



National Fuel

December 30, 2010

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

RECEIVED

DEC 30 2010

PA PUBLIC UTILITY COMMISSION
SECRETARY'S BUREAU

Dear Secretary Chiavetta;

Pursuant to R-00061493 Settlement paragraph 18 A.3 and R-00049656 Settlement paragraph 44, an annual Report outlining revenues for Delta Fund research and development projects and expenditures for such projects is to be filed with the Commission by December 31, 2005 and every year thereafter for a five year period. The enclosed report is the sixth report and provides a five year reconciliation submitted under these settlement agreements.

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

Very truly yours,

Eric H. Meind
General Manager
Rates and Regulatory Affairs

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. Swarfager 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 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, 2009. This is the fifth annual report.

National Fuel Gas Distribution Corporation
Pennsylvania Division

Annual Filing of Delta Fund Revenues and Expenditures
For the period ended September 30, 2010

<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)

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 2010

GTI Utilization Technology Development Program

\$257,300 was submitted to Utilization Technology Development, NFP (UTD) for the April 1, 2010 through March 31, 2011 dues. \$255,090 has been allocated to specific projects as listed below. Future adjustments will be made due to over-allocation of funds.

Payments to UTD	\$257,300
Administration Fees	(\$25,730)
Administration Refund	\$1,628
Carryover of Unallocated Funds from 2009	\$9,314
Funds Available for Allocation	\$242,512

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

Residential/Commercial Space Conditioning	
(1.7.D) Whole House Energy Efficiency Wizard	\$425
(1.8.P) Green Building Wizard	\$425
(1.9.A) High Efficiency Gas Heating Rooftop Package	\$2,381
(1.10.A) Gas Technology Advisor - Program Upkeep	\$284
(1.10.B) Residential and Multifamily Venting Program 2010 Scope	\$15,561
(1.10.C) Technical and Market Analysis for a Combined Space and Water Heating Thermal Engine	\$2,953
(1.10.H) Low Cost High Efficiency Condensing Unit Heater	\$10,826
(1.10.J) Low NOx Residential Furnace	\$6,191
(1.10.K) Boiler Demand Monitoring Controls	\$13,121
(1.10.L) Market-based Gas Cooling Technology Assessment	\$8,191

Residential/Commercial Water Heating

(1.8.G) Solar Assisted Natural Gas Energy Systems - New Task for Residential Markets	\$496
(1.8.H) Solar/Natural Gas Domestic Hot Water Solution	\$4,263
(1.9.C) Low Cost Condensing Water Heaters	\$2,665
(1.9.E) Residential Hybrid Gas-Solar Water Heating System Demonstrations	\$871
(1.9.F) Commercial Hybrid Gas-Solar Water Heating System Demonstrations	\$4,497
(1.10.E) Hybrid Optimized Tankless (HOT) Water Heater Prototype Field Testing	\$23,691
(2.6.E) Solar-Assisted Natural Gas Energy Systems	\$1,231

Commercial Food Service

(1.7.K) Wok Burner Improvements and Testing	\$15
(1.8.N) Deployment of New Technology Key/National Accounts	\$280
(1.10.D) Rethermalizer In-Restaurant Demonstration	\$1,661

Industrial Process and Power Production

(2.6.A) Energy and Water Recovery from Flue Gasses and Waste Streams Using Nanoporous membrane Technology in Retrofit Applications	\$27,796
(2.7.A) TCR for Recip Engines	\$6,828
(2.9.C) Low Cost O2/NOX Sensors	\$1,572
(2.10.A) High Efficiency Steam Driven CHP System	\$10,000
(2.10.C) Product Catalog	\$1,735
(2.10.D) 5 ppm NOx Burners	\$24,845
(2.10.F) Oxygen Enriched Combustion for Increased Energy Efficiency and Reduced Emissions	\$7,958
(2.10.L) TMC/Wet Scrubber Demonstration	\$25,000

Transportation

(2.10.H) Design, Development and Certification of ESI 9.3L Heavy Duty NG Engine	\$27,566
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Carbon Management

Carbon Management Information Center	\$32,917
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Other

Support for MIT "The Future of Natural Gas" policy report	\$3,691
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Refunds

(1.7.I) Gas Fired Warewasher Field Test - REFUND	(\$1)
(2.5.D) Direct Flame Impingement (DFI) Technology for the Non-Ferrous Forging and Aluminum Extrusion Industries - REFUND	(\$7,381)
(2.9.D) High-Temperature Hybrid Glow Tube - REFUND	(\$7,381)
Miscellaneous Refunds and Adjustments - REFUND	(\$83)

Funds Allocated to Projects	\$255,090
Unallocated Funds	(\$12,578)

GTI Operations Technology Development Program

\$184,500 was submitted to Operations Technology Development, NFP (OTD) for the 2010 membership fee. \$162,162 has been allocated to specific projects as listed below.

Payments, Fees, Carryovers, Etc.

Payments to OTD	\$184,500
Administration Fees	(\$13,838)
Administration refund	\$695
2009 Interest, Royalty and Report Sales	\$629
Carryover of Unallocated Funds from Prior Year	(\$289)
Total Funds Available for Allocation	\$171,697

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

(1) Pipe and Leak Location

(1.6.b) Micro Excavation Commercialization and Application Development (REFUND)	(\$1,829)
(1.8.a) GPS-Based Excavation Encroachment Notification	\$3,248
(1.9.a) GPS Leaks - Phase 2 (see 1.8.c)	\$11,072
(1.10.a) Ethane-Only Detector	\$5,536
(1.10.c) Accoustic Pipe Locator - Technology Transfer	\$1,338
(1.10.d) Instrument to Detect Transection of PE Pipe with Other Underground Conduits, Phase 1	\$1,845

(2) Pipe Materials, Repair, and Rehabilitation

(2.7.b) Qualification of Saddle and Electrofusion Joint Designs and Test Methods to Validate Safe Long Term Performance, Phase 2	\$7,381
(2.8.e) Structural Liners and Sleeves - Technology Search	\$3,691
(2.9.c) Field Applied Pipeline Coatings phase IV (GTI)	\$3,691
(2.9.e) High Pressure Inflatable Stoppers – Alternative to Traditional Stopping Equipment	\$3,277
(2.10.b) Polyurea Coating Testing and Assessment for Gas Industry Use	\$1,845

(3) Excavation and Site Restoration	
(3.8.b) Rock Drill Lift Assist	\$6,791
(4) Pipeline Integrity Management and Automation	
(4.e) Inspection Platforms for Unpiggable Pipelines (NYSEARCH) (REFUND)	(\$2,826)
(4.7.g) Yield Strength	\$3,122
(4.8.i) Extended Reassessment Interval Validation Through Dielectric Wax Casing Fill	\$5,192
(4.8.j) (GTI) Distribution Integrity Management Risk Model	\$2,516
(4.10.c) Testing and Design of Casing End Seals	\$1,845
(5) Operations Infrastructure Support	
(5.8.g) Foreign Technology Transfer	\$6,010
(5.9.c) Mitigating Electrical Interferences on Cathodic Protection	\$11,651
(5.9.e) Remote Meter Shut-Off Device – Identification, Testing, and Utility Pilot Program	\$1,743
(5.9.f) Cathodic Protection Monitoring Technology Deployment	\$0
(5.9.h) North American Manufacturer Outreach	\$915
(5.10.a) Evaluation of Ionix Static Suppressor on Existing PE Piping Systems	\$1,845
(5.10.c) Leveraging Consumer Technologies for Utility Operations	\$1,845
(6) Other	
(6.a) (GTI) SMP	\$36,907
(7) Environmental Science and Forensic Chemistry	
(7.7.a) Dipstick Test for PCB Determination in the Field	\$10,822
(7.7.c) Innovative Forensic Technique for Identifying VOC Sources (REFUND)	(\$1,707)
(7.8.a) (GTI) Pipeline Quality Biomethane: Guidance Document for Landfill and Water Treatment Conversion	\$7,381
(7.9.a) Microbiological Testing - Phase II	\$7,381
(7.9.d) Improving Methane Emission Estimates for Natural Gas Distribution Companies	\$846
(7.10.a) Trace Constituents in NG - Characterization and Measurement for the Purposes of Comparative Analysis with Renewable Gas - Phase II (GTI)	\$2,953
(7.10.b) Odor Fade (GTI)	\$8,466
(7.10.c) Improving Methane Emission Estimates for NG Distribution Companies, Phase 2	\$3,691
(7.10.d) Development of Beta-Prototype of In-Line Biofilter for Biocleaning of Biomethane Prior to Injection	\$3,691

Adjustments and Miscellaneous Small Refunds (REFUND) (\$13)

Funds Allocated to Projects \$162,162
Unallocated Funds \$9,535

LOCAL OPPORTUNITY PROJECTS

\$14,111 was expended for Local Opportunity Projects in 2010. Specifically, a payment in January 2010 of \$14,111 was made to Pennsylvania State University for Phase 1 and 2 of the Sintering Furnace Thermal Analysis.

SUMMARY OF EXPENDITURES - 2010

Utilization Technology Development Program	\$257,300
Operations Technology Development Program	\$184,500
Local Opportunity Projects	<u>\$14,111</u>
Total Pennsylvania Delta Funds Program Expenditures	<u>\$455,911</u>

PROJECTED EXPENDITURES - PERIOD ENDING SEPTEMBER 2011

Expenditures for National Fuel Gas Distribution Corporation's Pennsylvania Delta Funds RD&D Program are projected to be \$750,000 in 2011 consisting of the following charges:

1. **Utilization Technology Development (UTD)** membership fees of approximately \$286,000. 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 \$279,500. This spending includes a final \$12,486 progress payment to Clarion University of Pennsylvania for the ongoing power generation energy laboratory project at their new Science and Technology Center; \$15,000 allotment for additional Sintering Furnace computer modeling by Pennsylvania State University-Erie (PSU-Erie); a \$102,000 reserve for possible construction of a demonstration furnace at a sintering shop in National Fuel territory; and a \$150,014 reserve to assist in funding an Advanced Heat Recovery System technology demonstration host site in National Fuel territory.

STATUS UPDATE OF LOCAL OPPORTUNITY PROJECTS- 2010

1. **Clarion University Microturbine.** The Clarion University project for the on-site generation of electrical energy with a microturbine is currently in operation. The hybrid system includes a solar array producing electricity during peak daytime hours with the microturbine providing continuous base load power needs. The final payment will be made upon completion of the public video display board in the building, which will provide real-time system performance and benefits.
2. **Natural Gas Powdered Metals Sintering Furnace.** The previous computer modeling study conducted by PSU-Erie, and funded by this program, was a thermal analysis of an improved natural gas sintering furnace design by National Fuel. This design was based upon an energy-optimized approach focused on reducing operating costs and emissions. This initiative, in turn, was based upon powdered metal sintering furnace operators seeking ways to reduce their operating costs and maintaining competitive pricing. Since the previous report, a major sintering furnace manufacturer in St. Marys, PA has become engaged in the design improvement project. The manufacturer advised that some aspects of the energy-optimized design will not lend

themselves well to sintering practice. They are now sharing confidential technical information and making suggestions on how both aspects of furnace designs may be reconciled. This will require additional modeling by PSU-Erie to confirm expected performance. The plan is support the manufacturer in developing new design standards for this furnace and to assist in the fabrication of a technology demonstration test furnace for operation at a production facility in National Fuel's territory.

3. **On-Site Hydrogen Generation System.** This project involved identifying and qualifying manufacturing facilities using purchased hydrogen for their industrial processes. The on-site generation of high-purity hydrogen produced by reforming natural gas had prospects of reducing costs and providing more reliable supplies. A number of sites had been identified with significant customer interest. Business conditions and capital spending constraints prevented those customers from making the necessary financial commitments. Unfortunately, in the meantime, hydrogen generation system manufacturers ceased, or suspended, operations. Suitable equipment is no longer available. No program funds were expended in this effort.
4. **Natural Gas Aluminum Die-Cast Furnace.** This project was an attempt to work with a local industrial furnace service company, also an electric furnace line manufacturer's representative, to modify an existing electric aluminum die-cast furnace to natural gas. The goal was to provide a furnace with lower operating costs than electric while maintaining high quality, reliability and low maintenance costs. The target furnace was found to be unsuitable by the customer. National Fuel is continuing to examine alternatives on behalf of our customer. No program funds were expended in this effort.
5. **Advanced Heat Recovery System (AHRs).** This project is a new initiative by National Fuel working with the UTD to host a development and demonstration site for the Transport Membrane Condenser (TMC) technology. The TMC is a primary component of the AHRs, which in turn is a spin-off from the SuperBoiler project. The AHRs 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 system has recently occurred at City Brewing Company of Latrobe, PA to improve the energy efficiency by recovering sensible and latent heat from the exhaust of the boiler. Because this technology is seen to be applicable to a wide range of industries, National Fuel is working with GTI-UTD to secure a host site for energy recovery in a non-boiler application.

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DEC 30 2010

National Fuel Gas Distribution Corporation
 Pennsylvania Division
 Five Year Reconciliation - by Project

PA PUBLIC UTILITY COMMISSION
 SECRETARY'S BUREAU

UTD Project Code		FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	Total
1.5.E	Gas Technology Advisor for Commercial Applications - Food Service Module	18,460						18,460
1.6.A	Gas Technology advisor for Commercial Applications - Space Conditioning, Water Heating and Specialty Appliances		39,227	8,691				47,918
1.6.C	Commercial Pressury Fryer Durability and Beta Testing		2,030		(710)			1,320
1.6.D	Advanced Fryer Characteristics testing and Field Demonstration				710	(59)		651
1.7.C	Venting Solutions			1,845	2,214			4,059
1.7.D	Whole House Energy Efficiency Wizard			6,845	4,049		425	11,319
1.7.E	Residential Water Heater Baselineing				4,815			4,815
1.7.J	Residential Furnace NOx Emissions			6,000	508			6,508
1.7.I	Gas Fired Warewasher Field Test				12		(1)	11
1.7.K	Wok Burner Improvements and Testing					59	15	74
1.8.A	Gas Options for Improved Indoor Air Quality				30,000	12,390		42,390
1.8.B	Residential Venting Program				44,244	17,808		62,052
1.8.F	Roadmap for Gas Usage in net-zero energy homes				1,476	795		2,271
1.8.G	Solar Assisted Natural Gas Energy Systems - Residential Markets				11,845		496	12,341
1.8.H	Solar Natural Gas Domestic Hot Water Solutions				6,845	6,548	4,263	17,656
1.8.L	Gas Fired Rethermalizer				8,000	3,422		11,422
1.8.N	Deployment of New Technology Key/National Accounts				2,768	1,218	280	4,266
1.8.P	Green Building Wizard				8,218	7,972	425	16,615
1.9.A	High Efficiency Gas Heating Rooftop Package					3,691	2,381	6,072
1.9.B	Residential Furnace NOX Emmissions					923		923
1.9.C	Low Cost Condensing Water Heaters					2,768	2,665	5,433
1.9.D	Hybrid Optimized Tankless (HOT) Water Heater					3,229		3,229
1.9.E	Residential Hybrid Gas-Solar Water Heating System Demonstrations					1,845	871	2,716
1.9.F	Commercial Hybrid Gas-Solar water Heating System Demonstrations					2,399	4,497	6,896
1.10.A	Gas Technology Advisor - Program Upkeep						284	284
1.10.B	Residential and Multifamily Venting Program 2010 Scope						15,561	15,561
1.10.C	Technical and Market Analysis for a Combined Space and Water Heating Thermal Engine						2,953	2,953
1.10.D	Rethermalizer In-Restaurant Demonstration						1,661	1,661
1.10.E	Hybrid Optimized Tankless (HOT) Water Heater Prototype Field Testing						23,691	23,691
1.10.H	Low Cost High Efficiency Condensing Unit Heater						10,826	10,826
1.10.J	Low NOx Residential Furnace						6,191	6,191
1.10.K	Boiler Demand Monitoring Controls						13,121	13,121
1.10.L	Market-based Gas Cooling Technology Assessment						8,191	8,191
2.0.C	High-Efficiency Flexible Combined Heat and Power (CHP) unit				20,000	163		20,163
2.0.E	Field Demonstration of Prototype Super Boiler	9,230	4,023	3,187	12,179			28,619
2.0.G	Recuperative Reformer for High Efficiency and Ultra-Low Emissions DG with Reciprocating Engines Phase I & II	14,768	14,579	2,573				31,920
2.5.D	Direct Flame Impingement (DFI) Technology for the Non-Ferrous Forging and Aluminum Extrusion Industries		7,381	6,577	3,327	7,381	(7,381)	17,285
2.5.H	Deployment of the Reverse Annulus Single Ended Radiant Tube (RASERT)	3,692	7,381	5,004				16,077
2.5.I	Zero Emmission Power from Waste Heat (Zeph Process)	11,076	7,381					18,457
2.5.L	Demonstration of a Human-Machine Interface (HMI) Control/Doagnostic System for Stationary Engines	25,844	19,127					44,971

National Fuel Gas Distribution Corporation
 Pennsylvania Division
 Five Year Reconciliation - by Project

		FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	Total
2.6.A	Energy and Water Recovery from Flue Gasses and Waste Streams Using Nanoporous Membrane Technology in Retrofit Applications		9,227	16,434	22,643	11,058	27,796	87,158
2.6.C	Optimization of a Metallic Gas-Fired GlowTube for Process Heating Applications		48,287	35,660	2,953			86,900
2.6.E	Solar-Assisted Natural Gas Energy Systems			15,000	2,132	5,536	1,231	23,899
2.7.A	TCR for Recip Engines			50,000	18,454	11,072	6,828	86,354
2.7.J	Industrial Road Map			6,000				6,000
2.7.K	Super Boiler Technology for Large Watertube Boilers - Phase 1				706			706
2.7.L	Customer Project Development				82,454	(7,381)		75,073
2.8.E	Yanmar Micro-CHP Field Demonstrations				5,905			5,905
2.8.H	Industrial Technology Opportunity Assessments				1,845			1,845
2.9.B	Residential Fueling Development - Investigate Novel Refrigeration Compression System					2,768		2,768
2.9.C	Low Cost O2/NOX Sensors					1,845	1,572	3,417
2.9.D	High-Temperature Hybrid Glow Tube					7,381	(7,381)	0
2.9.G	Low Temperature Heat and Water Recovery					1,107		1,107
2.10.A	High Efficiency Steam Driven CHP System						10,000	10,000
2.10.C	Product Catalog						1,735	1,735
2.10.D	5 ppm NOx Burners						24,845	24,845
2.10.F	Oxygen Enriched Combustion for Increased Energy Efficiency and Reduced Emissions						7,958	7,958
2.10.H	Design, Development and Certification of ESI 9.3L Heavy Duty NG Engine						27,566	27,566
2.10.L	TMC/Wet Scrubber Demonstration						25,000	25,000
	Carbon Management				37,918	3,691	32,917	74,526
	Support for MIT "The Future of Natural Gas" policy report						3,691	3,691
	Miscellaneous Adjustments					(451)	(83)	(534)

Allocated to UTD Projects **\$83,070** **\$158,643** **\$163,816** **\$335,510** **\$109,178** **\$255,090** **\$1,105,307**

OTD Project Code

1.0.c	Miniature Ethane/Methane Detector (EMD) for Leak Survey		10,098		(181)			9,917
1.0.ee	Portable Methane Detector (PMD) Improvements and Field Evaluations		4,383		(141)			4,242
1.0.h	Hand-held Acoustic Pipe Detector (Phase I)		4,429			5,536		9,965
1.0.h	Hand-held Acoustic Pipe Detector (Phase II & III)		12,917	10,242				23,159
1.0.k	Commercialization of an Obstacle Detection System Using GPR		14,763	8,217	5,958			28,938
1.6.b	Micro Excavation Commercialization and Application Development		5,536	7,750			(1,829)	11,457
1.7.a	Universal Utility Locator			1,845	(1,293)			552
1.7.e	Technology Transfer of Portable Methane Detector			6,870				6,870
1.8.a	GPS-based Excavation Encroachment Notification				3,691	3,682	3,248	10,621
1.8.c	GPS-enabled leak surveying and pinpointing				3,691	3,691		7,382
1.9.a	GPS Leaks - Phase 2					7,381	11,072	18,453
1.9.f	SoniPulse Close Out and Transfer					333		333
1.10.a	Ethane-Only Detector						5,536	5,536
1.10.c	Acoustic Pipe Locator - Technology Transfer						1,338	1,338
1.10.d	Instrument to Detect Transection of PE Pipe with Other Underground Conduits, Phase 1						1,845	1,845
2.0.b	Service Applied Main Stopper				2,612			2,612
2.0.f	Safe, Reliable Operation and Maintenance of Aldyl-ATM plastic pipe systems				7,677			7,677
2.0.cc	High Pressure Plastic Pipe Materials		2,626					2,626

National Fuel Gas Distribution Corporation
 Pennsylvania Division
 Five Year Reconciliation - by Project

		FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	Total
2.0.ff	Evaluation for Impact of "Rework"			(1,859)				(1,859)
2.0.jj	Increase in Design Factor - Phase I & II		2,954					2,954
2.5.b	50 to 70 Year Maintenance-Free Pipeline Coatings for Critical Locations		7,187		(2,134)			5,053
2.6.e	Ultrasonic Inspection of Fusion Welds on PE Mains		5,536	6,663				12,199
2.6.h	"Black Powder" Contamination in the Gas Industry: Survey and Best Practice Manual		7,381					7,381
2.7.b	Qualification of Saddle and Electrofusion Joint Designs and Test Methods to Validate Safe Long Term Performance			7,381	3,691	7,381	7,381	25,834
2.7.d	Cold Adhesive Repair (CAR) and Joining of Polyethylene Pipes with Minimal Surface Preparation			3,691	3,421			7,112
2.7.j	Qualification of Butt Heat Fusion Joint to Validate Safe Long Term Performance			5,536				5,536
2.7.k	No-Dig Service Reconnection			2,842				2,842
2.7.l	Increase in Design Factor - Phase III			2,407	2,614			5,021
2.8.b	Use of Reinforced Thermoplastic Pipe Materials				1,845	295		2,140
2.8.e	Structural Lines and Sleeves - Technology Search				3,691	2,141	3,691	9,523
2.8.g	Pipe Splitting Enhancement Project - Joint Trench and Other Applications				2,583			2,583
2.9.b	Accelerated Cyclic Fatigue					3,691		3,691
2.9.c	Field Applied Pipeline Coatings Phase IV (GTI)					14,763	3,691	18,454
2.9.e	High Pressure Inflatable Stoppers - Alternative to Traditional Stopping Equipment					4,853	3,277	8,130
2.9.i	PA11 and PA12 Demonstration Project					3,691		3,691
2.10.b	Polyurea Coating Testing and Assessment for Gas Industry Use						1,845	1,845
3.0.dd	Development/Enhancement of Trenchless Service Installation Through Keyholes		5,540					5,540
3.0.e	Micro-Excavation System Applications		(2,929)					(2,929)
3.8.b	Rock Drill Lift Assist						6,791	6,791
4.0.b	Reduce Mandated Inspection Costs by Remote Field Eddy Current Inspection of Unpiggable Pipelines		1,755	(2,591)				(836)
4.0.e	Inspection Platforms for Unpiggable Pipelines (NY Gas)		10,708	18,454		2,826	(2,826)	29,162
4.0.ee	Broadband Electromagnetic Technology - Sensor to Measure Wall Thickness		8,190		1,642			9,832
4.5.a	Camera Inspections on Live Mains thru Keyholes		9,637		(67)			9,570
4.5.d	Monitor Internal Corrosion Using Fluidized Sensors		12,301	2,458		(2,107)		12,652
4.7.a	In-Field Corrosion Rate Measurement/Determination for Integrity Reassessment Intervals and Risk Prioritization			5,536	6,814			12,350
4.7.f	Explorer II Phase 3			283				283
4.7.g	Yield Strength			6,274	5,883	7,381	3,122	22,660
4.8.a	Guided Wave Validation as hydro equivalent				1,845	1,405		3,250
4.8.d	BEM - next phase				2,049	1,690		3,739
4.8.g	GTI North American Casing research Program				5,536			5,536
4.8.i	Extended Reassessment Interval Validation through Dielectric Wax Casing Fill				7,381	6,889	5,192	19,462
4.8.j	Distribution Integrity Management Risk model				3,691	3,691	2,516	9,898
4.10.c	Testing and Design of Casing End Seals						1,845	1,845
5.0.a	Emergency Response DVD copies				11			11
5.6.f	Methods Development of Perimeter Air Monitoring During MGP Site Cleanups		5,536	4,603				10,139
5.6.h	Underground Storage Hydrate Mitigation System		2,953		2,616			5,569
5.6.h	2006 SMP		36,907					36,907
5.6.h	Keyhole Project		7,381					7,381
5.6.h	Underground Storage Hydrate Mitigation System			5,905				5,905
5.6.i	Integrating Radio frequency Identification (RFID) into Daily Gas Operations			3,446				3,446
5.7.i	2007 SMP			36,872				36,872

National Fuel Gas Distribution Corporation
 Pennsylvania Division
 Five Year Reconciliation - by Project

		FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	Total
5.7.i	Keyhole Project			7,381				7,381
5.7.i	Sources of VOC's in Indoor Air Near Former MGP Sites			2,214				2,214
5.8.d	Tool for External Classification of Pipe Contents				3,691	1,703		5,394
5.8.f	Advanced Welder Training System				3,691	2,214		5,905
5.8.g	Foreign Technology Transfer				4,613	3,838	6,010	14,461
5.9.a	GPS As Builts					7,381		7,381
5.9.c	Mitigating Electrical Interferences on Cathodic Protections					11,663	11,651	23,314
5.9.e	Remote Meter Shut-off device - Identification, Testing an Utility Pilot Program					3,691	1,743	5,434
5.9.h	North American Manufacturer Outreach					1,107	915	2,022
5.10.a	Evaluation of Ionix Static Suppressor on Existing PE Piping Systems						1,845	1,845
5.10.c	Leveraging Consumer Technologies for Utility Operations						1,845	1,845
6.0	2008 SMP and Validation of Direct Natural Gas Use				40,598			40,598
6.a	(GTI) 2009 SMP					36,907	36,907	73,814
6.6.a	(GTI) Keyhole Project					7,381		7,381
6.8.a	(GTI) Carbon Management Information Center					5,536		5,536
7.5.a	Developing and Demonstrating Rapid Quantitative PCB Analysis in the Field		19,612		2,805			22,417
7.7.a	Dipstick Test for PCB Determination in the Field			16,608		11,465	10,822	38,895
7.7.b	Improve Uncertainties Surrounding Key Distribution Greenhouse Gas Sources, including Field Measurement Program			738	1,031			1,769
7.7.c	Innovative Forensic Technique for Identifying VOC Sources			18,454	12,775		(1,707)	29,522
7.7.d	Pipeline Quality Biomethane: Guidance Document for Dairy Waste					1,107		1,107
7.8.a	(GTI) Pipeline Quality Biomethane: Guidance Document for Landfill and Water Treatment Conversion					16,608	7,381	23,989
7.9.a	Microbiological Testing - Phase II					7,381	7,381	14,762
7.9.c	Siloxane Concentrations - Phase I					5,536		5,536
7.9.d	Improving Methane Emission Estimates for Natural Gas Distribution Companies					5,536	846	6,382
7.9.e	Portable Analytical Package for Rapid, On-site Biomethane Assessment: Phase I Instrument Parameters					3,691		3,691
7.10.a	Trace Constituents in NG - Characterization and Measurement for the Purposes of Comparative Analysis with Renewable Gas - Phase II (GTI)						2,953	2,953
7.10.b	Odor Fade (GTI)						8,466	8,466
7.10.c	Improving Methane Emission Estimates for NG Distribution Companies, Phase 2						3,691	3,691
7.10.d	Development of Beta-Prototype of In-Line Biofilter for Biocleaning of Biomethane Prior to Injection						3,691	3,691
	Miscellaneous Adjustments					(198)	(13)	(211)

Allocated to OTD Projects \$0 \$195,401 \$188,220 \$144,330 \$211,760 \$162,162 \$901,873

Local Projects

Clarion University 40,000 0 98,000 138,000
 Penn State Sintering Furnace Phase 1 and 2 1,568 14,111 15,679

Total Local Project \$0 \$0 \$40,000 \$0 \$99,568 \$14,111 \$153,679

National Fuel Gas Distribution Corporation
 Pennsylvania Division
 Five Year Reconciliation - by Project

		<u>FY2005</u>	<u>FY2006</u>	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>Total</u>
1	Total Allocated To Projects (OTD + UTD)	\$83,070	\$354,044	\$352,036	\$479,840	\$320,938	\$417,252	\$2,007,180
2	Administrative Fees (including refunds and interest credits)	<u>\$9,230</u>	<u>\$18,122</u>	<u>\$41,569</u>	<u>\$40,397</u>	<u>\$18,497</u>	<u>\$36,616</u>	<u>164,431</u>
3=1+2	Total Allocated (OTD + UTD) + Administrative Fees	\$92,300	\$372,166	\$393,605	\$520,237	\$339,435	\$453,868	2,171,611
4	Total Local Projects	<u>\$0</u>	<u>\$0</u>	<u>\$40,000</u>	<u>\$0</u>	<u>\$99,568</u>	<u>\$14,111</u>	<u>\$153,679</u>
5 = 3 + 4	All Allocated	\$92,300	\$372,166	\$433,605	\$520,237	\$439,003	\$467,979	\$2,325,290
6=sum(5)	Cumulative All Allocated	\$92,300	\$464,466	\$898,071	\$1,418,308	\$1,857,311	\$2,325,290	
7	Revenues Billed	\$113,927	\$526,466	\$526,466	\$526,466	\$526,466	\$526,466	2,746,257
8=sum(7)	Cumulative Revenues Billed	\$113,927	\$640,393	\$1,166,859	\$1,693,325	\$2,219,791	\$2,746,257	
9=6-8	Cumulative All Allocated - Cum. Revenues Billed	(\$21,627)	(\$175,927)	(\$268,788)	(\$275,017)	(\$362,480)	(\$420,967)	
10 = 5	All Allocated	\$92,300	\$372,166	\$433,605	\$520,237	\$439,003	\$467,979	
11	Payments Booked	<u>\$92,300</u>	<u>\$376,800</u>	<u>\$596,800</u>	<u>\$526,493</u>	<u>\$376,368</u>	<u>\$455,911</u>	
12 = 10 - 11	All Allocated - Payments Booked	\$0	(\$4,634)	(\$163,195)	(\$6,256)	\$62,635	\$12,068	
13=sum(12)	Cumulative All Allocated - Payments Booked Note 1	\$0	(\$4,634)	(\$167,829)	(\$174,085)	(\$111,450)	(\$99,382)	
14=9-13	Account Balance = (Cum. All Allocated - Cum. Revenues Billed) - (Cum. All Allocated - Payments Booked) Note 1: Allocated dollars to projects may not equal payments made due to timing differences.	(\$21,627)	(\$171,293)	(\$100,959)	(\$100,932)	(\$251,030)	(\$321,585)	

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