



National Fuel

December 28, 2011

Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
P.O. Box 3265
North Office Building
Harrisburg, Pennsylvania 17105-3265

Re: National Fuel Gas Distribution Corporation
Delta Fund for Research and Development Projects Report

Dear Secretary Chiavetta:

Pursuant to R-00061493 Settlement paragraph 18 A.3 "Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve month period ended September 30, setting forth revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded". The enclosed report is submitted under this settlement agreement.

Acknowledgement hereof is desired and duplicate letter is enclosed with a self-addressed, stamped envelope for that purpose.

Very truly yours,

Eric H. Meini
General Manager
Rates and Regulatory Affairs

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Encl.

Cc: Office of Special Assistants
Office of Consumer Advocate
Office of Small Business Advocate

The provisions of R-00061493 Settlement paragraph 18 A.3 were adopted on November 30, 2006 and effective January 1, 2007. Paragraph 18 A.3 states:

"3. The Joint Petitioners agree to \$526,466 to fund the Delta research and development program pursuant to the Statement of Scott E. Swartzfager No. 14. The deferral treatment and review process outlined in R-00049656 will continue. The company will not expend these dollars on additional customer outreach for enhanced energy efficiency.

Distribution will be permitted to record a regulatory asset or liability for differences between the annual rate allowance and annual expenditures. However, Distribution will not be permitted to retroactively recover in a future proceeding any expenditures in excess of the annual rate allowance and any deferred balance from the previous year's Delta funding. Distribution will provide for review of research projects as described in its testimony. In order to implement this Settlement, the Joint Petitioners request that the Commission's Final Order in this proceeding include the following language to allow Distribution to qualify for deferred accounting under SFAS 71:

"National Fuel Gas Distribution Corporation's accounting policies conform to the Statement of Financial Accounting Standards No. 71 'Accounting for the Effect of Certain Type of Regulations' which are in accordance with the accounting requirements and ratemaking practices of regulatory authorities. The application of these accounting policies allows the Company to defer expenses and income on the balance sheet as regulatory assets and liabilities when it is probable that those expenses and income will be allowed in the rate-setting process in a period different from the period in which they would have been reflected in the income statement by an unregulated Company.

"Because research and development projects often require a commitment over multiple years and because the expenditures for such projects may not match on an annual basis revenues for funding of research and development projects, deferred accounting is appropriate and is approved. The regulatory deferral treatment sought for the Research and Development expenditures and rate relief requested in the case are in accordance with SFAS No. 71.

"The Company will manage the costs of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after the R-00049656 Order was entered."

Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve month period ended September 30, setting

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forth revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded.”

The provisions of R-00049656 Settlement paragraph 44 were adopted on March 23, 2005 and effective April 15, 2005. Paragraph 44 states:

"44. Distribution's proposal to fund the Delta research and development program pursuant to the Supplemental Statement of Ruth Friedrich-Alf No. 102 S2 is approved. Increased rates in this proceeding provide for recovery of \$526,466 in Delta research funds. Distribution will be permitted to record a regulatory asset or liability for differences between the annual rate allowance and annual expenditures. However, Distribution will not be permitted to retroactively recover in a future proceeding any expenditures in excess of the annual rate allowance and any deferred balance from the previous year's Delta funding. Distribution will provide for review of research projects as described in its testimony. In order to implement this agreement, the Parties request that the Commission's Final Order in this proceeding include the following language to allow Distribution to qualify for deferred accounting under SFAS 71:

'National Fuel Gas Distribution Corporation's accounting policies conform to the Statement of Financial Accounting Standards No. 71 'Accounting for the Effect of Certain Type of Regulations' which are in accordance with the accounting requirements and ratemaking practices of regulatory authorities. The application of these accounting policies allows the Company to defer expenses and income on the balance sheet as regulatory assets and liabilities when it is probable that those expenses and income will be allowed in the rate-setting process in a period different from the period in which they would have been reflected in the income statement by an unregulated Company.

'Because research and development projects often require a commitment over multiple years and because the expenditures for such projects may not match on an annual basis revenues for funding of research and development projects, deferred accounting is appropriate and is approved. The regulatory deferral treatment sought for the Research and Development expenditures and rate relief requested in the case are in accordance with SFAS No. 71.

'The Company will manage the costs of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after this Order is entered.'

Distribution will file with the Commission and serve upon other Parties on or before December 31 an annual report for the preceding twelve month period ended September 30, setting forth

revenues for the Delta Fund for research and development projects and expenditures for such projects. In addition, Distribution will describe in the annual report projects that have been funded."

As presented in R-00049656 Statement No. 102 (page 15);

"On an annual basis coming off of September 30, a reconciliation of revenues and expenditures with a description of projects funded will be on file on or before December 31 with the Office of Trial Staff, Office of Consumer Advocate and the office of Small Business Advocate. At the fifth reconciliation, Distribution will file a five year report."

As presented in R-00049656 Statement No. 102 S2 (page 7)

"Annual revenues will be deferred to offset the costs of the Research and Development expenditures (expenses) to both the Gas Technology Institute ("GTI") fund and local projects.

The Company will manage the cost of the Research and Development expenditures to match revenues deferred pursuant to this Order to eliminate any differences between deferred costs and deferred revenues at the end of a five-year period commencing on the day after this Order is entered."

It is under these guidelines and agreements that Distribution files the following report for the period ended September 30, 2011.

National Fuel Gas Distribution Corporation
Pennsylvania Division

Annual Filing of Delta Fund Revenues and Expenditures
For the period ended September 30, 2011

<u>Year Ended</u>	<u>Annual</u>		<u>Cumulative</u>		<u>Balance</u>
	<u>Expenditures</u>	<u>Revenues</u>	<u>Expenditures</u>	<u>Revenues</u>	
Sept. 2005	\$92,300	\$113,927	\$92,300	\$113,927	(\$21,627)
Sept. 2006	\$376,800	\$526,466	\$469,100	\$640,393	(\$171,293)
Sept. 2007	\$596,800	\$526,466	\$1,065,900	\$1,166,859	(\$100,959)
Sept. 2008	\$526,493	\$526,466	\$1,592,393	\$1,693,325	(\$100,932)
Sept. 2009	\$376,368	\$526,466	\$1,968,761	\$2,219,791	(\$251,030)
Sept. 2010	\$455,911	\$526,466	\$2,424,672	\$2,746,257	(\$321,585)
Sept. 2011	\$721,800	\$526,466	\$3,146,472	\$3,272,723	(\$126,251)

Note 1: Rates were effective April 15, 2005 therefore the report ended September 30, 2005 does not represent a 12 month period of revenue collection.

DESCRIPTION OF ACTUAL EXPENDITURES - PERIOD ENDED SEPTEMBER 2011

GTI Utilization Technology Development Program

\$437,300 was submitted to Utilization Technology Development, NFP (UTD) for the April 1, 2011 through March 31, 2012 dues. \$291,504 has been allocated to specific projects as listed below.

Payments, Fees, Credits	Amount
Payments to UTD	\$437,300
Administration Fees	(\$43,730)
Carryover of Unallocated Funds from Prior Year	\$10,166
Miscellaneous Refunds and Credits	\$12
Funds Available for Allocation	\$403,748

Specific projects UTD applied National Fuel's funds to were:

Residential/Commercial Space Conditioning	
(1.7.D) Whole House Energy Efficiency Wizard	\$260
(1.8.P) Green Building Wizard	\$260
(1.9.A) High Efficiency Gas Heating Rooftop Package	\$14,108
(1.10.C) Technical and Market Analysis for a Combined Space and Water Heating Thermal Engine	\$4,916
(1.10.H) Low Cost High Efficiency Condensing Unit Heater	\$3,494
(1.10.J) Low NOx Residential Furnace	\$3,236
(1.10.K) Boiler Demand Monitoring Controls	\$10,975
(1.10.L) Market-based Gas Cooling Technology Assessment	\$3,577
(1.10.U) NextAire GHP Field Test at TECO Energy	\$4,845
(1.10.V) Transport Membrane Humidifier (TMH) for Residential Furnace Field Trial	\$6,345

(1.11.L) Opportunities to Include Gas with Residential Electricity Feed Back Devices and Programs	\$2,720
(1.11.M) Whole House Residential Retrofit Technologies Evaluation (Building America)	\$14,798
(1.11.Q) Initial Evaluation of Ultra Low NOx Burner Technologies (200,000 BTU/hr)	\$8,583
(1.11.R) Technical-Market Assessment of Energy Efficiency MV and Consumer Energy Optimization Technologies	\$1,908
(1.11.T) Residential and Commercial Gas Fired Clothes Dryer Opportunity Assessment and Technology Development	\$8,214

Residential/Commercial Water Heating

(1.9.C) Low Cost Condensing Water Heaters	\$3,107
(1.9.E) Residential Hybrid Gas-Solar Water Heating System Demonstrations	\$576
(1.10.E) Hybrid Optimized Tankless (HOT) Water Heater Prototype Field Testing	\$3,472
(1.11.F) North American 100 Unit Combo Field Demo	\$20,000
(1.11.G) Integrated Contact Condensing Water Heater (ICCWH)	\$9,953
(1.11.H) Next Generation Water Heating Component Support	\$5,476
(1.11.K) Impact of Water Quality on HI-EF Water Heating - Scoping	\$11,845

Commercial Food Service

(1.10.D) Rethermalizer In-Restaurant Demonstration	\$231
(1.11.A) Food Service Audit and Survey	\$11,457
(1.11.D) Gas Fired Conveyor Warewasher	\$1,369
(1.11.W) Jacketed Kettle Demonstration	\$1,554
(1.11.Y) NextAire Chiller Link Energen Headquarters Case Study	\$5,845
(1.11.Z) Competitive Assessment of Daikin Altherma™ System	\$5,845
(1.10.D) Rethermalizer In-Restaurant Demonstration - REFUND	(\$2,977)

Industrial Solutions

(2.6.A) Energy and Water Recovery from Flue Gasses and Waste Streams Using Nanoporous membrane Technology in Retrofit Applications	\$2,126
(2.9.G) Low Temperature Heat and Water Recovery	\$7,214
(2.10.C) Product Catalog	\$1,558
(2.10.D) 5 ppm NOx Burners	\$4,117
(2.10.F) Oxygen Enriched Combustion for Increased Energy Efficiency and Reduced Emissions	\$7,069
(2.11.E) Active Burner Control Scheme/Design for Increased Efficiency/Stability	\$10,691
(2.11.G) Solar Cooling	\$3,691
(2.11.I) Reducing CO2 at the Source Phase II	\$13,691
Next Phase TCR GTI project - related to 2.11.I	\$10,000
(2.11.J) Field Deployment and Commercialization Plan for Low NOx/Low Cost Sensors	\$6,845
(2.11.L) TMC Performance Monitoring at RBC	\$3,107
(2.11.P) Waste Heat Recovery from Corrosive Industrial Exhaust Gases	\$6,845

Combined Cooling Heat & Power

(2.11.O) High Efficiency Steam Driven CHP System-Phase II	\$7,000
(2.8.E) Yanmar Micro-CHP Field Demonstrations - REFUND	(\$9,691)

Transportation

(2.11.D) Design and Development of Timed Fill CNG Metering System and Controls	\$14,798
(2.11.Q) NGV Home and Small Fleet Fueling	\$3,107

(2.11.R) NGV Vehicle Cost Benchmarking and Reduction Pathways	\$13,691
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Carbon Management/Environmental

Carbon Management Information Center	\$17,381
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Siloxane GTI Project	\$369
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Other

(1.10.A) Gas Technology Advisor - Program Upkeep	\$260
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(1.10.W) Development of an End Use New Technology Roadmap	\$1,638
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Funds Allocated to Projects	\$291,499
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Unallocated Funds	\$112,249
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GTI Operations Technology Development Program

\$284,500 was submitted to Operations Technology Development, NFP (OTD) for the 2011 membership fee. \$273,218 has been allocated to specific projects as listed below.

FY 2011	Amount
Payments to OTD	\$284,500
Administration Fees	(\$21,338)
Carryover of Unallocated Funds from Prior Year	\$23,497
2010 Interest, Royalty and Report Sales	\$682
Miscellaneous Refunds and Credits	\$546
Funds Available for Allocation	\$287,887

Specific projects OTD applied National Fuel's funds to were:

(1) Pipe and Leak Location

(1.8.a) GPS-Based Excavation Encroachment Notification	\$9,227
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(1.10.a) Ethane-Only Detector	\$4,701
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(1.10.c) Accoustic Pipe Locator - Technology Transfer	\$5,536
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(1.11.a) Cross Bores - Evaluation of Chemical Detection Methods	\$3,691
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(1.11.c) Low-Cost MEMS Methane Sensor Platform Phase 1	\$9,227
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(1.11.f) Locatable Plastic Pipe	\$3,691
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(2) Pipe Materials, Repair, and Rehabilitation

(2.8.e) Structural Liners and Sleeves - Technology Search	\$787
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(2.9.e) High Pressure Inflatable Stoppers – Alternative to Traditional Stopping Equipment	\$948
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(2.10.b) Polyurea Coating Testing and Assessment for Gas Industry Use	\$967
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(2.11.d) RSD X-Ray for PE Assessment - Testing and Validation	\$7,381
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(2.11.g) Composite Piping Systems Development, Application and Evaluation Workshop	\$3,691
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(2.11.h) Evaluation of Below Grade Pipe Surface Preparation Tools	\$3,256
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(4) Pipeline Integrity Management and Automation

(4.7.g) Yield Strength	\$3,691
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(4.8.i) Extended Reassessment Interval Validation Through Dielectric Wax Casing Fill	\$910
(4.8.j) (GTI) Distribution Integrity Management Risk Model	\$738
(4.9.b) 2" Camera for Live Gas – Internal	\$11,928
(4.10.c) Testing and Design of Casing End Seals	\$745
(4.11.c) MFL Inspection System for 8 or 12 Inch Diameter Gas Lines	\$14,763
(4.11.d) Internal Inspection Optimization Program (GTI)	\$15,000
(4.11.e) Evaluating Assessment Technique Effectiveness	\$13,691
(4.11.f) Understanding Threat Interactions for Risk Analysis (GTI)	\$3,691
(5) Operations Infrastructure Support	
(5.7.p) (GTI) GPS Consortium	\$5,536
(5.8.e) Development of Standardized Algorithms and Identifiers for Enhanced Material Tracking and Traceability	\$5,536
(5.8.g) Foreign Technology Transfer	\$1,845
(5.10.a) Evaluation of Ionix Static Suppressor on Existing PE Piping Systems	\$1,566
(5.10.c) Leveraging Consumer Technologies for Utility Operations	\$1,582
(5.11.e) Intelligent Data Systems	\$5,536
(5.11.h) Automating the Capture of Public Data for Integrity Management Database Specs	\$1,845
(5.11.m) Intelligent Utility Installation Process	\$3,691
(5.11.p) Smart Grid Initiative Standards and Regulations	\$10,000
(6) Other	
(6.a) (GTI) SMP	\$36,907
(6.6.a) (GTI) Keyhole Project	\$7,381
(6.8.a) (GTI) Carbon Management Information Center	\$25,000
(6.11.a) PRCI Membership	\$5,536
(7) Environmental, Renewables and Gas Quality	
(7.9.c) Assessing Acceptable Siloxane Concentrations in Biomethane	\$1,845
(7.10.a) Trace Constituents in NG - Characterization and Measurement for the Purposes of Comparative Analysis with Renewable Gas - Phase II (GTI)	\$12,917
(7.10.c) Improving Methane Emission Estimates for NG Distribution Companies, Phase 2	\$855
(7.10.d) Development of Beta-Prototype of In-Line Biofilter for Biocleaning of Biomethane Prior to Injection	\$3,691
(7.11.a) Gas Quality Resource Center	\$20,000
(7.11.b) Trace Constituents Sensors	\$3,691
Funds Allocated to Projects	\$273,220
 Unallocated Funds	 \$14,667

LOCAL OPPORTUNITY PROJECTS

No dollars were expended for Local Opportunity Projects in 2011.

SUMMARY OF EXPENDITURES - 2011

Utilization Technology Development Program	\$437,300
Operations Technology Development Program	\$284,500
Local Opportunity Projects	\$0
Total Pennsylvania Delta Funds Program Expenditures	<u>\$721,800</u>

PROJECTED EXPENDITURES - PERIOD ENDING SEPTEMBER 2012

Expenditures for National Fuel Gas Distribution Corporation's Pennsylvania Delta Funds RD&D Program are projected to be \$552,000 in 2012 consisting of the following charges:

1. **Utilization Technology Development (UTD)** membership fees of approximately \$187,500. Specific projects to be determined.
2. **Operations Technology Development (OTD)** membership fees of approximately \$184,500. Specific projects to be determined.
3. **Local Opportunity Projects** spending estimate of \$180,000. Funds not used for the development of suitable local technology projects in National Fuel territory will be allocated to the national Gas Technology Institute programs above.

STATUS UPDATE OF LOCAL OPPORTUNITY PROJECTS- 2011

1. **Clarion University Microturbine.** This combined heat and power hybrid system consisting of a natural gas microturbine and a solar array produces electricity to meet the needs of the new science building at Clarion University. Heat produced by operation of the microturbine is captured and used to reduce additional fuel purchases. The system has been operating successfully, efficiently and reliably since August 2010. The project has not yet been closed because of an open item. A final payment to the University will be made upon completion of a video display board in the lobby, which will provide real-time system performance and benefits. Budget cut-backs and key personnel changes delayed implementation of this final task. National Fuel is working cooperatively with the University to complete this work to close-out the project.
2. **Natural Gas Powdered Metals Sintering Furnace.** Work is continuing on this project by engaging the Pennsylvania State University Erie to continue with computer modeling studies in support of the natural gas furnace sintering furnace manufacturer's design development. Efforts this year consisted of meetings among the parties to discuss the designs, options and further analysis needed to result in competing alternatives to electric furnaces. No additional program funds were expended this year to have PSU Erie conduct those studies pending agreement on how to proceed.
3. **Advanced Heat Recovery System (AHRS).** This project is a new initiative by National Fuel working with the Gas Technology Institute (GTI) to identify sites which could benefit from this new energy efficient Transport Membrane Condenser (TMC) technology. The TMC is a primary component of the AHRS, which in turn is a spin-off from the Federally-funded SuperBoiler project. The TMC has been commercially introduced to the nation by Cannon Boiler Works of New Kensington, PA as the Ultramizer, under license from the GTI. The start-up of the first commercial TMC system occurred in 2010 at City Brewing Company of Latrobe, PA to improve energy efficiency and reduce costs by recovering heat from the exhaust of their boiler. National Fuel is continuing to work with the GTI through its Utilization Technology Development program to secure a site in National Fuel's Pennsylvania service territory.

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