Northern Indiana Public Service Company LLC

Cause No. 45967

VERIFIED DIRECT TESTIMONY OF MELISSA BARTOS

Q1. Please state your name, business address and title.

A1. My name is Melissa Bartos. My business address is 293 Boston Post Road West, Suite 500, Marlborough, Massachusetts 01752. I am a Vice President at Concentric Energy Advisors ("Concentric").

Q2. On whose behalf are you submitting this direct testimony?

A2. I am submitting this testimony on behalf of Northern Indiana Public Service Company LLC ("NIPSCO" or the "Company").

Q3. Please describe your educational and employment background.

A3. I received a Bachelor of Arts in Mathematics and Psychology with a concentration in Computer Science in 1998 from the College of the Holy Cross in Worcester, Massachusetts. I received a Master of Science degree in Mathematics with a concentration in Statistics in 2003 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 in 2002. Both firms specialize in consulting for the energy industry.

Q4. What are your responsibilities as a Vice President at Concentric?

A4. In my current position as a Vice President at Concentric, I am responsible for the execution of numerous projects related to the energy industry. I specialize in demand forecasting, rates and regulatory issues and market analysis. My resume is attached as Attachment 15-A.

Q5. Have you previously testified before the Indiana Utility Regulatory Commission (the "Commission") or any other regulatory commission?

A5. Yes. I previously testified before the Commission in NIPSCO's last gas rate case in Cause No. 45621 and NIPSCO's most recent electric rate case in Cause No. 45772. I have also testified before several other state, federal, and Canadian provincial regulatory agencies on dozens of occasions. My testimony list is attached as Attachment 15-B.

Q6. Are you sponsoring any attachments to your direct testimony in this Cause?

A6. Yes. I am sponsoring Attachments 15-A through Attachment 15-D, all of which were prepared by me or under my direction and supervision.

Q7. What is the purpose of your testimony?

A7. The purpose of my direct testimony is to explain four analyses: (1) how residential and commercial billing month sales for the Historic Base Period (January 1, 2022 through December 31, 2022) are normalized for weather; (2) the adjustment to unbilled Historic Base Period consumption to reflect the unbilled estimate that would have been made under normal weather conditions; (3) how design day consumption is derived; and (4) the number of customers and usage forecast for the 2023 Forecast Period (January 1, 2023 through December 31, 2023) and the Forward Test Year (January 1, 2024 through December 31, 2024).

<u>Weather Normalization of Historic Base Year Billed Volume</u>

Q8. Please explain the weather normalization methodology.

A8. At a high level, actual sales per customer are separated into base use and temperature-sensitive use per customer for each month of the Historic Base Period for the temperature-sensitive residential and commercial classes. Monthly temperature-sensitive use per customer is adjusted by the ratio of normal to actual heating degree days ("HDD") by month to derive normal temperature-sensitive use per customer by month. The monthly normal temperature-sensitive use per customer is added to the base use per customer to arrive at the normal sales per customer. This value is multiplied by the customer count by month to produce monthly normal sales. All calculations are performed on a billing month basis and use billing month sales, the average number of days in the billing cycle, and billing month HDD.

Q9. What data sources do you use for your calculations?

A9. I use the Company's billing records to obtain monthly customer counts and billed sales for the residential and commercial classes for the Historic Base Period. I use temperatures from DTN, a weather consulting service which aggregates National Weather Service weather stations relevant to the Company's service territory, to calculate HDD. I rely on temperature data from four weather stations due to the geographical dispersion of NIPSCO's customers. A weighted average HDD for the Company is calculated using the percent of residential heating customers assigned to each station as a weight for that station.

Q10. How is base usage determined?

A10. Base usage is the portion of usage that is not dependent on weather, i.e., not temperature-sensitive. I assume that there is no temperature sensitive usage in the summer months of July and August, therefore, all usage in July and August is base use and is not affected by the weather normalization process. In addition, the total use per customer per day (Total Use/Customer/Day) for July and August is all base use. If total use per customer per day in September is less than July or August, then I also assume September has no temperature sensitive usage (i.e., September is also assumed to be a base use-only month and not affected by the weather normalization process). The base use per customer per day used to weather normalize the remaining months of the Historic Base Period is calculated by averaging the two lowest observed use per customer per day values from the months of July through September.

Q11. How are monthly sales in the remaining months weather normalized?

A11. The base use per customer per day is multiplied by the number of days ((base use/customer/day)*days in billing cycle) to produce monthly base use per customer. Temperature-sensitive use per customer equals the total use per customer minus the base use per customer. The temperature-sensitive use per customer is normalized for weather by multiplying it by a ratio of normal HDD to actual HDD. Normal use per customer is calculated by adding the base use per customer to the normal temperature-sensitive use per customer. Total monthly normalized usage is generated by multiplying monthly normal use per customer by the monthly customer count. This calculation for the Historic Base Period is prepared separately for residential, commercial, and industrial customers in Rates 211, 215, 221, and 225, and the results are presented in Attachment 15-C. For non-temperature-sensitive Rates 228 and 238, weather normalized usage is equal to actual usage, and results for these rates are also presented in Attachment 15-C.

Q12. How is NIPSCO defining normal weather?

A12. Consistent with NIPSCO's most recent gas rate case (Cause No. 45621), NIPSCO is using the most recent 20-year historical average HDD (i.e., 20-years ending December 31, 2022) as the definition of normal weather.

Normalization of Unbilled Volume in the Historic Base Period

Q13. What is unbilled volume?

A13. Unbilled volume is an estimate of the therms consumed during the month between the day the meters were read and the last day of the month.

Q14. How does the Company estimate unbilled volume?

A14. The Company estimates unbilled volume using base usage factors, temperature sensitive factors, actual HDD in the unbilled period, and the average number of days in the unbilled period using the following formula:

Unbilled Balance = (Base Usage/Day * Days in the Unbilled Period) + (Usage/HDD * Actual HDD in the Unbilled Period)

Q15. How did you normalize unbilled volume?

A15. To obtain normal unbilled volume for the Historic Base Period, I applied the base usage per day and usage per HDD factors to the normal number of HDD in the unbilled period and the average number of days in the unbilled period using the following formula:

Unbilled Balance = (Base Usage/Day * Days in the Unbilled Period) + (Usage/HDD * Normal HDD in the Unbilled Period)

Normal HDD is defined as the average of 20-years ended December 31, 2022.

Q16. Have you demonstrated the details of the unbilled volume normalization procedure?

A16. Yes. The details of the unbilled volume normalization procedure are shown in <u>Attachment 15-D</u>. NIPSCO Witness Davis uses my weather adjusted unbilled volumes to normalize the base period revenues for the Historic Base Period.

Design Day Demand

Q17. What is design day?

A17. Design day is a cold 24-hour period of demand that is used as a basis for planning gas capacity requirements.

Q18. How is system-wide design day demand estimated?

A18. Three linear regression models are built where total daily sendout is regressed against HDD for all "cold" days in the winter months (i.e., November through March days having more than 10 HDD), plus an indicator variable for weekends for three separate heating seasons (i.e., 2020/21, 2021/22, and 2022/23). The models have an adjusted R-Squared of 0.91, 0.91, and 0.88, respectively, indicating that the HDD and weekend variables account for between 88% and 91% of the day-to-day variation in sendout.

The design day temperature is calculated using coldest day data in each January from 1961 to 2022 and assuming a 3 percent probability of reoccurence (i.e., 1/33 year occurrence). The resulting design day weather is 80 HDD (equivalent to -15 degrees Fahrenheit). Each of the three regression equations described above are solved assuming design day weather of 80 HDD occurring on a weekday. The system-wide design day demand in this proceeding is the average of the design day demand calculated using the three regression equations described above.

Q19. How is design day demand by rate class estimated?

A19. Design day demand for the temperature sensitive rate classes is estimated using the rate class specific use per customer models described in the following sections. Specifically, for each temperature-sensitive rate class, the design day weather of 80 HDD is multiplied by the use per degree day factor, added to the baseload factor, and multiplied by the customer count. Design day demand for the non-temperature sensitive rate classes is estimated using an average of the three-day peak usage by class. The temperature sensitive design day demand by rate class is adjusted to ensure that the total design day demand estimated by class equals the total system-wide design day demand.

<u>Demand Forecast Methodology for the Forecast Period and Forward Test Year</u>

A. Demand Forecast Methodology Overview

Q20. Please explain the methodology employed for developing the forecasted

number of customers and volume for the 2023 Forecast Period and Forward Test Year.

A20. Residential and commercial customers and volume are forecasted for the Forecast Period and Forward Test Year by rate class using econometric models. Industrial volume is forecasted by rate class based on knowledge gained through relationships with large industrial customers. Residential, commercial, and industrial forecasts by rate class are subsequently split into sales, choice, and gas transportation service ("GTS") customers and volumes, as appropriate, using historical data.

Q21. What data sources do you use to develop the econometric models for the residential and commercial classes?

A21. I use NIPSCO's billing records through May 2023 to obtain separate historical monthly customer counts and billed usage for Rates 211 (residential), 215 (residential), 221 (commercial), and 225 (commercial). Historical billed usage is divided by historical customer counts to produce monthly historical use per customer data for each rate class. The historical customer counts and use per customer are used as the dependent variables in the Rates 211, 215, 221, and 225 customer and use per customer econometric models (i.e., 8 models).

Multiple sources are used to obtain data for the independent variables included in the econometric models. Historical and forecast values for economic and demographic variables (e.g., population and gross state product) and deflator data are from IHS Global Insight, Inc., a data consultant. Historical weather data (HDD) is provided by DTN, a weather consulting service. Both IHS Global Insight, Inc. and DTN are large, independent data providers relied upon by the Company in previous rate cases, as well as relied upon by many other companies world-wide. The same 20-year average HDD ending December 31, 2022 described in the weather normalization process above is used as the weather during forecast period.

B. Residential Customer Forecast

Q22. Please describe the residential customer forecast methodology for Rates 211 and 215.

A22. The residential customer forecast for Rate 211 is developed using a monthly econometric model that incorporates the number of households and several monthly variables for shaping. The residential customer forecast for Rate 215 is developed using a monthly econometric model that is based on a trend, and several monthly variables for shaping.

Q23. Please describe the residential use per customer forecast methodology for Rates 211 and 215.

A23. The residential use per customer forecast for both Rates 211 and 215 are developed using separate monthly econometric models that incorporate weather in the form of HDD by month of the year (e.g., the use per customer per degree day factor is different for January as compared to February).

Q24. How is the forecast of monthly residential volume determined?

A24. Monthly residential customer counts for Rates 211 and 215 are multiplied by monthly residential use per customer for Rates 211 and 215, respectively, to produce monthly residential volume for Rates 211 and 215.

Q25. How are residential customers and usage split into residential sales and residential CHOICE?

A25. Forecasted residential CHOICE customer counts for Rate 211 are based on extrapolating the recent trend in residential CHOICE customers. Forecasted residential CHOICE customer counts for Rate 215 are based on applying the historical percent of total Rate 215 customers that are residential CHOICE to the Rate 215 customer count forecast. For both Rates 211 and 215, residential sales customer counts are determined by subtracting residential CHOICE customer count from the residential customer count forecast for Rates 211 and 215, respectively.

Forecasted use per customer for residential CHOICE customers for Rate 211 is determined by applying the historical monthly ratio of residential CHOICE use per customer for Rate 211 to total residential use per customer for Rate 211. Forecasted residential CHOICE usage for Rate 211 is determined by multiplying residential CHOICE customers for Rate 211 by residential CHOICE use per customer for Rate 211. Residential sales usage for Rate 211 is determined by subtracting residential CHOICE usage from the total residential usage for Rate 211.

Forecasted residential CHOICE usage for Rate 215 is based on applying the historical percent of total Rate 215 usage that is residential CHOICE to the Rate 215 usage forecast. Residential sales usage for Rate 215 is determined by subtracting residential CHOICE usage from the total residential usage for Rate 215.

C. Commercial Customer Forecast

Q26. Please describe the commercial customer forecast methodology for Rates 221 and 225.

A26. The commercial customer forecast for Rate 221 is developed using a monthly econometric model that incorporates real gross state product and several monthly variables for shaping. The commercial customer forecast for Rate 225 is developed using a monthly econometric model that is based on non-manufacturing employment.

Q27. Please describe the commercial use per customer forecast methodology for Rates 221 and 225.

A27. The commercial use per customer forecast for both Rates 221 and 225 are developed using separate monthly econometric models that incorporate weather in the form of HDD by month of the year.

Q28. How is the forecast of monthly commercial volume determined?

A28. Monthly commercial customer counts for Rates 221 and 225 are multiplied by monthly commercial use per customer for Rates 221 and 215, respectively, to produce monthly commercial volume for Rates 221 and 215.

Q29. How are the commercial customers and volumes for Rates 221 and 225 split into commercial sales and commercial CHOICE?

A29. Commercial CHOICE customers for both Rates 221 and 225 are forecasted to continue to remain flat at recently observed rates. Commercial sales customers for Rates 221 and 225 are the customers remaining when commercial CHOICE customers from Rates 221 and 225 are subtracted from the total commercial customer forecast for Rates 221 and 225. Use per customer for commercial CHOICE customers for both Rates 221 and 225 is expected to remain flat at recent historical levels. Forecasted commercial CHOICE usage for Rates 221 and 225 is determined by multiplying commercial CHOICE customers for Rates 221 and 225 by commercial CHOICE use per customer for Rates 221 and 225, respectively. Commercial sales usage for Rates 221 and 225 is determined by subtracting commercial CHOICE usage for Rates 221 and 225 from the total commercial usage for Rates 221 and 225, respectively.

D. Industrial Customer Forecast

Q30. Please describe the industrial customer forecast methodology.

A30. The Major Accounts group provides the industrial forecast portion of Rates 228 and 238. The Major Accounts group relies on individual interviews of the largest industrial customers to understand their upcoming plans and expected level of gas consumption. The Major Accounts group also relies on historical industrial consumption and industry trends to forecast industrial gas demand. The commercial portion of Rates 228 and 238 are forecasted based on the historical relationship between the commercial and industrial usage in Rates 228 and 238, respectively.

Q31. How is the industrial customer usage split into industrial sales, industrial CHOICE, and industrial GTS?

A31. The Major Accounts group also provides the industrial forecast in the specific categories of industrial sales, industrial CHOICE and industrial GTS. The commercial portion of the Rates 228 and 238 forecast is assumed to be all GTS based on history.

Q32. Does this conclude your prefiled direct testimony?

A32. Yes.

VERIFICATION

I, Melissa Bartos, Vice President, Concentric Energy Advisors, affirm under penalties of perjury that the foregoing representations are true and correct to the best of my knowledge, information, and belief.

Melissa Fay Bartos

Melissa Bartos

Date: October 25, 2023

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.

Ratemaking 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 Cross
B.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

NIPSCO Gas Normal Therms

Twelve Months Ended **December 2022**

Normal Therms	**111**	**115**	**121 Com**	**125 Com**	**128**	**138**	**121 Ind**	**125 Ind**	**Total**	**Normalized Rates**
January	125,264,213	1,279,853	55,392,792	10,668,180	246,749,872	6,489,596	8,240,843	5,313,437	459,398,786	206,159,319
February	122,162,495	1,275,652	55,134,256	10,384,079	232,792,625	5,713,207	8,118,083	5,268,552	440,848,949	202,343,117
March	107,083,196	1,113,807	48,569,085	9,622,988	211,052,247	4,912,096	7,036,162	4,941,457	394,331,037	178,366,694
April	66,232,395	689,261	29,634,268	7,171,879	213,067,011	4,894,530	4,044,695	3,744,187	329,478,227	111,516,686
May	39,533,573	419,889	18,344,514	5,341,824	188,600,299	3,672,596	2,188,920	3,063,358	261,164,972	68,892,078
June	17,164,479	181,455	9,187,125	3,704,211	187,029,583	3,381,387	833,759	2,534,203	224,016,203	33,605,233
July	11,261,187	104,426	6,868,839	2,950,975	193,911,821	3,456,810	502,935	2,129,446	221,186,439	23,817,808
August	10,753,445	97,329	6,741,800	3,091,856	167,555,549	3,267,890	538,105	2,179,027	194,225,000	23,401,561
September	11,926,089	103,862	8,296,429	3,155,930	170,604,878	3,769,665	553,649	2,206,225	200,616,727	26,242,184
October	17,921,892	177,881	12,380,396	3,603,668	170,313,231	4,646,979	999,090	2,344,997	212,388,133	37,427,923
November	45,257,972	494,661	27,681,558	5,503,084	201,552,557	4,767,659	2,804,956	3,457,461	291,519,908	85,199,692
December	91,408,349	926,279	42,315,523	8,666,759	222,370,794	5,569,731	5,718,420	4,591,637	381,567,492	153,626,967
Annual	665,969,285	6,864,355	320,546,584	73,865,433	2,405,600,467	54,542,145	41,579,617	41,773,988	3,610,741,874	1,150,599,262

Actual Therms	**111**	**115**	**121 Com**	**125 Com**	**128**	**138**	**121 Ind**	**125 Ind**	**Total**	**Normalized Rates**
January	119,627,425	1,221,622	53,007,686	10,299,300	246,749,872	6,489,596	7,859,141	5,166,544	450,421,184	197,181,717
February	127,605,642	1,333,156	57,505,085	10,754,039	232,792,625	5,713,207	8,489,329	5,426,542	449,619,626	211,113,794
March	101,588,611	1,055,843	46,182,699	9,243,936	211,052,247	4,912,096	6,663,618	4,782,236	385,481,286	169,516,943
April	71,704,017	747,625	31,895,131	7,585,799	213,067,011	4,894,530	4,393,855	3,905,172	338,193,139	120,231,599
May	41,117,161	437,642	18,985,088	5,473,736	188,600,299	3,672,596	2,281,567	3,115,314	263,683,403	71,410,508
June	15,159,348	154,695	8,426,115	3,471,955	187,029,583	3,381,387	730,926	2,408,936	220,762,945	30,351,975
July	11,261,187	104,426	6,868,839	2,950,975	193,911,821	3,456,810	502,935	2,129,446	221,186,439	23,817,808
August	10,753,445	97,329	6,741,800	3,091,856	167,555,549	3,267,890	538,105	2,179,027	194,225,000	23,401,561
September	11,815,967	103,862	8,035,337	3,155,930	170,604,878	3,769,665	553,649	2,206,225	200,245,513	25,870,970
October	21,007,804	212,350	14,815,859	3,921,511	170,313,231	4,646,979	1,209,596	2,503,585	218,630,915	43,670,705
November	42,355,897	461,239	25,912,309	5,285,671	201,552,557	4,767,659	2,611,332	3,334,219	286,280,883	79,960,667
December	91,140,414	923,519	42,197,523	8,648,330	222,370,794	5,569,731	5,701,028	4,583,455	381,134,793	153,194,268
Annual	665,136,917	6,853,308	320,573,470	73,883,037	2,405,600,467	54,542,145	41,535,082	41,740,700	3,609,865,125	1,149,722,514
	-	-	-	-	-	-	-	-		

Normal - Actual Therms	**111**	**115**	**121 Com**	**125 Com**	**128**	**138**	**121 Ind**	**125 Ind**	**Total**	**Normalized Rates**
January	5,636,788	58,231	2,385,106	368,881	-	-	381,702	146,894	8,977,602	8,977,602
February	(5,443,147)	(57,504)	(2,370,830)	(369,960)	-	-	(371,247)	(157,990)	(8,770,677)	(8,770,677)
March	5,494,584	57,964	2,386,386	379,052	-	-	372,544	159,221	8,849,751	8,849,751
April	(5,471,622)	(58,364)	(2,260,862)	(413,920)	-	-	(349,160)	(160,984)	(8,714,912)	(8,714,912)
May	(1,583,588)	(17,753)	(640,574)	(131,912)	-	-	(92,647)	(51,956)	(2,518,431)	(2,518,431)
June	2,005,131	26,761	761,010	232,257	-	-	102,833	125,267	3,253,259	3,253,259
July	-	-	-	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-	-	-	-
September	110,123	-	261,091	-	-	-	-	-	371,214	371,214
October	(3,085,912)	(34,469)	(2,435,463)	(317,843)	-	-	(210,506)	(158,588)	(6,242,782)	(6,242,782)
November	2,902,075	33,422	1,769,249	217,413	-	-	193,624	123,242	5,239,025	5,239,025
December	267,936	2,760	118,000	18,430	-	-	17,392	8,182	432,699	432,699
Annual	832,368	11,047	(26,886)	(17,604)	-	-	44,536	33,288	876,749	876,749
	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%

NIPSCO Gas

			1	2	3=(1*5)+(2*7)	4=(1*6)+(2*8)	5	6	7	8
							Unbilled Factors			
					Normal Unbilled Balance MDth		Daily Base Load		TS Vol per HDD	
CO	year	month	unbilled days	normal unbilled HDD	Res	Com	Res	Com	Res	Com
59	2021	12	17.71	606	6,295	3,177	38.372	31.676	9.266	4.317
59	2022	1	15.57	637	6,311	3,483	38.810	25.259	8.958	4.850
59	2022	2	15.05	558	4,704	3,027	38.810	25.259	7.384	4.743
59	2022	3	15.62	365	2,815	1,966	38.810	25.259	6.051	4.306
59	2022	4	15.48	214	1,522	1,162	38.810	25.259	4.306	3.602
59	2022	5	16.38	74	624	687	38.087	25.259	0.005	3.691
59	2022	6	15.67	3	608	392	38.810	24.999	0.000	0.000
59	2022	7	16.05	0	619	403	38.589	25.089	0.000	0.000
59	2022	8	17.00	2	660	429	38.810	25.259	0.000	0.000
59	2022	9	15.62	54	1,199	634	38.810	25.259	10.976	4.427
59	2022	10	18.24	250	3,488	1,617	38.810	25.259	11.122	4.625
59	2022	11	19.29	483	5,877	2,704	38.810	25.259	10.619	4.590
59	2022	12	18.71	639	6,404	3,229	38.497	29.462	8.894	4.191
Dec 2022minus Dec 2021					109	52				