Schedule 6.2 – Revenue Decoupling Mechanism

March 3, 2023

Revenue Decoupling

Liberty proposes to implement revenue decoupling as part of its rate design for 2023 and beyond. Decoupling is in widespread use among North American gas and electric utilities and creates significant benefits for Liberty's customers. As described in detail below, decoupling removes the impact of variations in volumes for reasons that are generally outside the control of a utility's management. In particular, impacts from weather are mitigated. Absent decoupling, weather variations create risk for both the utility and its customers. When the weather is more extreme than is typical, which, in the context of ratemaking for a gas utility in New Brunswick means colder-than-normal weather, customers consume more, pay more, and the utility's revenues increase. When the weather is milder, customers consume less, pay less, and the utility's revenues decrease. Because the swings in either direction can be large and cannot be reasonably predicted, both the utility and its customers are exposed to avoidable uncertainty.

Decoupling also addresses other uncertainties in volumes that are similarly impossible to predict, such as deviations from historic levels based on changes to the macroeconomic environment, and changes driven by policy preferences like conservation or efficiency. These factors tend to be less volatile or impactful than weather but still significant.

Related customer benefits from decoupling are likely to extend beyond the mitigation of volumetric risk. By reducing its risk, Liberty will be better positioned to attract the capital it needs to maintain a safe, reliable system at competitive rates.

Importantly, decoupling does not mitigate the risks that remain within the utility's control. As has been demonstrated in numerous instances in which decoupling has been implemented, Liberty will remain strongly incented to control its operating costs, invest prudently, innovate, and provide safe and reliable service for its customers at a reasonable price. No element of a well-designed decoupling mechanism reduces the impact of those incentives.

Liberty proposes to implement decoupling on a Revenue Per Customer ("RPC") basis, meaning that each year the Board will authorize Liberty to collect a certain amount of revenue per customer, differentiated by class, regardless of volumes.

For our residential customers, decoupling will be implemented in two steps. First, a Weather Normalization Adjustment ("WNA") will be applied to customers' bills each month based on real-time variations in weather. Second, an *ex post* adjustment will be made to reconcile the actual revenues collected from the residential customers to the RPC authorized by the Board via the Revenue Decoupling Mechanism ("RDM").[1]

[1] For purposes of simplicity, Liberty has chosen to refer to the second mechanism as the RDM; however, both it and the WNA comprise related elements of the decoupling framework.

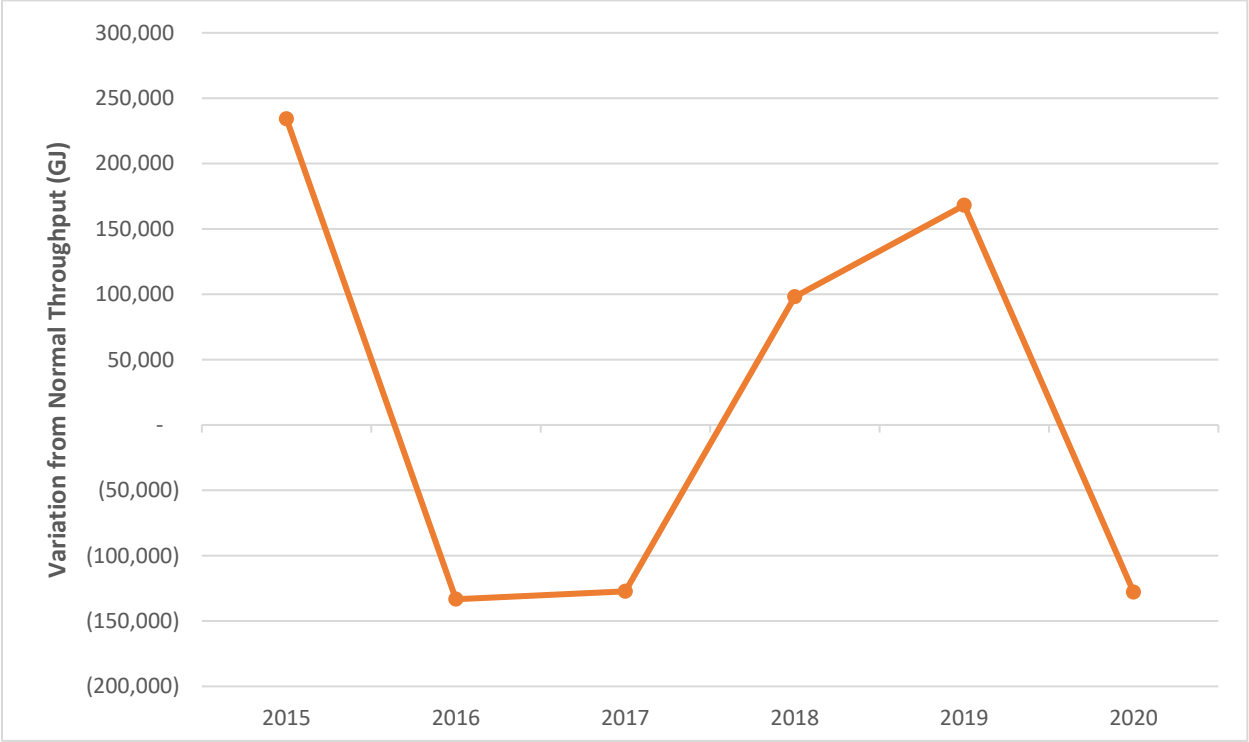
Most of the non-residential classes will also be decoupled but implementation for those classes will be one-step only, via the application of the RDM at the end of each billing period.

The remainder of this document describes Liberty's proposal in detail and describes Liberty's motivation to request revenue decoupling, how its customers will benefit from the Board's approval of its proposal, and a discussion of the ways in which the proposed approach aligns with best practices in the utility industry in North America. Additional support for this proposal is provided in Schedule 6.1 - Review of Liberty's Rate Design, Revenue Decoupling and Common Practices in Natural Gas.

Background

Utilities have limited ability to affect throughput levels due to variations in weather, conservation, customer growth and socioeconomic factors. Because utilities cannot respond to economic incentives for these types of random, uncontrollable events, traditional ratemaking can create and magnify revenue uncertainty. Figure 1 shows the variation from average levels in Liberty's throughput for the six years ending 2020.

Figure 1 – Gas New Brunswick Historical Weather Effects on Volume



While not all the variance shown above is attributable to weather, much of it is, and the magnitude of the volatility is impactful. As described elsewhere in this application, Liberty's annual volumes are approximately 6 million GJ per year, meaning that range of roughly 300,000 GJ indicated above, set by volumes that were 150,000 GJ lower than normal in some years and 150,000 GJ higher than volumes in others, represents a difference of 5% of Liberty's total volumes – and 5% of its customers' costs.

That the variances shown in Figure 1 are both positive and negative is significant. Because most of the uncertainty is caused by weather, it is reasonable to expect that, over time, the aggregate variance will equal zero. Which is to say that under the current paradigm, Liberty will benefit from the randomness of weather in some years, customers in others, and that, over time, the gains and losses of each should balance out. Decoupling will thus eliminate the unpredictable costs and windfalls in either direction but will not create any long-term change in average costs. To the extent that customers incur extra costs or Liberty incurs reduced revenues in some years because of revenue normalization via decoupling, the reversal can be expected in future years along with a long-term trend towards revenue neutrality. Put another way, both Liberty and its customers get the benefit of certainty at no extra costs.

Decoupling works by making small adjustments to customer rates to account for variances in consumption. In this proceeding, the Board will authorize Liberty to collect a certain amount of revenue from its customers, which will be measured on an RPC basis, regardless of its throughput. At the same

time, it will authorize Liberty's rates. Later, Liberty will reconcile its actual revenues to those authorized by the Board and correct for variances in a subsequent rate period.

For example, assume that a utility is authorized by its regulator to collect $100 from each of its 10,000 customers, based on its total revenue requirement of $1,000,000 per year. If that utility's expected volumes were 100,000 GJ, it's rate would be $10/GJ.

Assume that during the subsequent rate period, the winter was colder than normal, and the utility sold 105,000 GJ to its customers, meaning that is revenues would be $1,050,000. In this instance, the utility would have over-collected its revenue requirement by $50,000 which it would refund to its customers in the upcoming period. If we assume that throughput expectation for the next period were to be the same, an adjustment to reduce rates by $0.50/GJ would be applied in the next period. That example, along with the opposite scenario, in which lower-than-expected volumes cause a rate increase to be applied in the next period, is shown below in Table 1. Note that the example is highly simplified for demonstration purposes. It omits the WNA and assumes, among things, a fixed number of customers, all of whom are in the same class, and a volumetric-only rate structure.

Table 1 – Indicative Simplified Decoupling Calculations

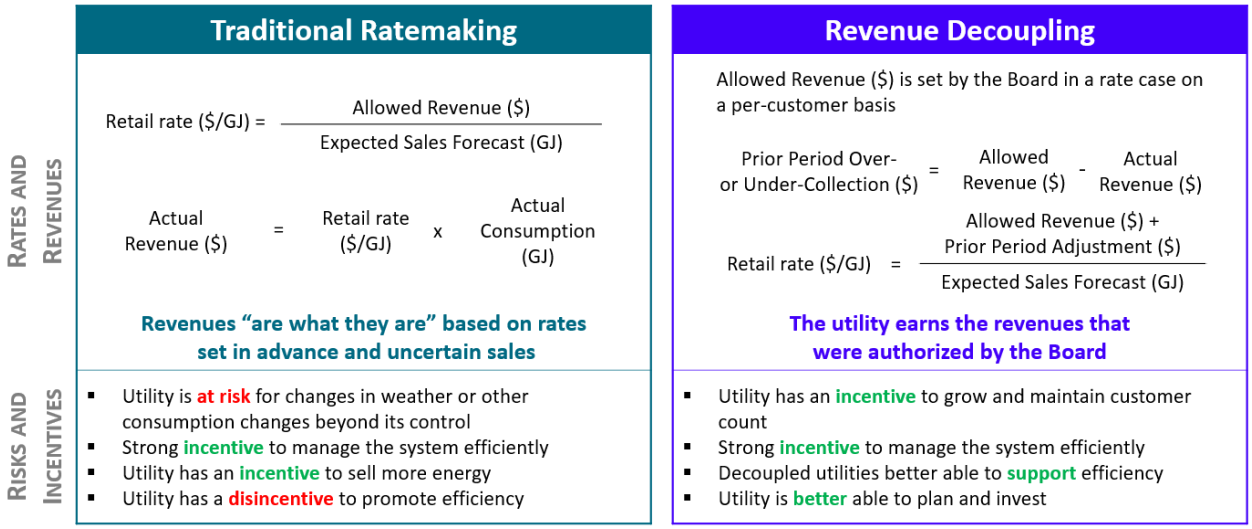
			Higher Than Normal TP	Lower Than Normal TP
a	Rate	*$/GJ*	$10.00	$10.00
b	Throughput (TP)	*GJ*	105,000	94,000
*c=a*b*	Earned revenues	*$*	$1,050,000	$940,000
d	Authorized revenues	*$*	$1,000,000	$1,000,000
e=d-c	(Over)/under collection	*$*	($50,000)	$60,000
f	Next year TP	*GJ*	100,000	100,000
g=e/f	Adjustment	*$/GJ*	($0.50)	$0.60

Mitigating the impact of throughput eliminates a utility's incentive to maximize volumes and creates the opportunity to focus on the achievement of more customer-centric policy objectives, such as focusing on conservation, efficiency and cost management, which provides a long-run benefit to customers through rate constraints, and encouraging rate innovation, which incents more efficient behaviour.

In effect, the utility becomes better positioned to execute its core business, distribution; is better equipped to do so because an uncontrollable financial risk has been eliminated; and remains highly incented towards efficient, innovative behaviors that will benefit its customers. This is Liberty's proposal's core value

proposition and the reason why decoupling is in widespread use at gas and electric industries throughout North America.

Figure 2 – Risks and Incentives Under Traditional Ratemaking and Revenue Decoupling



While the utility is insulated from risks that are beyond management's control, it remains exposed to those risks that are. If a utility overspends on its operations or invests unwisely, it will remain at risk for recovery of its costs in precisely the same way that it is now.

If the Board authorizes its proposal, the only volumes-related incentive that Liberty will retain will be based on its acquisition of new customers in the decoupled classes. Setting decoupling benchmarks on an RPC basis means that Liberty will achieve a revenue benefit when more customers join its system. This incentive aligns closely with the policy objectives that the Board has recognized in the past, including a preference that natural gas compete effectively with other heating fuels for market share, an outcome which creates environmental and other benefits.

Table 2 below briefly summarizes some of the risks and incentives that influence the behaviours of a utility and its customers with and without decoupling.

Table 2 – Risk Profiles of Traditional Ratemaking vs Revenue Decoupling

	Traditional Ratemaking		Decoupled	
	Utility	Customers	Utility	Customers
Weather	High risk beyond the utility's control. Milder-than-normal (warmer) weather reduces revenues.	High risk beyond the customers' control. More extreme weather increases consumption at high rates.	Utility and the customers are both insulated from weather risk. Over-earning during extreme weather is refunded while under-earnings from mild weather are mitigated.	
Business execution	Profitability is at risk if the business cannot manage its system and costs efficiently.	N/A	Profitability is at risk if the business cannot manage its system and costs efficiently.	N/A
Customer growth	Indirect and potentially limited. Utility's primary incentive is to grow sales volumes.	N/A	Directly incented by setting revenues on a per-customer basis. Utility receives revenue to support customer growth.	N/A
Efficiency and innovation	Efficiency gains create risk by threatening sales volumes.	Customers benefit from innovation efficiency investments.	Efficiency and innovation disincentives are removed	Customers benefit from innovation and efficiency investments

Of particular note is Liberty's access to a deep reservoir of expertise and experience in designing and executing decoupling mechanisms throughout Liberty Utilities. Among the many gas and electric utilities that have implemented decoupling in the U.S. are Liberty's affiliates in Massachusetts, New York, New Hampshire, and California.

Proposal

Liberty is proposing to fully decouple revenues based on an RPC mechanism for most of its rate classes.

For the Small General Service ("SGS") customer class, the decoupling will consist of two steps, application of the WNA, a real-time adjustment to normalize the impact of weather that will be applied to customer bills each month, and the RDM, which is applied on an *ex post* basis.

For the Medium General Service ("MGS") customer class; the Large General Service ("LGS") customer class; and the Contract General ("CG") classes – consisting of the Contract General Service ("CGS") and Industrial Contract General Service ("ICGS") customer classes, decoupling will also be applied on an RPC basis but will be effectuated through a single step, the RDM.

Liberty is not proposing to decouple revenues from either of the Large Industrial Contract Service ("LICS") nor the Off-Peak Service ("OPS") classes.

Liberty's proposed application of the decoupling mechanism by class is shown below:

Class	WNA	RDM
SGS	Yes	Yes
MGS	No	Yes
LGS	No	Yes
CG	No	Yes
LICS	No	No
OPS	No	No

The primary basis for applying the WNA to the SGS class is Liberty's expectation that its residential customers will be most susceptible to changes in consumption driven by weather. Residential demand is more seasonal than is demand for commercial and/or industrial customers, so Liberty would expect that the impact from costs from weather that is more extreme (colder) than normal to be more pronounced. Simultaneously, and unlike Liberty's larger customers, residential customers are the least well positioned to hedge their exposure to variations in commodity consumption.

Applying the WNA on a real-time basis helps to address these concerns by providing normalization applicable to the month being billed. Importantly, there is no net impact from applying the WNA since rates will be reconciled to the class RPC at the end of the rate year, inclusive of the impact of the WNA. In effect, the WNA provides the SGS customers much of the benefit of normalizing volumes as rapidly as is possible, subject to later reconciliation via the RDM.

This approach is typical throughout the industry and is in use by Liberty affiliates. [2]

Decoupling is implemented on a one-step basis for the MGS, LGS, and CG customers via the RDM largely for the same reasons: they likely will be less impacted by month-to-month weather variations and are best equipped to manage any such impacts.

Finally, Liberty has chosen not to include LICS and OPS customers because they represent a relatively small portion of total throughput and only a handful of customers utilizing a different class of service.

Stakeholder Input

Liberty believes this proposal reasonably reflects input from both the Board Staff and the Public Intervener's expert, Robert Knecht. Liberty has reviewed the record of its past proceedings before the Board in which

[2] See, for example, the description of the WNA in use by Liberty's New Hampshire affiliate, available at https://new-hampshire.libertyutilities.com/uploads/FINAL_WNA%20Step%20by%20Step%20explanation.pdf

revenue decoupling was addressed and believes that the mechanism described in this document is consistent with the preferences revealed therein.

More recently, Liberty has engaged the Board's Staff ("Staff"), the Public Intervenor ("PI"), and the PI's advisors to solicit views, input, and feedback. On August 24 and October 7, 2022, Liberty hosted meetings with the Staff and the PI on this matter and has had additional, less formal discussions with the parties.

RDM Specifications

Liberty proposes to implement decoupling on a class-specific basis. For residential customers, Liberty will apply the WNA described in the next section each month.

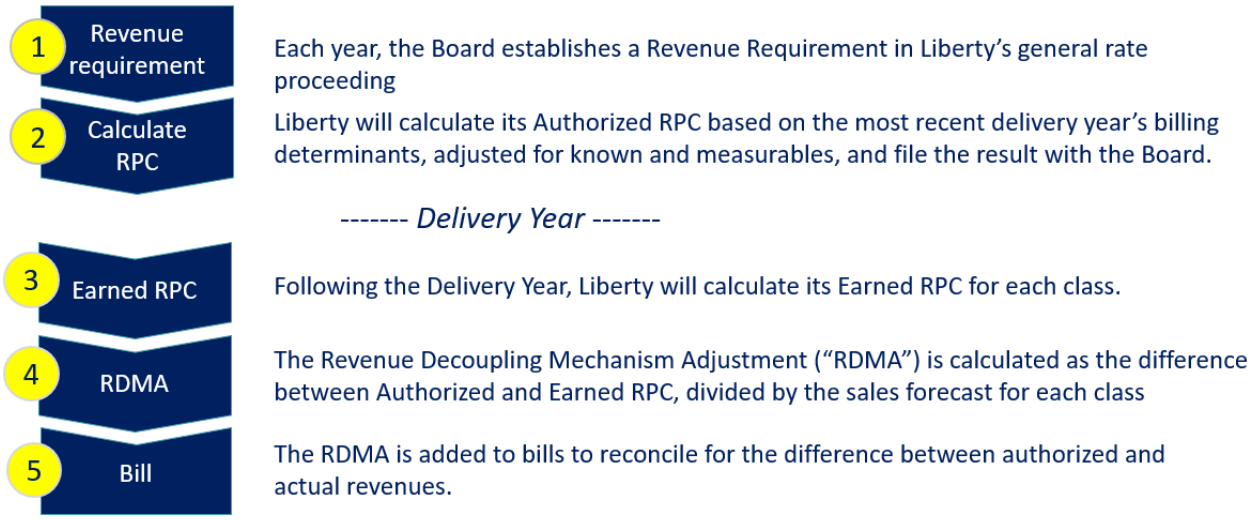
Each month, Liberty will calculate the difference between its authorized revenue, which are based on the RPC authorized for each decoupled class multiplied by the actual number of customers in each class, and actual revenue. Annually, Liberty will submit a filing to the Board that details the monthly variances, the total variance, and proposes for approval a rate, the Revenue Decoupling Mechanism Adjustment ("RDMA"), which will be used to either return over-collections to customers, in the event that its revenues exceeded its RPC, or refund under-collections, if the opposite were to occur; for this reason, the RDMA can be positive or negative. The filing will be made on or before June 15 each year, which will give the Board sufficient time to review its application, and for interested parties to intervene, such that the RDMA can be implemented on October 1, at which time it will remain in effect for twelve months.

Beginning with Liberty's second decoupling filing, it will also include a reconciliation, expected to be small, to account for variances in the subsequent period's volumes, which will cause a small over- or under-collection in the amount recovered by the RDMA in that period.

Revenues collected or refunded via the RDMA will be billed and tracked separately from volumetric base revenues. This simple approach eliminates unintended interactions with approved rates and enhances transparency. The Board continues to establish a revenue requirement and approve the rate design for the test year. The customer counts and distribution revenue authorized by the Board's decision within the most recent General Rate Application establishes the authorized RPC for each class.

The figure below shows a simplified process for implementing revenue decoupling; note that the WNA is omitted for simplicity.

Figure 3 – Simplified Process Steps of the RDMA



Because this is a new mechanism, Liberty proposes to limit the amount of revenue that can be collected through the RDMA to five percent of the authorized base distribution revenues. If an under-collection exceeds 5% of authorized revenues, the under-collection greater than 5% will be retained in the RDM Variance account, which Liberty will carry on its books until its next rate proceeding before the Board. Barring a finding of imprudence on Liberty's part, the Board authorizes the collection of the outstanding balance of the variance account and order the manner in which Liberty should do so.[3]

Weather Normalization Adjustment

The WNA will be applied on a monthly, customer-by-customer basis for all of Liberty's SGS customers. The purpose is to account for demand variations from warmer- or colder-than-normal weather during the winter billing period of October 1 through May 31, inclusive, by adjusting the bill amount as the bill is being calculated and issued. By applying the adjustment as bills are being calculated, the customer will receive the benefits of the WNA immediately. During periods of colder than normal weather, a customer's bill will be adjusted downward providing immediate relief to the increased heating costs.

The WNA is calculated by comparing the Distribution Volumetric Charges on the customer's current bill with the Distribution Volumetric Charges a customer would have been charged if the temperatures in the billing period matched the 20-year average for that period.

To affect this mechanism, a baseline, created by averaging the customer's consumption over the most recent non-heating months (June – September), is established. Customers with insufficient history will be assigned the SGS class average baseline until an individual history is generated. Each billing month during

[3] As described in the Variance Account section of this schedule, Liberty will apply a carrying charge equal to its average short-term interest rate for the month, plus 0.65% to variance account balances.

the heating season, the heating load will be determined by subtracting the baseline from the actual consumption. The weather normalization factor is determined by applying the variation in weather over the billing period to the heating load to determine the portion of the heating load resulting from the change in weather. The amount of the WNA is calculated by applying the weather normalization factor to the distribution volumetric charges.

The WNA is represented as:

*WNA = Actual Distribution Volumetric Charges * WNF*

Where:

Actual Distribution Volumetric Charges is the sum of the actual base rate usage charges

WNF is the Weather Normalization Factor as described below

The Weather Normalization Factor (*WNF*) determines the percent difference between the customer's bill based on actual usage and what it would have been under normal weather conditions. The WNF is calculated as:

WNF = (Normal Distribution Volumetric Charge / Actual Distribution Volumetric Charge) – 1

Where:

Normal Distribution Volumetric Charge is the calculated distribution volumetric charge for Normal Usage for the rate schedule applicable to that bill or portion thereof during the Winter Period calculated using the base-and-slope methodology below

Normal Usage is the sum of the Base Usage and the Normal Heating Usage

Base Usage is the current WNA Base times the number of days in the billing period

Normal Heating Usage Is the WNA Slope times the sum of the Normal HDD for the billing period

Normal Heating Degree Days (HDD) is the twenty-year average HDD for that day

Actual Distribution Volumetric Charge is the calculated distribution volumetric charge for actual delivered gigajoules for the rate schedule applicable to that bill or portion thereof during the Winter Period

The Weather Normalization Slope (WNA Slope) is the customer's usage per actual heating degree day for a given Billing Period. The WNA Slope is calculated as:

WNA Slope = (Actual Consumption – (WNA Base * Billing Days)) / Actual HDD

If the calculated WNA Slope is less than zero, then WNF is zero.

Where:

Actual Consumption is the actual delivered gigajoules for that bill

WNA Base is the customer's most recent thirty-six (36) months of average daily delivered gigajoules for actual bills rendered for those billing periods that are completely within the June 1 through September 30 calendar period excluding such billing periods that are only partially within the June 1 to September 30 period. If a customer has less than thirty-six months of billing history, then the customer's available history for the months of June through September as defined above will be used to calculate the average daily delivered gigajoules; and if a customer has no billing history for the months of June through September as defined above, then the class average daily delivered gigajoules for the calendar months of June through September for the rate schedule under which the customer is served will be used.

Actual HDD is calculated as sixteen (16) minus the average temperature in degrees Celsius for that day. If the calculated HDD is less than zero, then the HDD for that day is set equal to zero.

The WNA will be applied to the amount billed to each customer to offset the impact of actual HDD variations from normal HDD. This adjustment will be clearly labelled as a line item on customer bills. Monthly adjustments will be capped at a +/-20% variance of the actual volumetric distribution charges to proactively limit the monthly impact of the WNA. Any amounts that are outside of the +/-20% cap will be captured in the RDM Variance account and recovered/credited through the RDM.

In addition to the benefits of the overall revenue decoupling mechanism, the WNA provides additional benefits to the residential customers and Liberty:

- Reduces bill variability in the current month based on weather impacts over the billing period;
- Stabilizes annual bill amounts and mitigates volatility of monthly gas bills;
- Maintains customer benefits of individual energy conservation efforts;
- Helps stabilize revenue against fixed costs included in variable distribution charges; and
- Reduces volatility of the utility's financial results.

Variance Account

To support our proposal for an RDM Liberty is requesting an RDM Variance Account. During the stakeholder sessions held with Board Staff and the Public Intervener, Liberty was made aware of New Brunswick Regulation 2022-17, a new regulation under the *Electricity Act* pertaining to variance and deferral accounts. As a result, Liberty has aligned our proposed RDM Variance Account with regulations in this Act, where applicable.

Liberty is proposing an RDM Variance Account with the following characteristics:

- Applicable to distribution volumetric rate revenue;
- Decoupling applicable to average revenue per customer;
- Variance in actual vs authorized RPC calculated and recorded on a class basis for the applicable RDM classes;
- Rate rider calculated for each class (volumetric) and adjusted annually;
- Limited impact of rate rider on annual distribution revenue (+/-5%), with amounts over/under this threshold retained in account balances;
- No incentive threshold required for revenue decoupling mechanism;
- Includes an interest rate equivalent to Liberty's average short-term interest rate for the month, plus 0.65%, and shall utilize the actual number of days in the month and the applicable fiscal year;
- Interest shall be calculated and applied to both positive and negative balances in the accounts;
- Reporting as needed to reconcile accounts.

After the accounting books are closed each operating month during the delivery year, the balance of the variance account will be calculated according to the following formula for each applicable rate class:

$$RDM_m = RDM_{m-1} + (REV_{auth} - REV_{actual}) + REV_{RDMA} + (RDM_{m-1} * ((STIR_m + 0.65\%) / 12))$$

Where:

RDM_m is the balance of the RDM variance account for the current month.

RDM_{m-1} is the balance of the RDM variance account at the end of the previous month.

REV_{auth} is the authorized revenue for the current month calculated by applying the authorized RPC from the most recently approved general rate proceeding and the equivalent number of bills from the current month's financial results.

REV_{actual} is the recorded adjusted base rate distribution revenue from the current month's financial results. For SGS, the distribution revenue is inclusive of any WNA credits and surcharges.

REV_{RDMA} Revenue collected through the RDMA charges in the current month's financial results.

$STIR_m$ Short-term annual interest rate applicable during the current month.