

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

Docket No. [DG 22-045](#)
**Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty
Winter 2022-2023 and Summer 2023 Cost of Gas
(Re: Revenue Decoupling Adjustment Factor)**

Supplemental Technical Statement of Faisal Deen Arif, Gas Director &
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Department of Energy, Division of Regulatory Support
April 3, 2024

The New Hampshire Department of Energy (“DOE” or the “Department”) submits this technical statement² pursuant to the proceedings in Dkt. No. [DG 22-045](#) and the revised procedural schedule approved by the Public Utilities Commission (“PUC” or the “Commission”) through a Procedural Order dated March 15, 2024.³

This statement pertains to the overall RDAF claim of \$3,813,298⁴ (hereafter referred to as \$3.8 million) in the 2021-22 Revenue Decoupling Adjustment Factor (RDAF), as was reported in the [Technical Statement dated January 12, 2024](#)⁵, by Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty (“Liberty”, 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 Liberty’s overall ask of \$3.8 million from their third and fourth Decoupling Year (“DY3”⁶ and “DY4”⁷) periods.

The Department supports Liberty’s RDAF claim of \$3.8 million as the Company’s calculation appears to be in compliance with the relevant Tariff provisions pertaining to RDAF. [Tariff 11](#)⁸, Original Page 36, Section 19, Sub-section D (5). As such, the Department recommends the that

¹ See Attachment 1, CV of Ashraf Al Alam.

² The testimony was submitted on June 8, 2023. See Tab 89 in [DG 22-045](#).

³ See [Procedural Order Re: Proposed Procedural Schedule](#).

⁴ The Department notes that the reported RDAF under-collection from 2021-22 period was \$3,511,438. Please see Liberty’s [Technical Statement from December 8, 2022](#) in Dkt. No. [DG 22-045](#) (Tab 41). The amount \$3,511,438 includes under-collection of \$727,670 from DY3 and deficiency of \$2,783,768 from DY4 period. The updated prior-period under-collection of \$3,813,298 is \$301,860 higher than the reported RDAF under-recovery from Liberty’s [December 8, 2022 technical statement](#) and can be attributed to accumulated carrying charges.

⁵ See Technical Statement of Tyler J Culbertson & Adam R. M. Yusuf (Bates p. 001), and the accompanying [Schedules](#) (Bates pp. 28-30), Tab 44 in Dkt. No. [DG 23-076](#).

⁶ DY3 spans the time period September 1, 2020 to August 31, 2021.

⁷ DY4 covers the time period September 1, 2021 to August 31, 2022.

⁸ For [Tariff 11](#), see Dkt. No. [DG 20-105](#), Exhibit 49, starting at Bates 50.

the Commission approve recovery of this amount through RDAF rates currently in place for the duration February 1, 2024 through January 31, 2025. See p. 3, 5 of [PUC Order No. 26,940](#) (January 31, 2024) in Dkt. No. [DG 23-076](#) (Tab 51).

Notwithstanding the support, the Department observes that the current *Revenue Per Customer* (RPC) decoupling structure may have, inadvertently, over-compensated the Company that was not envisioned at the development of the current decoupling framework and, therefore, may have contravened the purpose⁹ of RDAF. Consequently, the mere mathematical application of RPC formula may have led to undue harm to the other party, namely the ratepayers, which is an area of significant concern to the Department. For elaborative discussion on this, please see Section 5.

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 for DY3 and DY4

1. Background

Pursuant to Section 19 of Liberty's current [Tariff 11](#), the Company made its initial petition for approval of the Revenue Decoupling Adjustment Factor (RDAF) for Decoupling Year 4 (DY4) on August 3, 2022. Through Order No. 26,692 dated September 29, 2022, the Commission severed the RDAF under-collection recovery request and put the matter on a separate procedural schedule.

An initial procedural schedule was developed and was approved by the Commission in its Procedural Order dated November 17, 2022. This was subsequently amended and approved by the PUC via Procedural Order dated April 27, 2023. A hearing was scheduled for August 30, 2023.

After holding the hearing in August, through Procedural Order dated September 1, 2023, the Commission continued the hearing and set November 8, 2023 as Hearing Day Two. Upon requests from various parties, the procedural schedule was further modified multiple times. The latest scheduled was submitted on March 12, 2024 and was approved by the Commission in its Procedural Order dated March 15, 2024. Hearing Day Two is scheduled for May 14, 2024.

⁹ See Liberty's [Tariff 11](#), Original Page 35, Section 19, Sub-Section D (1) ("Revenue decoupling eliminates the link between volumetric sales and Company revenue in order to align the interests of the Company and customers with respect to changing customer usage by establishing an allowed revenue per customer ("RPC").

2. Summary of Docket Activity

Throughout the proceeding of this case, due to the complexities pertaining to RDAF matters, the Department issued multiple data requests (DRs) and held several technical sessions (TS) with the Company. This led to the submission of DOE testimony of Arif and Thompson on June 8, 2023. Mr. Thompson also testified at Hearing Day One, August 30, 2023, and is expected to testify at Hearing Day Two. Mr. Thompson supports the results of the DOE analysis as described in a separate contemporaneous *Supplemental Technical Statement of Mark Thompson* filed in this docket.

After August 30, 2023, more DOE DRs were issued and information was provided by Liberty.¹⁰

The current technical statement benefits from the DOE analytics, the development of which was made possible through exchange of information by Liberty.

3. RDAF Analytical Framework

Liberty'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, Dkt. No. [DG 20-105](#), using the 2019 Test Year ("TY") billing determinants¹¹.

The Revenue Decoupling Mechanism (RDM) was proposed to "eliminate the link between volumetric sales and Company revenue in order to align the interests of the Company and customers with respect to changing customer usage". See Liberty [Tariff 11](#), Section 19, Sub-Section D (1). Additionally, the proposed RPC-based decoupling model was designed to "fix a flaw in the traditional ratemaking methodology that does not allow utilities a reasonable opportunity to earn a reasonable return when customer usage is declining" (emphasis added).¹² For a greater discussion on the history of the development of Liberty's Revenue Decoupling Mechanism (RDM) and the current RPC model, see Dkt. No. [DG 17-048](#), [Direct Testimony of Gregg H. Therrien](#) (Exhibit 8) and [Rebuttal Testimony \(of\) Gregg Therrien](#) (Tab 29, Exhibit 27B).

Two factors – the impact of Energy Efficiency (EE)¹³, and the reasonable opportunity for a reasonable recovery of utility costs and return¹⁴ – played significant role in the development of

¹⁰ Liberty provided both reported information and source data.

¹¹ 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.

¹² See [DG 17-048](#), [Direct Testimony of Gregg H. Therrien](#); Bates 283, lines 6-8.

¹³ In Dkt. No. [DG 17-048](#), Liberty witness writes: "By eliminating the link between customer consumption and Company earnings, decoupling removes the disincentive for utilities to promote conservation and energy efficiency programs." See [Direct Testimony of Gregg H. Therrien](#), Bates p. 283, Lines 13-15.

¹⁴ In Dkt. No. [DG 17-048](#), Liberty witness highlights the following: "While reduced energy usage is good for individual consumers and society as a whole, it does have a negative impact on a utility's ability to earn its allowed rate of return under traditional ratemaking." See [Direct Testimony of Gregg H. Therrien](#), Bates p. 285, Lines 20-22 (emphasis added).

current RPC decoupling framework. As such, the performance of the current RPC model must be evaluated against the envisioned objective set out for laying down a decoupling framework. DOE's current analysis takes this into account.

The utility business model reflects distribution costs that are largely fixed and change very little in the short run with changes in usage levels. Yet the distribution rates have a significant variable, or usage-based component, that changes revenues and, consequently, the reasonable recovery of costs.

The RDM was conceived to correct this misalignment by adjusting the Company's actual revenues to match its approved revenues^{15,16}. As such, the approved revenues and the revenue requirement calculation performed in Liberty's last distribution rate case (i.e., [DG 20-105](#)) to arrive at the approved revenue requirement level bear significance. A holistic evaluation of the performance of current RPC decoupling framework, therefore, requires a thorough evaluation of the underlying cost components leading up to the approved revenue requirement level.

In particular, performance of the RPC model should evaluate whether Liberty have had a reasonable opportunity to recover its costs. To the extent the costs are recovered, the objective of the decoupling framework would have been met. Alternatively, if the current RPC model provides additional revenues beyond the reasonable recovery of costs, this would essentially run contrary to the envisioned revenue decoupling objective (and also inflict undue harm to ratepayers). The Department's analysis takes this into account.

Without undermining the significance of this broader scope of evaluation, in DOE's view, Liberty appears to have followed the RPC calculation methodology as stipulated in its [Tariff 11](#). This fact was also accounted for in DOE's recommendations.

Along the course of this docket, DOE's analysis has generated concerns about the RPC model in general. The development of Liberty'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 (i.e., monthly). With changes in the unit price of the commodity (i.e., price per therm) between the Test Year ("TY")¹⁷ and the subsequent Decoupling Years ("DYs"), 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).

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

¹⁵ The "allowed revenue" was calculated on a per customer class basis in [DG 20-105](#) based on approved distribution revenue (emphasis added).

¹⁶ See Liberty [Tariff 11](#), Section 19, Sub-Section D (5) for greater understanding regarding the linkages between "allowed" and "approved" (distribution) revenue.

¹⁷ When RDM was designed.

periods. This immediately draws attention to three factors: a) the customer count methodology; b) the impact of customer growth over time on RDAF recovery request; and c) the cost recovery components that were inherent in the allowed revenue requirement calculation.¹⁸

Taken together, it implies that the current RDAF ask could be explained by the observed variation between the Test Year (TY2019) and the subsequent Decoupling Years (DY3 and DY4) 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 2 for a detailed exposition of the theoretical and empirical models used by the Department.

4. Summary of DOE Analysis¹⁹

Based on the information sourced from [DG 20-105](#), from [DG 22-045](#) and the Company's data responses, the following is a summary of Department's analytical findings²⁰:

4.1 We observe that Liberty 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 2 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

¹⁸ 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.

¹⁹ Please see Attachment 3, DOE Summary of Model Results.

²⁰ For all relevant values, please refer to the Tables in Attachment 4 (provided in live format).

- 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:

Table 1.1 : Customer Count (n - Equivalent Bills)			
	Test Year	DY3	DY4
Residential	82,909	85,151	85,674
C&I	12,605	12,913	12,993
Total	95,514	98,064	98,667

Table 1.2 : Customer Count – Y-o-Y Growth				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	2.7%	3.3%	3.0%	1.1%
C&I	2.4%	3.1%	2.8%	1.0%
Total	2.7%	3.3%	3.0%	1.1%

- a. Liberty had 95,514 customers in an average month in TY2019. In the DY3 year (i.e., between September 2020 and August 2021), they reported 98,064 customers in an average month. For DY4 (spanning September 2021 through August 2022) the reported number of customers was 98,667. This indicates, relative to TY2019, a 2.7% customer growth in DY3 and a 3.3% growth in DY4 on an average-month basis. In general, on a cumulative basis, this represents a 1.1% year-over-year growth in the customer base since TY2019.

Table 2.1 : Usage Per Customer (Therm)			
	Test Year	DY3	DY4
Residential	64.6	58.5	57.7
C&I	749.3	684.8	675.7
Total	155.4	141.3	139.5

Table 2.2 : UPC – Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	-9.5%	-10.7%	-10.1%	-3.7%
C&I	-8.6%	-9.8%	-9.2%	-3.4%
Total	-9.1%	-10.3%	-9.7%	-3.5%

- b. At the Company level, Liberty reported an average usage of 155.4 therms per month in TY2019. In DY3, it is reported to be 141.3 therms per month, registering a fall of 9.1% on an average-month. In DY4, the UPC was reported to be 139.5 therms, a fall of 10.3% relative to TY2019. On a cumulative basis, this continuous fall in UPC accounts for a year-over-year decline of 3.5% since TY2019.

Table 3.1 : Price Per Therm (\$)			
	Test Year	DY3	DY4
Residential	0.7011	1.0076	1.3767
C&I	0.7078	0.7628	1.1025
Total	0.7044	0.8852	1.2396

Table 3.2 : Average Price – Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	43.7%	96.4%	70.1%	25.2%
C&I	7.8%	55.8%	31.8%	15.9%
Total	25.7%	76.0%	50.8%	20.7%

- 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 25.7% between TY2019 and DY3. BY DY4, the price hike registers an increase of 76% relative to TY2019. More interestingly, on a cumulative basis, gas prices register a year-over-year rise by 20.7% since TY2019. This temporal price variation, however, is different between the sectors. While on a year-over-year basis gas prices encountered by the ratepayers rose by 25.2% for the residential customers, in C&I sector prices rose by an average 15.9% per year. These differences are significant as they would elicit different usage and gas consumption behavior depending on the price elasticity of the specific sector.

Table 4.1 : Sales (Therm)			
	Test Year	DY3	DY4
Residential	64,132,575	59,485,775	59,088,893
C&I	113,906,893	106,307,619	105,709,196
Total	178,039,468	165,793,394	164,798,089

Table 4.2 : Sales – Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	-7.2%	-7.9%	-7.6%	-2.7%
C&I	-6.7%	-7.2%	-6.9%	-2.5%
Total	-6.9%	-7.4%	-7.2%	-2.5%

- d. For therm sales, at the total Company level the overall sales kept decreasing from about 178 million therms in TY2019 to 165.8 million (i.e., a fall of 6.9% relative to TY) in DY3 to 164.8 million therms (i.e., a fall of 7.4% relative to TY) in DY4. On a cumulative basis, since TY2019, Liberty experienced a year-over-year average fall of 2.5% in gas sales.

Table 5.1 : Revenues without RDAF (\$)

	Test Year	DY3	DY4
Residential	48,161,903	50,346,404	49,382,370
C&I	38,909,995	39,797,551	39,660,589
Total	87,071,898	90,143,955	89,042,958
<hr/>			
Authorized Revenue:		89,782,950	91,082,950

Table 5.2 : Revenues without RDAF – Y-o-Y Change

	Avg Growth Rate		Cumulative Growth Rate
	DY3	DY4	(DY3 & DY4) (TY to DY4)
Residential	4.5%	2.5%	3.5%
C&I	2.3%	1.9%	2.1%
Total	3.5%	2.3%	2.9%

- e. In terms of distribution revenues without RDAF (i.e., without accounting for decoupling revenues), Liberty reported \$87.1 million in TY2019, which increased to \$90.1 million in DY3 and \$89.0 million in DY4. These represented a year-over-year average revenue growth of 0.7% since TY2019.

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

Customer Count

- a. In the residential sector, the reported average number of customers per month in TY2019 was 82,909, which was reported to be 85,151 in DY3 and 85,674 in DY4. Relative to the TY2019, this registers a residential customer growth of 2.7% in DY3 and 3.3% in DY4 respectively, and a year-over-year average residential customer growth of 1.1% since TY2019. Interestingly, the R-4 (i.e., low-income heating residential customers) registers a negative growth of 8.9% in DY3, while the other residential classes register a positive growth. For DY4, only the R-1 (i.e., non-heating residential customers) registers a negative growth of 0.8%. See Table 1.1 through 1.7 in Attachment 4.
- b. The C&I sector, on the other hand, reported a total of 12,605 customers on an average month during TY2019. This increased to 12,913 customers in DY3 and 12,993 in DY4; reporting a 2.4% and 3.1% customer growth respectively. On a year-over-year basis, customer base grew by 0.9% in the C&I sector since TY 2019. Please refer to Table 1.1 through 1.7 in Attachment 4 for further details.

Sales

- c. Total therm sales in the residential sector in TY2019 was reported to be 64.1 million therms. This reduced to 59.5 million in DY3 and further reduced to 59.1 million therms in DY4; recording a 7.2% and 7.9% decline in total sales respectively. The R-3 and R-4 (i.e., heating residential customers) rate classes showed a decline in total consumption in DY3 and DY4 when compared to TY2019; whereas the other residential rate classes showed an increase in consumption. Overall, the residential therm sales on average fell by 2.7% year-over-year since TY2019. See Table 2.1 through 2.7 in Attachment 4.

- d. For the C&I sector, a total consumption of 113.9 million therms was reported in TY2019; which is reduced to 106.3 million therms in DY3 and 105.7 million therms in DY4. This registers a 6.7% and 7.2% decline in total consumption in DY3 and DY4 respectively. All the C&I rate classes had less consumption except for G-43, G-44, G-45 and G-55 in both DY3 and DY4 when compared to TY2019. Overall, the C&I sector oversaw an average 2.5% decline in consumption since TY2019. Detailed information can be found in Table 2.1 through 2.7 in Attachment 4.

Revenues

- e. The reported revenue (without RDAF) for the residential customers in TY2019 was \$48.2 million, which is reported to be \$50.3 million in DY3 and \$49.4 million in DY4. This registers a revenue growth of 4.5% in DY3 and 2.5% in DY4 respectively. On a cumulative basis, this implies that the residential sector oversaw an average 0.8% revenue growth since TY2019. See Table 3.1 through 3.7 in Attachment 4.
- f. The C&I sector reported a revenue (without RDAF) of \$38.9 million during TY2019. This increased to \$39.8 million in DY3 and \$39.7 million in DY4; reporting a 2.3% and 1.9% revenue growth respectively. Since TY2019, this also represents an average year-over-year revenue growth of 0.6%. Please refer to Table 3.1 through 3.7 in Attachment 4 for more details.

Gas (per therm) Price

- g. In TY2019, residential gas prices on average were \$0.7011 per therm. It went up to \$1.0076 (a 43.7% increase) in DY3. In DY4, it further went up to \$1.3767, registering a 96.4% increase relative to TY2019 levels. On a year-over-year basis, gas prices in the residential sector rose by an average 25.2% per year between TY2019 and DY4 (until August 31, 2022). See Table 4.1 through 4.7 in Attachment 4.
- h. The average gas price for the C&I sector stood at \$0.7078 in TY2019. By DY3, prices rose to an average \$0.7628 per therm, registering a 7.8% hike. Gas prices further rose to an average \$1.1025 per therm in DY4, representing a 55.8% increase relative to TY2019 levels. Overall, the average gas price rose by 15.9% per year between TY2019 and DY4. Please refer to Table 4.1 through 4.7 in Attachment 4 for more details.

UPC

- i. In terms of usage per customer (UPC), the residential customer reported an average use of 64.6 therms per month in TY2019. This reduced to 58.5 therms per month in DY3 and 57.7 therms per month in DY4; registering a 9.5% and 10.7% decline in UPC per month respectively. The corresponding UPC values for R-1 and R-5 classes (i.e., non-heating residential customers) are 17.5 therms and 24.8 therms in TY2019. The UPC values for R-1 increased to 18.3 therms and decreased to 23.7 therms for R-5 in DY3. In DY4, the UPC values for R-1 and R-5 both increased to 18.8 and 28.9 therms respectively.

In TY2019, the corresponding UPC values for R-3, R-4, R-6, and R-7 classes (i.e., heating residential customers) are 66.8, 64.9, 102.4 and 87.6 therms respectively. For both DY3 and DY4, the UPC values for the heating residential customer classes witnessed a decline compared to TY2019 values. It is important to note that the DY3 and DY4 UPC figures are inclusive of the observed customer growth that occurred between TY2019 and DY3 and DY4. Overall, the residential sector experienced an average 3.7% year-over-year decline in UPC since TY2019. See Table 5.1 through 5.7 in Attachment 4.

- j. Variations in the C&I sector are significant both across its fourteen separate rate classes²¹ as well as in terms of their variability across time (i.e., TY2019 versus DY3 and DY4). See Attachment 4 for a review of the observed variations. Overall, while the UPC for an average C&I customer was 749.3 therms per month in TY2019, it is 684.8 therms in DY3 and 675.7 therms in DY4, registering a decrease of 8.6% and 9.8% on an average-month basis. Overall, there has been a 3.4% year-on-year decline in UPC since TY2019 for the C&I sector. See Table 5.1 through 5.7 in Attachment 4.

4.6 Taken together, the observed variations would validate Liberty's current RDAF recovery requests 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 2 for an overview of the statistical models.

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

- a. Customer growth between TY2019 and DY3 and TY2019 and DY4 are statistically significant in terms of explaining Liberty's RDAF revenue recovery request in respective decoupling years. This implies that customer count in TY2019 is significantly different from that of the customer counts in DY3 and DY4, indicating that, from a statistical perspective, the customer growth is predominantly responsible for the requested RDAF recovery amounts.
- 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 (for both DY3 and DY4). This could imply potential cross-subsidization issues between the sectors that could be attributed to the current RPC structure.
- c. Overall, in DY3, estimates from the data indicate that a 1% increase in customer growth would lead to a 1.51% increase in RDAF revenue request (1.19% for residential and 1.83% for C&I). In terms of levels, the estimates show that one additional customer

²¹ That is, G-41, G-42, G-43, G-44, G-45, G-46, G-51, G-52, G-53, G-54, G-55, G-56, G-57, and G-58. G-43 and G-54 classes represent large customers. For example, UPC in G-43 class in TY2019 was 17,515.5 therms per month that declined to 15,290.9 therms per month in DY3 and 15,250.5 therms per month in DY4, a decline of 2,224.6 therms per month in DY3 and 2,265 per month in DY4, between the test year and the corresponding decoupling years.

added to the distribution system (i.e., the marginal customer) would increase the RDAF revenue request for all customers by \$1.47 per month (or \$17.38 annually). The corresponding figures vary across residential and C&I sectors. While the marginal customer in the residential sector raises RDAF revenues for all residential customers by \$17.03 annually, it is observed to be \$56.71 per year for C&I marginal customer. These estimates are all statistically significant (except for C&I)²² which is indicative of growth impact on the current RPC decoupling structure.

- d. In DY4, estimates from the data indicate that a 1% increase in customer growth would lead to a 1.34% increase in RDAF revenue request (1.12% for residential and 1.57% for C&I). In terms of levels, the estimates show that the marginal customer would cause the RDAF request for all customers to go up by \$2.45 per month (or \$29.41 annually). The corresponding figures vary across residential and C&I sectors. Whereas the marginal customer in the residential sector raises RDAF revenue request for all residential customers by \$28.89 annually, it is observed to be \$60.55 per year for C&I marginal customer. These estimates are all statistically significant (except for C&I)²³ which is indicative of growth impact on the current RPC decoupling structure.

4.9 A comparison of the usage difference between test year (TY) and decoupling year (DY) 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.

4.10 The price response to UPC variation can be measured through price elasticities. Overall, Liberty's gas sales appear be inelastic in nature for both DY3 and DY4. This is largely due to the inelasticity of the C&I sector, where some customers are significantly larger than the customers in other sectors. Residential customers generally exhibit higher price elasticity relative to their C&I counterparts.

4.11 The higher price elasticity of residential customers coupled with the observed hike in gas price per therm between TY2019 and DY3 and DY4 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 TY2019 and DY3, the residential UPC fell from 64.6 therms to 58.5 in DY3 and to 57.7 therm in DY4 on an average-month basis.

²² All observations are significant at least at 95% except for C&I, which is significant at 88%. See Attachment 4.

²³ All observations are significant at least at 95% except for C&I, which is significant at 92%. See Attachment 4.

5. DOE Observations

- 5.1 We first take a reminder that Liberty has a Revenue Per Customer (RPC) decoupling Structure, that was proposed as a Revenue Decoupling Mechanism (RDM) in [DG 17-048](#), and approved by the Commission in Order No. [26,122](#) (April 27, 2018).
- 5.2 The RDM was proposed to “fix a flaw in the traditional ratemaking methodology that does not allow utilities a reasonable opportunity to earn a reasonable return when customer usage is declining.”(emphasis added)²⁴ Additionally, the proposed RPC-based decoupling model was designed to “eliminate the link between volumetric sales and Company revenue in order to align the interests of the Company and customers with respect to changing customer usage”. See Liberty [Tariff 11](#), Original Tariff Page 35 Section 19, Sub-Section D (1) (emphasis added).
- 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 allowed revenues so that the Company has an opportunity of a reasonable recovery of its costs.
- 5.4 DOE observes that Liberty’s authorized revenue level from its last rate case was determined to be \$91,082,950.²⁵ This included an approved Return on Equity (ROE) of 9.3%, a permanent increase to its distribution revenue requirement of \$6,294,290, and an opportunity to recover capital expenditures placed in service in 2020 and 2021 via two step increases.²⁶ The resulting approved revenue levels for DY3 and DY4 is summarized in Table 6 below.

Table 6 : Revenue Impact of RPC Decoupling Structure				
		Rate Case S/A (DG 20-105)*	DY3	DY4
(A)	Approved/Authorized Revenues:	91,082,950	89,891,283**	91,082,950
(B)	Actual Revenue:		90,143,955	89,042,958
(B) - (A)	(Actual - Authorized):		252,672	(2,039,992)
(C)	RDAF Rev. Recovery Request:		2,426,364	3,085,628
(D) = (B) + (C)	Total Rev. (= Actual + RDAF):		92,570,319	92,128,586
(D) - (A)	Revenues above authorized level:		2,679,036	1,045,636

* This represents the final approved revenue level per Settlement Agreement in [DG 20-105](#) effective August 1, 2021.

** The figure is lower since temporary rates plus recoupment were in effect over October 1, 2020 to July 31, 2021 that overlapped the DY3 period.

- 5.5 Table 6 provides a summary of the impact of RPC decoupling structure on Liberty’s overall distribution revenues. DOE notes that while in DY3 Liberty’s actual revenues exceeded its

²⁴ See [DG 17-048](#), [Direct Testimony of Gregg H. Therrien](#); Bates 283, lines 6-8.

²⁵ See Exhibit 49, in [DG 20-105](#), Bates 005.

²⁶ See PUC Order No. [26,505](#) (July 30, 2021).

authorized level, in DY4 it fell short. However, with the Company's recovery of the requested decoupling (i.e., RDAF) revenues, total revenues will exceed authorized level of revenues in both DY3 and DY4 by \$2.7 million and \$1.05 million respectively.

**Table 7.1 : Marginal Costs by Rate Class (\$) from
[DG 20-105](#)²⁷**

Class	Customer-related	Capacity-related	Total
R-1	2,403,000	176,000	2,579,000
R-3, R-4	53,177,000	25,674,000	78,851,000
G-41	6,620,000	11,246,000	17,866,000
G-42	1,746,000	13,608,000	15,354,000
G-43	154,000	3,900,000	4,054,000
G-51	2,620,000	815,000	3,435,000
G-52	494,000	1,863,000	2,357,000
G-53	182,000	1,998,000	2,180,000
G-54	79,000	1,152,000	1,231,000
Total	67,475,000	60,432,000	127,907,000

Table 7.2 : Marginal Costs by Rate Class (%)

Class	Customer-related	Capacity-related	Total
R-1	1.9%	0.1%	2.0%
R-3, R-4	41.6%	20.1%	61.6%
G-41	5.2%	8.8%	14.0%
G-42	1.4%	10.6%	12.0%
G-43	0.1%	3.0%	3.2%
G-51	2.0%	0.6%	2.7%
G-52	0.4%	1.5%	1.8%
G-53	0.1%	1.6%	1.7%
G-54	0.1%	0.9%	1.0%
Total	52.8%	47.2%	100.0%

5.6 Table 7 above provide summary of Liberty's Marginal Cost Study (MCOSS) submitted in its last distribution rate case in Dkt. No. [DG 20-105](#). The tables show that about 52.8% of additional costs, incurred due to marginal customer i.e., the last customer added to the distribution network, relates to customer-related charges. The rest is incurred due to capacity-related costs.

5.7 In utility business model, the "Capacity-related" marginal costs (MCs) are generally lumpy, meaning that such costs are incurred in blocks/chunks. Also, due to the design-day capacity requirements, utilities generally carry excess capacity. That is, planned redundancy is a feature of the utility business model. The investments leading to these excess capacity-related costs are generally accounted and compensated for through their inclusion into the utility rate base. Furthermore, the utilities earn return on (via ROE) and return of (i.e., through the revenue requirement calculation) these capacity-related investments through the rate case proceedings.

5.8 Given this, the Department observes that the RPC or the *per customer* decoupling structure creates multiple misalignments:

- a. First, the class-level RPCs were developed in Liberty's last rate case, [DG 20-105](#). The development those RPCs made use of two factors: the exiting number of customers in TY2019, and the allowed revenue requirement figures that were derived using Liberty's

²⁷ See Dkt. No. [DG 20-105](#), [Direct Testimony of Matthew J. DeCoursey](#), Bates II-418, Line 3.

FCOSS and MCOSS.²⁸ Simply put, the RPC is the revenue requirement divided by the number of customers in existence in 2019.

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, assumes that all of those costs are instantly incurred with the addition of a marginal customer. 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.) This topic was highlighted in Liberty's MCOSS and FCOSS in Dkt. No [DG 20-105](#). See [Direct Testimony of Matthew J. DeCoursey](#) and [Direct Testimony of Kenneth A. Sosnick](#).

Liberty's class-level revenue requirements included the planned redundancies. As such, so long as the Company realizes its authorized revenue requirements, the Company is sufficiently compensated for its capacity-related costs. In the context of RPCs, therefore, any RDAF revenue beyond the approved²⁹ level of revenues would unduly harm the ratepayers unless the Company can verifiably demonstrate³⁰ that some capacity-related costs have not be compensated for.

- b. Second, the RPC structure does not put any cap on the level of revenue requirement that the Company can realize. This is the reason why Liberty effectively seeks more than the approved level of revenues. See Table 6 above.
- c. Third, when the marginal costs are lower than the average costs³¹, the use of RPC would over-compensate the Company and unduly harm the ratepayers.
- d. Fourth, the misalignment is further accentuated by periodic updates to RPCs through the approved step-adjustments. In other words, while the step-adjustments compensate the utility for their additional capital investments, it also carries the same assumption of average 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 approved revenue level.

²⁸ The Functional Cost of Service Study (FCOSS) and the Marginal Cost of Service Study (MCOSS). See [Direct Testimony of Kenneth A. Sosnick](#) and [Direct Testimony of Matthew J. DeCoursey](#) in Dkt. No. [DG 20-105](#).

²⁹ That is, the authorized level of revenues approved in Liberty's last rate case in [DG 20-105](#).

³⁰ Uncompensated capacity-related costs were not the focus of inquiry in the instant docket, Dkt. No. [DG 22-045](#).

³¹ Also known as "embedded costs".

- 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.

5.9 Based on the above and in the absence of demonstration of additional (and verifiable) costs incurred by Liberty to serve new customers, any amount beyond the approved revenue requirement would not be just, reasonable and in the public interest.

6. DOE Recommendation for DY3 and DY4

In light of the foregone analysis, the presented information, and given the circumstances, including Liberty's [Tariff 11](#), the limited scope of this docket, and adherence to the RPC's mathematical formula, the relief requested by the Company appears to be just and reasonable and in the public interest.

Accordingly, the Department reluctantly recommends that the Commission approve Liberty's RDAF request of \$3,813,298 (DY3 and DY4) to be recovered through 2023/24 COG Season as consistent with its [Tariff 11](#), and thus just and reasonable and in the public interest.

However, the Department's position should not be construed as waiving its regulatory obligation to raise and take a position in a future docket that the RDAF formula itself is not just, reasonable and in the public interest, or that the RDAF tariff clauses should be otherwise modified.

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Concord, N.H. 03301-2429
Work: 603-271-3670; Email: Ashraful.Alam@energy.nh.gov

SUMMARY

- **Education:** MA in Analytical Economics with specialization in Data Analytics, Macroeconomic Consulting, Behavioral Analysis, Policy Analysis and Strategic Planning.
- **Highlights of relevant professional experience:** Experience working as an Assistant Director at Bangladesh Rural Electrification Board; specialized in utility regulation, policy analysis and operational management. I managed regulatory activities, analyzed regulatory data, and derived actionable insights for performance improvement of the rural electric utilities.
 - Extensive experience in leveraging regulatory data to assess the financial condition and operational performance of the regulated rural electric utilities
 - Extensive experience in leading and supervising teams for evaluating the performance of the rate classes under given rate structure and providing recommendations for improvement
 - Experience in reviewing the regulatory activities in the rural utilities by performing collaborative monitoring, compliance audit, financial investigation and recommending necessary policy updates to the senior management
 - Significant experience in establishing Energy Regulatory Commission guidelines and providing detailed reports to the Ministry of Energy and Mineral Resources with actionable recommendations on program performance, operational management and policy issues
 - Experience in analyzing market conditions and industry trends, identifying existing strategy related issues, recommending appropriate rate structures and designing adaptive policies for process improvement
 - Extensive experience in establishing tariff compliance in the regulated rural utilities by regular collective supervision and designing strategic cost optimization plans for revenue enhancements
 - Demonstrated ability and extensive experience in establishing and maintaining continuous contact with external (e.g., other Government wings, international development partners, utility representatives, and the public) and internal officials/stakeholders (e.g., other units within and across the Departments/rural utilities)
- **Knowledge**
 - Knowledge of the mission, commitment, structure, and operations of the New Hampshire Department of Energy
 - Knowledge of the general jurisdiction and statutory and regulatory framework
 - Knowledge and experience in analyzing utility reports, analyzing market conditions and industry trends, resolving substantive industry issues related to utility service and regulatory policy
 - Extensive experience in preparing reports on performance of rate classes under given rate structure, developing performance improvement strategies, evaluating utility reports and tariff compliance

- **Linguistic profile:** Excellent oral and written communication skills in English
 - **Personal Traits:** Great management and analytical skills; self-motivated problem solver and able to adopt innovative approaches for efficient results; committed to continuous learning, and upholding integrity and respect; sound judgment, values and ethics
 - **Professional Goal:** Utilizing my Economics background with analytical skills and professional experience to effectively contribute towards maintaining stable regulatory practices, delivering strategic insights on energy-related proceedings and designing policies for a sustainable and affordable energy economy for the people of New Hampshire
-

EDUCATION

- MA, Analytical Economics, University of New Hampshire, Durham, N.H., 2023 (duration 2 years)
 - Specialization in Data Analytics, Econometrics, Macroeconomic Analysis & Consulting, Financial Modelling and Behavioral Analysis
 - MSS, Economics, University of Dhaka, Dhaka, Bangladesh, 2015 (duration 1 year)
 - BSS, Economics, University of Dhaka, Dhaka, Bangladesh, 2014 (duration 4 years)
-

EMPLOYMENT OVERVIEW

Utility Analyst

Gas Division; New Hampshire Department of Energy (NHDOE)

September 2023 – to-date

- Work on contents and cases associated with various gas dockets before the Department
- Represent Departmental positions on gas dockets before the NH Public Utilities Commission (NHPUC)
- Coordinate communications and work plan among the Department and the regulated utility companies in New Hampshire
- Review and analyze the gas related reports submitted by the regulated utility companies, consolidate the reports and utilize relevant information for regulatory analysis
- Develop analytical frameworks and formats for efficient analysis of company filings
- Assist Departmental Senior Management in performing regulatory and administrative functions

Assistant Director

Department of Financial Monitoring, Bangladesh Rural Electrification Board (BREB)

February 2019 – August 2021

- Supervised regulatory activities, analyzed data, and devised actionable activities driven by insights from data analytics
- Wrote reports on performance of rate classes under given rate structure, identification of performance improvement and performed the relevant policy analysis

- Analyzed market conditions and industry trends and recommended applicable rate structures and necessary service changes
- Administered Energy Regulatory Commission guidelines, evaluated utility reports and tariffs for compliance with rules, and settled industry issues
- Fostered collaborative working relationships with development partners, central and local officials, utility representatives and organized cross functional workshops with project stakeholders
- Explored consumer mixes and effectively established strategic cost optimization plans that boosted revenues
- Assessed the sectors eligible for subsidized electricity, accomplished ERP implementation and streamlined the Annual Performance Agreement plan
- Created research reports on resource and income planning approach to prioritize investment decisions

Officer

Southeast Bank Limited

September 2016 – January 2017

- Executed operations in General Banking, Credit and Foreign Exchange departments
- Managed Letter of Credit accounts and coordinated processes like advising and issuance
- Monitored and networked with potential and active clients for revenue enhancement opportunities
- Standardized customer experience, retained existing clients, and secured new ones

Attachment 2 : DOE Analytical Framework

Theoretical Framework:

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

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

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,

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

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,

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

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

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

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:

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

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

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

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

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

; 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:

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

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 3: Tables

Decoupling Year 3

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	1.472986	0.39579291	3.721609	0.000304	0.689277	2.256696	0.689277	2.256696

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	1.419263	0.43847081	3.236847	0.002644	0.52912	2.309406	0.52912	2.309406

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	4.7256	2.963873	1.5944	0.114648	-1.16942	10.62062	-1.16942	10.62062

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)	1.509951	0.059335	25.44773	5.79E-50	1.392461	1.627441	1.392461	1.627441

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)	1.191629	0.068489	17.39896	8.33E-19	1.05259	1.330668	1.05259	1.330668

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)	1.829391	0.075324	24.28694	1.79E-39	1.679575	1.979208	1.679575	1.979208

Model 3.1: Ln Model (Reg 3_all) - Regress Ln(Q_act) 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	13.5206	0.183544	73.66413	1.7E-100	13.15713	13.88407	13.15713	13.88407
Ln(p_act)	0.389587	0.535447	0.727592	0.468304	-0.67074	1.449917	-0.67074	1.449917

Model 3.2: Ln Model (Reg 3_RES) - Regress Ln(Q_act) 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	13.05339	0.314543	41.49949	1.03E-30	12.41416	13.69262	12.41416	13.69262
Ln(p_act)	3.517711	1.530292	2.298718	0.027794	0.407783	6.62764	0.407783	6.62764

Model 3.3: Ln Model (Reg 3_C&I) - Regress Ln(Q_act) 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	14.17051	0.183895	77.05776	2.82E-78	13.80469	14.53634	13.80469	14.53634
Ln(p_act)	1.39485	0.475204	2.935268	0.004322	0.449518	2.340181	0.449518	2.340181

Decoupling Year 4

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	2.451058	0.37793309	6.485428	2.11E-09	1.702713	3.199403	1.702713	3.199403

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	2.407386	0.39882921	6.036132	6.92E-07	1.59772	3.217052	1.59772	3.217052

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	5.0455	2.881542305	1.750972	0.083645	-0.68577	10.77677	-0.68577	10.77677

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)	1.345406	0.055943	24.04976	1.63E-47	1.234634	1.456178	1.234634	1.456178

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)	1.119433	0.023514	47.60696	2.07E-33	1.071697	1.167169	1.071697	1.167169

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)	1.574708	0.086866	18.12801	1.34E-30	1.401935	1.747481	1.401935	1.747481

Model 3.1: Ln Model (Reg 3_all) - Regress Ln(Q_act) 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	13.40221	0.121255	110.5294	5.4E-121	13.16209	13.64233	13.16209	13.64233
Ln(p_act)	0.072014	0.377052	0.190993	0.848859	-0.67465	0.81868	-0.67465	0.81868

Model 3.2: Ln Model (Reg 3_RES) - Regress Ln(Q_act) 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	12.53617	0.416669	30.08664	4.35E-26	11.6894	13.38295	11.6894	13.38295
Ln(p_act)	1.096913	1.195159	0.917796	0.365191	-1.33194	3.525768	-1.33194	3.525768

Model 3.3: Ln Model (Reg 3_C&I) - Regress Ln(Q_act) 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	13.66477	0.090185	151.5187	3.5E-102	13.48537	13.84418	13.48537	13.84418
Ln(p_act)	0.38344	0.291605	1.314931	0.192199	-0.19665	0.963535	-0.19665	0.963535

Table: 1.1

Customer Count (n - Equivalent Bills)			
	Test Year	DY3	DY4
Residential	82,909	85,151	85,674
C&I	12,605	12,913	12,993
Total	95,514	98,064	98,667

Table: 1.2

Customer Count : Y-o-Y Growth				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	2.7%	3.3%	3.0%	1.1%
C&I	2.4%	3.1%	2.8%	1.0%
Total	2.7%	3.3%	3.0%	1.1%

Table: 1.3

n0: Customer Count (Equivalent Bills) : Test Year 2019

Calendar													12 Month	% dist by rate
Month - Bills	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Average	classes
R-1	3,556	3,208	3,554	3,435	3,550	3,433	3,532	3,541	3,426	3,536	3,429	3,548	3,479	3.6%
R-3	74,568	67,504	74,858	72,371	74,609	72,049	74,381	74,383	72,235	75,025	72,971	76,009	73,414	76.9%
R-4	6,206	5,597	6,169	5,875	5,955	5,680	5,709	5,570	5,309	5,662	5,879	5,874	5,791	6.1%
R-5	37	43	47	53	55	63	66	60	67	67	70	70	58	0.1%
R-6	86	94	100	125	146	180	191	178	202	212	233	237	165	0.2%
R-7	1	1	1	2	3	3	3	3	3	3	3	3	2	0.0%
Total	84,454	76,448	84,729	81,860	84,318	81,407	83,883	83,735	81,244	84,505	82,585	85,741	82,909	86.8%
Residential														
G-41	9,722	8,810	9,759	9,395	9,534	9,045	9,208	9,146	8,865	9,410	9,417	9,843	9,346	9.8%
G-42	1,438	1,300	1,439	1,383	1,423	1,371	1,437	1,451	1,402	1,461	1,428	1,477	1,418	1.5%
G-43	60	53	58	54	55	52	53	49	48	50	48	53	53	0.1%
G-44	1	2	2	2	2	2	2	3	3	4	4	4	3	0.0%
G-45	4	4	4	4	4	4	4	6	7	7	7	7	5	0.0%
G-46	0	1	2	3	4	5	6	7	8	9	10	11	6	0.0%
G-51	1,339	1,208	1,338	1,291	1,327	1,284	1,342	1,354	1,303	1,350	1,308	1,347	1,316	1.4%
G-52	390	352	392	381	397	385	401	406	392	409	401	417	394	0.4%
G-53	37	34	35	34	36	35	34	33	33	34	33	34	34	0.0%
G-54	28	26	29	27	28	27	27	26	25	26	25	27	27	0.0%
G-55	3	3	3	3	3	3	3	3	3	3	3	3	3	0.0%
G-56	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
G-57	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
G-58	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0%
Total C&I	13,024	11,794	13,063	12,579	12,815	12,214	12,519	12,485	12,091	12,764	12,685	13,223	12,605	13.2%
Total	97,478	88,242	97,791	94,439	97,133	93,621	96,402	96,220	93,334	97,269	95,270	98,964	95,514	100.0%
% dist by calendar months	102.1%	92.4%	102.4%	98.9%	101.7%	98.0%	100.9%	100.7%	97.7%	101.8%	99.7%	103.6%	100.0%	

Table: 1.4

n1: Customer Count (Equivalent Bills) : Decoupling Year 3 (DY3 - Sept 2020 to Aug 2021)

Calendar Month - Equivalent Bills	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average	% dist by rate classes
R-1	3,598	3,247	3,592	3,472	3,577	3,447	3,561	3,552	3,484	3,598	3,482	3,594	3,517	3.6%
R-3	77,723	70,149	77,695	75,123	77,468	74,760	77,283	77,270	74,320	77,198	74,882	77,559	75,952	77.5%
R-4	5,358	4,992	5,564	5,374	5,517	5,330	5,468	5,403	4,949	5,031	4,989	5,313	5,274	5.4%
R-5	79	71	79	76	79	76	79	78	75	78	75	77	77	0.1%
R-6	332	301	333	323	335	325	336	336	313	325	316	329	325	0.3%
R-7	7	7	7	6	6	5	4	4	6	7	7	7	6	0.0%
Total Residential	87,096	78,766	87,269	84,373	86,980	83,943	86,731	86,643	83,147	86,236	83,751	86,879	85,151	86.8%
G-41	9,973	9,041	10,017	9,636	9,791	9,329	9,564	9,530	9,167	9,594	9,490	9,929	9,588	9.8%
G-42	1,490	1,346	1,493	1,443	1,488	1,439	1,482	1,481	1,428	1,479	1,438	1,490	1,458	1.5%
G-43	65	59	65	63	65	62	64	64	62	65	63	65	64	0.1%
G-44	16	15	17	16	17	16	16	17	6	9	10	14	14	0.0%
G-45	8	7	8	8	8	8	8	8	7	7	7	8	8	0.0%
G-46														0.0%
G-51	1,324	1,197	1,327	1,284	1,325	1,281	1,327	1,328	1,284	1,328	1,284	1,325	1,301	1.3%
G-52	421	381	422	408	421	406	417	418	403	417	405	419	411	0.4%
G-53	36	33	35	34	36	34	34	34	35	36	35	36	35	0.0%
G-54	27	23	28	27	28	27	28	27	27	28	26	28	27	0.0%
G-55	4	4	4	4	4	4	4	4	3	3	3	3	4	0.0%
G-56	0	0	0	1	1	1	1	1	0	0	0	0	0	0.0%
G-57														0.0%
G-58	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0%
INAT	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0%
Total C&I	13,365	12,106	13,417	12,925	13,186	12,608	12,948	12,913	12,423	12,968	12,762	13,318	12,913	13.2%
Total	100,462	90,872	100,687	97,298	100,166	96,551	99,679	99,556	95,570	99,204	96,513	100,197	98,064	100.0%
% dist by calendar months	102.4%	92.7%	102.7%	99.2%	102.1%	98.5%	101.6%	101.5%	97.5%	101.2%	98.4%	102.2%	100.0%	

Table: 1.5

Customer Count (Equivalent Bills) : % Change relative to TY2019 ((n1 - n0) / n0)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-1	1.2%	1.2%	1.1%	1.1%	0.8%	0.4%	0.8%	0.3%	1.7%	1.7%	1.5%	1.3%	1.1%
R-3	4.2%	3.9%	3.8%	3.8%	3.8%	3.8%	3.9%	3.9%	2.9%	2.9%	2.6%	2.0%	3.5%
R-4	-13.7%	-10.8%	-9.8%	-8.5%	-7.4%	-6.2%	-4.2%	-3.0%	-6.8%	-11.1%	-15.1%	-9.6%	-8.9%
R-5	112.2%	65.0%	67.1%	43.4%	42.8%	20.6%	19.0%	29.7%	11.9%	15.8%	7.2%	10.7%	32.2%
R-6	285.9%	219.8%	232.6%	158.1%	129.3%	80.8%	76.1%	88.7%	54.8%	53.2%	35.8%	38.8%	97.1%
R-7	623.4%	553.3%	616.5%	200.0%	87.7%	53.4%	37.8%	37.8%	100.0%	125.5%	133.4%	141.1%	201.8%
Total Residential	3.1%	3.0%	3.0%	3.1%	3.2%	3.1%	3.4%	3.5%	2.3%	2.0%	1.4%	1.3%	2.7%
G-41	2.6%	2.6%	2.6%	2.6%	2.7%	3.1%	3.9%	4.2%	3.4%	2.0%	0.8%	0.9%	2.6%
G-42	3.6%	3.5%	3.8%	4.4%	4.6%	5.0%	3.1%	2.1%	1.8%	1.3%	0.7%	0.9%	2.8%
G-43	8.6%	10.9%	12.2%	16.8%	18.4%	19.9%	20.9%	30.5%	29.4%	29.5%	31.3%	22.8%	19.9%
G-44	1453.3%	646.7%	726.7%	700.0%	726.7%	700.0%	723.3%	451.1%	114.4%	132.5%	156.7%	261.7%	369.4%
G-45	106.7%	86.7%	106.7%	100.0%	106.7%	100.0%	106.7%	37.8%	0.0%	3.3%	0.0%	8.1%	56.0%
G-46													
G-51	-1.1%	-0.9%	-0.8%	-0.5%	-0.1%	-0.2%	-1.1%	-1.9%	-1.5%	-1.6%	-1.8%	-1.6%	-1.1%
G-52	8.0%	8.1%	7.6%	7.1%	6.1%	5.4%	4.0%	3.0%	2.9%	2.0%	0.9%	0.5%	4.4%
G-53	-2.3%	-3.9%	0.4%	0.0%	0.5%	-2.9%	0.3%	3.3%	6.1%	6.4%	6.1%	6.4%	2.6%
G-54	-4.0%	-12.5%	-3.7%	0.1%	-0.5%	0.0%	3.3%	4.1%	8.0%	7.3%	4.0%	3.3%	-0.2%
G-55	26.7%	24.4%	37.8%	33.3%	37.8%	33.3%	37.8%	37.8%	0.0%	3.3%	0.0%	3.3%	23.0%
G-56													
G-57													
G-58	3.3%	-6.7%	3.3%	0.0%	3.3%	0.0%	3.3%	3.3%	0.0%	3.3%	0.0%	3.3%	1.4%
INAT													
Total C&I	2.6%	2.6%	2.7%	2.8%	2.9%	3.2%	3.4%	3.4%	2.7%	1.6%	0.6%	0.7%	2.4%
Total	3.1%	3.0%	3.0%	3.0%	3.1%	3.1%	3.4%	3.5%	2.4%	2.0%	1.3%	1.2%	2.7%

Table: 1.6

n1: Customer Count (Equivalent Bills) : Decoupling Year 4 (DY4 - Sept 2021 to Aug 2022)

Calendar Month - Equivalent Bills	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Average	% dist by rate classes
R-1	3,543	3,191	3,520	3,389	3,496	3,377	3,476	3,462	3,435	3,550	3,438	3,555	3,453	3.5%
R-3	77,422	69,953	77,458	74,848	77,171	74,527	76,882	76,892	74,621	76,997	74,611	77,333	75,726	76.7%
R-4	6,292	5,744	6,367	6,217	6,473	6,204	6,304	6,125	5,391	5,800	5,876	6,210	6,084	6.2%
R-5	79	71	79	76	79	76	79	78	76	79	76	79	77	0.1%
R-6	335	303	335	324	335	322	333	327	323	335	327	336	328	0.3%
R-7	7	7	7	7	7	7	7	7	4	5	5	6	6	0.0%
Total Residential	87,679	79,269	87,766	84,862	87,562	84,513	87,080	86,892	83,851	86,765	84,333	87,518	85,674	86.8%
G-41	10,067	9,118	10,096	9,714	9,896	9,416	9,621	9,523	9,211	9,655	9,575	10,019	9,659	9.8%
G-42	1,505	1,363	1,512	1,463	1,504	1,450	1,497	1,495	1,433	1,485	1,443	1,501	1,471	1.5%
G-43	66	60	66	64	65	63	65	65	60	63	62	66	64	0.1%
G-44	17	15	17	16	17	16	17	14	16	16	15	16	16	0.0%
G-45	8	7	8	8	8	8	8	7	8	8	8	8	8	0.0%
G-46														0.0%
G-51	1,324	1,198	1,327	1,285	1,326	1,282	1,324	1,319	1,283	1,327	1,283	1,325	1,300	1.3%
G-52	419	380	421	405	420	407	421	420	403	416	403	419	411	0.4%
G-53	32	30	33	32	32	30	31	31	33	35	33	34	32	0.0%
G-54	24	23	26	26	26	25	26	24	26	25	23	23	25	0.0%
G-55	4	4	4	4	4	4	4	3	4	4	4	4	4	0.0%
G-56	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0%
G-57														0.0%
G-58	1	1	1	1	1	1	1	1	1	1	1	1	1	0.0%
INAT	1	1	1	1	1	1	1	0	1	1	1	1	1	0.0%
Total C&I	13,469	12,199	13,512	13,019	13,299	12,702	13,016	12,903	12,481	13,038	12,852	13,415	12,993	13.2%
Total	101,147	91,467	101,279	97,881	100,861	97,216	100,096	99,794	96,332	99,803	97,185	100,934	98,667	100.0%
% dist by calendar months	102.5%	92.7%	102.6%	99.2%	102.2%	98.5%	101.4%	101.1%	97.6%	101.2%	98.5%	102.3%	100.0%	

Table: 1.7

Customer Count (Equivalent Bills) : % Change relative to TY2019 ((n1 - n0) / n0)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Average
R-1	-0.4%	-0.5%	-1.0%	-1.3%	-1.5%	-1.6%	-1.6%	-2.2%	0.3%	0.4%	0.3%	0.2%	-0.8%
R-3	3.8%	3.6%	3.5%	3.4%	3.4%	3.4%	3.4%	3.4%	3.3%	2.6%	2.2%	1.7%	3.1%
R-4	1.4%	2.6%	3.2%	5.8%	8.7%	9.2%	10.4%	10.0%	1.6%	2.4%	0.0%	5.7%	5.1%
R-5	112.3%	65.0%	67.1%	43.4%	42.8%	20.6%	19.0%	30.1%	13.3%	17.2%	8.5%	12.2%	32.8%
R-6	289.7%	222.7%	235.3%	159.6%	129.3%	78.9%	74.2%	84.0%	59.9%	57.9%	40.3%	41.6%	98.8%
R-7	623.5%	553.6%	623.5%	250.0%	141.1%	133.3%	141.1%	135.6%	43.3%	72.2%	66.7%	110.0%	222.1%
Total Residential	3.8%	3.7%	3.6%	3.7%	3.8%	3.8%	3.8%	3.8%	3.2%	2.7%	2.1%	2.1%	3.3%
G-41	3.6%	3.5%	3.5%	3.4%	3.8%	4.1%	4.5%	4.1%	3.9%	2.6%	1.7%	1.8%	3.4%
G-42	4.7%	4.8%	5.1%	5.8%	5.7%	5.8%	4.2%	3.0%	2.2%	1.7%	1.1%	1.6%	3.7%
G-43	10.2%	12.7%	14.0%	18.5%	18.7%	21.3%	22.8%	32.4%	26.0%	26.1%	29.2%	23.8%	20.4%
G-44	1553.3%	646.6%	726.6%	700.0%	726.7%	700.0%	726.7%	367.8%	433.3%	298.3%	275.0%	293.3%	427.1%
G-45	106.7%	86.7%	106.7%	100.0%	106.7%	100.0%	106.7%	15.6%	14.3%	18.1%	14.3%	18.1%	60.0%
G-46													
G-51	-1.1%	-0.9%	-0.8%	-0.5%	-0.1%	-0.2%	-1.4%	-2.6%	-1.5%	-1.7%	-1.9%	-1.7%	-1.2%
G-52	7.5%	7.9%	7.4%	6.4%	5.8%	5.6%	4.9%	3.6%	2.9%	1.8%	0.6%	0.4%	4.4%
G-53	-13.4%	-12.2%	-5.5%	-5.9%	-11.0%	-14.4%	-8.8%	-6.9%	0.0%	3.3%	0.0%	-1.2%	-5.5%
G-54	-15.0%	-10.2%	-9.3%	-3.7%	-7.7%	-7.4%	-4.3%	-8.6%	4.0%	-4.6%	-8.0%	-15.8%	-8.5%
G-55	37.8%	24.4%	37.8%	33.3%	37.8%	33.3%	37.8%	15.6%	33.3%	37.8%	33.3%	37.8%	33.3%
G-56													
G-57													
G-58	3.3%	-6.7%	3.3%	0.0%	3.3%	0.0%	3.3%	3.3%	0.0%	3.3%	0.0%	3.3%	1.4%
INAT													
Total C&I	3.4%	3.4%	3.4%	3.5%	3.8%	4.0%	4.0%	3.3%	3.2%	2.1%	1.3%	1.5%	3.1%
Total	3.8%	3.7%	3.6%	3.6%	3.8%	3.8%	3.8%	3.7%	3.2%	2.6%	2.0%	2.0%	3.3%

Table: 2.1

Sales (Therm)			
	Test Year	DY3	DY4
Residential	64,132,575	59,485,775	59,088,893
C&I	113,906,893	106,307,619	105,709,196
Total	178,039,468	165,793,394	164,798,089

Table: 2.2

Sales : Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	-7.2%	-7.9%	-7.6%	-2.7%
C&I	-6.7%	-7.2%	-6.9%	-2.5%
Total	-6.9%	-7.4%	-7.2%	-2.5%

Table: 2.3

Q0: Consumption (Therms) : Test Year 2019

Calendar Month - Therms	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	12 Month Total	% dist by rate classes
R-1	98,270	82,477	81,173	62,569	51,406	39,204	32,708	33,562	36,196	47,312	74,356	90,773	730,007	0.4%
R-3	11,047,615	9,168,849	7,837,906	4,355,776	2,468,802	1,285,524	995,157	1,013,378	1,276,765	2,884,173	7,047,568	9,245,832	58,627,344	32.9%
R-4	885,912	727,579	628,272	349,015	195,398	104,607	78,949	78,217	93,638	212,528	547,644	690,935	4,592,696	2.6%
R-5	2,418	2,166	1,977	1,255	802	477	411	401	537	1,006	1,789	2,314	15,553	0.0%
R-6	24,771	22,729	20,328	12,107	7,073	3,298	2,618	2,697	3,953	10,649	23,344	31,643	165,208	0.1%
R-7	236	219	205	132	74	29	23	21	31	116	286	395	1,767	0.0%
Total Residential	12,059,223	10,004,020	8,569,861	4,780,853	2,723,555	1,433,138	1,109,867	1,128,276	1,411,120	3,155,784	7,694,988	10,061,892	64,132,575	36.0%
G-41	5,171,612	4,279,458	3,531,133	1,765,781	864,883	351,762	235,341	241,313	352,412	1,015,786	3,004,170	4,153,306	24,966,957	14.0%
G-42	6,530,418	5,475,772	4,725,518	2,672,542	1,482,039	693,556	501,810	534,815	768,009	1,758,714	4,271,746	5,595,225	35,010,164	19.7%
G-43	1,905,835	1,561,041	1,434,525	899,966	603,914	340,002	280,487	298,376	341,006	635,398	1,308,963	1,674,106	11,283,618	6.3%
G-44	835	771	571	277	153	72	63	78	170	1,122	2,450	3,539	10,101	0.0%
G-45	17,066	15,009	11,928	6,338	5,143	985	423	1,270	5,105	13,408	24,517	32,298	133,489	0.1%
G-46	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
G-51	513,365	436,895	422,665	331,851	298,122	249,134	231,853	258,476	254,156	285,859	390,874	456,217	4,129,466	2.3%
G-52	1,167,695	988,029	975,249	771,679	657,758	552,333	541,766	581,009	589,257	702,220	958,011	1,079,925	9,564,929	5.4%
G-53	1,337,134	1,065,891	1,038,207	826,277	776,434	663,509	663,090	697,644	647,913	782,805	956,209	1,067,796	10,522,907	5.9%
G-54	1,327,434	1,206,315	1,185,882	1,309,095	1,639,560	1,668,852	1,770,028	1,766,454	1,625,766	1,665,368	1,544,839	1,293,390	18,002,982	10.1%
G-55	621	577	504	263	172	58	12	57	59	157	421	625	3,525	0.0%
G-56	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
G-57	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
G-58	19,016	33,980	31,595	29,380	21,467	17,183	16,968	16,982	20,073	22,561	23,451	26,099	278,754	0.2%
Total C&I	17,991,031	15,063,736	13,357,776	8,613,449	6,349,644	4,537,445	4,241,840	4,396,473	4,603,926	6,883,398	12,485,650	15,382,524	113,906,893	64.0%
Total	30,050,254	25,067,756	21,927,637	13,394,303	9,073,199	5,970,583	5,351,707	5,524,748	6,015,045	10,039,183	20,180,637	25,444,416	178,039,468	100.0%
% dist by calendar months	16.9%	14.1%	12.3%	7.5%	5.1%	3.4%	3.0%	3.1%	3.4%	5.6%	11.3%	14.3%	100.0%	

Table: 2.4

Q1: Consumption (Therms) : Decoupling Year 3 (DY3 - Sept 2020 to Aug 2021)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sept-20	Oct-20	Nov-20	Dec-20	12 Month Total	% dist by rate classes
R-1	106,038	98,628	88,143	64,614	49,739	36,826	34,604	33,063	38,864	53,644	73,200	94,325	771,689	0.5%
R-3	10,033,102	9,309,193	7,153,789	4,055,845	2,240,563	1,262,620	1,088,526	1,035,490	1,415,387	3,090,912	5,610,922	8,495,802	54,792,151	33.0%
R-4	659,679	632,307	499,458	290,164	161,898	90,295	79,001	74,057	94,045	192,942	356,623	553,938	3,684,407	2.2%
R-5	3,654	3,488	2,934	1,750	1,125	685	576	572	643	1,188	2,038	3,007	21,662	0.0%
R-6	39,151	36,925	28,806	15,439	8,572	4,582	3,762	3,701	5,210	11,472	22,068	32,890	212,577	0.1%
R-7	643	596	458	209	115	49	40	38	61	169	368	543	3,288	0.0%
Total Residential	10,842,268	10,081,138	7,773,587	4,428,021	2,462,012	1,395,058	1,206,509	1,146,922	1,554,210	3,350,327	6,065,219	9,180,505	59,485,775	35.9%
G-41	4,507,642	4,270,231	3,099,248	1,579,915	719,701	321,796	258,826	244,235	384,849	1,089,175	2,276,636	3,740,290	22,492,541	13.6%
G-42	5,889,533	5,518,291	4,304,293	2,467,512	1,254,698	609,544	534,991	518,008	769,800	1,878,448	3,349,690	5,019,371	32,114,180	19.4%
G-43	1,892,522	1,763,271	1,437,016	957,654	579,742	340,660	339,662	319,948	408,556	784,167	1,162,651	1,651,335	11,637,183	7.0%
G-44	5,673	6,083	4,120	1,987	614	74	26	17	181	738	2,588	4,455	26,556	0.0%
G-45	45,940	43,938	34,267	19,693	8,988	3,627	1,946	1,435	6,005	13,810	26,645	37,352	243,646	0.1%
G-46														0.0%
G-51	452,286	423,944	394,308	315,849	280,455	252,251	254,963	254,516	235,461	305,999	333,986	411,520	3915541	2.4%
G-52	996,991	928,392	853,739	685,388	586,697	513,036	531,833	521,994	536,928	658,931	754,768	907,694	8,476,391	5.1%
G-53	1,120,982	1,019,762	967,570	811,127	715,256	600,638	593,269	653,504	684,897	806,448	858,826	966,138	9,798,418	5.9%
G-54	1,257,289	1,027,189	1,224,368	1,431,694	1,558,831	1,558,254	1,577,526	1,715,665	1,657,986	1,607,082	1,543,517	1,197,953	17,357,354	10.5%
G-55	798	742	698	560	487	423	373	380	221	279	403	528	5,891	0.0%
G-56	0	0	0	336	814	761	718	729	0	0	0	0	3,358	0.0%
G-57														0.0%
G-58	20,284	21,393	22,684	17,060	15,629	17,785	15,234	19,069	17,788	22,135	19,186	21,921	230168	0.1%
INAT	447	790	735	680	443	669	257	598	319	556	681	217	6392	0.0%
Total C&I	16,189,941	15,023,237	12,342,311	8,288,776	5,721,911	4,218,848	4,109,367	4,249,501	4,702,671	7,167,213	10,328,895	13,958,558	106,307,619	64.1%
Total	27,032,209	25,104,375	20,115,898	12,716,797	8,183,923	5,613,906	5,315,876	5,396,422	6,256,881	10,517,540	16,394,113	23,139,062	165,793,394	100.0%
% dist by calendar months	16.3%	15.1%	12.1%	7.7%	4.9%	3.4%	3.2%	3.3%	3.8%	6.3%	9.9%	14.0%	100.0%	

Table: 2.5

Consumption (Therms) : % Change relative to TY2019 ((Q1 - Q0) / Q0)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sept-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-1	8%	20%	9%	3%	-3%	-6%	6%	-1%	7%	13%	-2%	4%	6%
R-3	-9%	2%	-9%	-7%	-9%	-2%	9%	2%	11%	7%	-20%	-8%	-7%
R-4	-26%	-13%	-21%	-17%	-17%	-14%	0%	-5%	0%	-9%	-35%	-20%	-20%
R-5	51%	61%	48%	39%	40%	44%	40%	43%	20%	18%	14%	30%	39%
R-6	58%	62%	42%	28%	21%	39%	44%	37%	32%	8%	-5%	4%	29%
R-7	173%	172%	123%	58%	56%	70%	72%	81%	96%	45%	29%	37%	86%
Total Residential	-10%	1%	-9%	-7%	-10%	-3%	9%	2%	10%	6%	-21%	-9%	-7.2%
G-41	-13%	0%	-12%	-11%	-17%	-9%	10%	1%	9%	7%	-24%	-10%	-10%
G-42	-10%	1%	-9%	-8%	-15%	-12%	7%	-3%	0%	7%	-22%	-10%	-8%
G-43	-1%	13%	0%	6%	-4%	0%	21%	7%	20%	23%	-11%	-1%	3%
G-44	579%	689%	622%	617%	301%	3%	-59%	-78%	6%	-34%	6%	26%	163%
G-45	169%	193%	187%	211%	75%	268%	360%	13%	18%	3%	9%	16%	83%
G-46													
G-51	-12%	-3%	-7%	-5%	-6%	1%	10%	-2%	-7%	7%	-15%	-10%	-5%
G-52	-15%	-6%	-12%	-11%	-11%	-7%	-2%	-10%	-9%	-6%	-21%	-16%	-11%
G-53	-16%	-4%	-7%	-2%	-8%	-9%	-11%	-6%	6%	3%	-10%	-10%	-7%
G-54	-5%	-15%	3%	9%	-5%	-7%	-11%	-3%	2%	-3%	0%	-7%	-4%
G-55	29%	29%	38%	113%	183%	629%	3008%	567%	274%	78%	-4%	-16%	67%
G-56													
G-57													
G-58	7%	-37%	-28%	-42%	-27%	4%	-10%	12%	-11%	-2%	-18%	-16%	-17%
INAT													
Total C&I	-10%	0%	-8%	-4%	-10%	-7%	-3%	-3%	2%	4%	-17%	-9%	-6.7%
Total	-10%	0%	-8%	-5%	-10%	-6%	-1%	-2%	4%	5%	-19%	-9%	-6.9%

Table: 2.6

Q1: Consumption (Therms) : Decoupling Year 4 (DY4 - Sept 2021 to Aug 2022)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Total	% dist by rate classes
R-1	119,554	100,275	89,735	66,407	48,276	35,993	31,080	29,118	34,672	48,919	75,046	98,980	98,980	0.5%
R-3	10,894,066	8,888,230	7,019,713	4,245,812	2,138,635	1,156,397	980,432	925,087	1,141,319	2,473,992	5,664,197	8,310,737	53,838,616	32.7%
R-4	844,811	697,718	566,998	352,288	181,179	98,451	81,891	76,287	85,003	182,608	426,164	632,177	4,225,573	2.6%
R-5	4,881	4,134	3,383	2,188	1,162	656	589	581	685	1,436	2,851	4,026	26,574	0.0%
R-6	43,277	36,234	28,790	17,393	8,617	4,346	3,847	3,655	4,122	9,798	22,626	34,346	217,050	0.1%
R-7	675	563	425	247	136	70	64	58	41	90	214	441	3025	0.0%
Total Residential	11,907,264	9,727,155	7,709,043	4,684,334	2,378,005	1,295,913	1,097,904	1,034,787	1,265,842	2,716,843	6,191,097	9,080,706	59,088,893	35.9%
G-41	5,154,732	4,158,609	3,139,630	1,744,138	741,905	318,223	247,186	229,979	309,994	855,152	2,341,709	3,740,214	22,981,473	13.9%
G-42	6,681,341	5,368,934	4,317,380	2,649,733	1,277,006	606,691	488,362	489,581	665,397	1,547,407	3,382,887	4,996,493	32,471,212	19.7%
G-43	2,109,080	1,734,440	1,513,325	1,038,773	586,777	343,932	288,427	306,943	377,168	634,574	1,204,509	1,551,660	11,689,608	7.1%
G-44	7,280	6,006	4,774	2,509	1,096	387	354	290	51	733	3,246	5,813	32,539	0.0%
G-45	54,356	45,430	38,166	21,065	8,210	1,766	1,097	835	2,886	11,798	29,737	43,707	259,055	0.2%
G-46														0.0%
G-51	498,194	429,038	395,722	318,286	281,281	246,933	239,096	222,338	247,444	289,884	341,912	416,147	3,926,275	2.4%
G-52	1,085,255	930,075	876,388	703,029	609,387	528,965	505,395	507,382	533,156	630,568	770,689	919,108	8,599,399	5.2%
G-53	1,106,719	980,977	956,489	762,901	659,526	634,052	573,053	594,905	676,274	809,240	908,631	971,119	9,633,888	5.8%
G-54	1,148,525	1,082,315	1,271,806	1,461,249	1,320,584	1,198,962	1,273,837	1,322,408	1,688,519	1,406,723	1,406,712	1,224,611	15,806,252	9.6%
G-55	979	804	785	683	488	382	338	327	436	588	639	798	7,247	0.0%
G-56	1,777	1,491	1,219	960	848	770	775	647	713	782	1,002	1,313	12,297	0.0%
G-57														0.0%
G-58	31,014	25,394	26,053	22,326	22,982	23,177	20,877	21,374	20,159	19,604	24,951	24,935	282,846	0.2%
INAT	479	466	568	813	834	916	761	0	587	453	681	548	7,106	0.0%
Total C&I	17,879,254	14,763,513	12,541,737	8,725,653	5,510,090	3,904,241	3,638,798	3,697,011	4,522,196	6,207,054	10,416,625	13,895,918	105,709,196	64.1%
Total	29,786,517	24,490,668	20,250,780	13,409,987	7,888,096	5,200,155	4,736,702	4,731,798	5,788,038	8,923,897	16,607,722	22,976,625	164,798,089	100.0%
% dist by calendar months	18.1%	14.9%	12.3%	8.1%	4.8%	3.2%	2.9%	2.9%	3.5%	5.4%	10.1%	13.9%	100.0%	

Table: 2.7

Consumption (Therms) : % Change relative to TY2019 ((Q1 - Q0) / Q0)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Average
R-1	22%	22%	11%	6%	-6%	-8%	-5%	-13%	-4%	3%	1%	9%	7%
R-3	-1%	-3%	-10%	-3%	-13%	-10%	-1%	-9%	-11%	-14%	-20%	-10%	-8%
R-4	-5%	-4%	-10%	1%	-7%	-6%	4%	-2%	-9%	-14%	-22%	-9%	-8%
R-5	102%	91%	71%	74%	45%	38%	43%	45%	28%	43%	59%	74%	71%
R-6	75%	59%	42%	44%	22%	32%	47%	36%	4%	-8%	-3%	9%	31%
R-7	186%	157%	107%	87%	84%	142%	179%	175%	32%	-22%	-25%	12%	71%
Total Residential	-1%	-3%	-10%	-2%	-13%	-10%	-1%	-8%	-10%	-14%	-20%	-10%	-7.9%
G-41	0%	-3%	-11%	-1%	-14%	-10%	5%	-5%	-12%	-16%	-22%	-10%	-8%
G-42	2%	-2%	-9%	-1%	-14%	-13%	-3%	-8%	-13%	-12%	-21%	-11%	-7%
G-43	11%	11%	5%	15%	-3%	1%	3%	3%	11%	0%	-8%	-7%	4%
G-44	772%	679%	736%	806%	616%	438%	462%	272%	-70%	-35%	33%	64%	222%
G-45	219%	203%	220%	232%	60%	79%	159%	-34%	-43%	-12%	21%	35%	94%
G-46													
G-51	-3%	-2%	-6%	-4%	-6%	-1%	3%	-14%	-3%	1%	-13%	-9%	-5%
G-52	-7%	-6%	-10%	-9%	-7%	-4%	-7%	-13%	-10%	-10%	-20%	-15%	-10%
G-53	-17%	-8%	-8%	-8%	-15%	-4%	-14%	-15%	4%	3%	-5%	-9%	-8%
G-54	-13%	-10%	7%	12%	-19%	-28%	-28%	-25%	4%	-16%	-9%	-5%	-12%
G-55	58%	39%	56%	160%	184%	559%	2719%	473%	639%	274%	52%	28%	106%
G-56													
G-57													
G-58	63%	-25%	-18%	-24%	7%	35%	23%	26%	0%	-13%	6%	-4%	1%
INAT													
Total C&I	-1%	-2%	-6%	1%	-13%	-14%	-14%	-16%	-2%	-10%	-17%	-10%	-7.2%
Total	-1%	-2%	-8%	0%	-13%	-13%	-11%	-14%	-4%	-11%	-18%	-10%	-7.4%

Table: 3.1

Revenue without RDAF (\$)				
	Test Year	Rate Case S/A (DG 20-105)	DY3	DY4
Residential	48,161,903	50,380,528	50,346,404	49,382,370
C&I	38,909,995	40,702,422	39,797,551	39,660,589
Total	87,071,898	91,082,950	90,143,955	89,042,958

Table: 3.2

Sales : Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	4.5%	2.5%	3.5%	0.8%
C&I	2.3%	1.9%	2.1%	0.6%
Total	3.5%	2.3%	2.9%	0.7%

Table: 3.3

R0: Revenue (\$) : Test Year 2019

Calendar Month - Revenue	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	12 Month Total	% dist by rate classes
R-1	90,773	80,487	84,912	76,520	73,434	67,029	66,076	66,535	65,795	71,674	77,608	88,362	909,206	1.0%
R-3	7,177,583	6,240,178	5,533,508	3,620,531	2,509,090	1,811,213	1,684,968	1,695,145	1,809,174	2,746,731	4,493,734	6,316,317	45,638,172	52.4%
R-4	231,668	199,524	178,463	116,481	79,756	57,853	52,319	51,309	53,157	81,790	141,183	190,009	1,433,511	1.6%
R-5	1925	1919	1904	1670	1481	1488	1509	1388	1593	1812	2272	2521	21481	0.0%
R-6	19635	18321	16695	11231	8000	5936	5676	5471	6855	11890	21498	27584	158791	0.2%
R-7	77	72	67	53	45	33	31	28	33	57	107	138	742	0.0%
Total	7,521,660	6,540,502	5,815,550	3,826,485	2,671,807	1,943,551	1,810,579	1,819,877	1,936,606	2,913,953	4,736,401	6,624,931	48,161,903	55.3%
Residential														
G-41	2,264,401	1,973,915	1,777,690	1,188,393	835,359	630,220	600,531	599,223	620,369	877,370	1,437,750	1,982,533	14,787,756	17.0%
G-42	2,246,068	1,962,433	1,768,370	1,170,033	736,078	469,305	418,536	432,779	497,941	824,405	1,456,621	2,030,089	14,012,658	16.1%
G-43	527705	449633	415125	279848	111172	77943	71518	70704	75425	111359	330929	471437	2992799	3.4%
G-44	476	482	415	283	220	180	189	264	298	777	1345	1806	6735	0.0%
G-45	7873	6963	5994	3801	3113	1401	1140	2015	3833	7106	11663	14663	69565	0.1%
G-46		943	1887	2830	3773	4717	5660	6604	7547	8490	9434	10377	62262	0.1%
G-51	177,119	156,405	161,170	142,146	136,995	125,110	125,347	131,120	127,160	135,859	148,830	167,986	1,735,247	2.0%
G-52	281837	245759	251897	217343	157571	143273	145459	151356	148770	164333	241496	275201	2424297	2.8%
G-53	249154	205176	200567	165764	89151	79252	78795	80594	76558	88218	174510	204212	1691952	1.9%
G-54	105845	96421	97226	103763	77590	77932	81733	80439	74947	76940	117178	102513	1092528	1.3%
G-55	389	355	360	297	282	241	231	248	241	277	333	389	3642	0.0%
G-56													0	0.0%
G-57													0	0.0%
G-58	2580	3723	3622	3406	1969	1744	1767	1767	1874	2018	2915	3167	30553	0.0%
Total C&I	5,863,447	5,102,208	4,684,323	3,277,909	2,153,274	1,611,318	1,530,907	1,557,114	1,634,963	2,297,153	3,933,005	5,264,372	38,909,995	44.7%
Total	13,385,107	11,642,710	10,499,873	7,104,395	4,825,081	3,554,869	3,341,486	3,376,991	3,571,570	5,211,107	8,669,406	11,889,303	87,071,898	100.0%
% dist by calendar months	15.4%	13.4%	12.1%	8.2%	5.5%	4.1%	3.8%	3.9%	4.1%	6.0%	10.0%	13.7%	100.0%	

Table: 3.4

R1: Revenue (\$) : Decoupling Year 3 (DY3 - Sept 2020 to Aug 2021)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Total	% dist by rate classes
R-1	99,058	88,192	92,600	80,566	74,725	67,644	68,491	67,431	69,006	76,729	85,152	93,976	963,570	1.1%
R-3	7,302,398	6,346,989	5,711,113	3,726,498	2,472,324	1,875,699	1,813,832	1,774,506	1,955,608	3,007,851	4,788,494	6,366,990	47,142,301	52.3%
R-4	266,227	239,025	220,485	158,789	162,020	133,877	129,469	125,002	52,054	81,387	164,696	229,688	1,962,718	2.2%
R-5	3,553	3,163	3,176	2,538	2,158	1,875	1,869	1,845	1,834	2,189	2,633	3,205	30,039	0.0%
R-6	37,657	33,066	29,891	19,576	13,132	9,940	9,542	9,442	10,145	15,549	24,456	32,979	245,376	0.3%
R-7	359	314	279	183	175	129	112	111	66	122	228	320	2,400	0.0%
Total Residential	7,709,253	6,710,747	6,057,545	3,988,150	2,724,533	2,089,164	2,023,315	1,978,338	2,088,714	3,183,827	5,065,659	6,727,159	50,346,404	55.9%
G-41	2,249,124	1,982,090	1,801,218	1,207,391	820,824	649,496	640,329	630,427	661,753	939,991	1,477,370	1,975,283	15,035,297	16.7%
G-42	2,273,422	1,982,911	1,837,379	1,202,381	695,161	465,807	446,235	438,651	516,661	896,165	1,526,439	2,000,512	14,281,724	15.8%
G-43	582,314	506,929	473,179	311,123	122,121	87,132	88,268	85,327	95,148	149,242	394,269	505,618	3,400,669	3.8%
G-44	4,009	3,794	3,397	2,284	1,524	1,237	1,245	1,238	571	1,056	2,069	3,291	25,715	0.0%
G-45	22,462	18,830	17,787	11,314	5,740	3,586	2,893	2,624	4,296	7,625	14,023	18,110	129,290	0.1%
G-46														0.0%
G-51	172,131	154,839	162,724	143,121	136,208	127,838	130,988	130,301	124,935	141,094	148,544	163,964	1,736,689	1.9%
G-52	273,486	244,685	250,917	209,669	164,167	145,607	149,951	148,295	147,590	172,110	223,991	256,695	2,387,162	2.6%
G-53	225,897	198,742	201,097	166,085	87,453	75,019	74,480	78,991	82,673	95,295	180,758	195,913	1,662,405	1.8%
G-54	103,879	84,114	103,121	114,463	76,245	75,564	76,929	80,857	79,084	77,973	122,589	99,821	1,094,638	1.2%
G-55	517	478	519	469	454	428	426	425	292	315	346	381	5,051	0.0%
G-56	0	0	0	244	423	399	396	397	0	0	0	0	1,859	0.0%
G-57														0.0%
G-58	2,765	2,735	3,022	2,438	1,740	1,806	1,722	1,887	1,806	2,039	2,667	2,903	27,530	0.0%
INAT	789	810	806	803	788	802	777	793	781	795	803	775	9,521	0.0%
Total C&I	5,910,794	5,180,955	4,855,166	3,371,786	2,112,848	1,634,722	1,614,640	1,600,213	1,715,590	2,483,702	4,093,868	5,223,265	39,797,551	44.1%
Total	13,620,047	11,891,703	10,912,711	7,359,936	4,837,381	3,723,886	3,637,955	3,578,551	3,804,304	5,667,530	9,159,527	11,950,424	90,143,955	100.0%
% dist by calendar months	15.1%	13.2%	12.1%	8.2%	5.4%	4.1%	4.0%	4.0%	4.2%	6.3%	10.2%	13.3%	100.0%	

Table: 3.5

Revenue (\$) : % Change relative to TY2019 ((R1 - R0) / R0)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-1	9%	10%	9%	5%	2%	1%	4%	1%	5%	7%	10%	6%	6%
R-3	2%	2%	3%	3%	-1%	4%	8%	5%	8%	10%	7%	1%	3%
R-4	15%	20%	24%	36%	103%	131%	147%	144%	-2%	0%	17%	21%	37%
R-5	85%	65%	67%	52%	46%	26%	24%	33%	15%	21%	16%	27%	40%
R-6	92%	80%	79%	74%	64%	67%	68%	73%	48%	31%	14%	20%	55%
R-7	366%	336%	317%	245%	290%	291%	262%	296%	101%	115%	113%	132%	223%
Total Residential	2%	3%	4%	4%	2%	7%	12%	9%	8%	9%	7%	2%	4.5%
G-41	-1%	0%	1%	2%	-2%	3%	7%	5%	7%	7%	3%	0%	2%
G-42	1%	1%	4%	3%	-6%	-1%	7%	1%	4%	9%	5%	-1%	2%
G-43	10%	13%	14%	11%	10%	12%	23%	21%	26%	34%	19%	7%	14%
G-44	742%	687%	718%	707%	593%	587%	559%	369%	92%	36%	54%	82%	282%
G-45	185%	170%	197%	198%	84%	156%	154%	30%	12%	7%	20%	24%	86%
G-46													
G-51	-3%	-1%	1%	1%	-1%	2%	5%	-1%	-2%	4%	0%	-2%	0%
G-52	-3%	0%	0%	-4%	4%	2%	3%	-2%	-1%	5%	-7%	-7%	-2%
G-53	-9%	-3%	0%	0%	-2%	2%	-5%	-2%	8%	8%	4%	-4%	-2%
G-54	-2%	-13%	6%	10%	-2%	-3%	-6%	1%	6%	1%	5%	-3%	0%
G-55	33%	35%	44%	58%	61%	78%	84%	71%	21%	14%	4%	-2%	39%
G-56													
G-57													
G-58	7%	-27%	-17%	-28%	-12%	4%	-3%	7%	-4%	1%	-9%	-8%	-10%
INAT													
Total C&I	1%	2%	4%	3%	-2%	1%	5%	3%	5%	8%	4%	-1%	2.3%
Total	2%	2%	4%	4%	0%	5%	9%	6%	7%	9%	6%	1%	3.5%

Table: 3.6

R1: Revenue (\$) : Decoupling Year 4 (DY4 - Sept 2021 to Aug 2022)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Total	% dist by rate classes
R-1	99,945	89,252	91,794	79,111	72,908	65,815	65,853	67,161	66,200	73,533	82,682	95,281	949,536	1.1%
R-3	7,264,653	6,323,621	5,610,797	3,728,388	2,387,351	1,798,258	1,745,591	1,761,873	1,791,206	2,585,449	4,493,709	6,247,704	45,738,600	51.4%
R-4	310,753	275,635	250,720	184,692	183,088	150,921	143,882	142,037	130,848	174,683	201,166	265,314	2,413,738	2.7%
R-5	4,035	3,596	3,422	2,681	2,145	1,849	1,881	1,918	1,861	2,313	3,038	3,702	32,439	0.0%
R-6	38,597	33,931	29,943	20,221	12,916	9,626	9,541	9,514	9,481	14,066	24,171	33,437	245,445	0.3%
R-7	356	309	266	207	216	191	193	188	116	146	166	256	2,611	0.0%
Total Residential	7,718,338	6,726,345	5,986,942	4,015,299	2,658,623	2,026,660	1,966,941	1,982,692	1,999,711	2,850,190	4,804,933	6,645,693	49,382,370	55.5%
G-41	2,318,008	2,023,660	1,817,360	1,242,052	826,809	648,079	644,190	672,956	633,834	854,614	1,425,250	1,982,338	15,089,149	16.9%
G-42	2,344,805	2,023,118	1,839,179	1,232,018	697,136	463,281	436,642	463,704	478,307	780,349	1,431,510	1,999,036	14,189,087	15.9%
G-43	578,170	529,202	492,521	329,557	124,373	87,538	82,836	94,056	89,609	127,558	366,833	496,219	3,398,471	3.8%
G-44	4,492	4,026	3,601	2,499	1,725	1,362	1,399	1,259	1,214	1,547	2,727	3,945	29,797	0.0%
G-45	23,520	21,267	18,728	11,574	5,340	2,759	2,469	2,150	3,201	7,016	14,859	20,557	133,440	0.1%
G-46														0.0%
G-51	175,014	157,315	161,852	142,024	136,147	126,040	128,683	133,408	126,204	137,117	145,453	164,211	1,733,469	1.9%
G-52	277,683	249,070	254,536	209,998	165,097	146,383	148,523	159,994	146,399	167,473	220,447	258,833	2,404,436	2.7%
G-53	207,084	195,321	197,225	155,756	78,817	74,270	70,222	80,821	80,000	93,982	179,357	198,385	1,611,240	1.8%
G-54	90,740	89,659	105,146	115,223	66,219	61,106	64,428	71,985	79,094	68,268	108,921	98,897	1,019,685	1.1%
G-55	568	504	530	493	450	415	418	384	428	475	481	531	5,677	0.0%
G-56	713	635	605	527	430	399	411	368	386	421	530	623	6,048	0.0%
G-57														0.0%
G-58	3,552	3,136	3,331	2,902	2,066	2,042	1,970	2,207	1,904	1,912	3,107	3,212	31,340	0.0%
INAT	785	785	791	806	807	812	803	792	792	784	798	790	8,751	0.0%
Total C&I	6,025,135	5,297,696	4,895,406	3,445,428	2,105,415	1,614,485	1,582,994	1,683,293	1,641,372	2,241,516	3,900,271	5,227,577	39,660,589	44.5%
Total	13,743,472	12,024,042	10,882,348	7,460,728	4,764,038	3,641,145	3,549,936	3,665,985	3,641,083	5,091,706	8,705,205	11,873,270	89,042,958	100.0%
% dist by calendar months	15.4%	13.5%	12.2%	8.4%	5.4%	4.1%	4.0%	4.1%	4.1%	5.7%	9.8%	13.3%	100.0%	

Table: 3.7

Revenue (\$) : % Change relative to TY2019 ((R1 - R0) / R0)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Average
R-1	10%	11%	8%	3%	-1%	-2%	0%	1%	1%	3%	7%	8%	4%
R-3	1%	1%	1%	3%	-5%	-1%	4%	4%	-1%	-6%	0%	-1%	0%
R-4	34%	38%	40%	59%	130%	161%	175%	177%	146%	114%	42%	40%	68%
R-5	110%	87%	80%	61%	45%	24%	25%	38%	17%	28%	34%	47%	51%
R-6	97%	85%	79%	80%	61%	62%	68%	74%	38%	18%	12%	21%	55%
R-7	362%	330%	298%	290%	379%	480%	522%	572%	252%	157%	56%	85%	252%
Total Residential	3%	3%	3%	5%	0%	4%	9%	9%	3%	-2%	1%	0%	2.5%
G-41	2%	3%	2%	5%	-1%	3%	7%	12%	2%	-3%	-1%	0%	2%
G-42	4%	3%	4%	5%	-5%	-1%	4%	7%	-4%	-5%	-2%	-2%	1%
G-43	10%	18%	19%	18%	12%	12%	16%	33%	19%	15%	11%	5%	14%
G-44	844%	735%	768%	783%	684%	657%	640%	377%	307%	99%	103%	118%	342%
G-45	199%	205%	212%	204%	72%	97%	117%	7%	-16%	-1%	27%	40%	92%
G-46													
G-51	-1%	1%	0%	0%	-1%	1%	3%	2%	-1%	1%	-2%	-2%	0%
G-52	-1%	1%	1%	-3%	5%	2%	2%	6%	-2%	2%	-9%	-6%	-1%
G-53	-17%	-5%	-2%	-6%	-12%	-6%	-11%	0%	4%	7%	3%	-3%	-5%
G-54	-14%	-7%	8%	11%	-15%	-22%	-21%	-11%	6%	-11%	-7%	-4%	-7%
G-55	46%	42%	47%	66%	59%	72%	81%	55%	78%	72%	45%	37%	56%
G-56													
G-57													
G-58	38%	-16%	-8%	-15%	5%	17%	11%	25%	2%	-5%	7%	1%	3%
INAT													
Total C&I	3%	4%	5%	5%	-2%	0%	3%	8%	0%	-2%	-1%	-1%	1.9%
Total	3%	3%	4%	5%	-1%	2%	6%	9%	2%	-2%	0%	0%	2.3%

Table: 4.1

Price Per Therm (\$)			
	Test Year	DY3	DY4
Residential	0.7011	1.0076	1.3767
C&I	0.7078	0.7628	1.1025
Total	0.7044	0.8852	1.2396

Table: 4.2

Average Price : Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	43.7%	96.4%	70.1%	25.2%
C&I	7.8%	55.8%	31.8%	15.9%
Total	25.7%	76.0%	50.8%	20.7%

Table: 4.3

p0: Price Per Therms (\$) : Test Year 2019

Calendar Month - Gas Price Per Therm	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	12-month average
R-1	1.2008	1.1219	0.9716	1.0329	0.8949	0.8949	1.0060	1.0060	1.0060	1.0060	1.0357	1.0357	1.0177
R-3	1.2008	1.1219	0.9716	1.0329	0.8949	0.8949	1.0060	1.0060	1.0060	1.0060	1.0357	1.0357	1.0177
R-4	1.2008	1.1219	0.9716	1.0329	0.8949	0.8949	1.0060	1.0060	1.0060	1.0060	1.0357	1.0357	1.0177
R-5	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
R-6	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
R-7	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
Residential Average	0.7926	0.7532	0.6780	0.7087	0.6397	0.6397	0.6952	0.6952	0.6952	0.6952	0.7101	0.7101	0.7011
G-41	1.2097	1.1308	0.9805	1.0418	0.9018	0.9018	1.0122	1.0122	1.0122	1.0122	1.0512	1.0512	1.0265
G-42	1.2097	1.1308	0.9805	1.0418	0.9018	0.9018	1.0122	1.0122	1.0122	1.0122	1.0512	1.0512	1.0265
G-43	1.2097	1.1308	0.9805	1.0418	0.9018	0.9018	1.0122	1.0122	1.0122	1.0122	1.0512	1.0512	1.0265
G-44	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-45	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-46	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-51	1.2150	1.1361	0.9858	1.0471	0.9107	0.9107	1.0234	1.0234	1.0234	1.0234	1.0580	1.0580	1.0346
G-52	1.2150	1.1361	0.9858	1.0471	0.9107	0.9107	1.0234	1.0234	1.0234	1.0234	1.0580	1.0580	1.0346
G-53	1.2150	1.1361	0.9858	1.0471	0.9107	0.9107	1.0234	1.0234	1.0234	1.0234	1.0580	1.0580	1.0346
G-54	1.2150	1.1361	0.9858	1.0471	0.9107	0.9107	1.0234	1.0234	1.0234	1.0234	1.0580	1.0580	1.0346
G-55	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-56	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-57	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
G-58	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844	0.3844
INAT													
C&I Average	0.7986	0.7591	0.6840	0.7146	0.6456	0.6456	0.7015	0.7015	0.7015	0.7015	0.7197	0.7197	0.7078
Total	0.7956	0.7561	0.6810	0.7116	0.6426	0.6426	0.6984	0.6984	0.6984	0.6984	0.7149	0.7149	0.7044

Table: 3.4

p1: Price Per Therms (\$): Decoupling Year 3 (DY3 - Sept 2020 to Aug 2021)

Calendar Month - Gas Price Per Therm													Average by rate classes
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	
R-1	0.9113	0.8725	0.9605	1.0499	0.8384	0.8384	0.8384	0.8384	0.9084	0.9820	1.0020	1.0020	0.9202
R-3	1.0931	1.0543	1.1423	1.2317	1.0202	1.0202	1.0202	1.0202	1.0902	1.1638	1.1838	1.1838	1.1020
R-4	0.6277	0.6064	0.6548	0.7040	1.0202	1.0202	1.0202	1.0202	0.7496	0.8232	0.6776	0.6776	0.8001
R-5	1.0271	0.9883	1.0763	1.1657	0.9542	0.9542	0.9542	0.9542	1.0242	1.0978	1.1178	1.1178	1.0360
R-6	1.2634	1.2246	1.3126	1.4020	1.1905	1.1905	1.1905	1.1905	1.2605	1.3341	1.3541	1.3541	1.2723
R-7	0.7214	0.7001	0.7485	0.7977	1.1905	1.1905	1.1905	1.1905	0.8177	0.8913	0.7713	0.7713	0.9151
Total Residential	0.9407	0.9077	0.9825	1.0585	1.0357	1.0357	1.0357	1.0357	0.9751	1.0487	1.0178	1.0178	1.0076
G-41	0.8365	0.7977	0.8857	0.9751	0.7606	0.7606	0.7606	0.7606	0.8511	0.9236	0.9272	0.9272	0.8472
G-42	0.8055	0.7667	0.8547	0.9441	0.7296	0.7296	0.7296	0.7296	0.8201	0.8926	0.8962	0.8962	0.8162
G-43	0.7833	0.7445	0.8325	0.9219	0.5645	0.5645	0.5645	0.5645	0.6550	0.7275	0.8740	0.8740	0.7226
G-44	0.9314	0.8926	0.9806	1.0700	0.8555	1.0567	1.0567	1.0567	1.1472	1.0185	1.0221	1.0221	1.0092
G-45	0.8911	0.8523	0.9403	1.0297	0.8152	0.8152	1.0010	1.0010	0.9057	0.9782	0.9818	0.9818	0.9328
G-46	0.8623	0.8235	0.9115	1.0009	0.6006	0.6006	0.6006	0.6006	0.6911	0.7636	0.9530	0.9530	0.7801
G-51	0.7154	0.6766	0.7646	0.8540	0.6400	0.6400	0.6400	0.6400	0.7309	0.8063	0.8061	0.8061	0.7267
G-52	0.6932	0.6544	0.7424	0.8318	0.5558	0.5558	0.5558	0.5558	0.6467	0.7221	0.7839	0.7839	0.6735
G-53	0.7013	0.6625	0.7505	0.8399	0.5372	0.5372	0.5372	0.5372	0.6281	0.7035	0.7920	0.7920	0.6682
G-54	0.5958	0.5570	0.6450	0.7344	0.4907	0.4907	0.4907	0.4907	0.5816	0.6570	0.6865	0.6865	0.5922
G-55	0.7708	0.7320	0.8200	0.9094	0.6954	0.6954	0.6954	0.6954	0.7863	0.8617	0.8615	0.8615	0.7821
G-56	0.8479	0.8091	0.8971	0.9865	0.6851	0.6851	0.6851	0.6851	0.7760	0.8514	0.9386	0.9386	0.8155
G-57	0.7524	0.7136	0.8016	0.8910	0.5617	0.5617	0.5617	0.5617	0.6526	0.7280	0.8431	0.8431	0.7060
G-58	0.6154	0.5766	0.6646	0.7540	0.5013	0.5013	0.5013	0.5013	0.5922	0.6676	0.7061	0.7061	0.6073
INAT													
Total C&I	0.7716	0.7328	0.8208	0.9102	0.6424	0.6567	0.6700	0.6700	0.7475	0.8073	0.8623	0.8623	0.7628
Average by calendar months	0.8561	0.8202	0.9016	0.9843	0.8390	0.8462	0.8528	0.8528	0.8613	0.9280	0.9400	0.9400	0.8852

Table: 3.5

Price : % Change relative to TY2019 ((p1 - p0) / p0)

Calendar Month - Gas Price Per Therm													12 Month Average
	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	
R-1	-24%	-22%	-1%	2%	-6%	-6%	-17%	-17%	-10%	-2%	-3%	-3%	-10%
R-3	-9%	-6%	18%	19%	14%	14%	1%	1%	8%	16%	14%	14%	8%
R-4	-48%	-46%	-33%	-32%	14%	14%	1%	1%	-25%	-18%	-35%	-35%	-21%
R-5	167%	157%	180%	203%	148%	148%	148%	148%	166%	186%	191%	191%	170%
R-6	229%	219%	241%	265%	210%	210%	210%	210%	228%	247%	252%	252%	231%
R-7	88%	82%	95%	108%	210%	210%	210%	210%	113%	132%	101%	101%	138%
Total Residential	19%	21%	45%	49%	62%	62%	49%	49%	40%	51%	43%	43%	43.7%
G-41	-31%	-29%	-10%	-6%	-16%	-16%	-25%	-25%	-16%	-9%	-12%	-12%	-17%
G-42	-33%	-32%	-13%	-9%	-19%	-19%	-28%	-28%	-19%	-12%	-15%	-15%	-20%
G-43	-35%	-34%	-15%	-12%	-37%	-37%	-44%	-44%	-35%	-28%	-17%	-17%	-30%
G-44	142%	132%	155%	178%	123%	175%	175%	198%	165%	166%	166%	166%	163%
G-45	132%	122%	145%	168%	112%	112%	160%	160%	136%	154%	155%	155%	143%
G-46	124%	114%	137%	160%	56%	56%	56%	56%	80%	99%	148%	148%	103%
G-51	-41%	-40%	-22%	-18%	-30%	-30%	-37%	-37%	-29%	-21%	-24%	-24%	-30%
G-52	-43%	-42%	-25%	-21%	-39%	-39%	-46%	-46%	-37%	-29%	-26%	-26%	-35%
G-53	-42%	-42%	-24%	-20%	-41%	-41%	-48%	-48%	-39%	-31%	-25%	-25%	-35%
G-54	-51%	-51%	-35%	-30%	-46%	-46%	-52%	-52%	-43%	-36%	-35%	-35%	-43%
G-55	101%	90%	113%	137%	81%	81%	81%	105%	124%	124%	124%	124%	103%
G-56	121%	110%	133%	157%	78%	78%	78%	78%	102%	121%	144%	144%	112%
G-57	96%	86%	109%	132%	46%	46%	46%	46%	70%	89%	119%	119%	84%
G-58	60%	50%	73%	96%	30%	30%	30%	30%	54%	74%	84%	84%	58%
INAT													
Total C&I	-3%	-3%	20%	27%	-1%	2%	-4%	-4%	7%	15%	20%	20%	7.8%
Average by calendar months	8%	8%	32%	38%	31%	32%	22%	22%	23%	33%	31%	31%	25.7%

Table: 3.6

p1: Price Per Therms (\$): Decoupling Year 4 (DY4 - Sept 2021 to Aug 2022)

Calendar Month - Gas Price Per Therm													Average by rate classes
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	
R-1	1.2102	1.0954	1.3126	1.6909	1.2146	1.2146	1.2146	1.7457	0.8384	0.8384	1.6580	1.5414	1.2979
R-3	1.3890	1.2742	1.4914	1.8697	1.3934	1.3934	1.3934	1.9245	1.0202	1.0202	1.8368	1.7202	1.4772
R-4	0.8096	0.7528	0.8896	1.0877	1.3934	1.3934	1.3934	1.9245	1.0202	1.0202	1.0731	1.0090	1.1472
R-5	1.3255	1.2107	1.4279	1.8062	1.3299	1.3299	1.3299	1.8610	0.9542	0.9542	1.7733	1.6567	1.4133
R-6	1.5580	1.4432	1.6604	2.0387	1.5624	1.5624	1.5624	2.0935	1.1905	1.1905	2.0058	1.8892	1.6464
R-7	0.9025	0.8457	0.9825	1.1806	1.5624	1.5624	1.5624	2.0935	1.1905	1.1905	1.1660	1.1019	1.2784
Total Residential	1.1991	1.1037	1.2941	1.6123	1.4094	1.4094	1.4094	1.9405	1.0357	1.0357	1.5855	1.4864	1.3767
G-41	1.1146	0.9998	1.1867	1.5889	1.1131	1.1131	1.1131	1.6443	0.7606	0.7606	1.5321	1.4155	1.1952
G-42	1.0836	0.9688	1.1557	1.5579	1.0821	1.0821	1.0821	1.6133	0.7296	0.7296	1.5011	1.3845	1.1642
G-43	1.0617	0.9469	1.1338	1.5360	0.9180	0.9180	0.9180	1.4492	0.5645	0.5645	1.4792	1.3626	1.0710
G-44	1.2091	1.0943	1.2812	1.6834	1.2076	1.2076	1.2076	1.7388	1.0567	0.8555	1.6266	1.5100	1.3065
G-45	1.1688	1.0540	1.2409	1.6431	1.1673	1.3521	1.3521	1.8833	0.8152	0.8152	1.5863	1.4697	1.2957
G-46	1.1403	1.0255	1.2124	1.6146	0.9539	0.9539	0.9539	1.4851	0.6006	0.6006	1.5578	1.4412	1.1283
G-51	0.9813	0.8665	1.0534	1.4556	0.9799	0.9799	0.9799	1.5108	0.6400	0.6400	1.3988	1.2822	1.0640
G-52	0.9597	0.8449	1.0318	1.4340	0.8966	0.8966	0.8966	1.4275	0.5558	0.5558	1.3772	1.2606	1.0114
G-53	0.9677	0.8529	1.0398	1.4420	0.8780	0.8780	0.8780	1.4089	0.5372	0.5372	1.3852	1.2686	1.0061
G-54	0.8628	0.7480	0.9349	1.3371	0.8318	0.8318	0.8318	1.3627	0.4907	0.4907	1.2803	1.1637	0.9305
G-55	1.0363	0.9215	1.1084	1.5106	1.0349	1.0349	1.0349	1.5658	0.6954	0.6954	1.4538	1.3372	1.1191
G-56	1.1137	0.9989	1.1858	1.5880	1.0253	1.0253	1.0253	1.5562	0.6851	0.6851	1.5312	1.4146	1.1529
G-57	1.0187	0.9039	1.0908	1.4930	0.9025	0.9025	0.9025	1.4334	0.5617	0.5617	1.4362	1.3196	1.0439
G-58	0.8822	0.7674	0.9543	1.3565	0.8423	0.8423	0.8423	1.3732	0.5013	0.5013	1.2997	1.1831	0.9455
INAT													
Total C&I	1.0429	0.9281	1.1150	1.5172	0.9881	1.0013	1.0013	1.5323	0.6567	0.6424	1.4604	1.3438	1.1025
Average by calendar months	1.1210	1.0159	1.2045	1.5647	1.1987	1.2053	1.2053	1.7364	0.8462	0.8390	1.5229	1.4151	1.2396

Table: 3.7

Price : % Change relative to TY2019 ((p1 - p0) / p0)

Calendar Month - Gas Price Per Therm													12 Month Average
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	
R-1	1%	-2%	35%	64%	36%	36%	21%	74%	-17%	-17%	60%	49%	28%
R-3	16%	14%	53%	81%	56%	56%	39%	91%	1%	1%	77%	66%	45%
R-4	-33%	-33%	-8%	5%	56%	56%	39%	91%	1%	1%	4%	-3%	13%
R-5	245%	215%	271%	370%	246%	246%	246%	384%	148%	148%	361%	331%	268%
R-6	305%	275%	332%	430%	306%	306%	306%	445%	210%	210%	422%	391%	328%
R-7	135%	120%	156%	207%	306%	306%	306%	445%	210%	210%	203%	187%	233%
Total Residential	51%	47%	91%	128%	120%	120%	103%	179%	49%	49%	123%	109%	96.4%
G-41	-8%	-12%	21%	53%	23%	23%	10%	62%	-25%	-25%	46%	35%	16%
G-42	-10%	-14%	18%	50%	20%	20%	7%	59%	-28%	-28%	43%	32%	13%
G-43	-12%	-16%	16%	47%	2%	2%	-9%	43%	-44%	-44%	41%	30%	4%
G-44	215%	185%	233%	338%	214%	214%	214%	352%	175%	123%	323%	293%	240%
G-45	204%	174%	223%	327%	204%	252%	252%	390%	112%	112%	313%	282%	237%
G-46	197%	167%	215%	320%	148%	148%	148%	286%	56%	56%	305%	275%	194%
G-51	-19%	-24%	7%	39%	8%	8%	-4%	48%	-37%	-37%	32%	21%	3%
G-52	-21%	-26%	5%	37%	-2%	-2%	-12%	39%	-46%	-46%	30%	19%	-2%
G-53	-20%	-25%	5%	38%	-4%	-4%	-14%	38%	-48%	-48%	31%	20%	-3%
G-54	-29%	-34%	-5%	28%	-9%	-9%	-19%	33%	-52%	-52%	21%	10%	-10%
G-55	170%	140%	188%	293%	169%	169%	169%	307%	81%	81%	278%	248%	191%
G-56	190%	160%	208%	313%	167%	167%	167%	305%	78%	78%	298%	268%	200%
G-57	165%	135%	184%	288%	135%	135%	135%	273%	46%	46%	274%	243%	172%
G-58	130%	100%	148%	253%	119%	119%	119%	257%	30%	30%	238%	208%	146%
INAT													
Total C&I	31%	22%	63%	112%	53%	55%	43%	118%	-6%	-8%	103%	87%	55.8%
Average by calendar months	41%	34%	77%	120%	87%	88%	73%	149%	21%	20%	113%	98%	76.0%

Table: 5.1

Usage Per Customer (Therm)			
	Test Year	DY3	DY4
Residential	64.6	58.5	57.7
C&I	749.3	684.8	675.7
Total	155.4	141.3	139.5

Table: 5.2

UPC : Y-o-Y Change				
	DY3	DY4	Avg Growth Rate (DY3 & DY4)	Cumulative Growth Rate (TY to DY4)
Residential	-9.5%	-10.7%	-10.1%	-3.7%
C&I	-8.6%	-9.8%	-9.2%	-3.4%
Total	-9.1%	-10.3%	-9.7%	-3.5%

Table: 5.3

q0: Usage Per Customer, UPC (Therms) : Test Year 2019

Calendar Month - Therms	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	12-month average
R-1	27.6	25.7	22.8	18.2	14.5	11.4	9.3	9.5	10.6	13.4	21.7	25.6	17.5
R-3	148.2	135.8	104.7	60.2	33.1	17.8	13.4	13.6	17.7	38.4	96.6	121.6	66.8
R-4	142.8	130.0	101.8	59.4	32.8	18.4	13.8	14.0	17.6	37.5	93.2	117.6	64.9
R-5	65.4	50.4	42.1	23.7	14.6	7.6	6.2	6.7	8.0	15.0	25.6	33.1	24.8
R-6	288.0	241.8	203.3	96.9	48.4	18.3	13.7	15.2	19.6	50.2	100.2	133.5	102.4
R-7	236.0	219.0	205.0	66.0	24.7	9.7	7.7	7.0	10.3	38.7	95.3	131.7	87.6
Total Residential	142.8	130.9	101.1	58.4	32.3	17.6	13.2	13.5	17.4	37.3	93.2	117.4	64.6
G-41	531.9	485.8	361.8	187.9	90.7	38.9	25.6	26.4	39.8	107.9	319.0	422.0	219.8
G-42	4,541.3	4,212.1	3,283.9	1,932.4	1,041.5	505.9	349.2	368.6	547.8	1,203.8	2,991.4	3,788.2	2,063.8
G-43	31,763.9	29,453.6	24,733.2	16,666.0	10,980.3	6,538.5	5,292.2	6,089.3	7,104.3	12,708.0	27,270.1	31,586.9	17,515.5
G-44	835.0	385.5	285.5	138.5	76.5	36.0	31.5	26.0	56.7	280.5	612.5	884.8	304.1
G-45	4,266.5	3,752.3	2,982.0	1,584.5	1,285.8	246.3	105.8	211.7	729.3	1,915.4	3,502.4	4,614.0	2,099.7
G-46		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
G-51	383.4	361.7	315.9	257.0	224.7	194.0	172.8	190.9	195.1	211.7	298.8	338.7	262.1
G-52	2,994.1	2,806.9	2,487.9	2,025.4	1,656.8	1,434.6	1,351.0	1,431.1	1,503.2	1,716.9	2,389.1	2,589.7	2,032.2
G-53	36,138.8	31,349.7	29,663.1	24,302.3	21,567.6	18,957.4	19,502.6	21,140.7	19,633.7	23,023.7	28,976.0	31,405.8	25,471.8
G-54	47,408.4	46,396.7	40,892.5	48,485.0	58,555.7	61,809.3	65,556.6	67,940.5	65,030.6	64,052.6	61,793.6	47,903.3	56,318.7
G-55	207.0	192.3	168.0	87.7	57.3	19.3	4.0	19.0	19.7	52.3	140.3	208.3	97.9
G-56													
G-57													
G-58	19,016.0	33,980.0	31,595.0	29,380.0	21,467.0	17,183.0	16,968.0	16,982.0	20,073.0	22,561.0	23,451.0	26,099.0	23,229.6
Total C&I	1,381.4	1,277.2	1,022.6	684.7	495.5	371.5	338.8	352.1	380.8	539.3	984.3	1,163.3	749.3
Total	308.3	284.1	224.2	141.8	93.4	63.8	55.5	57.4	64.4	103.2	211.8	257.1	155.4

Table: 5.4

q1: Usage Per Customer, UPC (Therms) : Decoupling Year 3 (DY3 - Sept 2020 to Aug 2021)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12-month average
R-1	29.5	30.4	24.5	18.6	13.9	10.7	9.7	9.3	11.2	14.9	21.0	26.2	18.3
R-3	129.1	132.7	92.1	54.0	28.9	16.9	14.1	13.4	19.0	40.0	74.9	109.5	60.4
R-4	123.1	126.7	89.8	54.0	29.3	16.9	14.4	13.7	19.0	38.3	71.5	104.3	58.4
R-5	46.5	49.2	37.3	23.0	14.3	9.0	7.3	7.4	8.6	15.3	27.2	38.8	23.7
R-6	118.0	122.9	86.6	47.8	25.6	14.1	11.2	11.0	16.7	35.3	69.8	100.0	54.9
R-7	88.9	91.2	63.9	34.8	20.5	10.7	9.6	9.2	10.1	24.9	52.6	75.0	41.0
Total Residential	124.5	128.0	89.1	52.5	28.3	16.6	13.9	13.2	18.7	38.9	72.4	105.7	58.5
G-41	452.0	472.3	309.4	164.0	73.5	34.5	27.1	25.6	42.0	113.5	239.9	376.7	194.2
G-42	3,952.4	4,099.4	2,882.3	1,709.7	843.0	423.6	361.0	349.8	539.2	1,269.8	2,329.6	3,368.8	1,844.1
G-43	29,056.1	29,987.5	22,074.0	15,184.8	8,905.4	5,465.1	5,301.7	5,004.4	6,577.0	12,110.6	18,448.1	25,376.2	15,290.9
G-44	365.2	407.4	249.2	124.2	37.1	4.6	1.6	1.1	28.1	79.4	252.1	307.9	154.8
G-45	5,557.3	5,884.5	4,145.3	2,461.6	1,087.3	453.3	235.4	173.6	857.8	1,909.2	3,806.5	4,936.5	2,625.7
G-46													
G-51	341.5	354.2	297.2	245.9	211.7	196.9	192.1	191.7	183.4	230.4	260.1	310.5	251.3
G-52	2,366.2	2,439.3	2,024.5	1,679.9	1,393.4	1,264.8	1,274.7	1,248.4	1,331.6	1,579.7	1,865.5	2,165.7	1,719.4
G-53	30,994.9	31,217.2	27,539.9	23,856.7	19,776.6	17,665.8	17,397.9	19,164.4	19,568.5	22,298.1	24,537.9	26,713.5	23,394.3
G-54	46,797.3	45,168.2	43,844.5	52,962.4	55,936.8	57,713.1	56,542.1	63,386.9	61,406.9	57,601.5	59,366.0	42,937.4	53,638.6
G-55	210.1	198.8	168.7	140.1	117.9	105.7	90.2	92.0	73.6	89.9	134.2	170.2	132.6
G-56													
G-57													
G-58	19,629.7	22,921.1	21,952.4	17,059.9	15,124.9	17,785.0	14,742.6	18,453.9	17,788.0	21,421.1	19,186.1	21,214.0	18,939.9
G-58	447.0	790.0	734.9	680.0	443.0	669.0	257.0	598.0	319.0	555.9	681.0	217.0	532.7
Total C&I	1,211.3	1,241.0	919.9	641.3	433.9	334.6	317.4	329.1	378.5	552.7	809.3	1,048.1	684.8
Total	269.1	276.3	199.8	130.7	81.7	58.1	53.3	54.2	65.5	106.0	169.9	230.9	141.3

Table: 5.5

UPC (Therms) : % Change relative to TY2019 ((q1 - q0) / q0)

Calendar Month - Therms	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-20	Oct-20	Nov-20	Dec-20	12 Month Average
R-1	7%	18%	7%	2%	-4%	-6%	5%	-2%	6%	11%	-3%	3%	5%
R-3	-13%	-2%	-12%	-10%	-13%	-5%	5%	-2%	8%	4%	-22%	-10%	-10%
R-4	-14%	-3%	-12%	-9%	-11%	-8%	4%	-2%	8%	2%	-23%	-11%	-10%
R-5	-29%	-2%	-11%	-3%	-2%	19%	18%	10%	7%	2%	6%	17%	-5%
R-6	-59%	-49%	-57%	-51%	-47%	-23%	-18%	-27%	-15%	-30%	-30%	-25%	-46%
R-7	-62%	-58%	-69%	-47%	-17%	11%	25%	32%	-2%	-36%	-45%	-43%	-53%
Total Residential	-13%	-2%	-12%	-10%	-12%	-6%	5%	-2%	8%	4%	-22%	-10%	-9.5%
G-41	-15%	-3%	-14%	-13%	-19%	-11%	6%	-3%	6%	5%	-25%	-11%	-12%
G-42	-13%	-3%	-12%	-12%	-19%	-16%	3%	-5%	-2%	5%	-22%	-11%	-11%
G-43	-9%	2%	-11%	-9%	-19%	-16%	0%	-18%	-7%	-5%	-32%	-20%	-13%
G-44	-56%	6%	-13%	-10%	-51%	-87%	-95%	-96%	-50%	-72%	-59%	-65%	-49%
G-45	30%	57%	39%	55%	-15%	84%	123%	-18%	18%	0%	9%	7%	25%
G-46													
G-51	-11%	-2%	-6%	-4%	-6%	1%	11%	0%	-6%	9%	-13%	-8%	-4%
G-52	-21%	-13%	-19%	-17%	-16%	-12%	-6%	-13%	-11%	-8%	-22%	-16%	-15%
G-53	-14%	0%	-7%	-2%	-8%	-7%	-11%	-9%	0%	-3%	-15%	-15%	-8%
G-54	-1%	-3%	7%	9%	-4%	-7%	-14%	-7%	-6%	-10%	-4%	-10%	-5%
G-55	2%	3%	0%	60%	106%	447%	2156%	384%	274%	72%	-4%	-18%	35%
G-56													
G-57													
G-58	3%	-33%	-31%	-42%	-30%	4%	-13%	9%	-11%	-5%	-18%	-19%	-18%
INAT													
Total C&I	-12%	-3%	-10%	-6%	-12%	-10%	-6%	-7%	-1%	2%	-18%	-10%	-8.6%
Total	-13%	-3%	-11%	-8%	-13%	-9%	-4%	-6%	2%	3%	-20%	-10%	-9.1%

Table: 5.6

q1: Usage Per Customer, UPC (Therms) : Decoupling Year 4 (DY4 - Sept 2021 to Aug 2022)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12-month average
R-1	33.7	31.4	25.5	19.6	13.8	10.7	8.9	8.4	10.1	13.8	21.8	27.8	18.8
R-3	140.7	127.1	90.6	56.7	27.7	15.5	12.8	12.0	15.3	32.1	75.9	107.5	59.5
R-4	134.3	121.5	89.0	56.7	28.0	15.9	13.0	12.5	15.8	31.5	72.5	101.8	57.7
R-5	62.2	58.3	43.1	28.8	14.8	8.6	7.5	7.4	9.0	18.3	37.5	51.3	28.9
R-6	129.1	119.4	85.9	53.6	25.7	13.5	11.6	11.2	12.8	29.3	69.2	102.3	55.3
R-7	93.3	86.1	58.8	35.3	18.9	10.0	8.9	8.2	9.5	17.4	42.7	70.0	38.3
Total Residential	135.8	122.7	87.8	55.2	27.2	15.3	12.6	11.9	15.1	31.3	73.4	103.8	57.7
G-41	512.0	456.1	311.0	179.5	75.0	33.8	25.7	24.2	33.7	88.6	244.6	373.3	196.4
G-42	4,438.9	3,940.0	2,855.5	1,811.3	849.2	418.4	326.1	327.5	464.4	1,041.8	2,343.9	3,329.3	1,845.5
G-43	31,891.3	29,036.4	22,882.9	16,230.8	8,985.9	5,453.5	4,430.5	4,731.0	6,237.6	10,067.3	19,417.1	23,641.3	15,250.5
G-44	440.3	402.2	288.7	156.8	66.3	24.2	21.4	20.7	3.2	46.0	216.4	369.5	171.3
G-45	6,575.2	6,084.4	4,616.9	2,633.1	993.1	220.8	132.7	120.5	360.7	1,427.2	3,717.2	5,287.2	2,680.8
G-46													
G-51	376.3	358.3	298.2	247.8	212.2	192.7	180.6	168.6	192.8	218.4	266.6	314.1	252.2
G-52	2,588.7	2,448.6	2,081.7	1,734.0	1,450.3	1,300.6	1,201.8	1,206.7	1,321.9	1,514.6	1,910.3	2,196.2	1,746.3
G-53	34,549.1	32,845.3	28,926.2	23,840.7	20,588.8	21,158.6	18,485.7	19,357.0	20,493.2	23,033.5	27,534.3	28,902.4	24,976.2
G-54	48,257.6	46,336.3	48,341.8	56,201.9	51,119.6	47,958.5	49,310.0	55,641.2	64,943.0	56,722.9	61,161.4	53,868.8	53,321.9
G-55	236.9	215.3	189.8	170.8	118.1	95.5	81.8	94.2	109.0	142.2	159.9	193.0	150.5
G-56													
G-57													
G-58	30,013.7	27,208.0	25,212.7	22,326.0	22,240.8	23,177.0	20,203.7	20,684.6	20,159.1	18,971.6	24,951.0	24,130.7	23,273.2
G-58	479.0	465.9	568.0	813.1	833.9	916.1	761.0		587.0	453.0	681.0	548.0	646.0
Total C&I	1,327.5	1,210.2	928.2	670.2	414.3	307.4	279.6	286.5	362.3	476.1	810.5	1,035.8	675.7
Total	294.5	267.8	200.0	137.0	78.2	53.5	47.3	47.4	60.1	89.4	170.9	227.6	139.5

Table: 5.7

UPC (Therms) : % Change relative to TY2019 ((q1 - q0) / q0)

Calendar Month - Therms	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-21	Oct-21	Nov-21	Dec-21	12 Month Average
R-1	22%	22%	12%	8%	-5%	-7%	-3%	-11%	-4%	3%	1%	9%	7%
R-3	-5%	-6%	-13%	-6%	-16%	-13%	-5%	-12%	-13%	-16%	-21%	-12%	-11%
R-4	-6%	-7%	-13%	-5%	-15%	-14%	-6%	-11%	-11%	-16%	-22%	-13%	-11%
R-5	-5%	16%	2%	22%	2%	14%	20%	11%	13%	22%	47%	55%	16%
R-6	-55%	-51%	-58%	-45%	-47%	-26%	-16%	-26%	-35%	-42%	-31%	-23%	-46%
R-7	-60%	-61%	-71%	-46%	-24%	4%	16%	17%	-8%	-55%	-55%	-47%	-56%
Total Residential	-5%	-6%	-13%	-5%	-16%	-13%	-5%	-12%	-13%	-16%	-21%	-12%	-10.7%
G-41	-4%	-6%	-14%	-4%	-17%	-13%	1%	-8%	-15%	-18%	-23%	-12%	-11%
G-42	-2%	-6%	-13%	-6%	-18%	-17%	-7%	-11%	-15%	-13%	-22%	-12%	-11%
G-43	0%	-1%	-7%	-3%	-18%	-17%	-16%	-22%	-12%	-21%	-29%	-25%	-13%
G-44	-47%	4%	1%	13%	-13%	-33%	-32%	-20%	-94%	-84%	-65%	-58%	-44%
G-45	54%	62%	55%	66%	-23%	-10%	25%	-43%	-51%	-25%	6%	15%	28%
G-46													
G-51	-2%	-1%	-6%	-4%	-6%	-1%	5%	-12%	-1%	3%	-11%	-7%	-4%
G-52	-14%	-13%	-16%	-14%	-12%	-9%	-11%	-16%	-12%	-12%	-20%	-15%	-14%
G-53	-4%	5%	-2%	-2%	-5%	12%	-5%	-8%	4%	0%	-5%	-8%	-2%
G-54	2%	0%	18%	16%	-13%	-22%	-25%	-18%	0%	-11%	-1%	12%	-5%
G-55	14%	12%	13%	95%	106%	394%	1946%	396%	454%	172%	14%	-7%	54%
G-56													
G-57													
G-58	58%	-20%	-20%	-24%	4%	35%	19%	22%	0%	-16%	6%	-8%	0%
INAT													
Total C&I	-4%	-5%	-9%	-2%	-16%	-17%	-17%	-19%	-5%	-12%	-18%	-11%	-9.8%
Total	-4%	-6%	-11%	-3%	-16%	-16%	-15%	-17%	-7%	-13%	-19%	-11%	-10.3%