

**STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION**

Docket No. DG 23-086
Northern Utilities Inc.

Petition for Approval of Revenue Decoupling Adjustment Factor

Supplemental Technical Statement of Faisal Deen Arif, Gas Director &
Ashraful Alam, Utility Analyst
Department of Energy, Division of Regulatory Support
January 25, 2024

The New Hampshire Department of Energy (“DOE” or the “Department”) submits this supplemental technical statement¹ pursuant to the proceedings in Docket No. [DG 23-086](#) and the revised procedural schedule approved by the Public Utilities Commission (“PUC” or the “Commission”) through a Procedural Order dated January 5, 2024.²

This statement pertains to the overall claim of \$4,313,259 (hereafter referred to as \$4.3 million) in the 2022-23 Revenue Decoupling Adjustment Factor (RDAF) by Northern Utilities Inc. (“Northern”, or “the Company”).

The purpose of this statement is to provide the Commission with additional information on the Department’s analytical findings in an effort to validate Northern’s overall ask of \$4.3 million from their first Decoupling Year (“DY1”³) over the 2022/23 period.

The Department supports Northern’s capped RDAF ask of \$1,891,519 as just and reasonable and in the public interest. Consequently, the DOE continues to recommend their collection over the 2023/24 COG recovery period. The underlying calculation for the application of the 4.25 percent cap resulting in the said amount appear to be consistent with the Settlement Agreement in Docket No. [DG 21-104](#). The Department preliminarily concludes that the total RDAF ask from DY1 should be \$3,167,365. Amounts over the cap are deferred and subject to further review in connection with the overall Revenue Decoupling Mechanism (RDM) and the current RDAF formula.

The current technical statement is a supplement to DOE’s initial statement as both statements relate to issues that are inherent to the proposed RDM by Northern and the resulting RDAF ask in DY1.

¹ The first technical statement (the “initial Technical Statement”) was submitted on December 8, 2023. See Tab 22 in [DG 23-086](#).

² See [Procedural Order Re: Proposed Amended Procedural Schedule](#).

³ DY1 spans the time period August 1, 2022 to July 31, 2023.

The current technical statement is organized as follows:

1. Background
2. Summary of Docket Activity
3. RDAF Analytical Framework
4. Summary of DOE Analysis
5. DOE Observations
6. DOE Recommendations

1. Background

Pursuant to Section IX of Northern's current [Tariff 12](#), the Company made its initial "Petition for Approval of Revenue Decoupling Adjustment Factor" (RDAF) on September 15, 2023. While Northern's overall RDAF claim remains at \$4.3 million, following Sub-section 8.0⁴, the RDAF ask is capped at \$1,891,519 (hereafter \$1.9 million) in the instant docket.

Because this was the first implementation of the Northern's RDAF, the Department worked with the Company to conduct discovery. See DOE Assented-To Motion To Expand Time Allotted For Investigation (October 10, 2023). Through its October 18, 2023 Procedural Order⁵, the Commission granted DOE's motion. The Commission also approved the Company to collect \$1.9 million over the 2023/24 Gas Season on an interim basis, pending further review and hearing, and suspended the non-peak RDAF tariff. See Order *Nisi* No. [26,896](#) dated October 31, 2023.

The Department's initial technical statement did not include its final conclusions or recommendations; it noted that discovery responses from Northern were not yet due, and that a future updated DOE statement would be provided when discovery is concluded. See DOE Tech Statement (December 8, 2023). On December 22, 2023, Northern submitted a letter stating rebuttal was not possible and seeking a revised procedural schedule. The DOE filed a proposed revised procedural schedule including the DOE's submission of conclusions and recommendations regarding the matters at issue in this docket, and an opportunity for Northern thereafter to conduct discovery and to file rebuttal, as planned in the original procedural schedule. See DOE Proposed Revised Procedural Schedule (December 29, 2023). The Commission approved the proposed schedule. See Procedural Order Re Proposed Revised Procedural Schedule (January 5, 2024).

⁴ In Sub-section 8.0, it states:

"The RDA for each Adjustment Period, determined in accordance with Section 5.0, may not exceed four and one-quarter percent (4.25%) of approved distribution revenues as established in the Company's most recent base rate case, including any adjustment due to a step."

⁵ See Procedural Order Re: Company, OCA, and DOE Motions and Cancelling October 23 Hearing (Oct. 13, 2023); Procedural Order Re: Deadline for DOE Position Statement (Oct. 18, 2023).

2. Summary of Docket Activity

The Department issued a total of four sets of Data Requests (“DRs”) to the Company⁶:

- DOE Set 1 on October 2, 2023, which Northern responded to on October 12, 2023;
- DOE Set 2 on November 8, 2023, responded to on November 20, 2023;
- Technical Session DR Set 1 on December 4, 2023, responses provided by the Company on December 11, 2023; and
- DOE Set 3 on December 6, 2023, to which Northern responded⁷ on December 14, 2023.

A technical session was held on November 30, 2023.

The DOE filed its initial technical statement on December 8, 2023, at which time all data responses from Northern were not yet due. Since then, the Department received information and gained additional understanding. The current supplemental statement is informed by the relevant information.

3. RDAF Analytical Framework

Northern’s current RDAF is structured after a *Revenue Per Customer* (“RPC”) model. This model along with its specific RPC values for each rate class were developed in the Company’s last rate case, Docket No. [DG 21-104](#), using the 2020 Test Year (“TY”) billing determinants⁸.

The Revenue Decoupling Mechanism (RDM) was proposed to “addresses the basic misalignment between the structure of the Company’s costs and its rates”. Since the “utility distribution costs are largely fixed and change very little in the short run with changes in usage levels” but “distribution rates have a significant variable, or usage-based, component that changes revenues (and cost recovery) with changes in usage levels”, the RDM was proposed to “correct for this misalignment by adjusting the Company’s actual revenues to match its authorized revenues”⁹.¹⁰ Additionally, the proposed RPC-based decoupling model was designed to correct “an inherent financial disincentive for utilities to promote [Energy Efficiency] initiatives that reduce customer consumption”¹¹. For a greater discussion on the specifics of Northern’s proposed Revenue Decoupling Mechanism (RDM) and the RPC model. See Dkt. No. DG 21-104, Exhibit 3, [Direct Testimony of Timothy S. Lyons at Bates 001143-1166](#) and [Attachments T. Lyons at Bates 001167-1179](#).

⁶ See Attachment A and B from initial technical statement for Northern’s responses to DOE Set 1 and Set 2, respectively. See also Attachment 1, Responses to TS DR Set 1.

⁷ That is, a response indicating inability of Northern’s current billing system to perform and provide the requested DOE information. See Attachment 2, Northern Responses to DOE Set 3.

⁸ The billing determinants, among others, included: i) the number or count of customers per rate class, per month; and ii) the total therm sales per rate class, per month.

⁹ The “authorized revenue” was calculated on a per customer class basis in [DG 21-104](#). See [Attachment SED-2](#).

¹⁰ See DG 21-104 Exhibit 3 at Bates 001143-1166, [Direct Testimony of Timothy S. Lyons](#); p 2 of 22, lines 6-17.

¹¹ See DG 21-104 Exhibit 3, at Bates 001143-1166, [Direct Testimony of Timothy S. Lyons](#); p 10 of 22, lines 5-9.

In DOE's initial technical statement, for a well-functioning RPC decoupling structure, the Department observed the importance of customer count methodology, the data normalization process, and the utility accounting practices. Informed by Northern's response to DOE Set 3, it appears that the Company's current billing system is unable to provide key information necessary to analyze the RDAF ask¹². Without undermining the significance of this limitation, in DOE's view, Northern appears to have followed the calculation methodology as stipulated in the Settlement Agreement in [DG 21-104](#). This fact was accounted for in DOE's current recommendations.

In the course of discovery in this docket, DOE's analysis has generated concern about the RPC model in general. The development of Northern's current RPC model, inherently, reflects an average energy consumption behavior (i.e., the Usage Per Customer, UPC, or simply the usage) by the customers for every rate class, and over a given unit of time (here, monthly). With changes in the unit price of the commodity (i.e., price per therm for a regulated gas utility) between the Test Year ("TY")¹³ and the Decoupling Year ("DY1"), such usage would naturally vary as a response to varying unit prices. The price elasticities would capture such variations. Any UPC variation beyond what can be explained by the price response could be attributed to all other factors (including but not exclusively, the energy efficiency). Using data provided by Northern, within the DOE's current analytical framework, the Department estimates this price response and its impact on the current RDAF ask.

Additionally, the *per customer* structure of the RPC model implies that the Company is entitled to a certain amount of decoupled revenue for every customer it finds in the subsequent periods. This immediately draws attention to three factors: a) the customer count methodology; b) the impact of customer growth over time on the RDAF ask; and c) the cost recovery components that were inherent in the allowed revenue requirement calculation.¹⁴

Taken together, it implies that the current RDAF ask could be explained by the observed variation between the Test Year (TY2020) and the Decoupling Year (DY 2022/23 or DY1) in terms of:

- i) The variation in customer count (i.e., the customer growth aspect);
- ii) The variation in price per therm; and/or
- iii) The variation in UPC (i.e., the price response and the non-price response aspects).

This provides the basis for the Department's current analytical framework. See Attachment 3 for a detailed exposition of the theoretical and empirical models used by the Department.

¹² This includes inability for Northern's billing system to compare the unbilled revenue from the prior month to billed revenue in the current month, essentially to replace an "estimate" with the corresponding "actual" data.

¹³ When RDM was designed.

¹⁴ The interplay between "embedded costs", "average costs", and "marginal costs" and their impacts in the final class-level revenue requirements bear significance for an RPC decoupling structure.

4. Summary of DOE Analysis

Based on the information sourced from [DG 21-104](#), from [DG 23-086](#) and the Company's data responses, the following is a summary of Department's analytical findings¹⁵:

4.1 We observe that Northern has a *Revenue Per Customer* (RPC) decoupling structure. Three variables are of primary interest under an RPC structure. These include:

- a. The commodity unit price, p , measured in terms of price per therm;
 - b. The customer count, n , measured using the Company methodology;
 - c. The usage per customer (UPC), q , measured in terms of average therm consumption.
- These are our variables of interest. See Attachment 3 for an overview of DOE's analytical models.

4.2 Any RDAF ask could be explained by:

- a. Significant (in the sense of statistical significance) variation in customer numbers (i.e., customer growth factor) between TY2020 and DY1 at levels;
- b. Significant variation in usage per customer (i.e., the UPC factor) between the same timeframes; or
- c. A combination of both.

4.3 Do we observe any difference in these variables? More specifically, do we observe:

- a. The difference at levels? In other words, do we see any differences for the variables of interest between their TY2020 level and their DY1 level; and
- b. (more importantly) Is there any statistically significant differences in those variables that can related to the current RDAF ask? The answer to the latter question also bears policy significance.

The DOE's analysis attempted to answer these questions.

4.4 In comparing the variables at level, we observe:

- a. Northern had 34,530 customers in an average month in TY2020. In the DY1 year (i.e., between August 2022 and July 2023), they reported 36,222 customers in an average month. This indicates a 4.9% customer growth on an average-month basis.
- b. At the Company level, Northern reported an average usage of 166.8 therms per month in TY2020. In DY1, it is reported to be 159.8 therms per month; registering a fall of 3.7% on an average-month basis.
- c. In terms of price per therm, gas prices are observed to vary significantly both across rate classes and over time. Overall, the price per therm rose by 89% between TY2020 and DY1. This temporal price variation, however, is different between the sectors. While price per therm rose by 100.6% on an average-month basis for the residential sector, the

¹⁵ For all relevant values, please refer to the Tables in Attachment 4 (provided in live format).

C&I price rose by 68.8%. These differences are significant as they would elicit different usage and gas consumption behavior depending on the price elasticity of the specific sectors.

4.5 In comparing the variables of interest at the sectoral level, we observe:

- a. In the residential sector, the reported average number of customers per month in TY2020 was 27,582. It is reported to be 29,155 in DY1. This registers a 5.7% residential customer growth. Interestingly, however, the R-6 (i.e., the non-heating residential customers) registers a negative growth of 4.3%, while the R-5 & R-10 classes (i.e., the heating customers) register a positive growth of 6.2% on an average-month basis.
- b. The C&I sector, on the other hand, reported a total of 6,948 customers on an average month during TY2020. This increased to 7,068 customers in DY1; reporting a 1.7% customer growth.
- c. In terms of usage per customer (UPC), the residential customer reported an average use of 54.4 therms per month in TY2020. This reduced to 48.5 therms per month in DY1; registering an 11.4% decline in UPC per month. The corresponding UPC values for R-6 class are 14.8 therms in TY2020 and 14.9 in DY1 (i.e., the UPC increased for R-6 customers). For the R-5 and R-10 customers, the UPC figures are 56.4 therms in TY2020 and 49.9 therms in DY1. It is important to note that the DY1 UPC figures are inclusive of the observed customer growth the occurred between TY2020 and DY1.
- d. Variations in the C&I sector are significant both across its six separate rate classes¹⁶ as well as in terms of their variability across time (i.e., TY2020 versus DY1). See Attachment 4 for a review of the observed variations. Overall, while the UPC for an average C&I customer was 610.4 therms per month in TY2020, it is 617.2 therms in DY1, registering an increase of 1.6% on an average-month basis.

4.6 Taken together, the observed variations would validate Northern's current RDAF ask at levels. The question is whether it also validates the claim from a statistical perspective.

4.7 This inquiry led DOE to perform statistical analysis. See Attachment 3 for an overview of the statistical models.

4.8 In comparing the variables of interest for statistical significance, we observe:

- a. Customer growth between TY2020 and DY1 is statistically significant in terms of explaining Northern's total RDAF ask. This implies that customer count in TY2020 is significantly different from that of DY1, indicating that, from a statistical perspective, the customer growth is predominantly responsible for the current RDAF ask.

¹⁶ That is, G-40, G-41, G-42, G-50, G-51, and G-52. G-42 and G-52 classes represent large customers. For example, UPC in G-42 class in TY2020 was 14,216.5 therms per month that declined to 13,508.8 therms per month in DY1, a decline of 708 therms per month between the two time periods.

- b. When looked at the sectoral level, while customer count is found to be a statistically significant variable for the residential sector, it is not for the C&I sector. This could imply potential cross-subsidization issues between the sectors that could be attributed to the current RPC structure.
 - c. Overall, estimates from the data indicate that a 1% increase in customer growth would lead to a 1.75% increase in RDAF ask (1.45% for residential and 1.96% for C&I). In terms of levels, the estimates show that one additional customer added to the distribution system (i.e., the marginal customer) would increase the RDAF ask for all customers by \$11.16 per month (or \$134 annually). The corresponding figures vary across residential and C&I sectors. While the marginal customer in the residential sector raises RDAF ask for all residential customers by \$136 annually, it is observed to be \$72 per year for C&I marginal customer. These estimates are all statistically significant¹⁷ which is indicative of growth impact on the current RPC decoupling structure.
- 4.9 A comparison of the usage difference between TY2020 and DY1 is not straight forward. It is because per customer gas usage can vary for multiple reasons. This, however, can be categorized in terms of UPC variation due to price changes (i.e., the price response), and the UPC variation for other reasons (i.e., the non-price response). The latter category can include, among others, usage variation due to the Energy Efficiency program run by the utility. See also Northern's response to DOE 1-9 provided with Arif & Alam's initial Technical Statement (December 8, 2023), Attachment A.
- 4.10 The price response to UPC variation can be measured through price elasticities. The residential sector is observed to be highly price elastic although the elasticity for Northern's overall gas demand is found to be slightly inelastic (-0.94)¹⁸. The observed overall inelastic nature of gas demand could be largely attributed to inelastic demand by the C&I sector.
- 4.11 The high price elasticity of the residential demand coupled with the observed hike in gas price per therm between TY2020 and DY1 would imply that the residential sector would have responded by more than proportionally decreasing its sectoral gas demand. This would manifest in terms of significant reduction in usage per customer despite the observed growth in customer count. Indeed, between TY2020 and DY1, the residential UPC fell from 54.4 therms to 48.9 therm on an average-month basis (or by 1,924,230 therms in total in DY1¹⁹).
- 4.12 The price elasticity would also allow for an estimation of the non-price responses to UPC. Consequently, due to the non-price responsiveness, the estimation indicates that the residential UPC fell from 54.4 therms to 50.5 therms on an average-month basis between

¹⁷ All observations are significant at 95% at least. See Attachment 4.

¹⁸ Both price elasticities are found to be statistically significant.

¹⁹ That is, $(48.9 - 54.4) \times 12 \text{ months} \times 29,155 \text{ residential customers in DY1}$.

TY2020 and DY1 (or by 1,364,454 therms in total in DY1²⁰). In other words, the collective non-price response accounts for a total reduction of 559,776 therms. *See also* Arif & Alam's initial Technical Statement (December 8, 2023), Attachment A, Northern's response to DOE 1-9.

- 4.13 With an average price per therm of \$1.9410 during DY1 period, this represents a revenue loss of \$1,086,536 in DY1 due to all non-price induced reduction in therm usage by residential customers' collective conservation effort (and partially due to Energy Efficiency program geared towards the residential sector). The Department observes that the RDAF ask of residential sector by Northern, however, is \$3,809,826. *See* p 1 of [Attachment SED-1](#) filed with Northern's petition in [DG 23-086](#).

5. DOE Observations

- 5.1 We first observe that Northern has a Revenue Per Customer (RPC) decoupling Structure, that was proposed as a Revenue Decoupling Mechanism (RDM) in [DG 21-104](#), Northern's last distribution rate case, and approved by the Commission in Order No. 26,650 (July 20, 2022).
- 5.2 The RDM was proposed to "addresses the basic misalignment between the structure of the Company's costs and its rates". Additionally, the proposed RPC-based decoupling model was designed to correct "an inherent financial disincentive for utilities to promote [Energy Efficiency] initiatives that reduce customer consumption". *See* Dkt No. DG 21-104, Exhibit 3, at Bates 001143-1166, [Direct Testimony of Timothy S. Lyons](#) and Exhibit 3, at Bates 001167-1179, [Attachments T. Lyons](#).
- 5.3 As such, the underlying premise, and an inherent part of the ensuing Revenue Decoupling Mechanism (RDM) was to correct the misalignment by adjusting the Company's actual revenues to match its authorized revenues.
- 5.4 Northern's authorized revenue in [DG 21-104](#) was \$47,673,687. *See* [Attachment SED-2](#) filed with Northern's petition in [DG 23-086](#). As such, the proposed RDM principles dictate that Northern should be allowed to collect up to the approved authorized revenue amount \$47,673,687. Any additional revenue beyond the authorized amount could unduly harm the other party, namely the ratepayers.
- 5.5 For the Decoupling Year (DY1) under consideration, Northern reported to have earned a total base revenue of \$44,506,322. *See* pp 10-10 of [Attachment SED-1](#) (Northern's petition in [DG 23-086](#)). Northern also reported and is seeking a total of \$4,313,259 in RDAF. This RDAF ask implies, if the requested amount is approved for eventual collection in base distribution revenues, that Northern would recover a total of \$48,819,581 in DY1. This

²⁰ That is, $(50.5 - 54.4) \times 12 \text{ months} \times 29,155 \text{ residential customers in DY1}$.

would be \$1,145,894 (approx. \$1.15 million)²¹ additional to the approved revenue requirement. It is also unclear if, due to the application of the current RPC formula, this additional \$1.15 million revenue was intended to be provided to the Company under the proposed RDM. Consequently, if the requested total RDAF amount (\$4.3 million) is approved, the ratepayers would be unduly harmed by this additional \$1.15 million RDAF ask.

5.6 This additional RDAF ask of \$1.15 million is a consequence of the current RPC structure.

5.7 The *per customer* RDAF structure creates multiple misalignments:

- a. First, the class-level RPCs were developed in Northern's last rate case, [DG 21-104](#). The development those RPCs made use of two factors: the existing number of customers in TY2020, and the allowed revenue requirement figures that were derived using Northern's FCOSS and MCOSS²². Simply put, the RPC is the revenue requirement divided by the number of customers. As such, all utility costs inclusive of planned redundancies are inherently included in the approved revenue requirements. The use of RPC beyond the TY, therefore, implies that all of those costs are instantly realized with the addition of a marginal customer (i.e., the last customer added to the distribution system). This is not necessarily the case in utility management since some costs are incurred in discreet blocks (e.g., main extension with planned redundancies, payroll expense etc.) As such, this creates a distinction between, what Northern called, the "embedded costs" (which is largely the "average costs") and the "marginal costs". This was highlighted in testimonies in [DG 21-104](#). See Docket No. DG 21-104 Exhibit 3, at Bates 001025-1072, [Direct Testimony of Ronald J. Amen and John D. Taylor](#) and Exhibit 3 at Bates 001073 -1142 [Attachments R. Amen and J. Taylor \(missing RAJT-1\)](#). Northern's class-level revenue requirements included the "embedded costs" with planned redundancies. As such, so long as the Company realizes its authorized revenue requirements, the Company is sufficiently compensated inclusive of its plan redundancies. In the context of RPCs, therefore, any RDAF revenue beyond the authorized revenue requirement would unduly harm the ratepayers.
- b. Second, the RPC structure does not put any cap on the level of revenue requirement that the Company can realize. Thus, Northern is seeking an additional \$1.15 million in their total RDAF ask in DY1.
- c. Third, when the marginal costs are lower than the embedded costs, the use of RPC would over-compensate the Company and unduly harm the ratepayers.
- d. Forth, the misalignment is further accentuated by periodic updates to RPCs through the authorized step-adjustments. In other words, while the step-adjustments compensate

²¹ \$1,145,894 is the difference between the \$4,313,259 and DOE's initial proposal of \$3,167,365.

²² The Functional Cost of Service Study (FCOSS) and the Marginal Cost of Service Study (MCOSS). See the [Direct Testimony of Ronald J. Amen and John D. Taylor](#) and [Attachments R. Amen and J. Taylor](#).

the utility for their additional capital investments, it also carries the same assumption of embedded costs being equal to marginal costs.

- e. Fifth, the *per customer* structure does not allow for price responsiveness aspect to usage adjustments into consideration. When per therm price goes up, through price elasticities, the customers respond by reducing gas demand. This creates natural usage variations. However, depending on the price elasticity in different sectors, namely residential vs C&I, this may create opportunities for cross-subsidization between the sectors, even within the authorized revenue requirement.
- f. Finally, the RPC structure creates misalignment in terms of compensating the Company for both the reduction in average usage and also for its growth in customer base.

5.8 Based on the above, any amount beyond the authorized revenue requirement would not be just, reasonable and in the public interest.

6. DOE Recommendations

In light of the foregone analysis, the presented information, and given the circumstances, including the Settlement Agreement in Docket [DG 21-104](#), which could be reasonably interpreted by the Company as allowing it to do what it did, the scope of this docket, and adherence to the mathematical formula, the relief requested appears to be just and reasonable and in the public interest.

However, the Department's position should not be construed as waiving its regulatory obligation to raising and taking a position in a future docket that the RDAF formula itself is not just, reasonable and in the public interest, or that the terms of the settlement in the rate case that led to the current RDAF formula should be otherwise modified.

Accordingly, the Department:

- Continues to support Northern's capped RDAF ask of \$1,891,519 to be recovered through the ongoing 2023/24 COG Season as consistent with the Settlement Agreement reviewed and approved by the Commission in Order No. 26,650 at 4-5, 13-14, 21 in Docket No. DG 21-104, and thus just and reasonable and in the public interest; and
- Further preliminarily concludes that Northern be allowed to collect up to \$3,167,365 in RDAF ask, instead of the requested cumulative \$4,323,259, from the 2022/23 Decoupling Year subject to further review of the overall Revenue Decoupling Mechanism (RDM) and the current RDAF formula.



December 11, 2023

By Electronic Mail

Mary Schwarzer, Staff Attorney / Hearings Examiner
New Hampshire Department of Energy
21 S. Fruit Street
Concord, NH 03301-2429

DG 23-086: Northern Utilities, Inc. Responses to DOE TS Set 1

Attorney Schwarzer,

On behalf of Northern Utilities, Inc. ("Unitil" or the "Company") I enclose the Company's responses to the Department of Energy's first set of technical session requests in the above-referenced matter.

Please do not hesitate to contact me with any questions regarding this filing.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick H. Taylor".

Patrick H. Taylor
Attorney for Northern Utilities, Inc.

Patrick Taylor
Chief Regulatory Counsel
taylorp@unitil.com

6 Liberty Lane West
Hampton, NH 03842

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-1 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023; Northern Responses to DOE DR Set 1; Northern Tariff No. 12, First Revised Page 162, Section 4.2

Please explain how Northern, including but not limited to Northern's accounting division, defines "equivalent bills;" please explain how Northern calculates "equivalent bills," including but not limited to providing an illustrative calculation, and the formula for determining "equivalent bills."

Response:

Please refer to the Company's response to DOE 1-6 for the Actual Number of Customers definition and calculation.

For purposes of the RDAF calculations the Company calculates the Actual Number of Customers based on monthly customer charge revenue divided by the customer charge in effect. The term 'equivalent bills' refers to the result of this calculation.

The calculation is provided in Attachment SED-1 RDAF, pages 12 and 13, by rate class. For example, for the Residential Heating (R-5 and R-6) during the peak period of November 2022 the Company billed actual customer charge revenue of \$616,169. The Company's respective customer charge applicable in the month of November was \$22.20. The monthly actual customer charge revenue divided by customer charge in effect results in a equivalent bill count of 27,755.

As described in the Company's response to DOE 2-9, this calculation is consistent with the Company's calculations and proposals made and agreed to in the Settlement Agreement in DG 21-104.

In addition, the calculation is consistent with the RDAF calculations used and accepted for Unil Energy Systems, Inc. and agreed to in the Settlement Agreement in DE 21-030. The formula is also consistent with the Company's Massachusetts gas division where decoupling has been in place for over a decade.

Person Responsible: S E Demeris

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-2 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023; Northern Responses to DOE DR Set 1 and 2; Northern Tariff No. 12 Section 4.2

Please explain whether Northern's RDAF Targets, as established in Docket No. DG 21-104 (Northern's most recent rate case) include elements of unbilled revenue. Please provide relevant documents and spread sheets if applicable. Please provide live Excel Versions of the following schedules from Docket No. DG 21-104: TSL-4, RAJT-11 (3 pp).

Please confirm and explain how TSL-4 supports column H in RAJT-11. What supports the calculations in column B of RAJT-11? Please provide formulas for column B and H.

How does Northern estimate and/or calculate "unbilled revenue" on a monthly basis?

What is the impact of unbilled revenue on "actual" and "allowed" revenue calculations. Please explain separately for each.

What is the impact of calculating unbilled revenue on a monthly rather than annual or seasonal (Winter/Summer, i.e., Peak/Off Peak) basis? Of those three possible periodicities, which does Northern use in its RDAF calculations?

Response:

The Company objects to this question on the grounds that it is overly burdensome, beyond the scope of this docket, and not reasonably calculated to lead to the discovery of admissible evidence. Notwithstanding the Company's objection, and without waiving such objection, the Company provides the following response.

Unbilled revenue calculations are necessary in actual practice in order to determine the revenue per customer per month as accurately as possible.

The Company's RDAF targets established in Docket No. DG 21-104 were calculated using monthly calendarized and weather normalized therm sales and pro forma test year customer counts, thus no element of unbilled revenue was included. Excel versions of the requested schedules were provided to all intervening parties in DG 21-104 on December 20, 2021 in response to Energy 4-2. In an effort to be responsive the Company has provided the requested information again. Please refer to DOE TS 1-2 Attachments 1 and 2.

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

The Company can confirm that the starting test year billing determinants (customer counts) were calculated using the same methodology in the instant docket. The customer counts shown on DOE TS 1-2 Attachment (TSL-4) are a result of the Company's rate design witness calculations. In DOE TS 1-2 Attachment 2 (RAJT-11) the Company starts with actual unadjusted 2020 test year billing determinants in column B of the Revenue Proof Tab. Taking the R-6 Residential Non-Heating class as an example in Column B, Line No. 32 you will see 15,776 customers. This is the result of the monthly equivalent bills, or effective customer counts, provided in the calculations in the "Monthly" tab. The formula is simply taking billed customer charge revenue by the applicable customer charge. On the "Revenue Proof" tab in Column E there are normalization adjustments that were fully explained in the Company's filing in DG 21-104, but for clarity include adjustments for weather, calendarization, and meter growth or decay. In the instance of the R6 rate class the Company's proposal was to reduce customer counts by 456 as shown in Column E, Line No. 32. The results of this formula are included in Column H, which is simply the summation of the test year R6 customer counts of 15,776 plus (456) which equals 15,320. Column H provides the adjusted billing determinants used for rate setting purposes in Column J. Thus, for the purposes of setting decoupling revenue per customer targets this amount is used. As shown in DOE TS 1-2 Attachment 1 (TSL-4) the monthly R6 customers authorized in rate design is 1,277 customers, which is simply the amount of 15,320 referenced above divided by 12. It should be noted that the normalization adjustments presented in DOE TS 1-2 Attachment 2 are typically only completed in the Company's base rate case proceedings. The Company has not adjusted any of the periods within its RDAF filing for any of these normalization adjustments, consistent with both the Company's RDAC tariff and the Settlement Agreement in DG 21-104.

For an explanation on how Northern calculates its unbilled revenue please refer to the Company's response to DOE 1-5.

As described above, RDAF targets established in DG 21-104 are not impacted by unbilled revenue as billing determinants were calendarized. The impact of unbilled revenue on actual revenues is provided in the Company's response to DOE 2-3 and DOE 2-6.

The Company calculates unbilled revenue on a monthly basis and uses that in its RDAF calculations. The Company does not calculate unbilled based on annual or seasonal periodicities and as such these impacts are not readily available.

Person Responsible: S E Demeris / Daniel Nawazelski

Revenue Per Customer Calculation

Effective August 1, 2022-July 31, 2023										
Target Distribution Revenues	Residential		Commercial and Industrial						Total	
	R6	R5-R10	G40	G50	G41	G51	G42	G52		
August	\$ 48,504	\$ 1,010,268	\$ 441,908	\$ 92,041	\$ 226,977	\$ 111,532	\$ 83,485	\$ 188,344	\$ 2,203,059	
September	49,868	1,198,235	475,722	91,347	271,189	112,585	92,149	203,297	2,494,392	
October	53,273	1,657,719	557,007	91,332	395,649	119,735	125,000	207,514	3,207,229	
November	60,044	2,460,689	698,000	94,828	588,970	132,292	167,185	285,345	4,487,352	
December	69,176	3,449,969	877,585	101,464	811,316	149,082	212,376	313,238	5,984,208	
January	71,910	3,845,860	948,998	103,519	894,358	154,213	240,167	273,823	6,532,848	
February	67,293	3,499,487	885,369	100,717	812,194	146,942	219,439	303,245	6,034,688	
March	63,821	3,069,372	804,131	96,856	708,736	142,342	201,053	281,262	5,367,574	
April	56,671	2,110,944	634,279	87,436	479,218	123,431	153,498	280,018	3,925,496	
May	53,747	1,553,087	536,692	88,168	355,421	120,486	112,137	186,436	3,006,174	
June	49,926	1,156,792	467,478	89,197	261,652	113,980	89,118	183,877	2,412,021	
July	48,217	984,970	437,585	90,427	220,966	110,920	82,906	181,339	2,157,329	
12ME July	\$ 692,451	\$ 25,997,394	\$ 7,764,755	\$ 1,127,333	\$ 6,026,646	\$ 1,537,541	\$ 1,778,514	\$ 2,887,738	\$ 47,812,371	

Effective August 1, 2022-July 31, 2023										
Step Increase	Residential		Commercial and Industrial						Total	
	R6	R5-R10	G40	G50	G41	G51	G42	G52		
August	\$ 3,183	\$ 66,300	\$ 29,002	\$ 6,041	\$ 14,896	\$ 7,320	\$ 5,479	\$ 12,361	\$ 144,582	
September	3,273	78,636	31,221	5,995	17,797	7,389	6,048	13,342	163,702	
October	3,496	108,790	36,556	5,994	25,965	7,858	8,204	13,619	210,483	
November	3,941	161,487	45,809	6,224	38,652	8,683	10,972	18,727	294,494	
December	4,540	226,410	57,595	6,659	53,244	9,785	13,938	20,558	392,728	
January	4,719	252,391	62,281	6,794	58,694	10,121	15,762	17,971	428,734	
February	4,416	229,659	58,106	6,610	53,302	9,644	14,401	19,902	396,041	
March	4,188	201,432	52,774	6,357	46,512	9,342	13,195	18,459	352,260	
April	3,719	138,534	41,627	5,738	31,450	8,101	10,074	18,378	257,621	
May	3,527	101,924	35,222	5,787	23,325	7,908	7,359	12,236	197,288	
June	3,277	75,916	30,680	5,854	17,172	7,481	5,849	12,068	158,296	
July	3,164	64,640	28,718	5,935	14,501	7,280	5,441	11,901	141,581	
12ME July	\$ 45,444	\$ 1,706,120	\$ 509,590	\$ 73,987	\$ 395,512	\$ 100,912	\$ 116,720	\$ 189,524	\$ 3,137,810	

Effective August 1, 2022-July 31, 2023										
Authorized Revenues	Residential		Commercial and Industrial						Total	
	R6	R5-R10	G40	G50	G41	G51	G42	G52		
August	\$ 51,687	\$ 1,076,569	\$ 470,910	\$ 98,081	\$ 241,873	\$ 118,852	\$ 88,964	\$ 200,706	\$ 2,347,642	
September	53,141	1,276,871	506,944	97,342	288,987	119,974	98,196	216,639	2,658,094	
October	56,769	1,766,509	593,563	97,326	421,614	127,593	133,204	221,133	3,417,712	
November	63,985	2,622,176	743,809	101,051	627,622	140,974	178,157	304,072	4,781,846	
December	73,716	3,676,379	935,180	108,124	864,561	158,867	226,314	333,796	6,376,936	
January	76,629	4,098,251	1,011,279	110,313	953,052	164,335	255,928	291,794	6,961,582	
February	71,709	3,729,146	943,475	107,328	865,496	156,586	233,841	323,148	6,430,729	
March	68,009	3,270,805	856,905	103,213	755,249	151,685	214,248	299,722	5,719,835	
April	60,391	2,249,478	675,906	93,174	510,668	131,533	163,572	298,396	4,183,117	
May	57,274	1,655,011	571,914	93,955	378,746	128,394	119,496	198,672	3,203,462	
June	53,203	1,232,709	498,158	95,051	278,824	121,461	94,967	195,945	2,570,317	
July	51,381	1,049,611	466,303	96,362	235,467	118,200	88,347	193,240	2,298,910	
12ME July	\$ 737,895	\$ 27,703,514	\$ 8,274,345	\$ 1,201,320	\$ 6,422,158	\$ 1,638,453	\$ 1,895,234	\$ 3,077,262	\$ 50,950,181	

Effective August 1, 2022-July 31, 2023										
Customers in Authorized Rate Design	Residential		Commercial and Industrial						Total	
	R6	R5-R10	G40	G50	G41	G51	G42	G52		
August	1,277	26,815	5,234	831	704	267	31	33		
September	1,277	26,815	5,234	831	704	267	31	33		
October	1,277	26,815	5,234	831	704	267	31	33		
November	1,277	26,815	5,234	831	704	267	31	33		
December	1,277	26,815	5,234	831	704	267	31	33		
January	1,277	26,815	5,234	831	704	267	31	33		
February	1,277	26,815	5,234	831	704	267	31	33		
March	1,277	26,815	5,234	831	704	267	31	33		
April	1,277	26,815	5,234	831	704	267	31	33		
May	1,277	26,815	5,234	831	704	267	31	33		
June	1,277	26,815	5,234	831	704	267	31	33		
July	1,277	26,815	5,234	831	704	267	31	33		

Effective August 1, 2022-July 31, 2023										
Authorized Revenue per Customer	Residential		Commercial and Industrial						Total	
	R6	R5-R10	G40	G50	G41	G51	G42	G52		
August	\$ 40.49	\$ 40.15	\$ 89.97	\$ 117.96	\$ 343.46	\$ 445.97	\$ 2,869.82	\$ 6,081.99		
September	41.62	47.62	96.85	117.07	410.36	450.18	3,167.63	6,564.83		
October	44.47	65.88	113.40	117.05	598.69	478.77	4,296.90	6,701.01		
November	50.12	97.79	142.10	121.53	891.21	528.98	5,746.99	9,214.31		
December	57.74	137.10	178.66	130.04	1,227.66	596.12	7,300.45	10,115.02		
January	60.02	152.84	193.20	132.67	1,353.32	616.64	8,255.76	8,842.24		
February	56.17	139.07	180.25	129.08	1,228.99	587.57	7,543.25	9,792.35		
March	53.27	121.98	163.71	124.13	1,072.44	569.17	6,911.22	9,082.48		
April	47.30	83.89	129.13	112.06	725.14	493.56	5,276.50	9,042.31		
May	44.86	61.72	109.26	113.00	537.81	481.78	3,854.71	6,020.36		
June	41.67	45.97	95.17	114.32	395.93	455.76	3,063.46	5,937.72		
July	40.25	39.14	89.09	115.89	334.36	443.53	2,849.90	5,855.75		
Total	\$ 577.97	\$ 1,033.14	\$ 1,580.78	\$ 1,444.82	\$ 9,119.36	\$ 6,148.04	\$ 61,136.58	\$ 93,250.36		

Northern Utilities New Hampshire
Revenue Proof and Rate Design
Test Year: January 1, 2020 Through December 31, 2020

				Adjustments			Pro Forma at Current Rates		Pro Forma Proposed Rates			
Line No.	Rate Description	2020 Billing Units (bills or therms)	Current Rates	Calculated Revenue	Normalization & Annualization Adjustments (bills or therms)	Weather Normalization & Annualization Revenue Adjustment	R-10 Rate Change Annualization	2020 Adjusted Billing Determinants (bills or therms)	2020 Adjusted Base Year Revenue ("Margin")	Projected Billing Determinants (bills or therms)	Proposed Rate	Total Proposed Revenue ("Margin")
	(A)	(B)	(C)	(D) [B * C]	(E)	(F) [C * E]		(H) [B + E]	(I) [D + F]	(J) [=H]	(K)	(L) [J * K]
1	R-5: Residential Heating											
2	Customer Charge	306,525	\$22.20	\$6,804,865	7,528	\$167,116		314,053	\$6,971,981	314,053	\$27.84	\$8,743,241
3	Summer First 50 therms	2,947,284	\$0.6099	\$1,797,548	148,552	\$90,602		3,095,836	\$1,888,150	3,095,836	\$0.8491	\$2,628,674
4	Summer Excess therms	459,480	\$0.6099	\$280,237	-	\$0		459,480	\$280,237	459,480	\$0.8491	\$390,145
5	Winter First 50 therms	6,432,280	\$0.6920	\$4,451,138	182,063	\$125,988		6,614,343	\$4,577,125	6,614,343	\$0.8491	\$5,616,239
6	Winter Excess therms	7,449,509	\$0.6920	\$5,155,060	1,986,762	\$1,374,840		9,436,272	\$6,529,900	9,436,272	\$0.8491	\$8,012,338
7	Total	17,288,553		\$18,488,849	2,317,378	\$1,758,545		19,605,931	\$20,247,394	19,605,931		\$25,390,637
8	R-10: Residential Heating, Low Income											
9	January through October											
10	Customer Charge	7,409	\$8.88	\$65,795	(972)	(\$21,587)	\$98,692					
11	Summer First 50 therms	60,977	\$0.2440	\$14,878	(4,875)	(\$2,973)	\$22,311					
12	Summer Excess therms	4,657	\$0.2440	\$1,136	-	\$0	\$1,704					
13	Winter First 50 therms	164,671	\$0.2760	\$45,449	(31,181)	(\$21,578)	\$68,503					
14	Winter Excess therms	154,635	\$0.2760	\$42,679	24,940	\$17,258	\$64,328					
15	Total	384,939		\$169,938	(11,116)	(\$28,879)	\$255,538					
16	November, December											
17	Customer Charge before rate change	335	\$8.88	\$2,979			\$4,468					
18	Customer Charge after rate change	938	\$22.20	\$20,822	14	\$311						
19	Summer First 50 therms b/f change	11,932	\$0.2440	\$2,911	1,843	\$1,124	\$4,366					
20	Summer Excess therms b/f change	2,539	\$0.2440	\$620		\$0	\$929					
21	Winter First 50 therms	40,114	\$0.6920	\$27,759	701	\$485	\$0					
22	Winter Excess therms	25,775	\$0.6920	\$17,836	4,598	\$3,182	\$0					
23	Total	80,360		\$72,927	7,142	\$5,102	\$9,763					
24	Test Year											
25	Customer Charge	8,683		\$89,595	(958)	(\$21,276)	\$103,160	7,724	\$171,480	7,724	\$27.84	\$215,045
26	Summer First 50 therms	72,909		\$17,790	(3,032)	(\$1,849)	\$26,677	69,877	\$42,618	69,877	\$0.8491	\$59,333
27	Summer Excess therms	7,196		\$1,756	-	\$0	\$2,633	7,196	\$4,389	7,196	\$0.8491	\$6,110
28	Winter First 50 therms	204,785		\$73,208	(30,481)	(\$21,093)	\$68,503	174,305	\$120,619	174,305	\$0.8491	\$148,002
29	Winter Excess therms	180,409		\$60,515	29,538	\$20,441	\$64,328	209,948	\$145,284	209,948	\$0.8491	\$178,267
30	Total	465,300		\$242,865	(3,974)	(\$23,777)	\$265,302	461,326	\$484,389	461,326		\$606,756

Northern Utilities New Hampshire
Revenue Proof and Rate Design
Test Year: January 1, 2020 Through December 31, 2020

				Adjustments			Pro Forma at Current Rates		Pro Forma Proposed Rates			
Line No.	Rate Description	2020 Billing Units (bills or therms)	Current Rates	Calculated Revenue	Normalization & Annualization Adjustments (bills or therms)	Weather Normalization & Annualization Revenue Adjustment	R-10 Rate Change Annualization	2020 Adjusted Billing Determinants (bills or therms)	2020 Adjusted Base Year Revenue ("Margin")	Projected Billing Determinants (bills or therms)	Proposed Rate	Total Proposed Revenue ("Margin")
	(A)	(B)	(C)	(D) [B * C]	(E)	(F) [C * E]		(H) [B + E]	(I) [D + F]	(J) [=H]	(K)	(L) [J * K]
31	R-6: Residential Non-Heating											
32	Customer Charge	15,776	\$22.20	\$350,236	(456)	(\$10,123)		15,320	\$340,113	15,320	\$27.84	\$426,520
33	Summer First 10 therms	51,805	\$0.6470	\$33,518	(3,321)	(\$2,149)		48,484	\$31,369	48,484	\$1.1208	\$54,340
34	Summer Excess therms	32,928	\$0.6470	\$21,304	-	\$0		32,928	\$21,304	32,928	\$1.1208	\$36,906
35	Winter First 10 therms	52,602	\$0.6470	\$34,034	(599)	(\$388)		52,003	\$33,646	52,003	\$1.1208	\$58,285
36	Winter Excess therms	94,282	\$0.6470	\$61,001	9,571	\$6,193		103,854	\$67,193	103,854	\$1.1208	\$116,399
37	Total	231,617		\$500,092	5,651	(\$6,467)		237,269	\$493,626	237,269		\$692,451
38	G-40/T-40: Low Annual, High Winter Use											
39	Customer Charge	60,528	\$75.09	\$4,545,034	2,284	\$171,520		62,812	\$4,716,554	62,812	\$80.00	\$5,024,961
40	Summer First 75 therms	749,335	\$0.1865	\$139,751	130,670	\$24,370		880,005	\$164,121	880,005	\$0.2518	\$221,585
41	Summer Excess therms	728,589	\$0.1865	\$135,882	-	\$0		728,589	\$135,882	728,589	\$0.2518	\$183,459
42	Winter First 75 therms	1,918,684	\$0.1865	\$357,835	51,517	\$9,608		1,970,201	\$367,443	1,970,201	\$0.2518	\$496,097
43	Winter Excess therms	6,048,253	\$0.1865	\$1,127,999	1,253,784	\$233,831		7,302,037	\$1,361,830	7,302,037	\$0.2518	\$1,838,653
44	Total	9,444,862		\$6,306,501	1,435,971	\$439,328		10,880,833	\$6,745,829	10,880,833		\$7,764,755
45	G-50/T-50: Low Annual, Low Winter Use											
46	Customer Charge	9,988	\$75.09	\$749,978	(10)	(\$760)		9,978	\$749,218	9,978	\$80.00	\$798,208
47	Summer First 75 therms	211,366	\$0.1865	\$39,420	(7,547)	(\$1,408)		203,819	\$38,012	203,819	\$0.2232	\$45,492
48	Summer Excess therms	444,727	\$0.1865	\$82,942	-	\$0		444,727	\$82,942	444,727	\$0.2232	\$99,263
49	Winter First 75 therms	216,653	\$0.1865	\$40,406	3,516	\$656		220,169	\$41,061	220,169	\$0.2232	\$49,142
50	Winter Excess therms	601,017	\$0.1865	\$112,090	4,841	\$903		605,858	\$112,993	605,858	\$0.2232	\$135,228
51	Total	1,473,763		\$1,024,835	810	(\$609)		1,474,573	\$1,024,226	1,474,573		\$1,127,333
52	G-41/T-41: Medium Annual, High Winter Use											
53	Customer Charge	8,741	\$222.64	\$1,946,116	(290)	(\$64,630)		8,451	\$1,881,486	8,451	\$225.00	\$1,901,430
54	Summer All therms	2,627,539	\$0.1895	\$497,919	81,420	\$15,429		2,708,960	\$513,348	2,708,960	\$0.2860	\$774,762
55	Winter All therms	11,121,406	\$0.2425	\$2,696,941	593,466	\$143,916		11,714,872	\$2,840,856	11,714,872	\$0.2860	\$3,350,453
56	Total	13,748,945		\$5,140,976	674,887	\$94,715		14,423,832	\$5,235,691	14,423,832		\$6,026,646
57	G-51/T-51: Medium Annual, Low Winter Use											
58	Customer Charge	3,318	\$222.64	\$738,727	(120)	(\$26,725)		3,198	\$712,003	3,198	\$225.00	\$719,550
59	Summer First 1,000 therms	1,231,175	\$0.1337	\$164,608	(61,835)	(\$8,267)		1,169,340	\$156,341	1,169,340	\$0.1718	\$200,893
60	Summer Excess therms	515,635	\$0.1087	\$56,050	254,848	\$27,702		770,483	\$83,752	770,483	\$0.1718	\$132,369
61	Winter First 1,300 therms	1,677,170	\$0.1712	\$287,131	(75,660)	(\$12,953)		1,601,510	\$274,178	1,601,510	\$0.1718	\$275,139
62	Winter Excess therms	1,045,521	\$0.1399	\$146,268	174,446	\$24,405		1,219,967	\$170,673	1,219,967	\$0.1718	\$209,590
63	Total	4,469,501		\$1,392,785	291,799	\$4,162		4,761,300	\$1,396,947	4,761,300		\$1,537,541

Northern Utilities New Hampshire
Revenue Proof and Rate Design
Test Year: January 1, 2020 Through December 31, 2020

				Adjustments			Pro Forma at Current Rates		Pro Forma Proposed Rates			
Line No.	Rate Description	2020 Billing Units (bills or therms)	Current Rates	Calculated Revenue	Normalization & Annualization Adjustments (bills or therms)	Weather Normalization & Annualization Revenue Adjustment	R-10 Rate Change Annualization	2020 Adjusted Billing Determinants (bills or therms)	2020 Adjusted Base Year Revenue ("Margin")	Projected Billing Determinants (bills or therms)	Proposed Rate	Total Proposed Revenue ("Margin")
(A)	(B)	(C)	(D) [B * C]	(E)	(F) [C * E]			(H) [B + E]	(I) [D + F]	(J) [=H]	(K)	(L) [J * K]
64	G-42/T-42: High Annual, High Winter Use											
65	Customer Charge	413	\$1,335.81	\$551,022	(41)	(\$54,100)		372	\$496,921	372	\$1,350.00	\$502,200
66	Summer All therms	1,589,451	\$0.1206	\$191,688	(42,692)	(\$5,149)		1,546,759	\$186,539	1,546,759	\$0.2167	\$335,183
67	Winter All therms	4,234,069	\$0.1984	\$840,039	108,944	\$21,614		4,343,013	\$861,654	4,343,013	\$0.2167	\$941,131
68	Total	5,823,520		\$1,582,749	66,252	(\$37,635)		5,889,772	\$1,545,114	5,889,772		\$1,778,514
69	G-52/T-52: High Annual, Low Winter Use											
70	Customer Charge	391	\$1,335.81	\$521,901	5	\$7,080		396	\$528,981	396	\$1,350.00	\$534,600
71	Summer All therms	7,827,306	\$0.0792	\$619,923	29,672	\$2,350		7,856,979	\$622,273	7,856,979	\$0.1121	\$880,767
72	Winter All therms	8,356,912	\$0.1720	\$1,437,389	203,384	\$34,982		8,560,295	\$1,472,371	8,560,295	\$0.1720	\$1,472,371
73	Total	16,184,218		\$2,579,212	233,061	\$44,412		16,417,274	\$2,623,624	16,417,274		\$2,887,738
74	Total											
75	Customer Charge	414,362		\$16,297,475	7,942	\$168,102	\$103,160	422,304	\$16,568,737	422,304		\$18,865,756
76	Summer First Block therms	17,308,170		\$3,502,164	271,888	\$113,930	\$26,677	17,580,058	\$3,642,771	17,580,058		\$5,201,030
77	Summer Excess therms	2,188,556		\$578,170	254,848	\$27,702	\$2,633	2,443,404	\$608,505	2,443,404		\$848,251
78	Winter First Block therms	34,214,561		\$10,218,121	1,036,150	\$302,330	\$68,503	35,250,711	\$10,588,954	35,250,711		\$12,406,859
79	Winter Excess therms	15,418,993		\$6,662,934	3,458,944	\$1,660,611	\$64,328	18,877,936	\$8,387,873	18,877,936		\$10,490,475
80	Total	69,130,280		\$37,258,864	5,021,830	\$2,272,675	\$265,302	74,152,109	\$39,796,840	74,152,109		\$47,812,371

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

January 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,300	\$561,670.36	\$22.20	\$561,670.36	\$0.00	0.00%
		Summer First 50 therms	(176.12)	-\$107.41	\$0.6099	-\$107.41	\$0.00	0.00%
		Summer Excess therms	(11,005.20)	-\$6,712.08	\$0.6099	-\$6,712.07	\$0.01	0.00%
		Winter First 50 therms	1,153,757.74	\$798,400.75	\$0.6920	\$798,400.35	-\$0.40	0.00%
		Winter Excess therms	1,836,512.56	\$1,270,869.12	\$0.6920	\$1,270,866.69	-\$2.43	0.00%
		Total therms only	2,979,088.98	\$2,062,450.38		\$2,062,447.56	-\$2.82	0.00%
R-10	Residential Heating, Low Income	Customers	742	\$6,585.69	\$8.88	\$6,585.69	\$0.00	0.00%
		Summer First 50 therms	433.90	\$105.89	\$0.2440	\$105.87	-\$0.02	-0.02%
		Summer Excess therms	151.07	\$36.85	\$0.2440	\$36.86	\$0.01	0.03%
		Winter First 50 therms	34,689.20	\$9,601.96	\$0.2760	\$9,574.22	-\$27.74	-0.29%
		Winter Excess therms	42,826.52	\$11,854.37	\$0.2760	\$11,820.12	-\$34.25	-0.29%
		Total therms only	78,100.70	\$21,599.07		\$21,537.07	-\$62.00	-0.29%
R-6	Residential Non-Heating	Customers	1,267	\$28,128.14	\$22.20	\$28,128.14	\$0.00	0.00%
		Summer First 10 therms	4.82	\$3.12	\$0.6470	\$3.12	\$0.00	-0.15%
		Summer Excess therms	12.56	\$8.12	\$0.6470	\$8.12	\$0.00	0.05%
		Winter First 10 therms	8,739.89	\$5,654.80	\$0.6470	\$5,654.71	-\$0.09	0.00%
		Winter Excess therms	20,355.71	\$13,170.29	\$0.6470	\$13,170.15	-\$0.14	0.00%
		Total therms only	29,112.97	\$18,836.33		\$18,836.09	-\$0.24	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,126	\$384,903.81	\$75.09	\$384,903.81	\$0.00	0.00%
		Summer First 75 therms	0.23	\$0.05	\$0.1865	\$0.04	-\$0.01	-12.34%
		Summer Excess therms	(9.39)	-\$1.75	\$0.1865	-\$1.75	\$0.00	0.03%
		Winter First 75 therms	351,209.13	\$65,510.71	\$0.1865	\$65,500.50	-\$10.21	-0.02%
		Winter Excess therms	1,449,154.63	\$270,267.34	\$0.1865	\$270,267.34	\$0.00	0.00%
		Total therms only	1,800,354.61	\$335,776.35		\$335,766.13	-\$10.22	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	812	\$60,944.80	\$75.09	\$60,944.80	\$0.00	0.00%
		Summer First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	38,059.15	\$7,098.86	\$0.1865	\$7,098.03	-\$0.83	-0.01%
		Winter Excess therms	124,532.65	\$23,225.40	\$0.1865	\$23,225.34	-\$0.06	0.00%
		Total therms only	162,591.80	\$30,324.26		\$30,323.37	-\$0.89	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	742	\$165,258.26	\$222.64	\$165,258.26	\$0.00	0.00%
		Summer All therms	11,142.00	\$2,111.40	\$0.1895	\$2,111.41	\$0.01	0.00%
		Winter All therms	2,457,584.19	\$595,964.26	\$0.2425	\$595,964.17	-\$0.09	0.00%
		Total therms only	2,468,726.20	\$598,075.66		\$598,075.58	-\$0.08	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	279	\$62,168.51	\$222.64	\$62,168.51	\$0.00	0.00%
		Summer First 1,000 therms	22.26	\$2.97	\$0.1337	\$2.98	\$0.01	0.21%
		Summer Excess therms	381.48	\$41.47	\$0.1087	\$41.47	\$0.00	-0.01%
		Winter First 1,300 therms	326,704.18	\$55,931.72	\$0.1712	\$55,931.76	\$0.04	0.00%
		Winter Excess therms	247,228.16	\$34,587.18	\$0.1399	\$34,587.22	\$0.04	0.00%
		Total therms only	574,336.08	\$90,563.34		\$90,563.42	\$0.08	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	34	\$45,417.54	\$1,335.81	\$45,417.54	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1206	\$0.00	\$0.00	0.00%
		Winter All therms	883,131.56	\$175,213.31	\$0.1984	\$175,213.30	-\$0.01	0.00%
		Total therms only	883,131.56	\$175,213.31		\$175,213.30	-\$0.01	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,523.29	\$1,335.81	\$42,523.29	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.0792	\$0.00	\$0.00	0.00%
		Winter All therms	1,285,855.21	\$221,167.12	\$0.1720	\$221,167.10	-\$0.02	0.00%
		Total therms only	1,285,855.21	\$221,167.12		\$221,167.10	-\$0.02	0.00%
Total		Customers	34,334	\$1,357,600.40		\$1,357,600.40	\$0.00	0.00%
		Summer First Block therms	11,427.10	\$2,116.02		\$2,116.00	-\$0.02	0.00%
		Summer Excess therms	(10,469.48)	-\$6,627.39		-\$6,627.37	\$0.02	0.00%
		Winter First Block therms	6,539,730.24	\$1,934,543.49		\$1,934,504.13	-\$39.36	0.00%
		Winter Excess therms	3,720,610.23	\$1,623,973.70		\$1,623,936.85	-\$36.85	0.00%
		Total therms only	10,261,298.10	\$3,554,005.82		\$3,553,929.62	-\$76.20	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

February 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,213	\$559,726.47	\$22.20	\$559,726.47	\$0.00	0.00%
		Summer First 50 therms	(785.81)	-\$479.23	\$0.6099	-\$479.27	-\$0.04	0.01%
		Summer Excess therms	(301.70)	-\$184.01	\$0.6099	-\$184.01	\$0.00	0.00%
		Winter First 50 therms	1,154,691.25	\$799,045.99	\$0.6920	\$799,046.34	\$0.35	0.00%
		Winter Excess therms	1,873,952.84	\$1,296,776.29	\$0.6920	\$1,296,775.36	-\$0.93	0.00%
		Total therms only	3,027,556.57	\$2,095,159.04		\$2,095,158.43	-\$0.61	0.00%
R-10	Residential Heating, Low Income	Customers	817	\$7,257.05	\$8.88	\$7,257.05	\$0.00	0.00%
		Summer First 50 therms	823.29	\$200.92	\$0.2440	\$200.88	-\$0.04	-0.02%
		Summer Excess therms	301.70	\$73.63	\$0.2440	\$73.62	-\$0.01	-0.02%
		Winter First 50 therms	37,778.21	\$10,457.01	\$0.2760	\$10,426.79	-\$30.22	-0.29%
		Winter Excess therms	48,535.95	\$13,435.05	\$0.2760	\$13,395.92	-\$39.13	-0.29%
		Total therms only	87,439.16	\$24,166.61		\$24,097.21	-\$69.40	-0.29%
R-6	Residential Non-Heating	Customers	1,289	\$28,615.06	\$22.20	\$28,615.06	\$0.00	0.00%
		Summer First 10 therms	23.35	\$15.10	\$0.6470	\$15.11	\$0.01	0.05%
		Summer Excess therms	5.46	\$3.54	\$0.6470	\$3.53	-\$0.01	-0.30%
		Winter First 10 therms	8,868.21	\$5,738.17	\$0.6470	\$5,737.73	-\$0.44	-0.01%
		Winter Excess therms	19,487.10	\$12,608.16	\$0.6470	\$12,608.15	-\$0.01	0.00%
		Total therms only	28,384.11	\$18,364.97		\$18,364.52	-\$0.45	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,124	\$384,766.24	\$75.09	\$384,766.24	\$0.00	0.00%
		Summer First 75 therms	16.86	\$3.15	\$0.1865	\$3.14	-\$0.01	-0.20%
		Summer Excess therms	52.50	\$9.79	\$0.1865	\$9.79	\$0.00	0.01%
		Winter First 75 therms	351,597.73	\$65,583.54	\$0.1865	\$65,572.98	-\$10.56	-0.02%
		Winter Excess therms	1,409,537.02	\$262,878.99	\$0.1865	\$262,878.65	-\$0.34	0.00%
		Total therms only	1,761,204.09	\$328,475.47		\$328,464.56	-\$10.91	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	825	\$61,951.76	\$75.09	\$61,951.76	\$0.00	0.00%
		Summer First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	37,992.19	\$7,086.46	\$0.1865	\$7,085.54	-\$0.92	-0.01%
		Winter Excess therms	125,768.97	\$23,455.95	\$0.1865	\$23,455.91	-\$0.04	0.00%
		Total therms only	163,761.16	\$30,542.41		\$30,541.46	-\$0.95	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	739	\$164,538.39	\$222.64	\$164,538.39	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1895	\$0.00	\$0.00	0.00%
		Winter All therms	2,407,737.49	\$583,876.54	\$0.2425	\$583,876.34	-\$0.20	0.00%
		Total therms only	2,407,737.49	\$583,876.54		\$583,876.34	-\$0.20	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	277	\$61,708.39	\$222.64	\$61,708.39	\$0.00	0.00%
		Summer First 1,000 therms	0.00	\$0.00	\$0.1337	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1087	\$0.00	\$0.00	0.00%
		Winter First 1,300 therms	322,404.39	\$55,195.63	\$0.1712	\$55,195.63	\$0.00	0.00%
		Winter Excess therms	241,633.42	\$33,804.53	\$0.1399	\$33,804.52	-\$0.01	0.00%
		Total therms only	564,037.81	\$89,000.16		\$89,000.15	-\$0.01	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1206	\$0.00	\$0.00	0.00%
		Winter All therms	842,263.98	\$167,105.16	\$0.1984	\$167,105.17	\$0.01	0.00%
		Total therms only	842,263.98	\$167,105.16		\$167,105.17	\$0.01	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,745.92	\$1,335.81	\$42,745.92	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.0792	\$0.00	\$0.00	0.00%
		Winter All therms	1,458,466.39	\$250,856.21	\$0.1720	\$250,856.22	\$0.01	0.00%
		Total therms only	1,458,466.39	\$250,856.21		\$250,856.22	\$0.01	0.00%
Total		Customers	34,351	\$1,358,062.63		\$1,358,062.63	\$0.00	0.00%
		Summer First Block therms	77.69	-\$260.06		-\$260.13	-\$0.07	0.03%
		Summer Excess therms	57.95	-\$97.05		-\$97.07	-\$0.02	0.02%
		Winter First Block therms	6,621,799.83	\$1,944,944.71		\$1,944,902.74	-\$41.97	0.00%
		Winter Excess therms	3,718,915.29	\$1,642,958.97		\$1,642,918.52	-\$40.45	0.00%
		Total therms only	10,340,850.77	\$3,587,546.57		\$3,587,464.06	-\$82.51	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

March 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,370	\$563,219.22	\$22.20	\$563,219.22	\$0.00	0.00%
		Summer First 50 therms	(246.67)	-\$150.42	\$0.6099	-\$150.44	-\$0.02	0.01%
		Summer Excess therms	(84.11)	-\$51.31	\$0.6099	-\$51.30	\$0.01	-0.02%
		Winter First 50 therms	1,125,383.55	\$778,765.99	\$0.6920	\$778,765.42	-\$0.57	0.00%
		Winter Excess therms	1,456,716.45	\$1,008,048.11	\$0.6920	\$1,008,047.78	-\$0.33	0.00%
		Total therms only	2,581,769.22	\$1,786,612.37		\$1,786,611.46	-\$0.91	0.00%
R-10	Residential Heating, Low Income	Customers	760	\$6,750.87	\$8.88	\$6,750.87	\$0.00	0.00%
		Summer First 50 therms	246.67	\$60.22	\$0.2440	\$60.19	-\$0.03	-0.06%
		Summer Excess therms	84.11	\$20.52	\$0.2440	\$20.52	\$0.00	0.02%
		Winter First 50 therms	35,224.56	\$9,750.21	\$0.2760	\$9,721.98	-\$28.23	-0.29%
		Winter Excess therms	35,498.33	\$9,826.00	\$0.2760	\$9,797.54	-\$28.46	-0.29%
		Total therms only	71,053.67	\$19,656.95		\$19,600.23	-\$56.72	-0.29%
R-6	Residential Non-Heating	Customers	1,295	\$28,759.36	\$22.20	\$28,759.36	\$0.00	0.00%
		Summer First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter First 10 therms	8,853.18	\$5,727.77	\$0.6470	\$5,728.01	\$0.24	0.00%
		Winter Excess therms	17,177.84	\$11,114.02	\$0.6470	\$11,114.07	\$0.05	0.00%
		Total therms only	26,031.02	\$16,841.79		\$16,842.07	\$0.28	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,128	\$385,064.08	\$75.09	\$385,064.08	\$0.00	0.00%
		Summer First 75 therms	5.92	\$1.10	\$0.1865	\$1.10	\$0.00	0.29%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	343,672.37	\$64,104.84	\$0.1865	\$64,094.90	-\$9.94	-0.02%
		Winter Excess therms	1,128,042.25	\$210,379.92	\$0.1865	\$210,379.88	-\$0.04	0.00%
		Total therms only	1,471,720.53	\$274,485.86		\$274,475.88	-\$9.98	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	826	\$61,986.80	\$75.09	\$61,986.80	\$0.00	0.00%
		Summer First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	38,185.58	\$7,122.63	\$0.1865	\$7,121.61	-\$1.02	-0.01%
		Winter Excess therms	118,705.91	\$22,138.59	\$0.1865	\$22,138.65	\$0.06	0.00%
		Total therms only	156,891.49	\$29,261.22		\$29,260.26	-\$0.96	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	736	\$163,937.25	\$222.64	\$163,937.25	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1895	\$0.00	\$0.00	0.00%
		Winter All therms	2,077,386.78	\$503,766.32	\$0.2425	\$503,766.29	-\$0.03	0.00%
		Total therms only	2,077,386.78	\$503,766.32		\$503,766.29	-\$0.03	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	278	\$61,893.92	\$222.64	\$61,893.92	\$0.00	0.00%
		Summer First 1,000 therms	0.00	\$0.00	\$0.1337	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1087	\$0.00	\$0.00	0.00%
		Winter First 1,300 therms	317,568.01	\$54,367.66	\$0.1712	\$54,367.64	-\$0.02	0.00%
		Winter Excess therms	218,150.34	\$30,519.28	\$0.1399	\$30,519.23	-\$0.05	0.00%
		Total therms only	535,718.35	\$84,886.94		\$84,886.88	-\$0.06	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1206	\$0.00	\$0.00	0.00%
		Winter All therms	710,410.62	\$140,945.49	\$0.1984	\$140,945.47	-\$0.02	0.00%
		Total therms only	710,410.62	\$140,945.49		\$140,945.47	-\$0.02	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,745.92	\$1,335.81	\$42,745.92	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.0792	\$0.00	\$0.00	0.00%
		Winter All therms	1,334,530.73	\$229,539.31	\$0.1720	\$229,539.28	-\$0.03	0.00%
		Total therms only	1,334,530.73	\$229,539.31		\$229,539.28	-\$0.03	0.00%
Total		Customers	34,461	\$1,361,110.77		\$1,361,110.77	\$0.00	0.00%
		Summer First Block therms	5.92	-\$89.10		-\$89.15	-\$0.05	0.06%
		Summer Excess therms	0.00	-\$30.79		-\$30.78	\$0.01	-0.04%
		Winter First Block therms	5,991,215.37	\$1,794,090.22		\$1,794,050.60	-\$39.62	0.00%
		Winter Excess therms	2,974,291.12	\$1,292,025.92		\$1,291,997.15	-\$28.77	0.00%
		Total therms only	8,965,512.41	\$3,085,996.25		\$3,085,927.82	-\$68.43	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

April 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,211	\$559,684.91	\$22.20	\$559,684.91	\$0.00	0.00%
		Summer First 50 therms	(375.75)	-\$228.78	\$0.6099	-\$229.17	-\$0.39	0.17%
		Summer Excess therms	(144.55)	-\$88.16	\$0.6099	-\$88.16	\$0.00	0.00%
		Winter First 50 therms	1,021,496.33	\$706,876.06	\$0.6920	\$706,875.46	-\$0.60	0.00%
		Winter Excess therms	773,059.46	\$534,957.17	\$0.6920	\$534,957.15	-\$0.02	0.00%
		Total therms only	1,794,035.50	\$1,241,516.29		\$1,241,515.28	-\$1.01	0.00%
R-10	Residential Heating, Low Income	Customers	879	\$7,808.17	\$8.88	\$7,808.17	\$0.00	0.00%
		Summer First 50 therms	329.30	\$80.39	\$0.2440	\$80.35	-\$0.04	-0.05%
		Summer Excess therms	111.46	\$27.20	\$0.2440	\$27.20	\$0.00	-0.01%
		Winter First 50 therms	36,882.96	\$10,209.07	\$0.2760	\$10,179.70	-\$29.37	-0.29%
		Winter Excess therms	18,888.50	\$5,228.44	\$0.2760	\$5,213.23	-\$15.21	-0.29%
		Total therms only	56,212.23	\$15,545.10		\$15,500.47	-\$44.63	-0.29%
R-6	Residential Non-Heating	Customers	1,280	\$28,412.30	\$22.20	\$28,412.30	\$0.00	0.00%
		Summer First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter First 10 therms	8,723.18	\$5,643.94	\$0.6470	\$5,643.90	-\$0.04	0.00%
		Winter Excess therms	12,546.04	\$8,117.25	\$0.6470	\$8,117.29	\$0.04	0.00%
		Total therms only	21,269.22	\$13,761.19		\$13,761.19	\$0.00	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,081	\$381,500.56	\$75.09	\$381,500.56	\$0.00	0.00%
		Summer First 75 therms	(0.88)	-\$0.16	\$0.1865	-\$0.16	\$0.00	2.81%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	297,711.77	\$55,531.31	\$0.1865	\$55,523.25	-\$8.06	-0.01%
		Winter Excess therms	637,120.15	\$118,823.00	\$0.1865	\$118,822.91	-\$0.09	0.00%
		Total therms only	934,831.04	\$174,354.15		\$174,345.99	-\$8.16	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	828	\$62,159.49	\$75.09	\$62,159.49	\$0.00	0.00%
		Summer First 75 therms	3.19	\$0.60	\$0.1865	\$0.59	-\$0.01	-0.84%
		Summer Excess therms	4.40	\$0.82	\$0.1865	\$0.82	\$0.00	-0.02%
		Winter First 75 therms	34,214.91	\$6,382.03	\$0.1865	\$6,381.08	-\$0.95	-0.01%
		Winter Excess therms	64,674.30	\$12,061.89	\$0.1865	\$12,061.76	-\$0.13	0.00%
		Total therms only	98,896.79	\$18,445.34		\$18,444.25	-\$1.09	-0.01%
G-41/T-41	Medium Annual, High Winter Use	Customers	736	\$163,963.36	\$222.64	\$163,963.36	\$0.00	0.00%
		Summer All therms	1,824.33	\$345.71	\$0.1895	\$345.71	\$0.00	0.00%
		Winter All therms	1,333,734.38	\$323,430.75	\$0.2425	\$323,430.59	-\$0.16	0.00%
		Total therms only	1,335,558.71	\$323,776.46		\$323,776.30	-\$0.16	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	278	\$61,893.93	\$222.64	\$61,893.93	\$0.00	0.00%
		Summer First 1,000 therms	100.00	\$13.38	\$0.1337	\$13.37	-\$0.01	-0.08%
		Summer Excess therms	258.60	\$28.11	\$0.1087	\$28.11	\$0.00	0.00%
		Winter First 1,300 therms	218,971.85	\$37,487.99	\$0.1712	\$37,487.98	-\$0.01	0.00%
		Winter Excess therms	88,131.75	\$12,329.64	\$0.1399	\$12,329.63	-\$0.01	0.00%
		Total therms only	307,462.20	\$49,859.12		\$49,859.09	-\$0.03	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	14,062.12	\$1,695.90	\$0.1206	\$1,695.89	-\$0.01	0.00%
		Winter All therms	516,408.16	\$102,455.37	\$0.1984	\$102,455.38	\$0.01	0.00%
		Total therms only	530,470.27	\$104,151.27		\$104,151.27	\$0.00	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,745.93	\$1,335.81	\$42,745.93	\$0.00	0.00%
		Summer All therms	41,018.40	\$3,248.64	\$0.0792	\$3,248.66	\$0.02	0.00%
		Winter All therms	1,300,351.79	\$223,660.50	\$0.1720	\$223,660.51	\$0.01	0.00%
		Total therms only	1,341,370.19	\$226,909.14		\$226,909.16	\$0.02	0.00%
Total		Customers	34,360	\$1,354,922.00		\$1,354,922.00	\$0.00	0.00%
		Summer First Block therms	56,960.71	\$5,155.68		\$5,155.24	-\$0.44	-0.01%
		Summer Excess therms	229.91	-\$32.03		-\$32.03	\$0.00	0.01%
		Winter First Block therms	4,768,495.32	\$1,471,677.02		\$1,471,637.83	-\$39.19	0.00%
		Winter Excess therms	1,594,420.20	\$691,517.39		\$691,501.96	-\$15.43	0.00%
		Total therms only	6,420,106.14	\$2,168,318.06		\$2,168,263.00	-\$55.06	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

May 2020

Rate Class	Description		Billing Units	Billed Revenue	Avg Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,458	\$565,178.56	\$22.20	\$565,178.56	\$0.00	0.00%
		Summer First 50 therms	441,550.64	\$269,300.29	\$0.6099	\$269,301.74	\$1.45	0.00%
		Summer Excess therms	168,069.76	\$102,506.49	\$0.6099	\$102,505.75	-\$0.74	0.00%
		Winter First 50 therms	456,324.76	\$315,764.43	\$0.6920	\$315,776.73	\$12.30	0.00%
		Winter Excess therms	219,608.80	\$151,970.27	\$0.6920	\$151,969.29	-\$0.98	0.00%
		Total therms only	1,285,553.96	\$839,541.48		\$839,553.51	\$12.03	0.00%
R-10	Residential Heating, Low Income	Customers	794	\$7,048.14	\$8.88	\$7,048.14	\$0.00	0.00%
		Summer First 50 therms	14,088.92	\$3,437.79	\$0.2440	\$3,437.70	-\$0.09	0.00%
		Summer Excess therms	2,857.21	\$697.17	\$0.2440	\$697.16	-\$0.01	0.00%
		Winter First 50 therms	14,238.77	\$3,941.32	\$0.2760	\$3,929.90	-\$11.42	-0.29%
		Winter Excess therms	3,851.42	\$1,066.09	\$0.2760	\$1,062.99	-\$3.10	-0.29%
		Total therms only	35,036.32	\$9,142.37		\$9,127.75	-\$14.62	-0.16%
R-6	Residential Non-Heating	Customers	1,311	\$29,096.81	\$22.20	\$29,096.81	\$0.00	0.00%
		Summer First 10 therms	4,299.07	\$2,782.62	\$0.6470	\$2,781.50	-\$1.12	-0.04%
		Summer Excess therms	4,584.70	\$2,966.29	\$0.6470	\$2,966.30	\$0.01	0.00%
		Winter First 10 therms	4,457.78	\$2,882.76	\$0.6470	\$2,884.18	\$1.42	0.05%
		Winter Excess therms	5,319.74	\$3,441.85	\$0.6470	\$3,441.87	\$0.02	0.00%
		Total therms only	18,661.28	\$12,073.52		\$12,073.85	\$0.33	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,099	\$382,919.09	\$75.09	\$382,919.09	\$0.00	0.00%
		Summer First 75 therms	127,196.81	\$23,719.89	\$0.1865	\$23,722.21	\$2.32	0.01%
		Summer Excess therms	170,484.55	\$31,795.45	\$0.1865	\$31,795.37	-\$0.08	0.00%
		Winter First 75 therms	125,540.31	\$23,411.28	\$0.1865	\$23,413.27	\$1.99	0.01%
		Winter Excess therms	181,705.09	\$33,888.16	\$0.1865	\$33,888.00	-\$0.16	0.00%
		Total therms only	604,926.76	\$112,814.78		\$112,818.84	\$4.06	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	833	\$62,552.50	\$75.09	\$62,552.50	\$0.00	0.00%
		Summer First 75 therms	16,384.77	\$3,055.63	\$0.1865	\$3,055.76	\$0.13	0.00%
		Summer Excess therms	30,337.90	\$5,658.10	\$0.1865	\$5,658.02	-\$0.08	0.00%
		Winter First 75 therms	15,893.73	\$2,963.91	\$0.1865	\$2,964.18	\$0.27	0.01%
		Winter Excess therms	28,865.56	\$5,383.45	\$0.1865	\$5,383.43	-\$0.02	0.00%
		Total therms only	91,481.96	\$17,061.09		\$17,061.38	\$0.29	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	735	\$163,537.51	\$222.64	\$163,537.51	\$0.00	0.00%
		Summer All therms	479,197.61	\$90,807.95	\$0.1895	\$90,807.95	\$0.00	0.00%
		Winter All therms	448,672.80	\$108,803.12	\$0.2425	\$108,803.15	\$0.03	0.00%
		Total therms only	927,870.41	\$199,611.07		\$199,611.10	\$0.03	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	278	\$61,953.64	\$222.64	\$61,953.64	\$0.00	0.00%
		Summer First 1,000 therms	92,368.98	\$12,349.69	\$0.1337	\$12,349.73	\$0.04	0.00%
		Summer Excess therms	45,723.86	\$4,970.14	\$0.1087	\$4,970.18	\$0.04	0.00%
		Winter First 1,300 therms	96,811.60	\$16,574.17	\$0.1712	\$16,574.15	-\$0.02	0.00%
		Winter Excess therms	40,343.12	\$5,643.96	\$0.1399	\$5,644.00	\$0.04	0.00%
		Total therms only	275,247.57	\$39,537.96		\$39,538.07	\$0.11	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$47,421.25	\$1,335.81	\$47,421.25	\$0.00	0.00%
		Summer All therms	302,172.76	\$36,442.05	\$0.1206	\$36,442.03	-\$0.02	0.00%
		Winter All therms	38,889.49	\$7,715.70	\$0.1984	\$7,715.68	-\$0.02	0.00%
		Total therms only	341,062.25	\$44,157.75		\$44,157.71	-\$0.04	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	34	\$44,749.64	\$1,335.81	\$44,749.64	\$0.00	0.00%
		Summer All therms	1,276,171.08	\$101,072.73	\$0.0792	\$101,072.75	\$0.02	0.00%
		Winter All therms	5,649.67	\$971.75	\$0.1720	\$971.74	-\$0.01	0.00%
		Total therms only	1,281,820.75	\$102,044.48		\$102,044.49	\$0.01	0.00%
Total		Customers	34,577	\$1,364,457.14		\$1,364,457.14	\$0.00	0.00%
		Summer First Block therms	2,753,430.64	\$542,968.64		\$542,971.36	\$2.72	0.00%
		Summer Excess therms	422,057.98	\$148,593.64		\$148,592.78	-\$0.86	0.00%
		Winter First Block therms	1,206,478.90	\$483,028.44		\$483,032.98	\$4.54	0.00%
		Winter Excess therms	479,693.73	\$201,393.78		\$201,389.58	-\$4.20	0.00%
		Total therms only	4,861,661.25	\$1,375,984.50		\$1,375,986.70	\$2.20	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

June 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,363	\$563,047.50	\$22.20	\$563,047.50	\$0.00	0.00%
		Summer First 50 therms	501,662.91	\$305,978.03	\$0.6099	\$305,964.21	-\$13.82	0.00%
		Summer Excess therms	45,953.13	\$28,026.93	\$0.6099	\$28,026.81	-\$0.12	0.00%
		Winter First 50 therms	(4,818.17)	-\$3,334.17	\$0.6920	-\$3,334.17	\$0.00	0.00%
		Winter Excess therms	(4,570.23)	-\$3,162.66	\$0.6920	-\$3,162.60	\$0.06	0.00%
		Total therms only	538,227.64	\$327,508.13		\$327,494.25	-\$13.88	0.00%
R-10	Residential Heating, Low Income	Customers	781	\$6,932.00	\$8.88	\$6,932.00	\$0.00	0.00%
		Summer First 50 therms	11,841.11	\$2,889.05	\$0.2440	\$2,889.23	\$0.18	0.01%
		Summer Excess therms	477.77	\$116.58	\$0.2440	\$116.58	\$0.00	0.00%
		Winter First 50 therms	4,941.72	\$1,367.87	\$0.2760	\$1,363.91	-\$3.96	-0.29%
		Winter Excess therms	4,712.37	\$1,304.38	\$0.2760	\$1,300.62	-\$3.76	-0.29%
		Total therms only	21,972.97	\$5,677.88		\$5,670.34	-\$7.54	-0.13%
R-6	Residential Non-Heating	Customers	1,331	\$29,557.08	\$22.20	\$29,557.08	\$0.00	0.00%
		Summer First 10 therms	8,567.41	\$5,543.44	\$0.6470	\$5,543.11	-\$0.33	-0.01%
		Summer Excess therms	6,176.91	\$3,996.55	\$0.6470	\$3,996.46	-\$0.09	0.00%
		Winter First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Total therms only	14,744.31	\$9,539.99		\$9,539.57	-\$0.42	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	4,953	\$371,890.86	\$75.09	\$371,890.86	\$0.00	0.00%
		Summer First 75 therms	123,207.94	\$22,979.28	\$0.1865	\$22,978.28	-\$1.00	0.00%
		Summer Excess therms	84,063.93	\$15,678.11	\$0.1865	\$15,677.92	-\$0.19	0.00%
		Winter First 75 therms	(23.61)	-\$4.39	\$0.1865	-\$4.40	-\$0.01	0.31%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	207,248.27	\$38,653.00		\$38,651.80	-\$1.20	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	844	\$63,383.51	\$75.09	\$63,383.51	\$0.00	0.00%
		Summer First 75 therms	34,018.38	\$6,345.10	\$0.1865	\$6,344.43	-\$0.67	-0.01%
		Summer Excess therms	66,977.83	\$12,491.49	\$0.1865	\$12,491.36	-\$0.13	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	100,996.20	\$18,836.59		\$18,835.79	-\$0.80	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	729	\$162,289.72	\$222.64	\$162,289.72	\$0.00	0.00%
		Summer All therms	401,386.09	\$76,062.81	\$0.1895	\$76,062.66	-\$0.15	0.00%
		Winter All therms	0.00	\$0.00	\$0.2425	\$0.00	\$0.00	0.00%
		Total therms only	401,386.09	\$76,062.81		\$76,062.66	-\$0.15	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	277	\$61,597.07	\$222.64	\$61,597.07	\$0.00	0.00%
		Summer First 1,000 therms	189,966.68	\$25,398.53	\$0.1337	\$25,398.54	\$0.01	0.00%
		Summer Excess therms	76,366.94	\$8,301.09	\$0.1087	\$8,301.09	\$0.00	0.00%
		Winter First 1,300 therms	0.00	\$0.00	\$0.1712	\$0.00	\$0.00	0.00%
		Winter Excess therms	(3,946.42)	-\$552.11	\$0.1399	-\$552.10	\$0.01	0.00%
		Total therms only	262,387.20	\$33,147.51		\$33,147.53	\$0.02	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	218,220.89	\$26,317.45	\$0.1206	\$26,317.44	-\$0.01	0.00%
		Winter All therms	0.00	\$0.00	\$0.1984	\$0.00	\$0.00	0.00%
		Total therms only	218,220.89	\$26,317.45		\$26,317.44	-\$0.01	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	34	\$45,417.54	\$1,335.81	\$45,417.54	\$0.00	0.00%
		Summer All therms	1,261,218.23	\$99,888.47	\$0.0792	\$99,888.48	\$0.01	0.00%
		Winter All therms	12,462.41	\$2,143.53	\$0.1720	\$2,143.53	\$0.00	0.00%
		Total therms only	1,273,680.64	\$102,032.00		\$102,032.02	\$0.02	0.00%
Total		Customers	34,346	\$1,350,868.63		\$1,350,868.63	\$0.00	0.00%
		Summer First Block therms	2,750,089.63	\$571,402.16		\$571,386.39	-\$15.77	0.00%
		Summer Excess therms	280,016.51	\$68,610.75		\$68,610.22	-\$0.53	0.00%
		Winter First Block therms	12,562.35	\$172.84		\$168.87	-\$3.97	-2.29%
		Winter Excess therms	(3,804.27)	-\$2,410.39		-\$2,414.09	-\$3.70	0.15%
		Total therms only	3,038,864.21	\$637,775.36		\$637,751.40	-\$23.96	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

July 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,483	\$565,724.18	\$22.20	\$565,724.18	\$0.00	0.00%
		Summer First 50 therms	337,617.65	\$205,918.83	\$0.6099	\$205,913.01	-\$5.82	0.00%
		Summer Excess therms	19,296.22	\$11,768.82	\$0.6099	\$11,768.76	-\$0.06	0.00%
		Winter First 50 therms	(651.40)	-\$450.77	\$0.6920	-\$450.77	\$0.00	0.00%
		Winter Excess therms	(132.75)	-\$91.86	\$0.6920	-\$91.86	\$0.00	0.00%
		Total therms only	356,129.72	\$217,145.02		\$217,139.14	-\$5.88	0.00%
R-10	Residential Heating, Low Income	Customers	688	\$6,110.62	\$8.88	\$6,110.62	\$0.00	0.00%
		Summer First 50 therms	7,326.77	\$1,787.60	\$0.2440	\$1,787.73	\$0.13	0.01%
		Summer Excess therms	127.88	\$31.20	\$0.2440	\$31.20	\$0.00	0.01%
		Winter First 50 therms	638.89	\$176.85	\$0.2760	\$176.33	-\$0.52	-0.29%
		Winter Excess therms	132.75	\$36.75	\$0.2760	\$36.64	-\$0.11	-0.30%
		Total therms only	8,226.28	\$2,032.40		\$2,031.90	-\$0.50	-0.02%
R-6	Residential Non-Heating	Customers	1,354	\$30,058.06	\$22.20	\$30,058.06	\$0.00	0.00%
		Summer First 10 therms	8,306.04	\$5,374.62	\$0.6470	\$5,374.01	-\$0.61	-0.01%
		Summer Excess therms	4,301.79	\$2,783.30	\$0.6470	\$2,783.26	-\$0.04	0.00%
		Winter First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Total therms only	12,607.83	\$8,157.92		\$8,157.27	-\$0.65	-0.01%
G-40/T-40	Low Annual, High Winter Use	Customers	4,905	\$368,333.99	\$75.09	\$368,333.99	\$0.00	0.00%
		Summer First 75 therms	72,909.45	\$13,598.16	\$0.1865	\$13,597.61	-\$0.55	0.00%
		Summer Excess therms	43,223.15	\$8,061.11	\$0.1865	\$8,061.12	\$0.01	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	116,132.60	\$21,659.27		\$21,658.73	-\$0.54	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	857	\$64,317.11	\$75.09	\$64,317.11	\$0.00	0.00%
		Summer First 75 therms	34,833.62	\$6,497.25	\$0.1865	\$6,496.47	-\$0.78	-0.01%
		Summer Excess therms	75,341.57	\$14,051.25	\$0.1865	\$14,051.20	-\$0.05	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	110,175.19	\$20,548.50		\$20,547.67	-\$0.83	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	726	\$161,555.02	\$222.64	\$161,555.02	\$0.00	0.00%
		Summer All therms	259,892.73	\$49,249.54	\$0.1895	\$49,249.67	\$0.13	0.00%
		Winter All therms	0.00	\$0.00	\$0.2425	\$0.00	\$0.00	0.00%
		Total therms only	259,892.73	\$49,249.54		\$49,249.67	\$0.13	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	277	\$61,582.24	\$222.64	\$61,582.24	\$0.00	0.00%
		Summer First 1,000 therms	198,280.88	\$26,510.17	\$0.1337	\$26,510.15	-\$0.02	0.00%
		Summer Excess therms	74,382.38	\$8,085.42	\$0.1087	\$8,085.36	-\$0.06	0.00%
		Winter First 1,300 therms	0.00	\$0.00	\$0.1712	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1399	\$0.00	\$0.00	0.00%
		Total therms only	272,663.27	\$34,595.59		\$34,595.52	-\$0.07	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	184,561.70	\$22,258.12	\$0.1206	\$22,258.14	\$0.02	0.00%
		Winter All therms	0.00	\$0.00	\$0.1984	\$0.00	\$0.00	0.00%
		Total therms only	184,561.70	\$22,258.12		\$22,258.14	\$0.02	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	33	\$44,081.73	\$1,335.81	\$44,081.73	\$0.00	0.00%
		Summer All therms	1,220,236.46	\$96,642.75	\$0.0792	\$96,642.73	-\$0.02	0.00%
		Winter All therms	0.00	\$0.00	\$0.1720	\$0.00	\$0.00	0.00%
		Total therms only	1,220,236.46	\$96,642.75		\$96,642.73	-\$0.02	0.00%
Total		Customers	34,357	\$1,348,516.30		\$1,348,516.30	\$0.00	0.00%
		Summer First Block therms	2,323,965.29	\$427,837.04		\$427,829.52	-\$7.52	0.00%
		Summer Excess therms	216,672.99	\$44,781.10		\$44,780.91	-\$0.19	0.00%
		Winter First Block therms	(12.51)	-\$273.92		-\$274.44	-\$0.52	0.19%
		Winter Excess therms	0.00	-\$55.11		-\$55.22	-\$0.11	0.20%
		Total therms only	2,540,625.77	\$472,289.11		\$472,280.77	-\$8.34	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

August 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,442	\$564,801.30	\$22.20	\$564,801.30	\$0.00	0.00%
		Summer First 50 therms	292,240.40	\$178,244.10	\$0.6099	\$178,237.42	-\$6.68	0.00%
		Summer Excess therms	4,559.04	\$2,780.60	\$0.6099	\$2,780.56	-\$0.04	0.00%
		Winter First 50 therms	(290.40)	-\$200.95	\$0.6920	-\$200.96	-\$0.01	0.00%
		Winter Excess therms	(244.28)	-\$169.05	\$0.6920	-\$169.04	\$0.01	0.00%
		Total therms only	296,264.76	\$180,654.70		\$180,647.98	-\$6.72	0.00%
R-10	Residential Heating, Low Income	Customers	663	\$5,889.21	\$8.88	\$5,889.21	\$0.00	0.00%
		Summer First 50 therms	6,426.36	\$1,568.14	\$0.2440	\$1,568.03	-\$0.11	-0.01%
		Summer Excess therms	70.69	\$17.25	\$0.2440	\$17.25	\$0.00	-0.01%
		Winter First 50 therms	275.45	\$76.25	\$0.2760	\$76.02	-\$0.23	-0.30%
		Winter Excess therms	188.85	\$52.27	\$0.2760	\$52.12	-\$0.15	-0.28%
		Total therms only	6,961.34	\$1,713.91		\$1,713.43	-\$0.48	-0.03%
R-6	Residential Non-Heating	Customers	1,355	\$30,085.44	\$22.20	\$30,085.44	\$0.00	0.00%
		Summer First 10 therms	7,982.74	\$5,165.47	\$0.6470	\$5,164.83	-\$0.64	-0.01%
		Summer Excess therms	3,305.01	\$2,138.35	\$0.6470	\$2,138.34	-\$0.01	0.00%
		Winter First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Total therms only	11,287.75	\$7,303.82		\$7,303.17	-\$0.65	-0.01%
G-40/T-40	Low Annual, High Winter Use	Customers	4,924	\$369,753.41	\$75.09	\$369,753.41	\$0.00	0.00%
		Summer First 75 therms	65,599.56	\$12,234.36	\$0.1865	\$12,234.32	-\$0.04	0.00%
		Summer Excess therms	33,454.81	\$6,239.24	\$0.1865	\$6,239.32	\$0.08	0.00%
		Winter First 75 therms	79.69	\$14.86	\$0.1865	\$14.86	\$0.00	0.02%
		Winter Excess therms	8.30	\$1.55	\$0.1865	\$1.55	\$0.00	-0.08%
		Total therms only	99,142.37	\$18,490.01		\$18,490.05	\$0.04	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	848	\$63,683.85	\$75.09	\$63,683.85	\$0.00	0.00%
		Summer First 75 therms	35,304.13	\$6,585.00	\$0.1865	\$6,584.22	-\$0.78	-0.01%
		Summer Excess therms	70,716.98	\$13,188.76	\$0.1865	\$13,188.72	-\$0.04	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	106,021.11	\$19,773.76		\$19,772.94	-\$0.82	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	721	\$160,597.65	\$222.64	\$160,597.65	\$0.00	0.00%
		Summer All therms	151,230.70	\$28,658.48	\$0.1895	\$28,658.22	-\$0.26	0.00%
		Winter All therms	0.00	\$0.00	\$0.2425	\$0.00	\$0.00	0.00%
		Total therms only	151,230.70	\$28,658.48		\$28,658.22	-\$0.26	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	274	\$61,040.46	\$222.64	\$61,040.46	\$0.00	0.00%
		Summer First 1,000 therms	193,676.73	\$25,894.58	\$0.1337	\$25,894.58	\$0.00	0.00%
		Summer Excess therms	62,385.87	\$6,781.42	\$0.1087	\$6,781.34	-\$0.08	0.00%
		Winter First 1,300 therms	0.00	\$0.00	\$0.1712	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1399	\$0.00	\$0.00	0.00%
		Total therms only	256,062.60	\$32,676.00		\$32,675.92	-\$0.08	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	35	\$46,753.35	\$1,335.81	\$46,753.35	\$0.00	0.00%
		Summer All therms	191,592.47	\$23,106.06	\$0.1206	\$23,106.05	-\$0.01	0.00%
		Winter All therms	0.00	\$0.00	\$0.1984	\$0.00	\$0.00	0.00%
		Total therms only	191,592.47	\$23,106.06		\$23,106.05	-\$0.01	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	33	\$44,081.73	\$1,335.81	\$44,081.73	\$0.00	0.00%
		Summer All therms	1,282,733.31	\$101,592.48	\$0.0792	\$101,592.48	\$0.00	0.00%
		Winter All therms	0.00	\$0.00	\$0.1720	\$0.00	\$0.00	0.00%
		Total therms only	1,282,733.31	\$101,592.48		\$101,592.48	\$0.00	0.00%
Total		Customers	34,296	\$1,346,686.40		\$1,346,686.40	\$0.00	0.00%
		Summer First Block therms	2,226,786.39	\$383,048.67		\$383,040.15	-\$8.52	0.00%
		Summer Excess therms	174,492.41	\$31,145.62		\$31,145.53	-\$0.09	0.00%
		Winter First Block therms	64.74	-\$109.84		-\$110.07	-\$0.23	0.21%
		Winter Excess therms	(47.13)	-\$115.23		-\$115.37	-\$0.14	0.12%
		Total therms only	2,401,296.41	\$413,969.22		\$413,960.24	-\$8.98	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

September 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,600	\$568,308.90	\$22.20	\$568,308.90	\$0.00	0.00%
		Summer First 50 therms	359,509.97	\$219,270.68	\$0.6099	\$219,265.13	-\$5.55	0.00%
		Summer Excess therms	23,987.45	\$14,629.99	\$0.6099	\$14,629.95	-\$0.04	0.00%
		Winter First 50 therms	0.00	\$0.00	\$0.6920	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.6920	\$0.00	\$0.00	0.00%
		Total therms only	383,497.42	\$233,900.67		\$233,895.08	-\$5.59	0.00%
R-10	Residential Heating, Low Income	Customers	644	\$5,720.79	\$8.88	\$5,720.79	\$0.00	0.00%
		Summer First 50 therms	7,899.36	\$1,927.47	\$0.2440	\$1,927.44	-\$0.03	0.00%
		Summer Excess therms	94.66	\$23.09	\$0.2440	\$23.10	\$0.01	0.03%
		Winter First 50 therms	0.00	\$0.00	\$0.2760	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.2760	\$0.00	\$0.00	0.00%
		Total therms only	7,994.02	\$1,950.56		\$1,950.54	-\$0.02	0.00%
R-6	Residential Non-Heating	Customers	1,358	\$30,152.78	\$22.20	\$30,152.78	\$0.00	0.00%
		Summer First 10 therms	8,682.22	\$5,617.78	\$0.6470	\$5,617.40	-\$0.38	-0.01%
		Summer Excess therms	5,335.14	\$3,451.82	\$0.6470	\$3,451.84	\$0.02	0.00%
		Winter First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Total therms only	14,017.36	\$9,069.60		\$9,069.23	-\$0.37	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	4,941	\$371,009.76	\$75.09	\$371,009.76	\$0.00	0.00%
		Summer First 75 therms	85,091.92	\$15,870.54	\$0.1865	\$15,869.64	-\$0.90	-0.01%
		Summer Excess therms	71,568.31	\$13,347.63	\$0.1865	\$13,347.49	-\$0.14	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	156,660.22	\$29,218.17		\$29,217.13	-\$1.04	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	848	\$63,656.28	\$75.09	\$63,656.28	\$0.00	0.00%
		Summer First 75 therms	36,779.12	\$6,860.16	\$0.1865	\$6,859.31	-\$0.85	-0.01%
		Summer Excess therms	89,760.74	\$16,740.40	\$0.1865	\$16,740.38	-\$0.02	0.00%
		Winter First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Total therms only	126,539.86	\$23,600.56		\$23,599.68	-\$0.88	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	722	\$160,642.18	\$222.64	\$160,642.18	\$0.00	0.00%
		Summer All therms	319,271.27	\$60,502.00	\$0.1895	\$60,501.91	-\$0.09	0.00%
		Winter All therms	(2,303.02)	-\$558.49	\$0.2425	-\$558.48	\$0.01	0.00%
		Total therms only	316,968.25	\$59,943.51		\$59,943.42	-\$0.09	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	276	\$61,426.38	\$222.64	\$61,426.38	\$0.00	0.00%
		Summer First 1,000 therms	217,147.39	\$29,032.67	\$0.1337	\$29,032.61	-\$0.06	0.00%
		Summer Excess therms	93,664.98	\$10,181.37	\$0.1087	\$10,181.38	\$0.01	0.00%
		Winter First 1,300 therms	0.00	\$0.00	\$0.1712	\$0.00	\$0.00	0.00%
		Winter Excess therms	0.00	\$0.00	\$0.1399	\$0.00	\$0.00	0.00%
		Total therms only	310,812.37	\$39,214.04		\$39,213.99	-\$0.05	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	34	\$45,417.54	\$1,335.81	\$45,417.54	\$0.00	0.00%
		Summer All therms	243,881.37	\$29,412.09	\$0.1206	\$29,412.09	\$0.00	0.00%
		Winter All therms	0.00	\$0.00	\$0.1984	\$0.00	\$0.00	0.00%
		Total therms only	243,881.37	\$29,412.09		\$29,412.09	\$0.00	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,745.92	\$1,335.81	\$42,745.92	\$0.00	0.00%
		Summer All therms	1,373,206.68	\$108,757.95	\$0.0792	\$108,757.97	\$0.02	0.00%
		Winter All therms	0.00	\$0.00	\$0.1720	\$0.00	\$0.00	0.00%
		Total therms only	1,373,206.68	\$108,757.95		\$108,757.97	\$0.02	0.00%
Total		Customers	34,454	\$1,349,080.53		\$1,349,080.53	\$0.00	0.00%
		Summer First Block therms	2,651,469.30	\$477,251.34		\$477,243.49	-\$7.85	0.00%
		Summer Excess therms	284,411.28	\$58,374.30		\$58,374.13	-\$0.17	0.00%
		Winter First Block therms	(2,303.02)	-\$558.49		-\$558.48	\$0.01	0.00%
		Winter Excess therms	0.00	\$0.00		\$0.00	\$0.00	0.00%
		Total therms only	2,933,577.56	\$535,067.15		\$535,059.14	-\$8.01	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

October 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	25,795	\$572,650.40	\$22.20	\$572,650.40	\$0.00	0.00%
		Summer First 50 therms	502,999.58	\$306,788.02	\$0.6099	\$306,779.44	-\$8.58	0.00%
		Summer Excess therms	37,827.46	\$23,071.11	\$0.6099	\$23,070.97	-\$0.14	0.00%
		Winter First 50 therms	615.86	\$424.68	\$0.6920	\$426.18	\$1.50	0.35%
		Winter Excess therms	277.92	\$192.31	\$0.6920	\$192.32	\$0.01	0.01%
		Total therms only	541,720.82	\$330,476.12		\$330,468.91	-\$7.21	0.00%
R-10	Residential Heating, Low Income	Customers	641	\$5,692.09	\$8.88	\$5,692.09	\$0.00	0.00%
		Summer First 50 therms	11,561.10	\$2,820.98	\$0.2440	\$2,820.91	-\$0.07	0.00%
		Summer Excess therms	380.27	\$92.81	\$0.2440	\$92.78	-\$0.03	-0.03%
		Winter First 50 therms	1.23	\$0.85	\$0.2760	\$0.34	-\$0.51	-60.22%
		Winter Excess therms	0.00	\$0.00	\$0.2760	\$0.00	\$0.00	0.00%
		Total therms only	11,942.59	\$2,914.64		\$2,914.03	-\$0.61	-0.02%
R-6	Residential Non-Heating	Customers	1,347	\$29,899.70	\$22.20	\$29,899.70	\$0.00	0.00%
		Summer First 10 therms	8,576.11	\$5,549.12	\$0.6470	\$5,548.75	-\$0.37	-0.01%
		Summer Excess therms	4,271.60	\$2,763.48	\$0.6470	\$2,763.72	\$0.24	0.01%
		Winter First 10 therms	3.35	\$2.16	\$0.6470	\$2.16	\$0.00	0.20%
		Winter Excess therms	1.22	\$0.79	\$0.6470	\$0.79	\$0.00	-0.41%
		Total therms only	12,852.27	\$8,315.55		\$8,315.42	-\$0.13	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	4,986	\$374,429.04	\$75.09	\$374,429.04	\$0.00	0.00%
		Summer First 75 therms	134,941.44	\$25,168.54	\$0.1865	\$25,166.58	-\$1.96	-0.01%
		Summer Excess therms	94,351.44	\$17,596.61	\$0.1865	\$17,596.54	-\$0.07	0.00%
		Winter First 75 therms	(32.57)	-\$6.10	\$0.1865	-\$6.07	\$0.03	-0.43%
		Winter Excess therms	5.42	\$1.01	\$0.1865	\$1.01	\$0.00	0.16%
		Total therms only	229,265.73	\$42,760.06		\$42,758.06	-\$2.00	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	816	\$61,295.63	\$75.09	\$61,295.63	\$0.00	0.00%
		Summer First 75 therms	33,873.06	\$6,318.11	\$0.1865	\$6,317.33	-\$0.78	-0.01%
		Summer Excess therms	66,688.45	\$12,437.39	\$0.1865	\$12,437.40	\$0.01	0.00%
		Winter First 75 therms	(53.33)	-\$9.54	\$0.1865	-\$9.95	-\$0.41	4.26%
		Winter Excess therms	5.45	\$1.01	\$0.1865	\$1.02	\$0.01	0.64%
		Total therms only	100,513.63	\$18,746.97		\$18,745.79	-\$1.18	-0.01%
G-41/T-41	Medium Annual, High Winter Use	Customers	723	\$160,968.73	\$222.64	\$160,968.73	\$0.00	0.00%
		Summer All therms	490,403.39	\$92,931.40	\$0.1895	\$92,931.44	\$0.04	0.00%
		Winter All therms	1,490.11	\$361.35	\$0.2425	\$361.35	\$0.00	0.00%
		Total therms only	491,893.50	\$93,292.75		\$93,292.79	\$0.04	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	279	\$62,168.50	\$222.64	\$62,168.50	\$0.00	0.00%
		Summer First 1,000 therms	208,235.16	\$27,841.06	\$0.1337	\$27,841.04	-\$0.02	0.00%
		Summer Excess therms	91,109.39	\$9,903.61	\$0.1087	\$9,903.59	-\$0.02	0.00%
		Winter First 1,300 therms	125.81	\$21.54	\$0.1712	\$21.54	\$0.00	-0.01%
		Winter Excess therms	285.04	\$39.87	\$0.1399	\$39.88	\$0.01	0.02%
		Total therms only	299,755.40	\$37,806.08		\$37,806.05	-\$0.03	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	34	\$45,417.54	\$1,335.81	\$45,417.54	\$0.00	0.00%
		Summer All therms	392,857.90	\$47,378.67	\$0.1206	\$47,378.66	-\$0.01	0.00%
		Winter All therms	11,381.63	\$2,258.10	\$0.1984	\$2,258.11	\$0.01	0.00%
		Total therms only	404,239.52	\$49,636.77		\$49,636.78	\$0.01	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$42,745.92	\$1,335.81	\$42,745.92	\$0.00	0.00%
		Summer All therms	1,344,056.80	\$106,449.30	\$0.0792	\$106,449.30	\$0.00	0.00%
		Winter All therms	43,229.34	\$7,435.47	\$0.1720	\$7,435.45	-\$0.02	0.00%
		Total therms only	1,387,286.14	\$113,884.77		\$113,884.74	-\$0.03	0.00%
Total		Customers	34,654	\$1,355,267.55		\$1,355,267.55	\$0.00	0.00%
		Summer First Block therms	3,127,504.54	\$621,245.20		\$621,233.44	-\$11.76	0.00%
		Summer Excess therms	294,628.60	\$65,865.01		\$65,865.00	-\$0.01	0.00%
		Winter First Block therms	56,761.41	\$10,488.51		\$10,489.11	\$0.60	0.01%
		Winter Excess therms	575.05	\$234.99		\$235.01	\$0.02	0.01%
		Total therms only	3,479,469.60	\$697,833.71		\$697,822.57	-\$11.14	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

November 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	26,120	\$579,855.14	\$22.20	\$579,855.14	\$0.00	0.00%
		Summer First 50 therms	513,497.50	\$313,185.05	\$0.6099	\$313,182.12	-\$2.93	0.00%
		Summer Excess therms	171,394.99	\$104,531.19	\$0.6099	\$104,533.80	\$2.61	0.00%
		Winter First 50 therms	406,351.10	\$281,190.53	\$0.6920	\$281,194.96	\$4.43	0.00%
		Winter Excess therms	155,122.94	\$107,346.03	\$0.6920	\$107,345.07	-\$0.96	0.00%
		Total therms only	1,246,366.52	\$806,252.80		\$806,255.96	\$3.16	0.00%
R-10	Residential Heating, Low Income	Customers	630	\$9,566.75	\$15.19	\$9,566.75	\$0.00	0.00%
		Summer First 50 therms	11,683.99	\$2,851.27	\$0.2440	\$2,850.89	-\$0.38	-0.01%
		Summer Excess therms	2,491.45	\$607.97	\$0.2440	\$607.91	-\$0.06	-0.01%
		Winter First 50 therms	11,031.90	\$7,633.79	\$0.6920	\$7,634.07	\$0.28	0.00%
		Winter Excess therms	3,113.82	\$2,154.85	\$0.6920	\$2,154.76	-\$0.09	0.00%
		Total therms only	28,321.16	\$13,247.88		\$13,247.65	-\$0.23	0.00%
R-6	Residential Non-Heating	Customers	1,312	\$29,128.62	\$22.20	\$29,128.62	\$0.00	0.00%
		Summer First 10 therms	5,363.01	\$3,470.43	\$0.6470	\$3,469.87	-\$0.56	-0.02%
		Summer Excess therms	4,934.72	\$3,192.97	\$0.6470	\$3,192.77	-\$0.20	-0.01%
		Winter First 10 therms	3,786.70	\$2,449.40	\$0.6470	\$2,450.00	\$0.60	0.02%
		Winter Excess therms	3,453.67	\$2,234.34	\$0.6470	\$2,234.52	\$0.18	0.01%
		Total therms only	17,538.10	\$11,347.14		\$11,347.15	\$0.01	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,026	\$377,417.40	\$75.09	\$377,417.40	\$0.00	0.00%
		Summer First 75 therms	140,358.48	\$26,177.92	\$0.1865	\$26,176.86	-\$1.06	0.00%
		Summer Excess therms	231,459.60	\$43,167.30	\$0.1865	\$43,167.22	-\$0.08	0.00%
		Winter First 75 therms	121,318.26	\$22,629.77	\$0.1865	\$22,625.86	-\$3.91	-0.02%
		Winter Excess therms	209,939.25	\$39,153.50	\$0.1865	\$39,153.67	\$0.17	0.00%
		Total therms only	703,075.60	\$131,128.49		\$131,123.60	-\$4.89	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	821	\$61,611.37	\$75.09	\$61,611.37	\$0.00	0.00%
		Summer First 75 therms	20,169.68	\$3,761.87	\$0.1865	\$3,761.65	-\$0.22	-0.01%
		Summer Excess therms	44,899.45	\$8,373.80	\$0.1865	\$8,373.75	-\$0.05	0.00%
		Winter First 75 therms	14,748.41	\$2,751.21	\$0.1865	\$2,750.58	-\$0.63	-0.02%
		Winter Excess therms	34,870.02	\$6,503.23	\$0.1865	\$6,503.26	\$0.03	0.00%
		Total therms only	114,687.56	\$21,390.11		\$21,389.23	-\$0.88	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	728	\$162,037.41	\$222.64	\$162,037.41	\$0.00	0.00%
		Summer All therms	513,191.20	\$97,249.79	\$0.1895	\$97,249.73	-\$0.06	0.00%
		Winter All therms	576,139.50	\$139,713.88	\$0.2425	\$139,713.83	-\$0.05	0.00%
		Total therms only	1,089,330.70	\$236,963.67		\$236,963.56	-\$0.11	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	278	\$61,960.71	\$222.64	\$61,960.71	\$0.00	0.00%
		Summer First 1,000 therms	131,377.17	\$17,564.97	\$0.1337	\$17,565.13	\$0.16	0.00%
		Summer Excess therms	71,361.49	\$7,756.99	\$0.1087	\$7,756.99	\$0.00	0.00%
		Winter First 1,300 therms	111,688.12	\$19,121.00	\$0.1712	\$19,121.01	\$0.01	0.00%
		Winter Excess therms	49,105.55	\$6,869.88	\$0.1399	\$6,869.87	-\$0.01	0.00%
		Total therms only	363,532.33	\$51,312.84		\$51,312.99	\$0.15	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	34	\$45,417.57	\$1,335.81	\$45,417.57	\$0.00	0.00%
		Summer All therms	42,102.21	\$5,077.52	\$0.1206	\$5,077.53	\$0.01	0.00%
		Winter All therms	531,833.67	\$105,515.79	\$0.1984	\$105,515.80	\$0.01	0.00%
		Total therms only	573,935.88	\$110,593.31		\$110,593.33	\$0.02	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	32	\$43,235.72	\$1,335.81	\$43,235.72	\$0.00	0.00%
		Summer All therms	28,665.40	\$2,270.30	\$0.0792	\$2,270.30	\$0.00	0.00%
		Winter All therms	1,354,227.85	\$232,927.19	\$0.1720	\$232,927.19	\$0.00	0.00%
		Total therms only	1,382,893.25	\$235,197.49		\$235,197.49	\$0.00	0.00%
Total		Customers	34,981	\$1,370,230.69		\$1,370,230.69	\$0.00	0.00%
		Summer First Block therms	1,406,408.63	\$471,609.12		\$471,604.07	-\$5.05	0.00%
		Summer Excess therms	526,541.71	\$167,630.22		\$167,632.44	\$2.22	0.00%
		Winter First Block therms	3,131,125.52	\$813,932.56		\$813,933.29	\$0.73	0.00%
		Winter Excess therms	455,605.25	\$164,261.83		\$164,261.16	-\$0.67	0.00%
		Total therms only	5,519,681.11	\$1,617,433.73		\$1,617,430.96	-\$2.77	0.00%

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

December 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	26,171	\$580,998.43	\$22.20	\$580,998.43	\$0.00	0.00%
		Summer First 50 therms	(210.81)	-\$128.55	\$0.6099	-\$128.57	-\$0.02	0.02%
		Summer Excess therms	(72.12)	-\$43.98	\$0.6099	-\$43.98	\$0.00	0.01%
		Winter First 50 therms	1,119,419.37	\$774,639.04	\$0.6920	\$774,638.21	-\$0.83	0.00%
		Winter Excess therms	1,139,205.52	\$788,331.29	\$0.6920	\$788,330.22	-\$1.07	0.00%
		Total therms only	2,258,341.97	\$1,562,797.80		\$1,562,795.87	-\$1.93	0.00%
R-10	Residential Heating, Low Income	Customers	644	\$14,289.98	\$22.20	\$14,289.98	\$0.00	0.00%
		Summer First 50 therms	247.97	\$60.51	\$0.2440	\$60.50	-\$0.01	-0.01%
		Summer Excess therms	47.76	\$11.65	\$0.2440	\$11.65	\$0.00	0.03%
		Winter First 50 therms	29,082.58	\$20,125.21	\$0.6920	\$20,125.14	-\$0.07	0.00%
		Winter Excess therms	22,660.98	\$15,681.33	\$0.6920	\$15,681.40	\$0.07	0.00%
		Total therms only	52,039.29	\$35,878.70		\$35,878.70	\$0.00	0.00%
R-6	Residential Non-Heating	Customers	1,277	\$28,342.74	\$22.20	\$28,342.74	\$0.00	0.00%
		Summer First 10 therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.6470	\$0.00	\$0.00	0.00%
		Winter First 10 therms	9,170.01	\$5,933.16	\$0.6470	\$5,933.00	-\$0.16	0.00%
		Winter Excess therms	15,940.98	\$10,313.89	\$0.6470	\$10,313.81	-\$0.08	0.00%
		Total therms only	25,110.99	\$16,247.05		\$16,246.81	-\$0.24	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	5,234	\$393,046.17	\$75.09	\$393,046.17	\$0.00	0.00%
		Summer First 75 therms	7.36	\$1.36	\$0.1865	\$1.37	\$0.01	0.86%
		Summer Excess therms	(59.86)	-\$11.16	\$0.1865	-\$11.16	\$0.00	0.03%
		Winter First 75 therms	327,611.41	\$61,108.65	\$0.1865	\$61,099.53	-\$9.12	-0.01%
		Winter Excess therms	1,032,741.33	\$192,606.44	\$0.1865	\$192,606.26	-\$0.18	0.00%
		Total therms only	1,360,300.24	\$253,705.29		\$253,696.00	-\$9.29	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	831	\$62,434.85	\$75.09	\$62,434.85	\$0.00	0.00%
		Summer First 75 therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1865	\$0.00	\$0.00	0.00%
		Winter First 75 therms	37,612.28	\$7,015.71	\$0.1865	\$7,014.69	-\$1.02	-0.01%
		Winter Excess therms	103,594.00	\$19,320.33	\$0.1865	\$19,320.28	-\$0.05	0.00%
		Total therms only	141,206.27	\$26,336.04		\$26,334.97	-\$1.07	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	704	\$156,790.53	\$222.64	\$156,790.53	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1895	\$0.00	\$0.00	0.00%
		Winter All therms	1,820,963.74	\$441,583.63	\$0.2425	\$441,583.71	\$0.08	0.00%
		Total therms only	1,820,963.74	\$441,583.63		\$441,583.71	\$0.08	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	267	\$59,333.56	\$222.64	\$59,333.56	\$0.00	0.00%
		Summer First 1,000 therms	0.00	\$0.00	\$0.1337	\$0.00	\$0.00	0.00%
		Summer Excess therms	0.00	\$0.00	\$0.1087	\$0.00	\$0.00	0.00%
		Winter First 1,300 therms	282,895.63	\$48,431.77	\$0.1712	\$48,431.73	-\$0.04	0.00%
		Winter Excess therms	164,590.25	\$23,026.21	\$0.1399	\$23,026.18	-\$0.03	0.00%
		Total therms only	447,485.88	\$71,457.98		\$71,457.91	-\$0.07	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	31	\$41,410.11	\$1,335.81	\$41,410.11	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.1206	\$0.00	\$0.00	0.00%
		Winter All therms	699,749.70	\$138,830.36	\$0.1984	\$138,830.34	-\$0.02	0.00%
		Total therms only	699,749.70	\$138,830.36		\$138,830.34	-\$0.02	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	33	\$44,081.73	\$1,335.81	\$44,081.73	\$0.00	0.00%
		Summer All therms	0.00	\$0.00	\$0.0792	\$0.00	\$0.00	0.00%
		Winter All therms	1,562,138.16	\$268,687.76	\$0.1720	\$268,687.76	\$0.00	0.00%
		Total therms only	1,562,138.16	\$268,687.76		\$268,687.76	\$0.00	0.00%
Total		Customers	35,192	\$1,380,728.10		\$1,380,728.10	\$0.00	0.00%
		Summer First Block therms	44.52	-\$66.68		-\$66.69	-\$0.01	0.02%
		Summer Excess therms	(84.22)	-\$43.49		-\$43.49	\$0.00	0.01%
		Winter First Block therms	5,888,642.88	\$1,766,355.29		\$1,766,344.11	-\$11.18	0.00%
		Winter Excess therms	2,478,733.07	\$1,049,279.49		\$1,049,278.15	-\$1.34	0.00%
		Total therms only	8,367,336.25	\$2,815,524.61		\$2,815,512.07	-\$12.54	0.00%
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Grand Totals		Customers	414,362	\$16,297,531.14		\$16,297,531.14	\$0.00	0.00%
		Summer First Block therms	17,308,170.34	\$3,502,218.03		\$3,502,163.69	-\$54.34	0.00%
		Summer Excess therms	2,188,555.64	\$578,169.89		\$578,170.27	\$0.38	0.00%
		Winter First Block therms	34,214,561.04	\$10,218,290.83		\$10,218,120.68	-\$170.15	0.00%
		Winter Excess therms	15,418,992.55	\$6,663,065.34		\$6,662,933.70	-\$131.64	0.00%

Docket DG 23-086

NH DOE Tech Statement Arif/Alam

Attachment 1

Northern Utilities - NH Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

Total therms only	69,130,279.56	\$20,961,744.09	\$20,961,388.35	-\$355.74	0.00%
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Northern Utilities - New Hampshire Division
Test Year 2020
Gas Accuracy Factor of Test Year Billing Determinants
Therms (does not include special contract customers)

Annual 2020

Rate Class	Description		Billing Units	Billed Revenue	Billing Rate	Calculated Revenue	Variance	Percent Variance
R-5	Residential Heating	Customers	306,525	\$6,804,865.37	\$22.20	\$6,804,865.37	\$0.00	0.00%
		Summer First 50 therms	2,947,284	\$1,797,590.61	\$0.6099	\$1,797,548.21	-\$42.40	0.00%
		Summer Excess therms	459,480	\$280,235.59	\$0.6099	\$280,237.07	\$1.48	0.00%
		Winter First 50 therms	6,432,280	\$4,451,121.58	\$0.6920	\$4,451,137.76	\$16.18	0.00%
		Winter Excess therms	7,449,509	\$5,155,067.02	\$0.6920	\$5,155,060.38	-\$6.64	0.00%
		Total therms only	17,288,553	\$11,684,014.80		\$11,683,983.42	-\$31.38	0.00%
R-10	Residential Heating, Low Income	Customers	8,683	\$89,651.36	\$10.33	\$89,651.36	\$0.00	0.00%
		Summer First 50 therms	72,909	\$17,790.23	\$0.2440	\$17,789.73	-\$0.50	0.00%
		Summer Excess therms	7,196	\$1,755.92	\$0.2440	\$1,755.83	-\$0.09	0.00%
		Winter First 50 therms	204,785	\$73,340.39	\$0.3575	\$73,208.41	-\$131.98	-0.18%
		Winter Excess therms	180,409	\$60,639.53	\$0.3354	\$60,515.34	-\$124.19	-0.20%
		Total therms only	465,300	\$153,526.07		\$153,269.31	-\$256.76	-0.17%
R-6	Residential Non-Heating	Customers	15,776	\$350,236.09	\$22.20	\$350,236.09	\$0.00	0.00%
		Summer First 10 therms	51,805	\$33,521.70	\$0.6470	\$33,517.68	-\$4.02	-0.01%
		Summer Excess therms	32,928	\$21,304.42	\$0.6470	\$21,304.34	-\$0.08	0.00%
		Winter First 10 therms	52,602	\$34,032.16	\$0.6470	\$34,033.68	\$1.52	0.00%
		Winter Excess therms	94,282	\$61,000.59	\$0.6470	\$61,000.64	\$0.05	0.00%
		Total therms only	231,617	\$149,858.87		\$149,856.34	-\$2.53	0.00%
G-40/T-40	Low Annual, High Winter Use	Customers	60,528	\$4,545,034.41	\$75.09	\$4,545,034.41	\$0.00	0.00%
		Summer First 75 therms	749,335	\$139,754.19	\$0.1865	\$139,750.99	-\$3.20	0.00%
		Summer Excess therms	728,589	\$135,882.33	\$0.1865	\$135,881.86	-\$0.47	0.00%
		Winter First 75 therms	1,918,684	\$357,884.47	\$0.1865	\$357,834.66	-\$49.81	-0.01%
		Winter Excess therms	6,048,253	\$1,127,999.91	\$0.1865	\$1,127,999.27	-\$0.64	0.00%
		Total therms only	9,444,862	\$1,761,520.90		\$1,761,466.78	-\$54.12	0.00%
G-50/T-50	Low Annual, Low Winter Use	Customers	9,988	\$749,977.95	\$75.09	\$749,977.95	\$0.00	0.00%
		Summer First 75 therms	211,366	\$39,423.72	\$0.1865	\$39,419.75	-\$3.97	-0.01%
		Summer Excess therms	444,727	\$82,942.01	\$0.1865	\$82,941.64	-\$0.37	0.00%
		Winter First 75 therms	216,653	\$40,411.27	\$0.1865	\$40,405.77	-\$5.50	-0.01%
		Winter Excess therms	601,017	\$112,089.85	\$0.1865	\$112,089.64	-\$0.21	0.00%
		Total therms only	1,473,763	\$274,866.85		\$274,856.80	-\$10.05	0.00%
G-41/T-41	Medium Annual, High Winter Use	Customers	8,741	\$1,946,116.01	\$222.64	\$1,946,116.01	\$0.00	0.00%
		Summer All therms	2,627,539.32	\$497,919.08	\$0.1895	\$497,918.70	-\$0.38	0.00%
		Winter All therms	11,121,406	\$2,696,941.36	\$0.2425	\$2,696,940.94	-\$0.42	0.00%
		Total therms only	13,748,945	\$3,194,860.44		\$3,194,859.65	-\$0.79	0.00%
G-51/T-51	Medium Annual, Low Winter Use	Customers	3,318	\$738,727.31	\$222.64	\$738,727.31	\$0.00	0.00%
		Summer First 1,000 therms	1,231,175	\$164,608.02	\$0.1337	\$164,608.13	\$0.11	0.00%
		Summer Excess therms	515,635	\$56,049.62	\$0.1087	\$56,049.52	-\$0.10	0.00%
		Winter First 1,300 therms	1,677,170	\$287,131.48	\$0.1712	\$287,131.43	-\$0.05	0.00%
		Winter Excess therms	1,045,521	\$146,268.44	\$0.1399	\$146,268.42	-\$0.02	0.00%
		Total therms only	4,469,501	\$654,057.56		\$654,057.51	-\$0.05	0.00%
G-42/T-42	High Annual, High Winter Use	Customers	413	\$551,021.65	\$1,335.81	\$551,021.65	\$0.00	0.00%
		Summer All therms	1,589,451	\$191,687.86	\$0.1206	\$191,687.84	-\$0.02	0.00%
		Winter All therms	4,234,069	\$840,039.28	\$0.1984	\$840,039.25	-\$0.03	0.00%
		Total therms only	5,823,520	\$1,031,727.14		\$1,031,727.09	-\$0.05	0.00%
G-52/T-52	High Annual, Low Winter Use	Customers	391	\$521,900.99	\$1,335.81	\$521,900.99	\$0.00	0.00%
		Summer All therms	7,827,306	\$619,922.62	\$0.0792	\$619,922.66	\$0.04	0.00%
		Winter All therms	8,356,912	\$1,437,388.84	\$0.1720	\$1,437,388.79	-\$0.05	0.00%
		Total therms only	16,184,218	\$2,057,311.46		\$2,057,311.45	-\$0.01	0.00%
Total		Customers	414,362	\$16,297,531.14		\$16,297,531.14	\$0.00	0.00%
		Summer First Block therms	17,308,170	\$3,502,218.03		\$3,502,163.69	-\$54.34	0.00%
		Summer Excess therms	2,188,556	\$578,169.89		\$578,170.27	\$0.38	0.00%
		Winter First Block therms	34,214,561	\$10,218,290.83		\$10,218,120.68	-\$170.15	0.00%

Docket DG 23-086
NH DOE Tech Statement Arif/Alam
Attachment 1

Winter Excess therms	15,418,993	\$6,663,065.34	\$6,662,933.70	-\$131.64	0.00%
Total therms only	69,130,280	\$20,961,744.09	\$20,961,388.35	-\$355.74	0.00%

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-3 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023; DG 23-085 (Northern COG LDAC Winter 2023-24/Spring 2024)

Please provide a (redacted) actual residential bill, and an actual commercial bill that includes rates approved in DG 23-085. If a sample bill (showing real calculations and usage but for non-existent customers is available), that is acceptable too. Please specify the rate class for the bills provided.

Response:

Please see DG 23-086 DOE TS 1-3 (RDAF) Attachments 1 and 2 for the requested information.

Person Responsible: S E Demeris



Bill Date 11/15/23
 Next Meter Read Date 12/12/23

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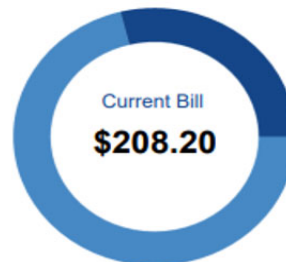
BILL DETAIL

GAS SERVICE			
	GAS SERVICE	PERIOD 10/13/23 - 11/13/23	
	Metered Usage	112 CCF x 1.03124 = 115.50 THERMS	
	Delivery Charges		
	Customer Charge	22.20	
	Distribution Charge	115.50 Therms x \$0.9441	109.04
	Local Delivery Adj Charge	115.50 Therms x \$0.1457	16.83
	Total Current GA Charges		\$148.07
	GAS SUPPLIER SERVICE	PERIOD 10/13/23 - 10/31/23	
	Supply Charges At Cost		
	Cost Of Gas	67.06 Therms x \$0.3708	24.87
	Total Current GS Charges		\$24.87
	GAS SUPPLIER SERVICE	PERIOD 11/01/23 - 11/13/23	
	Supply Charges At Cost		
	Cost Of Gas	48.44 Therms x \$0.7282	35.26
	Total Current GS Charges		\$35.26

	Meter Number	Meter Reading Previous	Meter Reading Present	Meter Constant	Metered Usage	Number of Days	Metered Demand	Rate Code
Residential	U30723	8716	8828		112.00 CCF	31		R5

BILL SUMMARY	
Amount of Last Bill	\$23.70
Payment - Thank You 10/18/23	(\$23.70)
Balance Forward	\$0.00

Gas Service	\$148.07
Gas Supplier Service	\$60.13



Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
	18 days			13 days				
Gas Service								
Customer Charge			\$12.89			\$9.31		\$22.20
Distribution Charge	0.9259	67.064	\$62.09	0.9259	48.435	\$44.85	\$ 106.94	
Revenue Decoupling Adjustment Factor	0.0000	67.064	\$0.00	0.0434	48.435	\$2.10	\$ 2.10	
Total Distribution Charge						Rate	0.9441	\$ 109.04
GAP	0.0037	67.064	\$0.25	0.0061	48.435	\$0.30	\$ 0.55	
EEC	0.0520	67.064	\$3.49	0.0520	48.435	\$2.52	\$ 6.01	
LRR	0.0000	67.064	\$0.00	0.0000	48.435	\$0.00	\$ -	
ERC	0.0058	67.064	\$0.39	0.0023	48.435	\$0.11	\$ 0.50	
ITMC	0.0000	67.064	\$0.00	0.0000	48.435	\$0.00	\$ -	
RCE	0.0048	67.064	\$0.32	0.0000	48.435	\$0.00	\$ 0.32	
RPC	0.1206	67.064	\$8.09	0.0269	48.435	\$1.30	\$ 9.39	
PTAM	0.0000	67.064	\$0.00	0.0000	48.435	\$0.00	\$ -	
RAAM	0.0002	67.064	\$0.01	0.0010	48.435	\$0.05	\$ 0.06	
Total Local Delivery Adjustment Clause						Rate	0.1457	\$ 16.83
Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
Gas Supplier Service								
Demand Cost of Gas	0.1684	67.064	\$11.29	0.2191	48.435	\$10.61	\$ 21.90	
Commodity Cost of Gas	0.1781	67.064	\$11.94	0.5250	48.435	\$25.43	\$ 37.37	
Reconciliation Costs	0.0073	67.064	\$0.49	-0.0441	48.435	-\$2.14	\$ (1.65)	
Working Capital	0.0013	67.064	\$0.09	0.0016	48.435	\$0.08	\$ 0.17	
Bad Debt	0.0019	67.064	\$0.13	0.0048	48.435	\$0.23	\$ 0.36	
Production & Storage Cap	0.0000	67.064	\$0.00	0.0065	48.435	\$0.31	\$ 0.31	
Misc. Overhead	0.0138	67.064	\$0.93	0.0153	48.435	\$0.74	\$ 1.67	
Demand Supplier Refund	0.0000	67.064	\$0.00	0.0000	48.435	\$0.00	\$ -	
Commodity Supplier Refund	0.0000	67.064	\$0.00	0.0000	48.435	\$0.00	\$ -	
Total Current GS Charges	0.3708		\$24.87	0.7282		\$35.26	\$ 60.13	
Total Bill							\$ 208.20	



Bill Date 11/15/23
 Next Meter Read Date 12/12/23

BILL DETAIL

GAS SERVICE



GAS SERVICE	PERIOD 10/13/23 - 11/13/23
Metered Usage	58 CCF x 1.03124 = 59.81 THERMS
Delivery Charges	
Customer Charge	80.00
Distribution Charge	59.81 Therms x \$0.2625 15.70
Local Delivery Adj Charge	59.81 Therms x \$0.0444 2.66
Total Current GA Charges	\$98.36



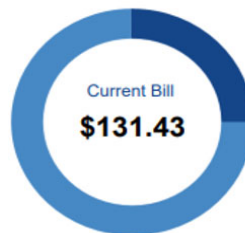
GAS SUPPLIER SERVICE	PERIOD 10/13/23 - 10/31/23
Supply Charges At Cost	
Cost Of Gas	34.73 Therms x \$0.4175 14.51
Total Current GS Charges	\$14.51
GAS SUPPLIER SERVICE	PERIOD 11/01/23 - 11/13/23
Supply Charges At Cost	
Cost Of Gas	25.08 Therms x \$0.7402 18.56
Total Current GS Charges	\$18.56

	Meter Number	Meter Reading Previous	Meter Reading Present	Meter Constant	Metered Usage	Number of Days	Metered Demand	Rate Code
Commercial	U02145	4477	4535		58.00 CCF	31		G40

BILL SUMMARY

Amount of Last Bill	\$80.00
Payment - Thank You 11/09/23	(\$80.00)
Balance Forward	\$0.00

Gas Service	\$98.36
Gas Supplier Service	\$33.07



Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
	18 days			13 days				
Gas Service								
Customer Charge			\$46.45			\$33.55		\$80.00
Distribution Charge	0.2554	34.730	\$8.87	0.2554	25.082	\$6.41	\$ 15.28	
Revenue Decoupling Adjustment Factor	0.0000	34.730	\$0.00	0.0169	25.082	\$0.42	\$ 0.42	
Total Distribution Charge						Rate	0.2625	\$ 15.70
GAP	0.0037	34.730	\$0.13	0.0061	25.082	\$0.15	\$ 0.28	
EEC	0.0257	34.730	\$0.89	0.0257	25.082	\$0.64	\$ 1.53	
LRR	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
ERC	0.0058	34.730	\$0.20	0.0023	25.082	\$0.06	\$ 0.26	
ITMC	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
RCE	0.0048	34.730	\$0.17	0.0000	25.082	\$0.00	\$ 0.17	
RPC	0.0101	34.730	\$0.35	0.0011	25.082	\$0.03	\$ 0.38	
PTAM	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
RAAM	0.0002	34.730	\$0.01	0.0010	25.082	\$0.03	\$ 0.04	
Total Local Delivery Adjustment Clause						Rate	0.0445	\$ 2.66
Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
Gas Supplier Service								
Demand Cost of Gas	0.2151	34.730	\$7.47	0.2275	25.082	\$5.71	\$ 13.18	
Commodity Cost of Gas	0.1781	34.730	\$6.19	0.5286	25.082	\$13.26	\$ 19.45	
Reconciliation Costs	0.0073	34.730	\$0.25	-0.0441	25.082	-\$1.11	\$ (0.86)	
Working Capital	0.0013	34.730	\$0.05	0.0016	25.082	\$0.04	\$ 0.09	
Bad Debt	0.0019	34.730	\$0.07	0.0048	25.082	\$0.12	\$ 0.19	
Production & Storage Cap	0.0000	34.730	\$0.00	0.0065	25.082	\$0.16	\$ 0.16	
Misc. Overhead	0.0138	34.730	\$0.48	0.0153	25.082	\$0.38	\$ 0.86	
Demand Supplier Refund	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
Commodity Supplier Refund	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
Total Current GS Charges	0.4175		\$14.51	0.7402		\$18.56	\$	33.07
Total Bill							\$	131.43



Bill Date 11/15/23
 Next Meter Read Date 12/12/23

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BILL DETAIL

GAS SERVICE



GAS SERVICE		PERIOD 10/13/23 - 11/13/23
Metered Usage		58 CCF x 1.03124 = 59.81 THERMS
Delivery Charges		
Customer Charge	80.00	
Distribution Charge	15.70	
Local Delivery Adj Charge	2.66	
Total Current GA Charges	\$98.36	



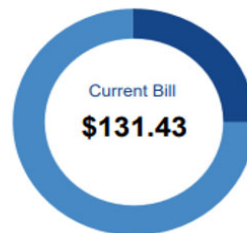
GAS SUPPLIER SERVICE		PERIOD 10/13/23 - 10/31/23
Supply Charges At Cost		
Cost Of Gas	34.73 Therms x \$0.4175	14.51
Total Current GS Charges		\$14.51
GAS SUPPLIER SERVICE		PERIOD 11/01/23 - 11/13/23
Supply Charges At Cost		
Cost Of Gas	25.08 Therms x \$0.7402	18.56
Total Current GS Charges		\$18.56

	Meter Number	Meter Reading Previous	Meter Reading Present	Meter Constant	Metered Usage	Number of Days	Metered Demand	Rate Code
Commercial	U02145	4477	4535		58.00 CCF	31		G40

BILL SUMMARY

Amount of Last Bill	\$80.00
Payment - Thank You 11/09/23	(\$80.00)
Balance Forward	\$0.00

Gas Service	\$98.36
Gas Supplier Service	\$33.07



Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
	18 days			13 days				
Gas Service								
Customer Charge			\$46.45			\$33.55		\$80.00
Distribution Charge	0.2554	34.730	\$8.87	0.2554	25.082	\$6.41	\$ 15.28	
Revenue Decoupling Adjustment Factor	0.0000	34.730	\$0.00	0.0169	25.082	\$0.42	\$ 0.42	
Total Distribution Charge						Rate	0.2625	\$ 15.70
GAP	0.0037	34.730	\$0.13	0.0061	25.082	\$0.15	\$ 0.28	
EEC	0.0257	34.730	\$0.89	0.0257	25.082	\$0.64	\$ 1.53	
LRR	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
ERC	0.0058	34.730	\$0.20	0.0023	25.082	\$0.06	\$ 0.26	
ITMC	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
RCE	0.0048	34.730	\$0.17	0.0000	25.082	\$0.00	\$ 0.17	
RPC	0.0101	34.730	\$0.35	0.0011	25.082	\$0.03	\$ 0.38	
PTAM	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
RAAM	0.0002	34.730	\$0.01	0.0010	25.082	\$0.03	\$ 0.04	
Total Local Delivery Adjustment Clause						Rate	0.0445	\$ 2.66
Component	Oct Rate	Usage	Oct Sub Ttl	Nov Rate	Usage	Nov Sub Ttl	Sub Ttl	Total
Gas Supplier Service								
Demand Cost of Gas	0.2151	34.730	\$7.47	0.2275	25.082	\$5.71	\$ 13.18	
Commodity Cost of Gas	0.1781	34.730	\$6.19	0.5286	25.082	\$13.26	\$ 19.45	
Reconciliation Costs	0.0073	34.730	\$0.25	-0.0441	25.082	-\$1.11	\$ (0.86)	
Working Capital	0.0013	34.730	\$0.05	0.0016	25.082	\$0.04	\$ 0.09	
Bad Debt	0.0019	34.730	\$0.07	0.0048	25.082	\$0.12	\$ 0.19	
Production & Storage Cap	0.0000	34.730	\$0.00	0.0065	25.082	\$0.16	\$ 0.16	
Misc. Overhead	0.0138	34.730	\$0.48	0.0153	25.082	\$0.38	\$ 0.86	
Demand Supplier Refund	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
Commodity Supplier Refund	0.0000	34.730	\$0.00	0.0000	25.082	\$0.00	\$ -	
Total Current GS Charges	0.4175		\$14.51	0.7402		\$18.56	\$	33.07
Total Bill							\$	131.43

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-4 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023

In Northern's current billing system, for any given month (illustratively, for example, November) and between the consecutive months (e.g., October & November and/or November & December), can:

- Billed revenues be identified in sub-categories such as fixed charges, commodity charges, and LDAC charges?
- Un-billed revenues be identified in the same revenue sub-categories (e.g., fixed charges, commodity charges, and LDAC charges)?

Response:

Northern's billing system identifies sub categories of charges for billed revenues only, thus they're classified as billed revenue. The Company's billing system is not able to identify unbilled revenues, which instead are calculated by the Company's accounting department, as described in response to DOE 1-5.

Person Responsible: S E Demeris

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-5 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023

Did Northern perform any rate reclassification over the current RDAF claim period? If yes, please provide a detailed description of:

- the rate class(es)
- the timeframe of such rate reclassification (when was it done)
- the reason(s) for such rate reclassification (why was it done; who initiative it; what's the process)
- the number of customers in each of the rate class(es) prior to and after such rate reclassification
- the impact on such rate reclassification on RDAF calculation

Response:

Please refer to DOE TS 1-5 Attachment 1 for the requested information. The Company's rate reclassifications take place annually in the months of September and October. The annual rate reclassifications are flagged and reported by the Company's billing system to Company personnel. Once flagged the Company informs the respective customer of their reclassification and the completion date occurs on each customer's respective next billing cycle start date. In addition to the Company's annual rate reclassification process, customers are allowed to request a rate reclassification to the Company. In these instances, the Company will review the applicable customers usage and make a determination.

The Company's approved RDAC tariff does not include a provision for rate reclassifications and as such there is no impact on the RDAF calculation.

Person Responsible: S E Demeris / D. Nawazelski

Northern Utilities, Inc.
 New Hampshire Division
 Rate Class Reclassification Analysis

Customer Name	Completed Date	FROM	TO
Customer 1	9/19/2022	4050	4040
Customer 2	9/19/2022	4050	4040
Customer 3	9/19/2022	4040	4041
Customer 4	9/19/2022	4040	4050
Customer 5	9/19/2022	4050	4040
Customer 6	9/19/2022	4041	4040
Customer 7	9/19/2022	4050	4040
Customer 8	9/19/2022	4041	4040
Customer 9	9/19/2022	4040	4041
Customer 10	9/19/2022	4040	4041
Customer 11	9/19/2022	4050	4040
Customer 12	9/19/2022	4040	4041
Customer 13	9/19/2022	4050	4040
Customer 14	9/19/2022	4050	4040
Customer 15	9/19/2022	4040	4050
Customer 16	9/19/2022	4050	4040
Customer 17	9/19/2022	4050	4040
Customer 18	9/19/2022	4050	4040
Customer 19	9/19/2022	4050	4041
Customer 20	9/19/2022	4040	4041
Customer 21	9/19/2022	4040	4050
Customer 22	9/19/2022	4040	4041
Customer 23	9/19/2022	4040	4041
Customer 24	9/21/2022	4041	4051
Customer 25	9/21/2022	4041	4050
Customer 26	9/21/2022	4041	4051
Customer 27	9/21/2022	4050	4040
Customer 28	9/21/2022	4050	4040
Customer 29	9/21/2022	4051	4050
Customer 30	9/21/2022	4050	4040
Customer 31	9/21/2022	4050	4040
Customer 32	9/21/2022	4050	4040
Customer 33	9/21/2022	4050	4040
Customer 34	9/21/2022	4050	4040
Customer 35	9/21/2022	4050	4040
Customer 36	9/21/2022	4050	4051
Customer 37	9/21/2022	4041	4040
Customer 38	9/22/2022	4041	4040
Customer 39	9/22/2022	4051	4050
Customer 40	9/22/2022	4040	4050
Customer 41	9/22/2022	4050	4040
Customer 42	9/22/2022	4041	4051
Customer 43	9/22/2022	4051	4050
Customer 44	9/22/2022	4040	4050

Customer 45	9/22/2022	4050	4051
Customer 46	9/22/2022	4051	4050
Customer 47	9/22/2022	4050	4051
Customer 48	9/22/2022	4040	4041
Customer 49	9/22/2022	4041	4040
Customer 50	9/22/2022	4040	4041
Customer 51	9/22/2022	4040	4041
Customer 52	9/22/2022	4040	4041
Customer 53	9/22/2022	4051	4041
Customer 54	9/22/2022	4041	4040
Customer 55	9/22/2022	4050	4040
Customer 56	9/23/2022	4040	4041
Customer 57	9/23/2022	4050	4051
Customer 58	9/23/2022	4051	4041
Customer 59	9/23/2022	4050	4051
Customer 60	9/23/2022	4040	4041
Customer 61	9/23/2022	4040	4050
Customer 62	9/23/2022	4040	4041
Customer 63	9/23/2022	4041	4040
Customer 64	9/23/2022	4050	4040
Customer 65	9/23/2022	4040	4050
Customer 66	9/23/2022	4040	4050
Customer 67	9/23/2022	4041	4040
Customer 68	9/23/2022	4040	4050
Customer 69	9/23/2022	4040	4050
Customer 70	9/23/2022	4050	4051
Customer 71	9/23/2022	4040	4050
Customer 72	9/23/2022	4040	4041
Customer 73	9/23/2022	4040	4041
Customer 74	9/23/2022	4040	4050
Customer 75	9/28/2022	4040	4050
Customer 76	9/28/2022	4040	4041
Customer 77	9/28/2022	4041	4051
Customer 78	9/28/2022	4041	4051
Customer 79	9/28/2022	4040	4050
Customer 80	9/28/2022	4050	4040
Customer 81	9/28/2022	4050	4040
Customer 82	9/28/2022	4040	4041
Customer 83	9/28/2022	4040	4050
Customer 84	9/28/2022	4040	4041
Customer 85	10/4/2022	4041	4040
Customer 86	10/4/2022	4051	4050
Customer 87	10/4/2022	4040	4041
Customer 88	10/4/2022	4050	4040
Customer 89	10/4/2022	4050	4040
Customer 90	10/4/2022	4041	4051
Customer 91	10/4/2022	4051	4050
Customer 92	10/4/2022	4040	4041
Customer 93	10/4/2022	4050	4051

Customer 94	10/4/2022	4050	4040
Customer 95	10/4/2022	4041	4040
Customer 96	10/4/2022	4051	4050
Customer 97	10/4/2022	4050	4040
Customer 98	10/4/2022	4050	4040
Customer 99	10/4/2022	4040	4050
Customer 100	10/4/2022	4050	4040
Customer 101	10/4/2022	4040	4041
Customer 102	10/6/2022	4040	4050
Customer 103	10/6/2022	4041	4051
Customer 104	10/6/2022	4041	4040
Customer 105	10/6/2022	4041	4040
Customer 106	10/6/2022	4040	4041
Customer 107	10/6/2022	4051	4041
Customer 108	10/6/2022	4040	4041
Customer 109	10/6/2022	4041	4040
Customer 110	10/6/2022	4041	4040
Customer 111	10/6/2022	4051	4041
Customer 112	10/6/2022	4040	4041
Customer 113	10/6/2022	4051	4041
Customer 114	10/6/2022	4040	4041
Customer 115	10/6/2022	4041	4040
Customer 116	10/6/2022	4040	4041
Customer 117	10/6/2022	4050	4051
Customer 118	10/6/2022	4041	4040
Customer 119	10/6/2022	4040	4051
Customer 120	10/6/2022	4040	4051
Customer 121	10/6/2022	4040	4041
Customer 122	10/6/2022	4040	4041
Customer 123	10/10/2022	4050	4051
Customer 124	10/10/2022	4040	4050
Customer 125	10/10/2022	4050	4051
Customer 126	10/10/2022	4050	4040
Customer 127	10/10/2022	4050	4051
Customer 128	10/10/2022	4050	4040
Customer 129	10/13/2022	4050	4040
Customer 130	10/13/2022	4040	4050
Customer 131	10/13/2022	4040	4041
Customer 132	10/13/2022	4050	4040
Customer 133	10/13/2022	4040	4050
Customer 134	10/13/2022	4051	4050
Customer 135	10/13/2022	4050	4040
Customer 136	10/13/2022	4050	4041
Customer 137	10/13/2022	4041	4040
Customer 138	10/13/2022	4050	4040
Customer 139	10/13/2022	4050	4040
Customer 140	10/13/2022	4040	4050
Customer 141	10/13/2022	4040	4050
Customer 142	10/13/2022	4040	4041

Customer 143	10/13/2022	4040	4051
Customer 144	10/13/2022	4041	4040
Customer 145	10/13/2022	4040	4041
Customer 146	10/13/2022	4040	4050
Customer 147	10/13/2022	4040	4041
Customer 148	10/13/2022	4040	4041
Customer 149	10/13/2022	4040	4041
Customer 150	10/13/2022	4040	4041
Customer 151	10/13/2022	4040	4041
Customer 152	10/13/2022	4040	4050
Customer 153	10/13/2022	4050	4040
Customer 154	10/13/2022	4050	4040
Customer 155	10/13/2022	4040	4041
Customer 156	10/13/2022	4040	4041
Customer 157	10/13/2022	4050	4040
Customer 158	10/19/2022	4041	4050
Customer 159	10/19/2022	4041	4040
Customer 160	10/19/2022	4041	4040
Customer 161	10/19/2022	4041	4051
Customer 162	10/19/2022	4041	4051
Customer 163	10/19/2022	4051	4041
Customer 164	10/19/2022	4041	4051
Customer 165	10/19/2022	4041	4051
Customer 166	10/19/2022	4041	4040
Customer 167	10/19/2022	4051	4041
Customer 168	10/19/2022	4041	4040
Customer 169	10/20/2022	4041	4051
Customer 170	10/20/2022	4040	4050
Customer 171	10/20/2022	4051	4040
Customer 172	10/20/2022	4051	4050
Customer 173	10/25/2022	4041	4050
Customer 174	10/25/2022	4040	4041
Customer 175	10/25/2022	4040	4050
Customer 176	10/25/2022	4040	4050
Customer 177	10/25/2022	4040	4050
Customer 178	10/25/2022	4040	4050
Customer 179	10/25/2022	4041	4040
Customer 180	10/28/2022	4050	4040
Customer 181	10/28/2022	4041	4051
Customer 182	10/28/2022	4050	4040
Customer 183	10/28/2022	4041	4040
Customer 184	11/7/2022	4051	4041
Customer 185	11/7/2022	4040	4050
Customer 186	11/7/2022	4040	4050
Customer 187	11/7/2022	4041	4040
Customer 188	11/7/2022	4041	4040
Customer 189	11/7/2022	4040	4041
Customer 190	11/7/2022	4051	4040
Customer 191	11/10/2022	4041	4042

Customer 192	12/19/2022	4042	4052
Customer 193	12/19/2022	4042	4052
Customer 194	12/19/2022	4051	4052
Customer 195	12/28/2022	4052	4042
Customer 196	12/28/2022	4041	4052
Customer 197	1/9/2023	4042	4052
Customer 198	9/15/2023	4006	4005
Customer 199	9/15/2023	4041	4040
Customer 200	9/15/2023	4050	4040
Customer 201	9/15/2023	4006	4005
Customer 202	9/15/2023	4050	4040
Customer 203	9/15/2023	4041	4040
Customer 204	9/15/2023	4006	4005
Customer 205	9/15/2023	4050	4051
Customer 206	9/15/2023	4041	4040
Customer 207	9/15/2023	4050	4040
Customer 208	9/15/2023	4006	4005
Customer 209	9/15/2023	4006	4005
Customer 210	9/15/2023	4050	4040
Customer 211	9/15/2023	4041	4050
Customer 212	9/15/2023	4051	4041
Customer 213	9/15/2023	4040	4050
Customer 214	9/15/2023	4050	4040
Customer 215	9/15/2023	4041	4051
Customer 216	9/15/2023	4051	4040
Customer 217	9/15/2023	4040	4050
Customer 218	9/15/2023	4041	4040
Customer 219	9/15/2023	4041	4040
Customer 220	9/15/2023	4041	4051
Customer 221	9/15/2023	4040	4041
Customer 222	9/15/2023	4040	4050
Customer 223	9/15/2023	4040	4050
Customer 224	9/20/2023	4050	4051
Customer 225	9/20/2023	4006	4005
Customer 226	9/20/2023	4050	4040
Customer 227	9/20/2023	4040	4050
Customer 228	9/20/2023	4040	4050
Customer 229	9/20/2023	4050	4040
Customer 230	9/20/2023	4050	4040
Customer 231	9/20/2023	4040	4041
Customer 232	9/20/2023	4040	4050
Customer 233	9/20/2023	4040	4050
Customer 234	9/20/2023	4040	4050
Customer 235	9/20/2023	4040	4050
Customer 236	9/20/2023	4050	4040
Customer 237	9/20/2023	4040	4041
Customer 238	9/21/2023	4041	4040
Customer 239	9/21/2023	4051	4041
Customer 240	9/21/2023	4041	4051

Customer 241	9/21/2023	4041	4051
Customer 242	9/21/2023	4051	4041
Customer 243	9/21/2023	4051	4041
Customer 244	9/21/2023	4041	4040
Customer 245	9/21/2023	4041	4040
Customer 246	9/21/2023	4041	4051
Customer 247	9/21/2023	4041	4040
Customer 248	9/21/2023	4051	4041
Customer 249	9/22/2023	4041	4040
Customer 250	9/22/2023	4040	4041
Customer 251	9/22/2023	4041	4040
Customer 252	9/22/2023	4050	4051
Customer 253	9/22/2023	4040	4051
Customer 254	9/22/2023	4040	4041
Customer 255	9/22/2023	4041	4040
Customer 256	9/22/2023	4041	4040
Customer 257	9/22/2023	4050	4040
Customer 258	9/22/2023	4041	4040
Customer 259	9/22/2023	4041	4040
Customer 260	9/22/2023	4051	4041
Customer 261	9/22/2023	4050	4040
Customer 262	9/22/2023	4006	4005
Customer 263	9/22/2023	4040	4050
Customer 264	9/22/2023	4006	4005
Customer 265	9/22/2023	4006	4005
Customer 266	9/22/2023	4041	4040
Customer 267	9/22/2023	4006	4005
Customer 268	9/22/2023	4040	4050
Customer 269	9/22/2023	4040	4050
Customer 270	9/22/2023	4040	4050
Customer 271	9/22/2023	4041	4051
Customer 272	9/22/2023	4050	4040
Customer 273	9/22/2023	4041	4040
Customer 274	9/22/2023	4040	4050
Customer 275	9/27/2023	4040	4050
Customer 276	9/27/2023	4040	4050
Customer 277	9/27/2023	4050	4040
Customer 278	9/27/2023	4040	4050
Customer 279	9/27/2023	4040	4050
Customer 280	9/27/2023	4050	4040
Customer 281	9/27/2023	4050	4040
Customer 282	9/27/2023	4050	4040
Customer 283	9/27/2023	4040	4050
Customer 284	9/27/2023	4040	4050
Customer 285	9/27/2023	4040	4050
Customer 286	9/27/2023	4040	4050
Customer 287	9/27/2023	4006	4005
Customer 288	9/27/2023	4050	4040
Customer 289	9/27/2023	4006	4005

Customer 290	9/27/2023	4040	4050
Customer 291	9/27/2023	4040	4041
Customer 292	9/27/2023	4006	4005
Customer 293	9/27/2023	4050	4040
Customer 294	9/27/2023	4041	4040
Customer 295	9/27/2023	4041	4040
Customer 296	9/27/2023	4050	4040
Customer 297	9/27/2023	4040	4050
Customer 298	9/27/2023	4040	4050
Customer 299	9/27/2023	4040	4050
Customer 300	9/27/2023	4040	4050
Customer 301	9/27/2023	4006	4005
Customer 302	9/27/2023	4040	4050
Customer 303	9/27/2023	4050	4040
Customer 304	9/27/2023	4051	4040
Customer 305	9/27/2023	4040	4041
Customer 306	9/27/2023	4040	4050
Customer 307	9/27/2023	4051	4041
Customer 308	9/27/2023	4040	4051
Customer 309	9/27/2023	4041	4040
Customer 310	9/27/2023	4041	4051
Customer 311	9/27/2023	4051	4041
Customer 312	9/27/2023	4040	4041
Customer 313	9/27/2023	4040	4051
Customer 314	9/29/2023	4041	4040
Customer 315	9/29/2023	4041	4040
Customer 316	9/29/2023	4041	4040
Customer 317	9/29/2023	4041	4040
Customer 318	9/29/2023	4041	4051
Customer 319	9/29/2023	4050	4051
Customer 320	9/29/2023	4040	4041
Customer 321	9/29/2023	4041	4050
Customer 322	9/29/2023	4051	4041
Customer 323	9/29/2023	4041	4040
Customer 324	9/29/2023	4040	4050
Customer 325	10/5/2023	4006	4005
Customer 326	10/5/2023	4050	4040
Customer 327	10/5/2023	4006	4005
Customer 328	10/5/2023	4041	4040
Customer 329	10/5/2023	4041	4040
Customer 330	10/5/2023	4040	4050
Customer 331	10/5/2023	4041	4051
Customer 332	10/5/2023	4050	4040
Customer 333	10/5/2023	4041	4040
Customer 334	10/5/2023	4050	4040
Customer 335	10/5/2023	4040	4050
Customer 336	10/5/2023	4006	4005
Customer 337	10/5/2023	4041	4040
Customer 338	10/16/2023	4051	4041

Customer 339	10/16/2023	4041	4040
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Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-6 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023; Northern's Tariff No. 12, First Revised Page 163-65

Does Northern's unbilled revenue in any given month include estimates for fixed charges, cost of gas (supply) and LDAC? If yes, can Northern's accounting system identify the "actual (i.e., not-estimated)" revenue associated with the prior estimates for fixed charges, cost of gas (supply) and LDAC? Why or why not?

Does Northern compare the Company's initial monthly RDAF estimate with the subsequent "actual (i.e., not estimated)" revenue to reconcile the monthly RDAF calculation?

If not, in Northern's opinion, could Northern's inability to reconcile estimates with "actual (i.e., not estimated)" figures create a bias month-over-month?

In light of the above, please provide a comparison for the twelve-month period at issue here between estimated and "actual (i.e., not-estimated)" monthly figures. If not possible, please explain why not, and if there is any possible work-around.

Response:

Northern's monthly unbilled revenue includes estimates for distribution revenue and cost of gas (which includes commodity, demand, working capital and bad debt). Northern's billing system cannot identify the actual revenue associated with prior estimates as the billing system only reads once per month at the end of the corresponding bill cycle. The billing system is not setup to read a customer's account more than once per month.

As noted above, Northern does not have the ability to split the monthly billed revenue thus the Company is unable to compare the unbilled revenue from the prior month to billed revenue in the current month.

Northern reports decoupling revenue during the peak and off-peak periods. As such, any unbilled revenue is removed from the calculation for those periods as the billed revenue is what is reported. Since Northern does not report the decoupling revenue on monthly periods, nor are the reported amounts including unbilled revenue for the peak and off-peak filings, there is no bias in the Company's revenue decoupling framework, which has been approved by the Commission in two separate rate cases following

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

comprehensive settlement agreements negotiated among multiple parties including the Department of Energy. The calculation presented in this filing is consistent with the Company's Settlement Agreement in DG 21-104 and the approved RDAC tariff.

Northern is unable to provide a comparison between estimated and actual monthly revenue amounts. The estimated or unbilled revenue is for approximately half of the monthly billing; however, the billed revenue is for approximately a 30-day period. As noted above, the billing system does not read meters twice a month (i.e., on the bill date and the last day of the month), the Company is unable to determine the amount of the current month's billed revenue is attributable to the previous month's unbilled revenue.

Person Responsible: Daniel Nawazelski

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Technical Session Data Requests - Set 1

Date Request Received: 12/04/2023

Date of Response: 12/11/23

DOE TS 1-7 (RDAF):

Reference: DG 23-086 RDAF Filing (Sept 15, 2023); Supporting schedules filed Oct 4, 2023; Northern's Response to DOE 2-06

Please provide a response to DOE 2-06 with a chart "as Northern would draft it." For example, (but in no way exhaustive) as discussed at the November 30, 2023 Technical Session, making column B "the preceding month" (October, not December if November is identified in column A).

Response:

Please see DOE TS 1-7 Attachment 1.

Person Responsible: Daniel Nawazelski

Northern Utilities, Inc.
DG 23-086
DOE TS 1-7 Attachment 1

Table 1 (Peak/Off Peak Period): Net Unbilled Revenue by Rate Class – Estimated vs Actual					
Month	Rate Class	Unbilled Revenue (Estimated in the month of)	Unbilled Revenue (calculated from the previous month)	Difference (C) = (B) – (A)	Unbilled Revenue Reversal entry amount from the previous month
		(A)	(B)	(C) = (B) – (A)	
22-Nov	R6	42,485	30,589	(11,896)	(30,589)
	R5, R10	2,040,900	744,482	(1,296,418)	(744,482)
	G40	782,200	302,370	(479,829)	(302,370)
	G41	470,289	207,426	(262,862)	(207,426)
	G42	129,283	68,660	(60,623)	(68,660)
	G50	68,869	60,173	(8,696)	(60,173)
	G51	95,551	80,627	(14,924)	(80,627)
	G52	0	-	-	-
	Special Contract	0	-	-	-
22-Dec	R6	37,348	42,485	5,137	(42,485)
	R5, R10	1,731,052	2,040,900	309,848	(2,040,900)
	G40	491,491	782,200	290,709	(782,200)
	G41	422,555	470,289	47,734	(470,289)
	G42	114,942	129,283	14,341	(129,283)
	G50	57,607	68,869	11,262	(68,869)
	G51	85,751	95,551	9,800	(95,551)
	G52	0	-	-	-
	Special Contract	0	-	-	-
23-Jan	R6	37,746	37,348	(398)	(37,348)
	R5, R10	1,823,264	1,731,052	(92,212)	(1,731,052)
	G40	476,392	491,491	15,099	(491,491)
	G41	442,262	422,555	(19,708)	(422,555)
	G42	101,062	114,942	13,880	(114,942)
	G50	55,275	57,607	2,331	(57,607)
	G51	85,195	85,751	556	(85,751)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Feb	R6	31,069	37,746	6,678	(37,746)
	R5, R10	1,461,133	1,823,264	362,131	(1,823,264)
	G40	395,875	476,392	80,516	(476,392)
	G41	355,140	442,262	87,123	(442,262)
	G42	81,459	101,062	19,603	(101,062)
	G50	44,708	55,275	10,567	(55,275)
	G51	69,019	85,195	16,176	(85,195)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Mar	R6	27,314	31,069	3,755	(31,069)
	R5, R10	1,287,443	1,461,133	173,690	(1,461,133)
	G40	337,491	395,875	58,384	(395,875)
	G41	324,005	355,140	31,134	(355,140)
	G42	73,717	81,459	7,743	(81,459)
	G50	48,541	44,708	(3,833)	(44,708)
	G51	73,302	69,019	(4,283)	(69,019)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Apr	R6	29,598	27,314	(2,285)	(27,314)
	R5, R10	1,125,746	1,287,443	161,697	(1,287,443)
	G40	336,223	337,491	1,268	(337,491)
	G41	288,423	324,005	35,582	(324,005)
	G42	61,287	73,717	12,429	(73,717)
	G50	55,572	48,541	(7,031)	(48,541)
	G51	79,673	73,302	(6,371)	(73,302)
	G52	-	-	-	-
	Special Contract	-	-	-	-

23-May	R6	24,767	29,598	4,831	(29,598)
	R5, R10	783,935	1,125,746	341,811	(1,125,746)
	G40	276,555	336,223	59,668	(336,223)
	G41	201,465	288,423	86,958	(288,423)
	G42	50,058	61,287	11,229	(61,287)
	G50	49,829	55,572	5,743	(55,572)
	G51	68,028	79,673	11,644	(79,673)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Jun	R6	22,901	24,767	1,866	(24,767)
	R5, R10	559,160	783,935	224,775	(783,935)
	G40	241,101	276,555	35,455	(276,555)
	G41	145,771	201,465	55,694	(201,465)
	G42	39,790	50,058	10,269	(50,058)
	G50	50,555	49,829	(726)	(49,829)
	G51	62,492	68,028	5,536	(68,028)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Jul	R6	22,538	22,901	364	(22,901)
	R5, R10	491,007	559,160	68,153	(559,160)
	G40	228,633	241,101	12,468	(241,101)
	G41	121,990	145,771	23,781	(145,771)
	G42	35,377	39,790	4,413	(39,790)
	G50	50,573	50,555	(18)	(50,555)
	G51	61,586	62,492	906	(62,492)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Aug	R6	22,853	22,538	(315)	(22,538)
	R5, R10	491,320	491,007	(313)	(491,007)
	G40	233,643	228,633	(5,010)	(228,633)
	G41	118,484	121,990	3,506	(121,990)
	G42	37,129	35,377	(1,752)	(35,377)
	G50	52,417	50,573	(1,844)	(50,573)
	G51	63,854	61,586	(2,268)	(61,586)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Sep	R6	26,162	22,853	(3,309)	(22,853)
	R5, R10	553,142	491,320	(61,822)	(491,320)
	G40	262,306	233,643	(28,664)	(233,643)
	G41	137,902	118,484	(19,418)	(118,484)
	G42	45,835	37,129	(8,706)	(37,129)
	G50	58,639	52,417	(6,222)	(52,417)
	G51	71,385	63,854	(7,530)	(63,854)
	G52	-	-	-	-
	Special Contract	-	-	-	-
23-Oct	R6	25,405	26,162	757	(26,162)
	R5, R10	614,078	553,142	(60,936)	(553,142)
	G40	265,497	262,306	(3,191)	(262,306)
	G41	164,462	137,902	(26,561)	(137,902)
	G42	53,181	45,835	(7,346)	(45,835)
	G50	54,655	58,639	3,985	(58,639)
	G51	72,966	71,385	(1,581)	(71,385)
	G52	-	-	-	-
	Special Contract	-	-	-	-



December 13, 2023

By Electronic Mail

Mary Schwarzer, Counsel
New Hampshire Dept. of Energy
21 S. Fruit Street
Concord, NH 03301

DG 23-086: Northern Utilities, Inc. Response to DOE Set 3 Discovery

Attorney Schwarzer:

On behalf of Northern Utilities, Inc. ("Unitil" or the "Company") I enclose the Company's responses to the Department's Third Set of Data Requests.

Please do not hesitate to contact me with any questions regarding this filing.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick H. Taylor".

Patrick H. Taylor
Attorney for Northern Utilities, Inc.

Patrick Taylor
Chief Regulatory Counsel
taylorp@unitil.com

6 Liberty Lane West
Hampton, NH 03842

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Data Requests - Set 3

Date Request Received: 12/06/2023

Date of Response: 12/14/23

DOE 3-1 (RDAF):

Reference: DR Set-3 Data Shell.xlsx (attached) and DG 23-086 RDAF Filing.

For the attached excel data shell, please provide information on tabs titled:

- Report 1 - Therm Sales
- Report 2 - Customer Count
- Report 3 – Revenue

Additional instructions: For each tab, please note that DOE is looking for:

- An excel file with data for each month spanning August 2022 to November 2023.
- (In each of the excel file to be provided) Therm sales and corresponding customer count
- and revenues by each rate class, and by time.
- For example, for “Report 3 – Revenue” tab: say for the month of August 2023, the data
- should show how much of overall revenue collected in August 2023 is attributable to the
- month of August 2023, and how much of it is attributable to the preceding months).
- Please follow the same method for the other two tabs.

Response:

As stated in DOE TS 1-6, Northern’s monthly unbilled revenue includes estimates for distribution revenue and cost of gas (which includes commodity, demand, working capital and bad debt). Northern’s billing system cannot identify the actual revenue associated with prior estimates as the billing system only reads once per month at the end of the corresponding bill cycle. The billing system is not setup to read a customer’s account more than once per month.

As noted above, Northern does not have the ability to split the monthly billed revenue thus the Company is unable to compare the unbilled revenue from the prior month to billed revenue in the current month.

Person Responsible: S E Demeris / D. Nawazelski

Northern Utilities, Inc.
DG 23-086
Revenue Decoupling Adjustment Factor (RDAF) 2023-24
NH Department of Energy Data Requests - Set 3

Date Request Received: 12/06/2023

Date of Response: 12/14/23

DOE 3-2 (RDAF):

Reference: Technical Session discussion held on November 30, 2023 and DG 23-086 RDAF Filing.

During the technical session discussion, Northern may have indicated that the Company's current decoupling structure was audited by a third-party auditor (not DOE's Audit Group). Please provide a copy of any third-party final Audit Report and indicate the page or pages that include review of the decoupling formula, or RDAF calculations, or other support for the relief the Company seeks in this docket.

Response:

The Company indicated during the technical session discussion that its financials as a whole are audited by a third-party auditor of which the unbilled revenue entries and calculation are a part of. On a month to month basis the data provided to the Commission in DG 23-086 is reviewed and verified by the Accounting and Regulatory Departments.

The Company has made every effort to reflect accurately the methodology approved in the DG 21-104 Settlement Agreement and the Company's revenue decoupling tariff.

Person Responsible: S E Demeris / D. Nawazelski

Attachment 3 : DOE Analytical Framework

Theoretical Framework:

$$RPC_{TY} = \frac{R_{TY}}{n_{TY}} = \frac{R_0}{n_0}$$

or, $RPC_0 = \frac{R_0}{n_0}$; where 'TY' is represented by the subscript '0'

Where: TY = Test Year,
 $R_{TY} = R_0$ = Revenue in Test Year
 $n_{TY} = n_0$ = Number of customers in Test Year
 $RPC_{TY} = RPC_0$ = Revenue per customer in Test Year

Now,

$$R_{All} = n_{Act} RPC_0 \quad \dots\dots\dots (1)$$

Where: R_{All} = Allowed/Authorized Revenue
 n_{Act} = Number of customers in Decoupling Year1
 RPC_0 = Revenue per customer in Test Year

Note:

$$R_0 = n_0 p_0 q_0$$

Where:

R_0 = Revenue in Test Year
 n_0 = Number of customers in Test Year
 p_0 = Price per therm or the Gas Rates in Test Year
 q_0 = Average therm consumption in Test Year

Note also that,

$$Q_0 = n_0 q_0$$

Where: Q_0 = Total therm consumption in Test Year
 n_0 = Number of customers in Test Year
 q_0 = Average therm consumption in Test Year

Now,

$$R_0 = p_0 Q_0 = p_0 (n_0 q_0)$$

$$\frac{R_0}{n_0} = \frac{p_0 Q_0}{n_0} = \frac{p_0 (n_0 q_0)}{n_0}$$

$$RPC_0 = p_0 q_0 \quad \dots\dots\dots (2)$$

That is, RPC in the Test Year is equal to the calculated rate from the Test Year (p_0 updated through DG 21-104) multiplied by the average therm consumption.

Applying equation (2) into equation (1), we get:

$$R_{All} = n_{Act} RPC_0$$

$$R_{All} = n_{Act} p_0 q_0 \quad \dots\dots\dots (3)$$

Similarly, actual revenue in the Decoupling Year (DY1) is:

$$R_{Act} = n_{Act} p_{Act} q_{Act}$$

$$R_{Act} = n_1 p_1 q_1 \quad \dots\dots\dots (4)$$

; where 'Act', for actual, is represented by the subscript '1'

Here:

R_{Act} = Revenue in Decoupling Year

$n_{Act} = n_1$ = Number of customers in Decoupling Year

$p_{Act} = p_1$ = Price per therm or Gas Rate in Decoupling Year

$q_{Act} = q_1$ = Average therm consumption in Decoupling Year

Note: Decoupling Year runs from August 2022 through July 2023

Now, dividing equation (3) by equation (4) gives:

$$\frac{R_{All}}{R_{Act}} = \frac{n_{Act} p_0 q_0}{n_1 p_1 q_1}$$

$$\frac{R_{All}}{R_{Act}} = \frac{n_1 p_0 q_0}{n_1 p_1 q_1}$$

; where ' n_{Act} ' is the same as ' n_1 '

Therefore:

$$\left(\frac{R_{All}}{R_{Act}} \right) = \left(\frac{p_0}{p_1} \right) \left(\frac{q_0}{q_1} \right) \quad \dots\dots\dots (5)$$

Empirical Framework:

Revenue functions: $R_{All} = n_1 p_0 q_0$ (1)

$R_{Act} = n_1 p_1 q_1$ (2)

Note: here, q = Average therm consumption

n = Number of customers

Q = Total therm consumption

So, $q = \frac{Q}{n}$

Multiplying both sides with price per therm or the rate 'p' gives:

$pq = p \frac{Q}{n} = \frac{R}{n} = \text{Average Revenue}$; where *Total Revenue, R = p Q*

Subtracting equation (2) from equation (1) gives:

$R_{All} - R_{Act} = n_1 p_0 q_0 - n_1 p_1 q_1$

$R_{All} - R_{Act} = n_1 (p_0 q_0 - p_1 q_1)$ (3)

Model 1: $R_{All} - R_{Act} = n_1 (p_0 q_0 - p_1 q_1)$

Model 2: $\ln (R_{All} - R_{Act}) = \ln (n_1) + \ln (p_0 q_0 - p_1 q_1)$

Demand function: $Q = a - b * p$ (4)

Using Log-transformed values in demand function gives:

Model 3: $\ln Q = \alpha + \beta \ln p + e$

This yields: $\frac{1}{Q} \frac{\partial Q}{\partial p} = 0 + \beta \frac{1}{p} \frac{\partial p}{\partial p} + 0$

Therefore, price elasticity:

$\epsilon_{Q,p} = \frac{p}{Q} \frac{\partial Q}{\partial p} = \beta$

Attachment 4 : Tables

Model 1.1: Level Model (Reg 1_all) - Regress (R_all - R_act) on n_act

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
n_act	11.1563	1.644718831	6.783104	9.97E-10	7.89112	14.42148	7.89112	14.42148

Model 1.2: Level Model (Reg 1_RES) - Regress (R_all - R_act) on n_act

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
n_act	11.34353	3.092912363	3.66759	0.001279	4.945357	17.74171	4.945357	17.74171

Model 1.3: Level Model (Reg 1_C&I) - Regress (R_all - R_act) on n_act

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
n_act	6.014292571	4.187045474	1.436405	0.155279	-2.33444	14.36302	-2.33444	14.36302

Model 2.1: Ln Model (Reg 2_all) - Regress Ln(R_all - R_act)_adj on Ln(n_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Ln (n_act)	1.750403923	0.068754815	25.45863758	3.21E-44	1.613908	1.886899	1.613908	1.886899

Model 2.2: Ln Model (Reg 2_RES) - Regress Ln(R_all - R_act)_adj on Ln(n_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Ln (n_act)	1.453544072	0.049902621	29.12761	1.17E-19	1.350313	1.556776	1.350313	1.556776

Model 2.3: Ln Model (Reg 2_C&I) - Regress Ln(R_all - R_act)_adj on Ln(n_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Ln (n_act)	1.963578833	0.093576688	20.98363249	3.69E-32	1.776992	2.150165	1.776992	2.150165

Model 3.1: Ln Model (Reg 3_all) - Regress Ln(Q_act_norm) on Ln(p_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	12.98138433	0.162630221	79.82147642	3.6E-88	12.65848	13.30429	12.65848	13.30429
Ln(p_act)	-0.941230926	0.334366204	-2.814970278	0.005943	-1.60512	-0.27734	-1.60512	-0.27734

Model 3.2: Ln Model (Reg 3_RES) - Regress Ln(Q_act_norm) on Ln(p_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	15.91274159	1.74665591	9.110404	6.39E-09	12.2904	19.53508	12.2904	19.53508
Ln(p_act)	-5.412399495	2.24832934	-2.4073	0.024902	-10.0751	-0.74965	-10.0751	-0.74965

Model 3.3: Ln Model (Reg 3_all) - Regress Ln(Q_act_norm) on Ln(p_act)

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	13.06670028	0.115362576	113.2664	4.87E-81	12.83662	13.29678	12.83662	13.29678
Ln(p_act)	0.430710527	0.341299743	1.261971	0.211148	-0.24999	1.111411	-0.24999	1.111411

n0: Customer Count in TY 2020

Calendar Month - Customer Count of the Rate Classes	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-5	25,300	25,213	25,370	25,211	25,458	25,363	25,483	25,442	25,600	25,795	26,120	26,171	25,544
R-6	1,267	1,289	1,295	1,280	1,311	1,331	1,354	1,355	1,358	1,347	1,312	1,277	1,315
R-10	742	817	760	879	794	781	688	663	644	641	630	644	724
R-5 & R-10	26,042	26,030	26,130	26,090	26,252	26,143	26,171	26,105	26,244	26,436	26,749	26,815	26,267
Total Residential	27,309	27,319	27,426	27,370	27,563	27,475	27,525	27,460	27,602	27,783	28,061	28,091	27,582
G-40	5,126	5,124	5,128	5,081	5,099	4,953	4,905	4,924	4,941	4,986	5,026	5,234	5,044
G-41	742	739	736	736	735	729	726	721	722	723	728	704	728
G-42	34	35	35	35	35	35	35	35	34	34	34	31	34
G-50	812	825	826	828	833	844	857	848	848	816	821	831	832
G-51 (HB)	279	277	278	278	278	277	277	274	276	279	278	267	277
G-51 (TB)	0	0	0	0	0	0	0	0	0	0	0	0	0
G-52	32	32	32	32	34	34	33	33	32	32	32	33	33
Total C/I	7,025	7,032	7,035	6,990	7,014	6,871	6,832	6,836	6,852	6,871	6,919	7,101	6,948
Total	34,334	34,351	34,461	34,360	34,577	34,346	34,357	34,296	34,454	34,654	34,981	35,192	34,530

% change in Customer Count = (n1 - n0) / n0

Calendar Month - % change in Customer Count across Rate Classes	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5													
R-6	-3.2%	-3.4%	-7.7%	-6.1%	-6.4%	-6.8%	-7.2%	-2.6%	-1.7%	-1.6%	-2.6%	-2.0%	-4.3%
R-10													
R-5 & R-10	7.6%	7.7%	7.7%	7.7%	7.2%	7.0%	7.0%	5.6%	4.8%	4.4%	3.8%	4.1%	6.2%
Total Residential	7.1%	7.2%	7.0%	7.0%	6.6%	6.3%	6.3%	5.2%	4.5%	4.1%	3.5%	3.8%	5.7%
G-40	4.1%	4.2%	4.4%	5.5%	1.9%	5.1%	5.3%	-0.4%	2.1%	2.1%	3.9%	1.0%	3.3%
G-41	-6.4%	-5.6%	-4.8%	-4.7%	-4.8%	-3.7%	-4.5%	-7.0%	-6.7%	-4.4%	-5.2%	-2.0%	-5.0%
G-42	-14.7%	-17.1%	-17.1%	-17.1%	-18.3%	-17.1%	-17.1%	-14.3%	-11.8%	-11.8%	-11.8%	-3.2%	-14.3%
G-50	-0.3%	-2.4%	-1.8%	-2.0%	-1.7%	-1.2%	-2.0%	-1.3%	1.0%	2.4%	0.2%	-1.7%	-0.9%
G-51 (HB)	-0.4%	-0.1%	0.0%	0.0%	-0.1%	0.8%	0.9%	-2.6%	-2.1%	-0.4%	0.3%	5.1%	0.1%
G-51 (TB)													
G-52	13.1%	12.5%	12.5%	12.5%	10.4%	8.8%	12.1%	3.0%	6.2%	6.3%	5.0%	0.0%	8.5%
Total C/I	2.3%	2.2%	2.5%	3.2%	0.6%	3.2%	3.1%	-1.3%	0.8%	1.3%	2.3%	0.5%	1.7%
Total	6.1%	6.1%	6.0%	6.2%	5.4%	5.7%	5.6%	3.9%	3.8%	3.5%	3.2%	3.1%	4.9%

n1: Customer Count in DY1 (August 2022 to July 2023)

Calendar Month - Customer Count of the Rate Classes	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5	0	0	0	0	0	0	0	0	0	0	0	0	0
R-6	1,227	1,245	1,196	1,202	1,227	1,241	1,257	1,320	1,335	1,325	1,278	1,251	1,259
R-10	0	0	0	0	0	0	0	0	0	0	0	0	0
R-5 & R-10	28,030	28,033	28,138	28,091	28,154	27,971	27,997	27,563	27,516	27,600	27,755	27,903	27,896
Total Residential	29,257	29,278	29,334	29,293	29,381	29,212	29,254	28,883	28,851	28,925	29,033	29,154	29,155
G-40	5,337	5,341	5,356	5,358	5,197	5,207	5,167	4,906	5,047	5,089	5,224	5,285	5,210
G-41	695	698	701	702	699	702	693	671	673	691	690	690	692
G-42	29	29	29	29	29	29	29	30	30	30	30	30	29
G-50	809	805	811	811	819	834	839	837	856	836	822	817	825
G-51 (HB)	278	277	278	278	278	279	279	267	270	278	279	280	277
G-51 (TB)	0	0	0	0	0	0	0	0	0	0	0	0	0
G-52	36	36	36	36	37	37	37	34	34	34	34	33	35
Total C/I	7,184	7,186	7,211	7,214	7,059	7,088	7,044	6,745	6,910	6,958	7,079	7,135	7,068
Total	36,441	36,464	36,545	36,507	36,440	36,300	36,298	35,628	35,761	35,883	36,112	36,289	36,222

p0: Price in TY 2020

Calendar Month - Rate per therms across Rate Classes	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-5	1.3252	1.3252	1.3252	1.3252	0.9180	0.9180	0.8301	0.8301	0.9773	0.9773	1.5334	1.5334	1.1515
R-6	1.2802	1.2802	1.2802	1.2802	0.9551	0.9551	0.8672	0.8672	1.0144	1.0144	1.4884	1.4884	1.1476
R-10	0.9100	0.9100	0.9100	0.9100	0.5521	0.5521	0.4642	0.4642	0.6114	0.6114	0.8928	0.8928	0.7234
R-5 & R-10													
Total Residential	1.1718	1.1718	1.1718	1.1718	0.8084	0.8084	0.7205	0.7205	0.8677	0.8677	1.3049	1.3049	1.0075
G-40	0.8631	0.8631	0.8631	0.8631	0.4977	0.4977	0.4098	0.4098	0.5570	0.5570	1.0334	1.0334	0.7040
G-41	0.8190	0.8190	0.8190	0.8190	0.4288	0.4288	0.3409	0.3409	0.4881	0.4881	0.9893	0.9893	0.6475
G-42	0.6939	0.6939	0.6939	0.6939	0.4274	0.4274	0.3395	0.3395	0.4867	0.4867	0.8802	0.8802	0.5869
G-50	0.6786	0.6786	0.6786	0.6786	0.3746	0.3746	0.2867	0.2867	0.4339	0.4339	0.8649	0.8649	0.5529
G-51 (HB)	0.6473	0.6473	0.6473	0.6473	0.3496	0.3496	0.2617	0.2617	0.4089	0.4089	0.8336	0.8336	0.5247
G-51 (TB)	0.6794	0.6794	0.6794	0.6794	0.3201	0.3201	0.2322	0.2322	0.3794	0.3794	0.8657	0.8657	0.5260
G-52	0.7412	0.7412	0.7412	0.7412	0.4133	0.4133	0.3254	0.3254	0.4726	0.4726	0.9206	0.9206	0.6024
Total C/I	0.7412	0.7412	0.7412	0.7412	0.4133	0.4133	0.3254	0.3254	0.4726	0.4726	0.9206	0.9206	0.6024
Total	0.9565	0.9565	0.9565	0.9565	0.6108	0.6108	0.5229	0.5229	0.6701	0.6701	1.1128	1.1128	0.8049

% change in Price = (p1 - p0) / p0

Calendar Month - % change in Price across Rate Classes	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5	63.9%	63.9%	55.5%	36.1%	61.7%	61.7%	78.8%	126.3%	113.5%	113.5%	46.1%	44.2%	72.1%
R-6	107.0%	107.0%	98.4%	78.3%	105.5%	105.5%	126.4%	165.5%	147.4%	147.4%	82.7%	80.7%	112.7%
R-10	40.5%	40.5%	33.8%	18.3%	168.9%	168.9%	219.8%	304.6%	241.2%	241.2%	47.3%	45.5%	130.9%
R-5 & R-10													
Total Residential	73.5%	73.5%	65.5%	46.9%	103.4%	103.4%	128.2%	180.3%	156.7%	156.7%	60.3%	58.4%	100.6%
G-40	59.6%	59.6%	46.8%	17.0%	45.3%	45.3%	76.5%	198.2%	156.7%	156.7%	40.1%	37.2%	78.3%
G-41	72.2%	72.2%	58.7%	27.3%	76.3%	76.3%	121.8%	270.9%	201.6%	201.6%	49.6%	46.6%	106.3%
G-42	93.2%	93.2%	77.3%	40.2%	60.6%	60.6%	102.2%	252.9%	188.9%	188.9%	60.3%	56.9%	106.2%
G-50	87.0%	87.0%	70.7%	32.8%	59.8%	59.8%	108.8%	293.4%	207.8%	207.8%	54.8%	51.4%	110.1%
G-51 (HB)	86.9%	86.9%	69.8%	30.1%	54.3%	54.3%	106.2%	314.6%	216.2%	216.2%	53.5%	50.0%	111.6%
G-51 (TB)													
G-52	63.6%	63.6%	48.7%	14.0%	14.3%	14.3%	45.1%	214.8%	160.7%	160.7%	39.3%	36.1%	72.9%
Total C/I	50.7%	50.7%	37.9%	8.2%	30.5%	30.5%	65.8%	203.9%	146.9%	146.9%	27.9%	25.1%	68.8%
Total	64.7%	64.7%	54.8%	31.9%	78.7%	78.7%	108.8%	187.6%	153.3%	153.3%	46.9%	44.6%	89.0%

p1: Price in DY1 (August 2022 to July 2023)

Calendar Month - Rate per therms across Rate Classes	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5	2.1715	2.1715	2.0611	1.8039	1.4845	1.4845	1.4845	1.8783	2.0861	2.0861	2.2405	2.2108	1.9303
R-6	2.6502	2.6502	2.5398	2.2826	1.9632	1.9632	1.9632	2.3023	2.5101	2.5101	2.7192	2.6895	2.3953
R-10	1.2785	1.2785	1.2178	1.0763	1.4845	1.4845	1.4845	1.8783	2.0861	2.0861	1.3155	1.2992	1.4975
R-5 & R-10													
Total Residential	2.0334	2.0334	1.9396	1.7209	1.6441	1.6441	1.6441	2.0196	2.2274	2.2274	2.0917	2.0665	1.9410
G-40	1.3776	1.3776	1.2672	1.0100	0.7234	0.7234	0.7234	1.2219	1.4297	1.4297	1.4477	1.4180	1.1791
G-41	1.4103	1.4103	1.2999	1.0427	0.7561	0.7561	0.7561	1.2643	1.4721	1.4721	1.4804	1.4507	1.2143
G-42	1.3405	1.3405	1.2301	0.9729	0.6863	0.6863	0.6863	1.1982	1.4060	1.4060	1.4106	1.3809	1.1454
G-50	1.2687	1.2687	1.1583	0.9011	0.5985	0.5985	0.5985	1.1279	1.3357	1.3357	1.3388	1.3091	1.0700
G-51 (HB)	1.2098	1.2098	1.0994	0.8422	0.5396	0.5396	0.5396	1.0850	1.2928	1.2928	1.2799	1.2502	1.0151
G-51 (TB)													
G-52	1.2124	1.2124	1.1020	0.8448	0.4722	0.4722	0.4722	1.0244	1.2322	1.2322	1.2825	1.2528	0.9844
Total C/I	1.1170	1.1170	1.0224	0.8020	0.5394	0.5394	0.5394	0.9888	1.1669	1.1669	1.1771	1.1517	0.9440
Total	1.5752	1.5752	1.4810	1.2614	1.0918	1.0918	1.0918	1.5042	1.6972	1.6972	1.6344	1.6091	1.4425

q0 = Usage per Customer (UPC) in TY 2020

Calendar Month - Therms	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-5	117.7	120.1	101.8	71.2	50.5	21.2	14.0	11.6	15.0	21.0	47.7	86.3	56.5
R-6	23.0	22.0	20.1	16.6	14.2	11.1	9.3	8.3	10.3	9.5	13.4	19.7	14.8
R-10	105.3	107.0	93.5	63.9	44.1	28.1	12.0	10.5	12.4	18.6	45.0	80.8	51.8
R-5 & R-10	117.4	119.7	101.5	70.9	50.3	21.4	13.9	11.6	14.9	20.9	47.7	86.2	56.4
Total Residential	113.0	115.1	97.7	68.4	48.6	20.9	13.7	11.5	14.7	20.4	46.0	83.1	54.4
G-40	351.2	343.7	287.0	184.0	118.6	41.8	23.7	20.1	31.7	46.0	139.9	259.9	154.0
G-41	3,325.9	3,258.0	2,821.3	1,813.5	1,263.2	550.6	358.2	209.7	439.3	680.4	1,496.7	2,585.7	1,566.9
G-42	25,974.5	24,064.7	20,297.4	15,156.3	9,607.4	6,234.9	5,273.2	5,474.1	7,173.0	11,889.4	16,880.5	22,572.6	14,216.5
G-50	200.3	198.5	190.1	119.5	109.8	119.6	128.6	125.0	149.3	123.1	139.8	169.8	147.8
G-51 (HB)	2,056.8	2,035.0	1,927.0	1,106.0	989.1	948.4	985.8	934.0	1,126.5	1,073.5	1,306.3	1,679.1	1,347.3
G-51 (TB)													
G-52	40,393.4	45,577.1	41,704.1	41,917.8	38,263.3	37,461.2	36,976.9	38,870.7	42,912.7	43,352.7	42,725.8	47,337.5	41,457.8
Total C/I	1,021.4	1,023.5	893.6	650.7	502.2	358.6	316.7	305.3	369.0	424.0	611.0	849.5	610.4
Total	298.9	301.0	260.2	186.8	140.6	88.5	73.9	70.0	85.1	100.4	157.8	237.8	166.8

% change in UPC = (q1 - q0) / q0

Calendar Month - Therms	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5													
R-6	11.9%	18.5%	5.3%	-3.3%	-15.1%	-11.5%	-1.4%	-2.0%	-14.6%	5.3%	-14.4%	0.5%	-1.7%
R-10													
R-5 & R-10	-8.3%	-9.3%	-2.9%	-12.7%	-31.7%	-15.6%	-5.9%	-4.0%	-16.9%	4.2%	-27.8%	-10.1%	-11.8%
Total Residential	-7.8%	-8.7%	-2.4%	-12.2%	-31.2%	-15.3%	-5.6%	-3.8%	-16.8%	4.3%	-27.5%	-9.9%	-11.4%
G-40	-2.6%	7.8%	5.2%	-2.0%	-23.8%	-3.4%	10.8%	11.5%	-21.3%	14.2%	-29.8%	-8.9%	-3.5%
G-41	1.4%	3.7%	9.2%	8.9%	-8.1%	13.1%	16.0%	62.4%	-1.0%	25.9%	-11.2%	-1.4%	9.9%
G-42	-8.2%	0.3%	6.6%	-16.7%	-4.1%	-2.8%	-9.9%	-7.5%	-4.6%	-13.7%	-8.8%	-1.3%	-5.9%
G-50	6.0%	9.1%	7.9%	39.8%	47.0%	35.2%	25.2%	29.8%	4.4%	14.4%	4.1%	3.1%	18.8%
G-51 (HB)	-1.6%	0.8%	0.7%	41.0%	42.8%	26.0%	18.9%	28.6%	10.9%	21.4%	8.1%	2.9%	16.7%
G-51 (TB)													
G-52	21.1%	-0.6%	15.8%	0.5%	6.4%	-5.3%	-6.9%	2.0%	-7.8%	-1.0%	9.1%	4.2%	3.1%
Total C/I	0.2%	0.7%	6.3%	2.3%	1.0%	2.5%	2.9%	11.5%	-4.3%	5.3%	-7.7%	-2.1%	1.6%
Total	-4.5%	-4.5%	1.5%	-3.8%	-11.0%	-2.8%	-0.4%	4.8%	-8.3%	3.3%	-13.0%	-5.9%	-3.7%

% change in Weather Normalized UPC = (q1_norm - q0) / q0

Calendar Month - Therms	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5													
R-6	53.1%	45.8%	2.5%	15.2%	-5.7%	-11.5%	-1.4%	-2.0%	-14.6%	-19.4%	20.2%	1.7%	7.0%
R-10													
R-5 & R-10	-6.7%	-8.2%	-3.0%	-11.9%	-31.5%	-15.6%	-5.9%	-4.0%	-16.9%	2.0%	-26.2%	-10.1%	-11.5%
Total Residential	-5.9%	-7.4%	-2.5%	-11.2%	-30.9%	-15.3%	-5.6%	-3.8%	-16.8%	1.7%	-25.5%	-9.8%	-11.1%
G-40	6.2%	14.0%	4.6%	3.2%	-20.4%	-3.4%	10.8%	11.5%	-21.3%	-0.9%	-19.4%	-8.6%	-2.0%
G-41	10.2%	9.6%	8.7%	14.2%	-4.4%	13.1%	16.0%	62.4%	-1.0%	7.9%	1.0%	-1.1%	11.4%
G-42	-0.8%	4.7%	6.1%	-13.6%	-2.1%	-2.8%	-9.9%	-7.5%	-4.6%	-24.8%	2.6%	-1.0%	-4.5%
G-50	8.6%	10.9%	7.7%	40.3%	47.0%	35.2%	25.2%	29.8%	4.4%	17.6%	3.1%	3.2%	19.4%
G-51 (HB)	1.9%	3.1%	0.5%	42.7%	42.8%	26.0%	18.9%	28.6%	10.9%	21.4%	9.7%	3.0%	17.5%
G-51 (TB)													
G-52	23.6%	0.2%	15.7%	1.1%	6.7%	-5.3%	-6.9%	2.0%	-7.8%	-4.3%	12.8%	4.3%	3.5%
Total C/I	6.9%	5.0%	5.9%	5.5%	2.8%	2.5%	2.9%	11.5%	-4.3%	-1.6%	-0.4%	-1.9%	2.9%
Total	0.6%	-1.3%	1.1%	-1.3%	-9.6%	-2.8%	-0.4%	4.8%	-8.3%	-2.8%	-6.9%	-5.7%	-2.7%

q1 = Usage per Customer (UPC) in DY1 (August 2022 to July 2023)

Calendar Month - Therms	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5													
R-6	25.7	26.1	21.2	16.1	12.1	9.8	9.2	8.2	8.8	10.0	11.4	19.8	14.9
R-10													
R-5 & R-10	107.7	108.6	98.5	61.9	34.4	18.1	13.1	11.2	12.4	21.8	34.4	77.4	49.9
Total Residential	104.2	105.1	95.4	60.0	33.4	17.7	12.9	11.0	12.2	21.3	33.4	74.9	48.5
G-40	342.0	370.4	301.9	180.3	90.4	40.4	26.2	22.5	24.9	52.5	98.1	236.7	148.9
G-41	3,371.3	3,379.0	3,082.1	1,974.1	1,160.7	623.1	415.3	340.5	434.8	856.7	1,329.5	2,549.0	1,626.3
G-42	23,850.0	24,127.5	21,629.0	12,631.1	9,213.7	6,058.8	4,751.4	5,062.0	6,845.5	10,256.8	15,393.1	22,286.3	13,508.8
G-50	212.4	216.5	205.0	167.0	161.4	161.7	161.0	162.3	155.9	140.8	145.5	175.1	172.1
G-51 (HB)	2,022.9	2,050.7	1,941.4	1,559.6	1,412.5	1,195.1	1,172.1	1,201.4	1,249.2	1,303.2	1,412.4	1,727.8	1,520.7
G-51 (TB)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G-52	48,917.8	45,299.7	48,310.7	42,113.7	40,709.3	35,470.4	34,408.0	39,652.0	39,569.4	42,937.2	46,614.0	49,334.8	42,778.1
Total C/I	1,023.8	1,031.2	949.9	665.8	507.1	367.4	326.0	340.3	353.1	446.5	563.7	831.6	617.2
Total	285.5	287.6	264.0	179.7	125.2	86.0	73.7	73.4	78.1	103.7	137.3	223.7	159.8

q1_norm = Weather Normalized Usage per Customer (UPC) in DY1 (August 2022 to July 2023)

Calendar Month - Normalized Therms	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	12 Month Average
R-5													
R-6	35.2	32.1	20.6	19.1	13.4	9.8	9.2	8.2	8.8	7.7	16.1	20.0	16.7
R-10													
R-5 & R-10	109.5	109.8	98.4	62.5	34.5	18.1	13.1	11.2	12.4	21.4	35.2	77.5	50.3
Total Residential	106.4	106.5	95.3	60.7	33.6	17.7	12.9	11.0	12.2	20.7	34.3	75.0	48.9
G-40	373.2	392.0	300.1	190.0	94.4	40.4	26.2	22.5	24.9	45.6	112.7	237.5	155.0
G-41	3,666.1	3,570.3	3,065.3	2,071.5	1,207.1	623.1	415.3	340.5	434.8	734.3	1,511.8	2,556.8	1,683.1
G-42	25,762.2	25,203.9	21,534.2	13,097.1	9,405.0	6,058.8	4,751.4	5,062.0	6,845.5	8,938.7	17,313.5	22,343.2	13,859.6
G-50	217.6	220.2	204.7	167.7	161.4	161.7	161.0	162.3	155.9	144.9	144.0	175.2	173.0
G-51 (HB)	2,095.0	2,098.7	1,937.3	1,578.6	1,412.5	1,195.1	1,172.1	1,201.4	1,249.2	1,303.2	1,433.6	1,729.6	1,533.9
G-51 (TB)													
G-52	49,937.4	45,657.1	48,253.6	42,384.5	40,839.3	35,470.4	34,408.0	39,652.0	39,569.4	41,488.6	48,186.1	49,366.3	42,934.4
Total C/I	1,091.7	1,074.2	946.1	686.5	516.1	367.4	326.0	340.3	353.1	417.0	608.6	833.4	630.0
Total	300.6	297.2	263.1	184.4	127.1	86.0	73.7	73.4	78.1	97.6	146.9	224.1	162.7