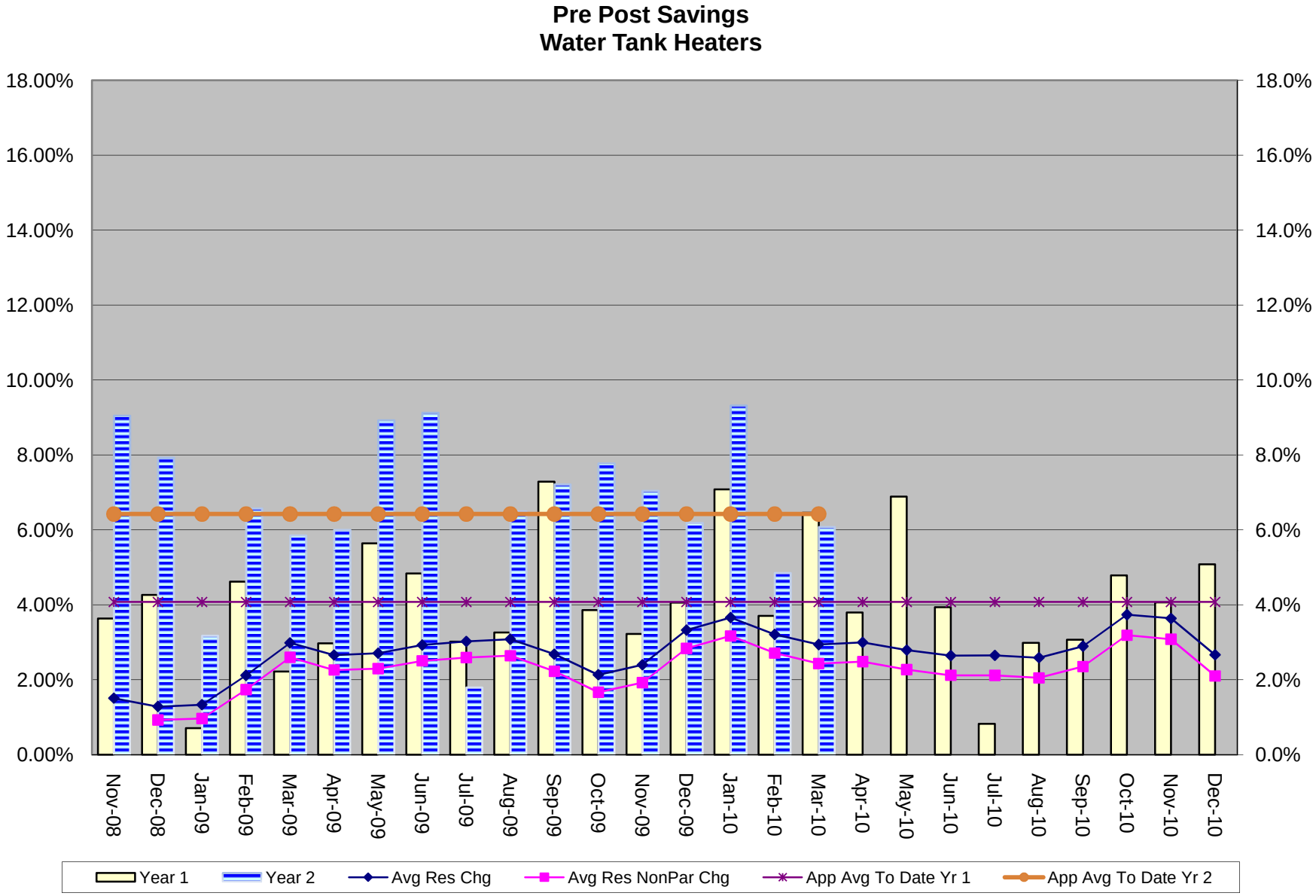
Year 1
Year 2
Avg Res Chg
Avg Res NonPar Chg
App Avg To Date Yr 1
App Avg To Date Yr 2


Pre Post Savings
Water Tank Heaters
18.00%
16.00%
14.00%
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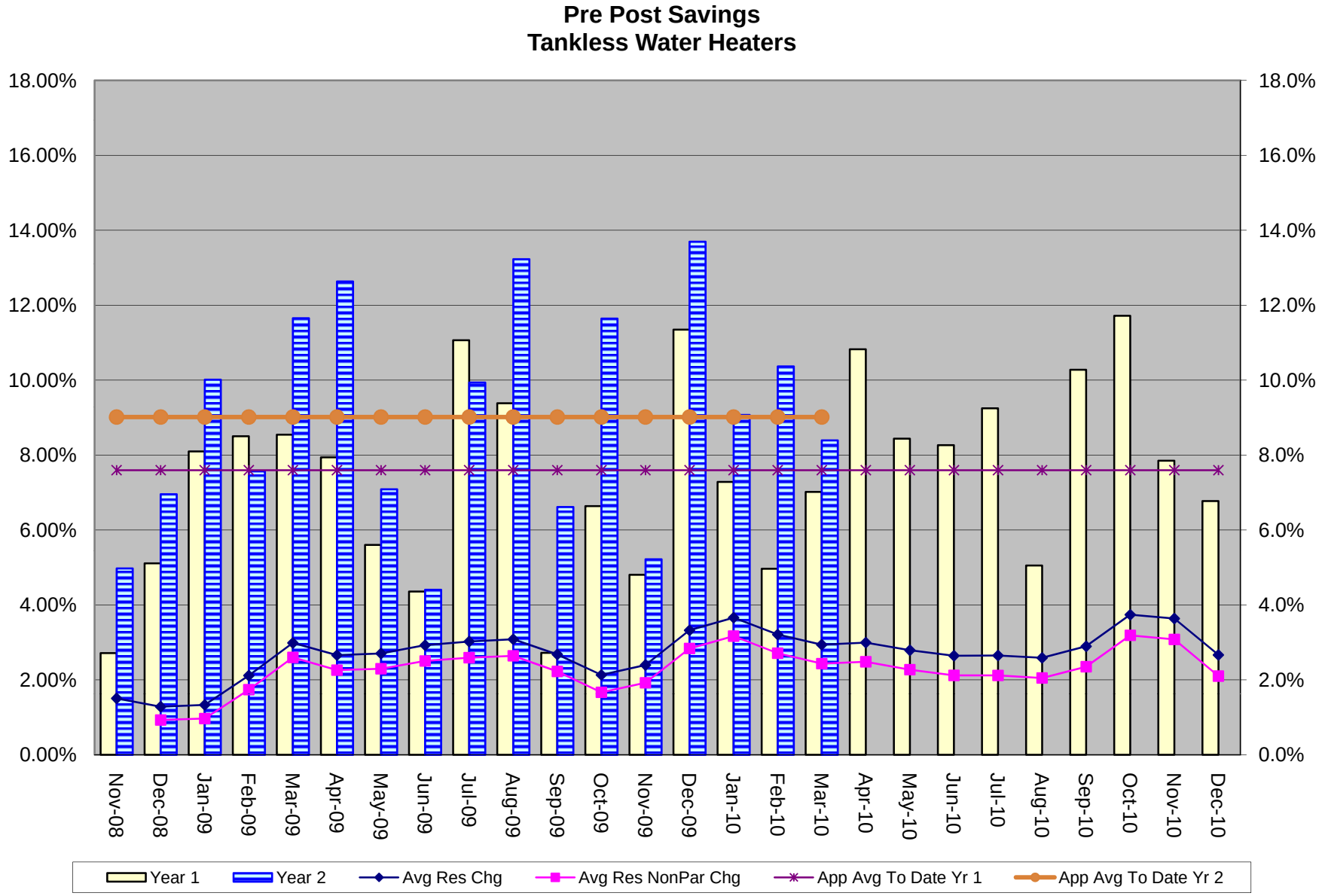
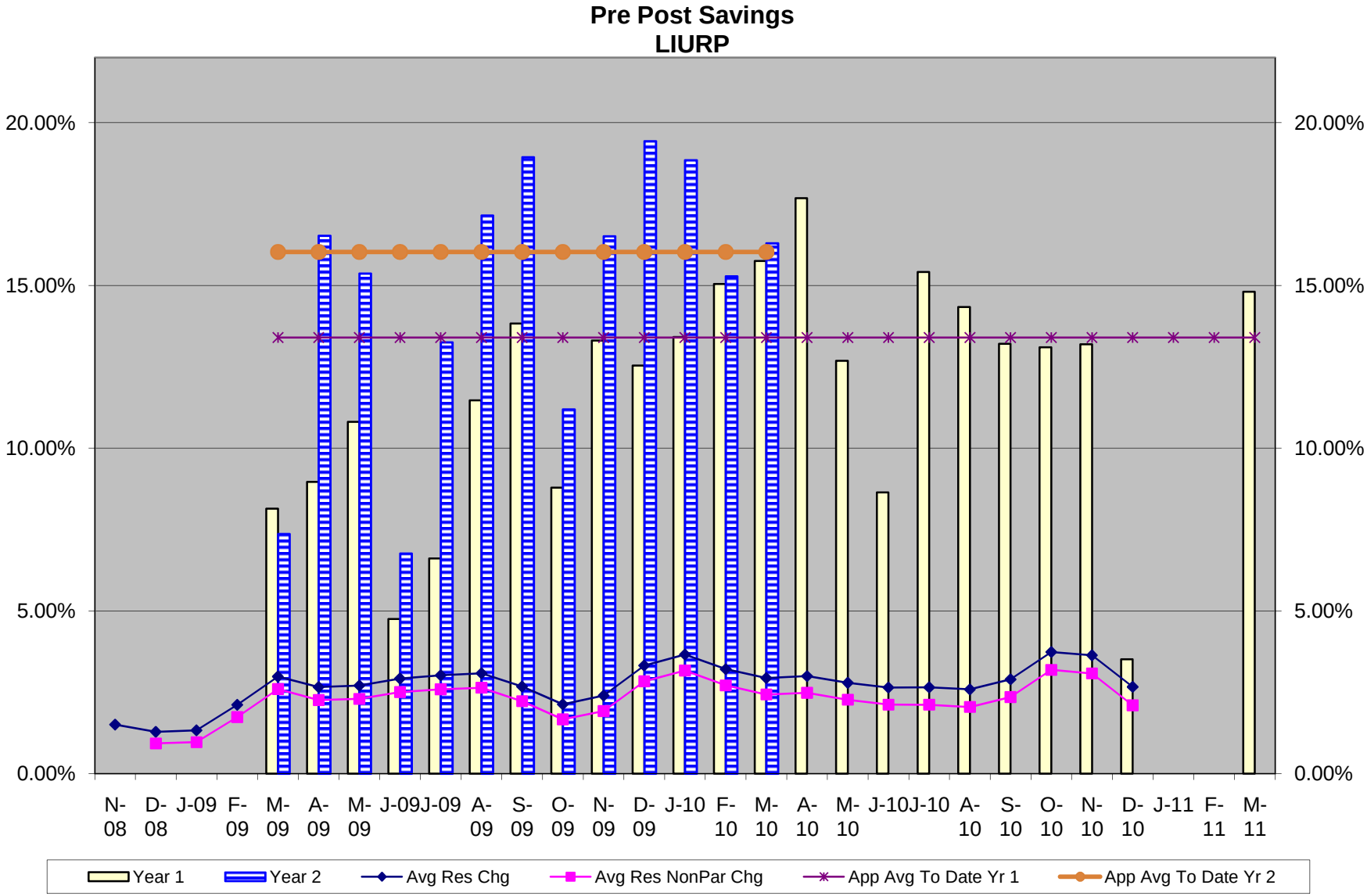
Year 1
Year 2
Avg Res Chg
Avg Res NonPar Chg
App Avg To Date Yr 1
App Avg To Date Yr 2


Pre Post Savings
Tankless Water Heaters
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
Nov-08
Dec-08
Jan-09
Feb-09
Mar-09
Apr-09
May-09
Jun-09
Jul-09
Aug-09
Sep-09
Oct-09
Nov-09
Dec-09
Jan-10
Feb-10
Mar-10
Apr-10
May-10
Jun-10
Jul-10
Aug-10
Sep-10
Oct-10
Nov-10
Dec-10
Year 1
Year 2
Avg Res Chg
Avg Res NonPar Chg
App Avg To Date Yr 1
App Avg To Date Yr 2


Pre Post Savings
LIURP
20.00%
15.00%
10.00%
5.00%
0.00%
N-08
D-08
J-09
F-09
M-09
A-09
M-09
J-09
J-09
A-09
S-09
O-09
N-09
D-09
J-10
F-10
M-10
A-10
M-10
J-10
J-10
A-10
S-10
O-10
N-10
D-10
J-11
F-11
M-11
Year 1
Year 2
Avg Res Chg
Avg Res NonPar Chg
App Avg To Date Yr 1
App Avg To Date Yr 2

Appendix I
Attachment 3

Control Group for Measuring Significance of Residential Customer Rebate Program and Low Income Usage Reduction Program ("LIURP") Participant Savings.

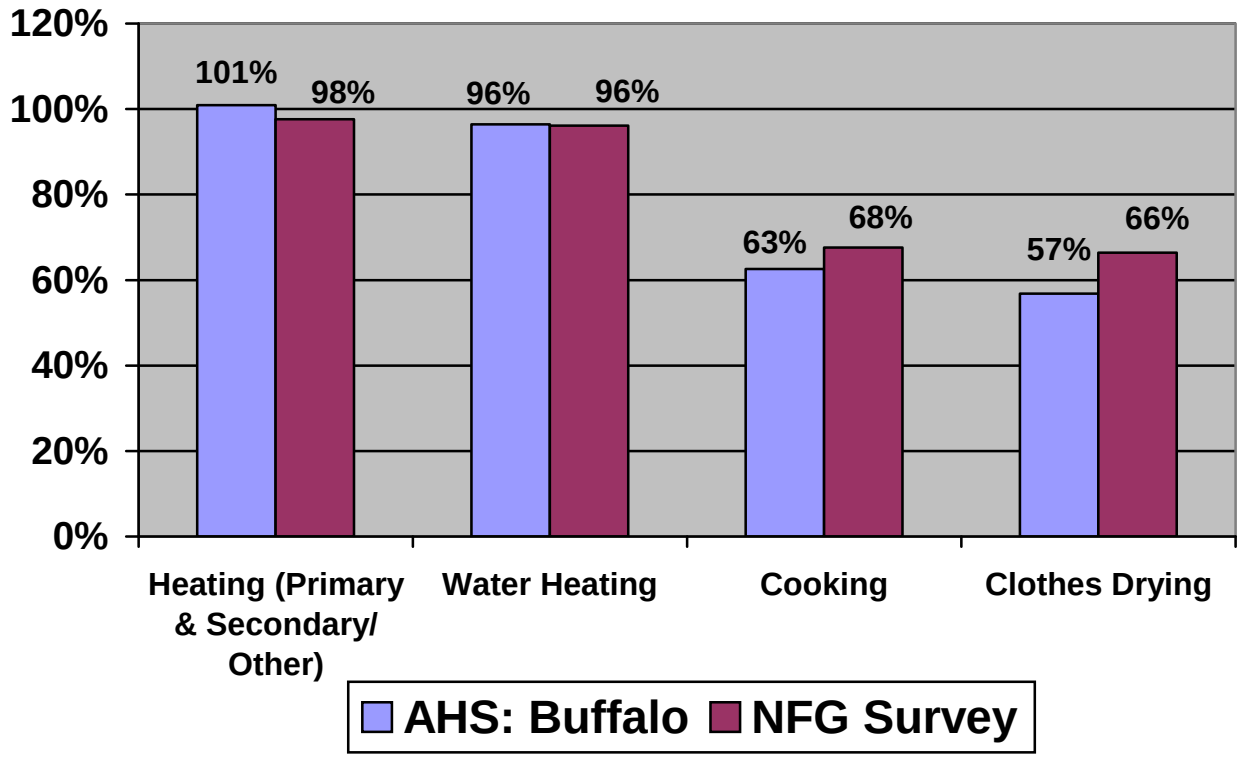
I) Summary

This appendix describes the control group used for comparing the natural gas savings of customers receiving appliance rebates under the CIPs program with those customers that have not received a rebate. Due to the somewhat unique characteristics of National Fuel Gas Distribution Corporation's residential customer base, the average actual consumption per account for the residential class of customer will be used as the starting point for any determination of differences in consumption between customers participating in the rebate program and non-participating customers.

The residential customers on the Company's system are relatively homogeneous in terms of whether they use natural gas for space heating and water heating. Based on both internal Company sponsored studies and US Department of Census information, the percentage of residential customers that use natural gas for space heating and water heating is between approximately 96% to 98%. Chart 1 below provides a summary of the percentage of the Company's customers that utilize natural gas in the major natural gas burning appliances.

CHART 1

National Fuel Gas Distribution Corporation
New York Division
Residential Market Share For Natural Gas Appliances
Percentages are the % of National Fuel Gas Customers Using the Specified Natural Gas Equipment




Since nearly all residential customers use natural gas for both space heating and water heating, the starting point for determining non-participant customer consumption is the average usage per residential account. Table l, Column (1), provides this amount for the 12 months ended December 2007, December 2008, December 2009, and December 2010. This value is the total average consumption of both customers participating in the CIP program and non-participating customers. In order to determine the average

consumption of non-participating customers, estimated average savings of customers participating in the CIPs program are identified (Column (2) of Table 1) and subtracted from the average total usage per account to determine non-participating customers (Column (3) of Table 1).

| Table 1 | | | | | |
|---|---|---|---|---|---|
| | (1) | | (2) | (3) | |
| 12 Months Ended | Total Residential Weather Normalized Usage Per Account | | Impact on Total Avg. Usage per Account for Rebate & LIURP Participants | Total Usage Per Account Non-Participants | |
| | (Mcf) | % Chg | (Mcf) | (Mcf) | % Chg |
| December 2007 | 107.4 | | | 107.4 | |
| December 2008 | 106.0 | -1.3% | 0.4 | 106.4 | -0.9% |
| December 2009 | 102.5 | -3.3% | 0.9 | 103.4 | -2.8% |
| December 2010 | 99.8 | -2.7% | 1.5 | 101.3 | -2.0% |
| | | | | | |

The results of Table 1 provide a reasonable benchmark to compare actual measured savings of participating customers from the pre and post consumption analysis with a reasonable estimated range of changes in consumption for non-participating customers. The reasonable range of consumption change for non-participating customers is likely to be within the percent change provided in Columns (1) and Columns (3).

II) Sources Used For Determining Market Share Information Provided in Chart 1

The sources of the data used in Chart 1 include: (1) American Housing Survey for the Buffalo Metropolitan Area: 2002; Issued July 2003; conducted by the U.S. Census Bureau for the U.S. Department of Housing and Urban Development, ("AHS: Buffalo"); and (2) National Fuel Gas Distribution Corporation, 2006 Residential Market Study ("NFG Survey"). The AHS: Buffalo study reports fuel uses for major residential

applications for households within the Buffalo metropolitan area. The Buffalo metro area is defined in the AHS: Buffalo as Niagara and Erie County. The NFG Survey is a random telephone survey of 400 households across the twelve counties in New York that comprise National Fuel Gas Distribution Corporation's New York service territory.

Table 2

| | AHS: Buffalo | | | NFG Survey | |
|---|---|---|---|---|---|
| | Housing Units | Gas as % of Total | % of Housing Units w/gas Using Gas in Listed Application | Gas as % of Total | % of Housing Units w/gas Using Gas in Listed Application |
| | (000) | % | % | % | % |
| Occupied Housing Units | 461.3 | | | | |
| Units Using Natural Gas | 422.6 | 92% | | 84% | |
| Main House/Primary Heating Fuel | 402.2 | 87% | 95% | 81% | 96% |
| Other House/Secondary Heating Fuels[1] | 24.3 | 6% | 6% | 2% | 2% |
| Total Heating | 426.5 | 93% | 101% | 83% | 98% |
| Water Heating | 407.3 | 88% | 96% | 81% | 96% |
| Cooking | 264.6 | 57% | 63% | 57% | 68% |
| Clothes Drying | 239.9 | 52% | 57% | 59% | 66% |

As can be seen from the results reported in Table 2 both the AHS: Buffalo study and the NFG Survey provide evidence that nearly all residential customers that have access to natural gas supplies utilize natural gas for heating. This is not surprising given the cost advantages of natural gas compared to other fuel sources used for heating. The nearly complete dominance of natural gas as the primary heating fuel for residential

[1] The AHS: Buffalo study allows for more than one appliance being reported for "Other Heating Equipment". Therefore multiple other heating units could be reported. For example a customer may have a wood burning stove that they may characterize as their "main heating fuel" they may also have a natural gas furnace and a natural gas fireplace. It is the capability to report more than one other heating source that likely leads to a percentage total of natural gas heating applications of greater than 100% for the AHS: Buffalo study. In contrast, the NFG Survey allows for only one "secondary heating" source to be reported by the customer.

households within the Company's service territory is likely unique among the major metropolitan areas in New York State.[2]

This high saturation amount supports the use of total average residential consumption as a reasonable benchmark to compare savings with residential customers that have received rebates. It is likely that customers that received rebates face the same economic, behavioral, and other influences on energy consumption that the average non-participating customer experiences. For example, both residential customers that have received rebates and those that have not have received messages regarding the importance to conserve energy from a variety of sources including, the Company, the New York Public Service Commission, and NYSERDA. These customers also face the same pricing signals as well as the overall influence of economic circumstances within the service territory.

III) Description of Data and Calculations Used in Table 1

The data included in Table 1 is developed from the following sources:

Column (1) of Table 1 is the total weather normalized usage per account for residential customers on the Company's system. Column (1) of Table 1 is the total weather normalized average consumption from residential customers including customers participating in the CIPs and customers that are not participating in the CIP. Column (3) provides an estimate of residential usage per account for non-participating customers. It was determined as calculated below in Table 3. The estimate of non-participating customer usage per account simply takes the deemed savings associated with customers participating in the program and adds them back to the total annual residential

[2] For example American Housing Surveys for the New York City and Rochester metropolitan areas yield heating saturations for households with natural gas service in the 50% and 92% range respectively.

consumption per accounts and then divides this sum by the total number of residential accounts.

Table 3

| Year 12 Months Ended December | Total Annual Residential Volumes (Mcf) (1) | Estimated Residential Rebate & LIURP Savings (Mcf) (2) | Annual Volumes Assuming no Savings (Mcf) (3)= (1)+(2) | Avg Number of Accts (4) | Average Unadjust Res Usage per Acct (Mcf) (5)= (1)/(4) | Average Adjusted Res Usage per Account (Mcf) (6)= (3)/(4) | Impact on Total Usage per Account (7)= (2)/(4) |
|---|---|---|---|---|---|---|---|
| 2007 | 51,525,220 | | | 479,639 | 107.4 | | |
| 2008 | 51,081,192 | 179,618 | 51,260,810 | 481,689 | 106.0 | 106.4 | 0.4 |
| 2009 | 49,443,110 | 412,565 | 49,885,675 | 482,273 | 102.5 | 103.4 | 0.9 |
| 2010 | 48,246,001 | 663,468 | 48,909,469 | 483,485 | 99.8 | 101.3 | 1.5 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Residential Appliance Rebate Program
Pre and Post Installation Consumption Analysis

| Heating System Only | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normalized Consumption (Mcf) | | | | | | | | | | | | | |
| | | Standard Normalization Method | | | | | | PRISM Normalization Method | | | | | |
| | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation - Prism | 1 Year After Installation - Prism | Change | % Change | Pre | Post |
| November-07 | 220 | 113.664 | 100.732 | -12.932 | -11.4% | 25,006.1 | 22,161.0 | 115.01 | 100.360 | -14.65 | -12.7% | 25,302.2 | 22,079.2 |
| December-07 | 390 | 115.984 | 100.883 | -15.101 | -13.0% | 45,233.8 | 39,344.4 | 116.66 | 100.480 | -16.18 | -13.9% | 45,497.4 | 39,187.2 |
| January-08 | 236 | 118.459 | 108.045 | -10.414 | -8.8% | 27,956.3 | 25,498.6 | 118.82 | 107.060 | -11.760 | -9.9% | 28,041.5 | 25,266.2 |
| February-08 | 167 | 120.540 | 105.544 | -14.996 | -12.4% | 20,130.2 | 17,625.8 | 119.310 | 104.54 | -14.770 | -12.4% | 19,924.8 | 17,458.2 |
| March-08 | 130 | 118.935 | 105.797 | -13.138 | -11.0% | 15,461.6 | 13,753.6 | 117.93 | 105.270 | -12.66 | -10.7% | 15,330.9 | 13,685.1 |
| April-08 | 107 | 112.705 | 101.647 | -11.058 | -9.8% | 12,059.4 | 10,876.2 | 112.57 | 101.220 | -11.35 | -10.1% | 12,045.0 | 10,830.5 |
| May-08 | 111 | 105.553 | 91.731 | -13.822 | -13.1% | 11,716.4 | 10,182.1 | 104.66 | 91.220 | -13.44 | -12.8% | 11,617.3 | 10,125.4 |
| June-08 | 101 | 112.002 | 98.726 | -13.276 | -11.9% | 11,312.2 | 9,971.3 | 111.56 | 98.770 | -12.79 | -11.5% | 11,267.6 | 9,975.8 |
| July-08 | 132 | 101.358 | 92.617 | -8.741 | -8.6% | 13,379.3 | 12,225.4 | 101.53 | 91.540 | -9.990 | -9.8% | 13,402.0 | 12,083.3 |
| August-08 | 142 | 107.459 | 93.244 | -14.215 | -13.2% | 15,259.2 | 13,240.6 | 106.81 | 93.340 | -13.470 | -12.6% | 15,167.0 | 13,254.3 |
| September-08 | 172 | 106.911 | 90.596 | -16.315 | -15.3% | 18,388.7 | 15,582.5 | 106.13 | 90.490 | -15.640 | -14.7% | 18,254.4 | 15,564.3 |
| October-08 | 243 | 119.156 | 103.411 | -15.745 | -13.2% | 28,954.9 | 25,128.9 | 118.7 | 103.250 | -15.450 | -13.0% | 28,844.1 | 25,089.8 |
| November-08 | 239 | 108.180 | 93.651 | -14.529 | -13.4% | 25,855.0 | 22,382.6 | 107.260 | 93.620 | -13.640 | -12.7% | 25,635.1 | 22,375.2 |
| December-08 | 254 | 107.668 | 96.327 | -11.341 | -10.5% | 27,347.7 | 24,467.1 | 107.320 | 96.990 | -10.330 | -9.6% | 27,259.3 | 24,635.5 |
| January-09 | 204 | 115.470 | 106.126 | -9.344 | -8.1% | 23,555.9 | 21,649.7 | 114.890 | 106.590 | -8.300 | -7.2% | 23,437.6 | 21,744.4 |
| February-09 | 158 | 113.160 | 98.811 | -14.349 | -12.7% | 17,879.3 | 15,612.1 | 112.090 | 98.840 | -13.250 | -11.8% | 17,710.2 | 15,616.7 |
| March-09 | 130 | 125.574 | 111.948 | -13.626 | -10.9% | 16,324.6 | 14,553.2 | 124.370 | 112.490 | -11.880 | -9.6% | 16,168.1 | 14,623.7 |
| Total | 3,136 | 113.463 | 100.209 | -13.254 | -11.7% | 355,820.4 | 314,255.4 | 113.171 | 99.998 | -13.173 | -11.6% | 354,904.3 | 313,594.6 |

National Fuel Gas Distribution Corporation
New York Division
Conservation Incentive Program
Pre and Post Installation Consumption Analysis

| LIURP - Heating Measure Only and Heating and Base Load Measures | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Normalized Consumption (Mcf) | | | | | | | | | | | | | |
| | | Standard Normalization Method | | | | | | Prism Normalization Method | | | | | |
| | | | | | | Weighted Annual Consumption | | | | | | Weighted Annual Consumption | |
| Month Unit Installed | Customers | 1 Year Prior to Installation | 1 Year After Installation | Change | % Change | Pre | Post | 1 Year Prior to Installation Prism | 1 Year After Installation - Prism | Change | % Change | Pre | Post |
| March-08 | 2 | 224.434 | 206.736 | -17.698 | -7.9% | 448.9 | 413.5 | 223.73 | 206.19 | -17.54 | -7.8% | 447.5 | 412.4 |
| April-08 | 16 | 207.584 | 188.378 | -19.206 | -9.3% | 3,321.3 | 3,014.0 | 210.83 | 187.12 | -23.71 | -11.2% | 3,373.3 | 2,993.9 |
| May-08 | 21 | 191.983 | 172.857 | -19.126 | -10.0% | 4,031.6 | 3,630.0 | 193.26 | 172.55 | -20.71 | -10.7% | 4,058.5 | 3,623.6 |
| June-08 | 17 | 191.124 | 177.806 | -13.318 | -7.0% | 3,249.1 | 3,022.7 | 190.33 | 177.19 | -13.14 | -6.9% | 3,235.6 | 3,012.2 |
| July-08 | 12 | 182.788 | 166.310 | -16.478 | -9.0% | 2,193.5 | 1,995.7 | 180.68 | 166.8 | -13.88 | -7.7% | 2,168.2 | 2,001.6 |
| August-08 | 23 | 199.974 | 176.599 | -23.375 | -11.7% | 4,599.4 | 4,061.8 | 199.15 | 176.14 | -23.01 | -11.6% | 4,580.5 | 4,051.2 |
| September-08 | 27 | 212.308 | 185.368 | -26.940 | -12.7% | 5,732.3 | 5,004.9 | 213.95 | 185.05 | -28.9 | -13.5% | 5,776.7 | 4,996.4 |
| October-08 | 36 | 189.81 | 171.991 | -17.819 | -9.4% | 6,833.2 | 6,191.7 | 190.48 | 171.15 | -19.33 | -10.1% | 6,857.3 | 6,161.4 |
| November-08 | 59 | 198.374 | 172.794 | -25.580 | -12.9% | 11,704.1 | 10,194.8 | 197.48 | 172.43 | -25.05 | -12.7% | 11,651.3 | 10,173.4 |
| December-08 | 31 | 205.462 | 176.288 | -29.174 | -14.2% | 6,369.3 | 5,464.9 | 205.07 | 176.59 | -28.48 | -13.9% | 6,357.2 | 5,474.3 |
| January-09 | 48 | 196.928 | 171.102 | -25.826 | -13.1% | 9,452.5 | 8,212.9 | 195.76 | 170.89 | -24.87 | -12.7% | 9,396.5 | 8,202.7 |
| February-09 | 64 | 180.461 | 153.149 | -27.312 | -15.1% | 11,549.5 | 9,801.5 | 179.39 | 153.4 | -25.99 | -14.5% | 11,481.0 | 9,817.6 |
| March-09 | 113 | 178.642 | 149.759 | -28.883 | -16.2% | 20,186.5 | 16,922.8 | 177.6 | 149.98 | -27.62 | -15.6% | 20,068.8 | 16,947.7 |
| Total | 469 | 191.197 | 166.165 | -25.032 | -13.1% | 89,671.3 | 77,931.3 | 190.729 | 166.031 | -24.699 | -12.9% | 89,452.1 | 77,868.4 |

Draft

# National Fuel Gas Distribution Corporation, New York Division, Conservation Incentive Program: Impact Analysis Review



Prepared for
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# 1. Introduction

National Fuel is a gas-only utility operating in western New York. National Fuel offers the Conservation Incentive Program (CIP), an overarching energy efficiency program with four main components:

- Low-Income Usage Reduction Program (LIURP)
- Residential Rebates
- Nonresidential Rebates
- Outreach and Education

National Fuel has retained The Cadmus Group, Inc. (Cadmus) to assist with evaluation, measurement, and verification (EM&V) of CIP. Cadmus has assisted Distribution with preparing an EM&V plan, which was approved by Public Service Commission (PSC) staff in early 2011, and is currently conducting a process evaluation of CIP and impact evaluation of the CIP Outreach and Education initiatives.

As part of its evaluation efforts, National Fuel has prepared a pre-post analysis of customer consumption for determining savings associated with CIP. The pre-post analysis is one of several statistical techniques for determining the savings of energy-efficiency programs. This method involves using monthly—or interval—consumption data to measure program impacts. In its role as a third-party evaluator, Cadmus reviewed National Fuel's billing analysis for the impact evaluation. This report provides the results of Cadmus' review which included:

1. A review of National Fuel's methodology and data;
2. A review of National Fuel's methodology for consistency with accepted industry practices; and
3. A comparison of National Fuel and PRISM analysis results, which included replicating select analyses.

# 2. Overview of analyses

The National Fuel rates department currently estimates measure level gas MCF savings for the Conservation Incentive Program (CIP) and the LIURP program through a monthly pre-post-billing analysis approach. In order to prevent misattribution of savings to other measures, the billing analyses are estimated only for customers installing the specific measures.

The programs and technologies evaluated by National Fuel are:

- Group 1: CIP – Heating System Only
- Group 2: CIP – Programmable Thermostats Only
- Group 3: CIP – Water Heating System Only

- Group 3A: CIP – Water Heating System Only (Storage Water Heaters Only)
- Group 3B: CIP – Water Heating System Only (Tankless Water Heaters Only)
- Group 4: CIP – Heating System + Programmable Thermostat Only
- Group LIURP: Low Income Usage Reduction Program only

The data used in the Company billing analyses include customer level billing data, actual weather data, and thirty-year normal heating degree day typical meteorological year (TMY) data from 1971-2000 (TMY 2). The billing data is actual monthly cycle billing data for the 12 months before measure installation, and the 12 months after measure installation. The actual installation month is excluded from the post periods. Both the actual weather data and the thirty-year TMY 2 weather normal data are averaged across the 21 billing cycles used by the Company. This method assures that the weather data, on average, will be representative of the entire National Fuel territory, and that a consistent weather series can be applied to any program or measure grouping in National Fuel's territory.

# 3. Standard Practice for Residential Billing Analyses

The standard billing analysis method for savings impact evaluations with repeated monthly or for measure cohort specific analyses is the Princeton Scorekeeping Method (PRISM). This method allows for easy weather normalization at the account level, at the cohort bin analysis level, and for separate measure analyses. The PRISM program itself does, however, have some drawbacks. This includes the challenges associated with formatting data for PRISM and a requirement to run each weather station analysis separately.

Another drawback of PRISM relates to reference temperature. While the PRISM method chooses a specific reference temperature for each home or group of homes by default, it can also use a standard, fixed 65-degree base temperature. The heating degree days on any given day, is the number of degrees that the temperature is below the base temperature. For example, at 50 degrees the base-65 heating degree days are 15, and the base-60 heating degree days are 10. The 65-degree base temperature is often used by the National Oceanic and Atmospheric Administration (NOAA) and, as a result, weather average normal heating degree days from NOAA such as TMY (1961-1990) and TMY 2 data (1971-2000) thirty-year averages are readily available for the 65-degree base.

Moreover, this fixed base also simplifies model estimation significantly. When PRISM is allowed to choose the temperature base yielding the best model R-square, a measure of model fit, often the reference temperature will vary significantly between accounts. A fixed reference temperature assures that PRISM will not select an extreme reference-base temperature such as 45 or 75, which is not easily explained and non-standard. Cadmus billing analyses have shown that PRISM variable reference temperature models have yielded results similar to fixed-base model results.

Disaggregating consumption into base load and weather-sensitive usage is an important part of billing analysis. This is particularly important when dealing with a program like National Fuel's where there are variable measure types such as water heating and space heating measures. PRISM is unreliable in developing non-weather sensitive base load usage, particularly for gas homes. PRISM will often times find a much lower (50% lower) or negative base load in a home because of the predominant temperature dependant usage. The lower or negative intercepts will yield unreasonable base load estimates which will show higher space heating program savings and much lower water heating program savings from the misallocation. Obtaining the base load or non-weather sensitive usage directly from low-usage months (such as July or August for gas utilities) is the most accurate method for a home or a measure category within a group of homes. In the summer months there is no temperature-sensitive heating usage, and this accurately represents the base-load usage including water heating, drying, and cooking, as these applications are present in the home.

PRISM is also limited in that it compares heating degree days and usage over the entire year rather than accounting for the seasonality inherent in energy use, particularly gas usage. Rather than normalizing weather at a monthly level, effectively obtaining separate usage slopes for each month, PRISM obtains the best fit based on the entire year. In order to calculate the monthly normalized usage, the best fit slope for the year is applied to the monthly average heating degree days. While this yields accurate normalized annual consumption (NAC), it is problematic in that the usage per heating degree day actually varies considerably depending on the month. The PRISM analysis will allocate less usage to peak winter months (for example, January through March) and attribute more weather-sensitive usage to shoulder (April and May) and summer months (July through September) than is reasonable. This attribution of weather-sensitive savings to shoulder and summer months impacts the intercept, biasing the true base-load usage.

# 4. Summary of National Fuel Analyses

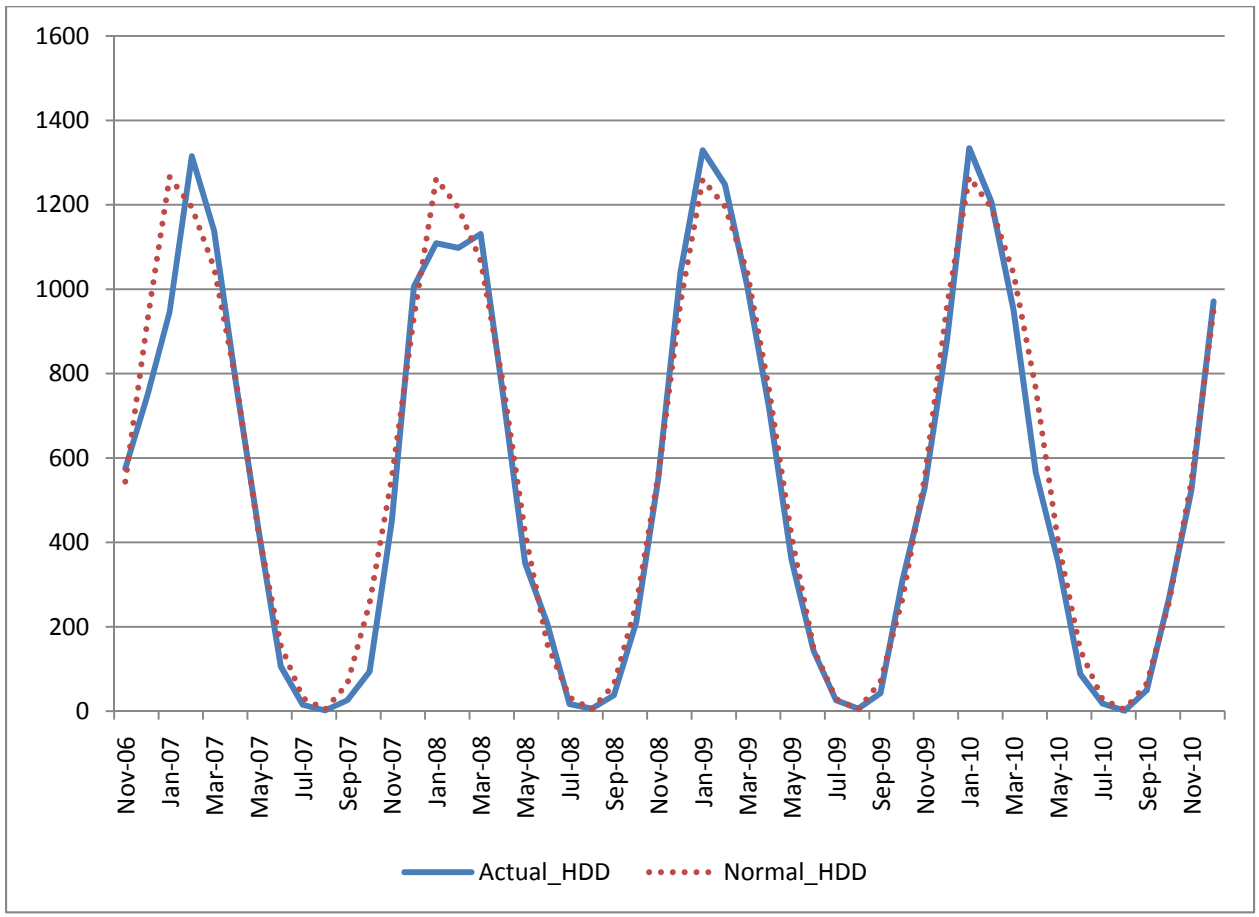
As mentioned above, National Fuel uses a pre-post weather normalization method for each single measure installation in each measure group billing analysis. The Company's approach addresses all of the PRISM shortcomings described above.

Rather than using an annual approach and obtaining a likely unreasonable base-load, National Fuel obtains the base load (non-weather sensitive) usage directly from the low-usage months of July, August, and sometimes September. This is the most accurate method of determining base load usage for a home or for a measure category group.

The Company pre-post billing analysis method is an improvement over PRISM since separate slopes are obtained for each month, rather than an annual slope. The summer months weather-sensitive usage is zero so all of the usage in those months is correctly allocated to base-load usage only. Moreover, even in winter months, the Company method will obtain separate slopes (usages per heating degree day) in the peak winter months of January through March, versus the shoulder months of May and June where the slope (usage per heating degree day) is lower.

Figure 1 below presents the actual and normal monthly weather data series used in the Company's billing analysis. In any given month, if there are more or less heating degree days, the weather sensitive (non-base load usage) is normalized using the normal heating degree days. If the normal heating degree days are higher than the actual heating degree days, the monthly usage is adjusted upwards.

**Figure 1. Actual monthly heating degree days compared to normal heating degree days.**




The weather normalization method used by National Fuel is simpler to incorporate, and more transparent than PRISM.

Based on the billing analysis attrition information of customers provided by National Fuel, 19% of customers (5,712 of 29,416) are dropped from the analysis due to the restriction of each customer having all 12 months of pre and post data. Keeping customers with all the billing data keeps the analysis balanced, removing issues due to movers where a customer in one period can

vary in terms of number of occupants or gas equipment usage, potentially skewing the analysis. Also, missing data for pre or post months will cause imbalanced, skewed usage totals when summing across the customers at the monthly level. It would possible that the pre-period would include only winter months and the post-period contain only summer months, yielding savings that are biased upwards.

The Company performed an analysis in Attachment 4 of the August 17, 2010 filing report comparing the Company billing analysis method versus the best practice PRISM method for both the LIURP group and the CIP program (heating-measures-only group). While the individual group savings for each month of installation varied by as much as 15%, the average savings across all the groups in a measure category were nearly identical.

For this review, Cadmus requested customer level billing data, along with the associated actual and normal weather data series for the Group 3A (storage water heater) and LIURP measure categories. The customer specific data was reviewed and Cadmus verified that when the customer level data is aggregated up to the summary measure analysis level across the accounts, the summaries yield identical results to those presented in the Company filings.

Moreover, Cadmus performed a PRISM billing analysis for the two groups-CIP storage water heaters only group (Group 3A) and the LIURP group - with measure installations in September 2009. For both groups, pre and post PRISM fixed-base 65-degree models were used. The PRISM models provided estimates of weather sensitive, base load, and overall usage and savings per customer.

Table 1. Comparison of Group 3A analysis  provides a comparison of the Company billing analysis and the PRISM fixed-base (65 degree) method. As expected, for both the Group 3A and LIURP groups, the PRISM method yielded lower non-weather sensitive base-load usage than the Company's analysis. The Group 3A savings however were fairly similar between the Company method with a 4.6 MCF (4.5%) reduction, and the PRISM base 65 model with a 3.9 MCF (3.8%) reduction in usage.

**Table 1. Comparison of Group 3A analysis**

| Storage Water Heaters September 2009 (n = 58) | | Company Method (MCF per customer) | | | PRISM (Base 65) (MCF per customer) | | |
|---|---|---|---|---|---|---|---|
| **Period** | **Time Period** | **Weather Sensitive Load** | **Base Load** | **Total Load** | **Weather Sensitive Load** | **Base Load** | **Total Load** |
| Pre | Oct08 - Sep09 | 80.6 | 22.9 | 103.5 | 89.1 | 15.0 | 104.1 |
| Post | Nov09 - Oct10 | 78.4 | 20.5 | 98.8 | 87.9 | 12.3 | 100.2 |
| Pre-Post | Savings | 2.3 | 2.4 | 4.6 | 1.2 | 2.7 | 3.9 |
| (Pre-Post) /Pre | Percent Savings | 2.8% | 10.4% | 4.5% | 1.4% | 17.9% | 3.8% |

Similarly for the LIURP group, the Company method yielded a 20.7 MCF (12.9%) reduction, and the PRISM base 65-degree model yielded a 20.6 MCF (12.7%) reduction in usage. The pre and post weather total normalized usages for the two methods are very similar. Again, as expected although the Company method provides higher base load estimates than PRISM, the total usage and savings estimates per participant are very similar.

**Table 2. Comparison of LIURP analysis**

| LIURP September 2009 (n = 112) | | Company Method (MCF per customer) | | | PRISM (Base 65) (MCF per customer) | | |
|---|---|---|---|---|---|---|---|
| **Period** | **Time Period** | **Weather Sensitive Load** | **Base Load** | **Total Load** | **Weather Sensitive Load** | **Base Load** | **Total Load** |
| Pre | Oct08 - Sep09 | 126.8 | 34.1 | 160.9 | 137.1 | 24.5 | 161.7 |
| Post | Nov09 - Oct10 | 113.4 | 26.8 | 140.1 | 121.7 | 19.3 | 141.1 |
| Pre-Post | Savings | 13.4 | 7.3 | 20.7 | 15.4 | 5.2 | 20.6 |
| (Pre-Post) /Pre | Percent Savings | 10.6% | 21.5% | 12.9% | 11.2% | 21.2% | 12.7% |

# 5. Recommendations

In the current evaluation methodology, National Fuel incorporates a simple yet robust monthly level billing analysis method. Cadmus does not recommend that National Fuel change its method since it is an excellent method for determining savings. The method provides both reliable savings estimates and a simple weather normalization method. Furthermore, the Company method yields transparent monthly estimates of savings, and can be used to calculate savings for each month, ideal for savings reporting. This is also helpful for finding the weather normalized savings on a monthly basis for a specific measure category in a given installation month.