

BEFORE THE
NEW YORK STATE
PUBLIC SERVICE COMMISSION

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Proceeding on Motion of the Commission as to the
Rates, Charges, Rules and Regulations of
National Fuel Gas Distribution Corporation
For Gas Service

Case 23-G-_____

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**DIRECT TESTIMONY OF
MELISSA F. BARTOS**

October 31, 2023

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I. INTRODUCTION

Q. Please state your name.

A. My name is Melissa F. Bartos.

Q. Please state your title, employer, and business address.

A. I am a Vice President with Concentric Energy Advisors. My business address is
293 Boston Post Road West, Suite 500, Marlborough, Massachusetts.

Q. Please summarize your educational background and work experience.

A. I received a BA in Mathematics and Psychology with a concentration in
Computer Science from the College of the Holy Cross in Worcester,
Massachusetts. I received a MS degree in Mathematics with a concentration in
Statistics from the University of Massachusetts at Lowell. My entire career has
been in energy consulting. I began my career with Reed Consulting Group, which
was later purchased and merged into Navigant Consulting, Inc. I joined what is
now Concentric Energy Advisors over 20 years ago. Both firms specialize in
consulting for the energy industry. My professional qualifications and experience
have been provided in Attachment A.

**Q. Have you previously testified in other proceedings before the New York State
Public Service Commission (“PSC” or the “Commission”) or any other state
or federal regulatory agency?**

A. Yes, I filed rebuttal testimony before the Commission on behalf of Liberty
Utilities (St. Lawrence Gas) in Case 21-G-0577. In addition, I have testified

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1 before several other state, federal, and Canadian provincial regulatory agencies on
2 dozens of occasions. My testimony list is provided as Attachment B.

3
4 **II. PURPOSE OF TESTIMONY**

5 **Q. What is the purpose of your testimony?**

6 A. The purpose of my direct testimony is to provide the non-gas marginal cost study
7 on behalf of National Fuel Gas Distribution Corporation's New York Division
8 ("National Fuel" or the "Company").

9
10 **III. IDENTIFICATION AND SUMMARY OF EXHIBITS**

11 **Q. Are you sponsoring any exhibits?**

12 A. Yes, I am sponsoring Exhibit____(MCS-1), which provides the Company's
13 marginal cost study.

14
15 **IV. MARGINAL COST STUDY**

16 **Q. Please describe the key objectives of the Company's marginal cost study.**

17 A. The purpose of the marginal cost study is to compute incremental, or marginal,
18 non-gas costs incurred by the Company to provide an additional unit of service,
19 i.e., an additional unit of demand or an additional customer. Therefore, marginal
20 costs can be characterized as demand-related or customer-related.

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1 **Q. What is the definition of demand-related marginal cost?**

2 A. Demand-related marginal cost is the cost of delivering an additional unit of gas
3 through the Company's system, thus demand-related marginal costs are the costs
4 associated with additions and modifications to the transmission and distribution
5 system infrastructure that result from increased throughput due to increased sales.
6 These costs include costs from the city gate to the customer's service line but do
7 not include costs for the service line, meter, or any equipment inside the
8 customer's premises. The demand-related marginal cost would apply to increased
9 throughput due to new attachments as well as additional load from existing
10 customers.

11 **Q. Please describe how the demand-related marginal costs are calculated.**

12 A. Exhibit___(MCS-1) presents the analysis and calculations used to estimate the
13 demand-related marginal distribution and transmission costs that the Company
14 would incur to deliver an additional unit of gas. The analysis uses a five-year
15 forecast of Fiscal Years 2024 through 2028 to evaluate anticipated increases in
16 system throughput along with associated growth-related transmission and
17 distribution plant additions. All three Rate Years (12 months ending September
18 30, 2025, 2026, and 2027) are included in this five-year forecast period.
19 Line 1 contains the average annual investment in growth-related capital for the
20 transmission and distribution system for the five-year forecast period. Demand-
21 related growth capital includes the costs for mains and measuring stations

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1 associated with incremental throughput. These capital costs are extracted from
2 the Company's five-year forecast of capital expenditures. The average growth-
3 related capital investment from line 1 is annualized for rate purposes by applying
4 a carrying charge of 12.47% (lines 2 and 3), plus an additional 3.05% to account
5 for annual operations and maintenance expenses (lines 4 and 5). The total
6 annualized cost on line 6 is divided by the projected average incremental annual
7 throughput from line 7 to calculate the demand-related transmission and
8 distribution per unit marginal rate shown in line 8.

9 **Q. What is the conclusion from the demand-related marginal cost study?**

10 A. The demand-related transmission and distribution marginal cost study produces a
11 per unit rate of \$1.10 per Mcf. For reference, the per unit demand-related
12 marginal cost was \$3.07 in the Company's last rate case.

13 **Q. What is the definition of customer-related marginal cost?**

14 A. Customer-related marginal cost is the cost of attaching a new customer to the
15 Company's system, and includes costs related to the customer's service line and
16 meter but does not include any equipment inside the customer's premises. For the
17 purposes of this filing, and consistent with the Company's last rate case, the
18 Company is using the embedded customer cost as shown in Exhibit____(ECOS-4)
19 as a proxy for marginal customer-related costs.

20 **Q. Does this conclude your direct testimony at this time?**

21 A. Yes, it does.

MELISSA F. BARTOS

VICE PRESIDENT

Ms. Bartos is a financial and economic consultant with over 25 years of experience in the energy industry. In the last several years, she has focused on natural gas markets issues, including helping natural gas utilities navigate industry changes related to decarbonization policies, conducting comprehensive market assessments for various clients considering infrastructure investments, and developing detailed demand forecasts for several gas distribution companies. Ms. Bartos has also designed, built, and enhanced numerous financial and statistical models to support clients in asset-based transactions, energy contract negotiations, reliability studies, asset and business valuations, rate and regulatory matters, cost-of-service analysis, and risk management. Ms. Bartos has also provided expert testimony on multiple occasions regarding natural gas demand forecasting and supply planning issues, natural gas markets, and marginal cost studies.

REPRESENTATIVE PROJECT EXPERIENCE

Future of Natural Gas Industry

- Assisted the New York Joint LDCs with strategy and preparation of joint comments in the Gas Planning Proceeding (Case No. 20-G-0131), which seeks to evaluate the future role of New York's gas utilities in light of the state's climate goals.
- Collaborating with a Massachusetts LDC to develop utility-specific proposal for filing in a policy proceeding before the Massachusetts Department of Public Utilities related to the role of natural gas local distribution companies as the Commonwealth works to achieve its net-zero by 2050 climate goals (D.P.U. 20-80).
- Presented at a Northeast Gas Association conference regarding the impact of decarbonization activities on the natural gas industry in the Northeast.

Natural Gas Market Assessments

- Reviewed and evaluated long-term natural gas supply and demand, existing natural gas pricing dynamics, and future implications associated with new natural gas infrastructure in New England, New York, and New Jersey.
- Provided an analysis of the existing Gulf Coast natural gas market, the client's natural gas pipeline competitors, changing flows, and how those factors may affect transportation values to the client going forward.
- Prepared a comprehensive study examining the costs associated with improving natural gas pipeline access from western Canada and the eastern U.S. to Atlantic Canada.

- Produced a report on the benefits associated with incremental natural gas supplies delivered to New York City.
- Prepared an independent natural gas supply and pipeline transportation route assessment associated with natural gas for the client's proposed LNG export terminal.

Natural Gas Expansion

- Conducted a study that examined potential commercial and industrial conversions from oil-based fuels to natural gas in various east coast U.S. markets.
- Produced a report that identified growth potential in off-system stationary and mobile markets in the mid-west that could be served by compressed natural gas or liquefied natural gas.
- Performed an external audit and filed expert testimony associated with two natural gas utilities' hurdle rate/contribution in aid of construction calculations for new off main customers.
- Produced a report that identified and reviewed innovative cost model approaches that utilities and regulators are using across the U.S. that allow expansion of gas distributions systems to new communities.
- Assisted in developing a strategy to identify residential natural gas growth opportunities within the client's franchise area.
- Presented at two Northeast Gas Association conferences regarding "Regulatory Policy and Residential Main Extensions".

Demand Forecasting

- Filed expert testimony regarding the development of demand forecast models for use in determining future billing determinants as well as weather normalization in rate cases for several natural gas and electric utilities.
- Filed expert testimony regarding the development of demand forecast models and the evaluation of natural gas resource plans for several northeast gas utilities.
- Provided detailed due diligence analysis regarding expectations for utility-specific future gas demand in many different transactions involving the potential purchase of natural gas utilities.
- Provided litigation support regarding demand forecasting techniques with respect to certain natural gas pipeline and storage decisions for a mid-west gas utility.
- Reviewed demand forecasting practices and procedures and recommended certain changes to improve the methodology and accuracy of the forecast for a multi-state utility.

- For a mid-west gas utility, developed a natural gas demand forecast that was utilized for supply and capacity decisions.

Rate-making and Utility Regulation

- Participated in the rate case of a large North American gas distribution company, which determined the client's five-year incentive regulation plan, including performing benchmarking and productivity analyses that were filed with the regulator.
- Developed a marginal cost study, including data collection, analysis and testimony development, in support of rate case filings for a number of New England utilities.
- Provided comprehensive analysis, drafted testimony and provided litigation support regarding the appropriate return on equity for a New England water utility, and for proposed wind and coal electric generation facility additions for a mid-west combination utility.
- Performed a detailed analysis of the components included in the client's lost and unaccounted for gas calculation.
- Conducted multiple natural gas portfolio asset optimization analyses to evaluate performance of the client's asset manager for regulatory purposes.
- On behalf of multiple New England gas companies, participated in the 2009 Avoided Energy Supply Cost Study Group (for New England), which worked with third-party consultants to develop the marginal energy supply costs that will be avoided due to reductions in the use of electricity, natural gas, and other fuels resulting from energy efficiency programs.
- Conducted a study to determine the cost of significantly reducing peak day natural gas demand for a northeast gas utility through energy efficiency, conservation and demand management measures. Project involved researching natural gas energy efficiency plans in multiple U.S. states and Canadian provinces, reviewing energy efficiency potential studies, and exploring geothermal, peak pricing and direct load control options.

PROFESSIONAL HISTORY

Concentric Energy Advisors, Inc. (2002 – Present)

Vice President

Assistant Vice President

Project Manager

Senior Consultant

Navigant Consulting, Inc. (1996 – 2002)

Senior Consultant

EDUCATION**University of Massachusetts at Lowell**

M.S., Mathematics (Statistics), 2003

College of the Holy CrossB.S., Mathematics and Psychology, *magna cum laude*, 1998**PROFESSIONAL ASSOCIATIONS**

Member of the American Statistical Association

Member of the Northeast Energy and Commerce Association

Member of the Northeast Gas Association



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Connecticut Public Utilities Regulatory Authority				
Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	2014	Connecticut Natural Gas Corporation & Southern Connecticut Gas Company	Docket No. 13-06-02	CIAC Hurdle Rate Calculation
Federal Energy Regulatory Commission				
PennEast Pipeline Company, LLC	2015	PennEast Pipeline Company, LLC	Docket No. CP15-558	Market Conditions/Need
PennEast Pipeline Company, LLC	2016	PennEast Pipeline Company, LLC	Docket No. CP15-558	Market Conditions/Need
Millennium Pipeline Company, LLC	2017	Millennium Pipeline Company, LLC	Docket No. CP16-486	Market Conditions/Need
Laclede Gas Company	2017	Spire STL Pipeline, LLC	Docket No. CP17-40	Market Conditions/Need
Spire Missouri Inc. (Laclede Gas Company)	2021	Spire STL Pipeline, LLC	Docket No. CP17-40	Market Conditions/Need
Indiana Utility Regulatory Commission				
Northern Indiana Public Service Company LLC (Gas)	2021	Northern Indiana Public Service Company LLC (Gas)	Cause # 45621	Weather Normalization; Demand Forecast
Northern Indiana Public Service Company LLC (Electric)	2022	Northern Indiana Public Service Company LLC (Electric)	Cause #45772	Weather Normalization Demand Forecast
Kentucky Public Service Commission				
Columbia Gas of Kentucky, Inc.	2021	Columbia Gas of Kentucky, Inc.	Case No. 2021-00183	Demand Forecast
Maine Public Utilities Commission				
Northern Utilities, Inc.	2011	Northern Utilities	Docket No. 2011-526	Integrated Resource Plan; Demand Forecast
Versant Power	2022	Versant Power	Docket No. 2022-255	Econometric Sales Forecast
Massachusetts Department of Public Utilities				
New England Gas Company	2008	New England Gas Company	D.P.U. 08-11	Integrated Resource Plan; Demand Forecast; Supply Planning
New England Gas Company	2010	New England Gas Company	D.P.U. 10-61	Integrated Resource Plan; Demand Forecast; Supply Planning



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Berkshire Gas Company	2010	Berkshire Gas Company	D.P.U. 10-100	Integrated Resource Plan; Demand Forecast
New England Gas Company	2012	New England Gas Company	D.P.U. 12-41	Integrated Resource Plan; Demand Forecast; Supply Planning
Berkshire Gas Company	2012	Berkshire Gas Company	D.P.U. 12-62	Integrated Resource Plan; Demand Forecast
NSTAR Gas Company	2014	NSTAR Gas Company	D.P.U. 14-63	Integrated Resource Plan; Demand Forecast
Berkshire Gas Company	2014	Berkshire Gas Company	D.P.U. 14-98	Integrated Resource Plan; Demand Forecast
Liberty Utilities (New England Gas Company)	2015	Liberty Utilities (New England Gas Company)	D.P.U. 15-75	Marginal Cost of Service Study
Berkshire Gas Company	2016	Berkshire Gas Company	D.P.U. 16-103	Integrated Resource Plan; Demand Forecast
Eversource Energy	2017	Eversource Energy (NSTAR Electric and WMECO)	D.P.U. 17-05	Marginal Cost of Service Study
National Grid (Boston Gas Company and Colonial Gas Company)	2017	National Grid (Boston Gas Company and Colonial Gas Company)	D.P.U. 17-170	Marginal Cost of Service Study
Bay State Gas Company d/b/a/ Columbia Gas of Massachusetts	2018	Bay State Gas Company d/b/a/ Columbia Gas of Massachusetts	D.P.U. 18-45	Marginal Cost of Service Study
Berkshire Gas Company	2018	Berkshire Gas Company	D.P.U. 18-40	Marginal Cost of Service Study
Berkshire Gas Company	2018	Berkshire Gas Company	D.P.U. 18-107	Integrated Resource Plan; Demand Forecast
NSTAR Gas Company	2019	NSTAR Gas Company	D.P.U. 19-120	Marginal Cost of Service Study
Bay State Gas Company d/b/a Columbia Gas of Massachusetts	2019	Bay State Gas Company d/b/a Columbia Gas of Massachusetts	D.P.U. 19-135	Integrated Resource Plan; Demand Forecast
Berkshire Gas Company	2020	Berkshire Gas Company	D.P.U. 20-139	Integrated Resource Plan; Demand Forecast
Boston Gas d/b/a National Grid	2020	Boston Gas d/b/a National Grid	D.P.U. 20-120	Marginal Cost Study



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Berkshire Gas Company	2022	Berkshire Gas Company	D.P.U. 20-80	Future of Gas
Berkshire Gas Company	2022	Berkshire Gas Company	D.P.U. 22-20	Marginal Cost Study
Berkshire Gas Company	2022	Berkshire Gas Company	D.P.U. 22-148	Integrated Resource Plan: Demand Forecast
New Hampshire Public Utilities Commission				
Northern Utilities, Inc.	2011	Northern Utilities	DG 2011-290	Integrated Resource Plan; Demand Forecast
Liberty Utilities (EnergyNorth Natural Gas)	2017	Liberty Utilities (EnergyNorth Natural Gas)	DG 17-048	Marginal Cost of Service Study
Liberty Utilities (Granite State Electric)	2019	Liberty Utilities (Granite State Electric)	DE 19-064	Marginal Cost of Service Study
Liberty Utilities (Granite State Electric)	2023	Liberty Utilities (Granite State Electric)	DE-23-039	Marginal Cost of Service Study
New Jersey Board of Public Utilities				
South Jersey Gas Company	2015	South Jersey Gas Company	GR15010090	Energy Efficiency Cost Benefit Analysis
New York State Public Service Commission				
Liberty Utilities (St. Lawrence Gas) Corp.	2022	Liberty Utilities (St. Lawrence Gas) Corp.	Case 21-G-0577	Demand Forecast
Ontario Energy Board				
Enbridge Gas Distribution	2012	Enbridge Gas Distribution	EB-2011-0354	Industry Benchmarking Study
Enbridge Gas Distribution	2013	Enbridge Gas Distribution	EB-2012-0459	Incentive Rate Making
Pennsylvania Public Utility Commission				
Columbia Gas of Pennsylvania, Inc.	2021	Columbia Gas of Pennsylvania, Inc	R-2021-3024296	Weather Normalization; Demand Forecast
Columbia Gas of Pennsylvania, Inc.	2022	Columbia Gas of Pennsylvania, Inc	R-2022-3031211	Weather Normalization; Demand Forecast
Public Utilities Commission of Ohio				
Columbia Gas of Ohio, Inc.	2021	Columbia Gas of Ohio, Inc.	Case No. 21-637-GA-AIR	Adjustments to Demand



SPONSOR	DATE	CASE/APPLICANT	DOCKET NO.	SUBJECT
Régie de l'énergie du Québec				
TransCanada Pipelines Ltd.	2014	TransCanada Pipelines Ltd.	R-3900-2014	Natural Gas Market Assessment
Washington Utilities and Transportation Commission				
Puget Sound Energy, Inc.	2015	Puget Sound Energy, Inc.	UG-151663	Distributed LNG Market Assessment