Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Small Customer Group Hedging Analysis

Tyr Energy, LLC

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Granite State Electric
Small Customer Group Hedging Analysis

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Background

This White paper was prepared for Liberty Utilities (Granite State Electric) Corp. ("Liberty" or the "Company") by Tyr Energy, LLC ("Tyr"). Liberty has previously collaborated with Tyr to evaluate alternative procurement plans to provide better price stability at a lower cost for Liberty's default service customers.

The Company presented a proposal to the New Hampshire Public Utilities Commission March 29, 2024 for the introduction of an ISO-New England ("ISO-NE" or "ISO") market-based procurement tranche of 20% for its Small Default Service Customer Group, which includes *residential* Default Service customers. The impetus for the proposal was evidence gained while serving the Company's Large Customer Group ("LCG") load during the period from February 2023 through April 2023. During this period, the Company was able to pass on significant savings to the LCG by procuring power from the ISO-NE day-ahead and hourly energy markets at prices below those offered to Liberty via a full-requirements procurement process. However, these savings were accompanied by a higher level of risk. It was possible during this period that day-ahead and hourly prices could have been higher than what the Company was able to realize. As a result, Liberty pursued a collaboration with Tyr to evaluate financial instruments that would cap the risk of price spikes while still providing the opportunity for lower market settlement prices.

The purpose of this White paper is to look at the risks involved when using a market-based procurement in lieu of a full requirements procurement and the effectiveness of using *Options Contracts* to mitigate those risks. To perform the analysis, Tyr used Ascend Analytics' PowerSIMM software package. PowerSIMM is used for portfolio risk management, resource planning, and in optimizing portfolio and hedge strategies.

Hedging Mechanics

To mitigate potential exposure to market price spikes while providing the opportunity for lower market settlement prices, the mechanics for the strategy we recommend implementing is fairly straight forward. Energy required to supply customer load will be purchased daily from the ISO-NE market. Day-Ahead ("DA") market bids will be submitted daily into the ISO-NE market, based on a 7-day rolling load forecast. Any excess energy or shortfall will be settled in the real-time energy market.

To mitigate market prices risks, Around-The-Clock ("ATC") Daily look back call options will be purchased for each month in the August 2024 to January 2025 period. These option contracts will "auto-strike" on any day that the Day-Ahead ATC average price is above the contract strike price. The price paid for the energy covered by the options will therefore be capped at the strike price in the option contract. This product is settled financially each month, and physical delivery is not required to realize the benefit of the contract's protection. Although slightly more expensive than a standard call option, the look back feature removes the "strike" risk if Liberty was required to exercise the option prior to the clearing of the Day-Ahead market. With a standard option contract, Liberty would also need to estimate the Day-Ahead ATC power price and call the counter party each time it wanted to exercise the option. This is typically done in advance of the publishing of the DA market prices and

can result in days where the option is struck when it was out of the money, resulting in a loss. It may also result in days when the option is not struck but was in the money, resulting in a lost opportunity cost and exposure to higher prices. This adds a level of unnecessary uncertainty to the product and the incremental cost to add a look back feature is typically nominal.

Hedge Liquidity in the ISO-NE Market

There are several financial instruments that can be used to hedge Liberty's Small Customer Group ("SCG") Load. Commonly used instruments include:

1. *Bilateral Contracts* – these are customizable contracts done directly with another counterparty and can be designed to meet each parties' specific needs. With the customizable nature of bilateral contracts, they tend to be less liquid than a standard product.
2. *Financial Futures Contracts or Swaps* – these are well defined standard contracts that are very liquid at the trading hubs. It is a legal agreement to buy or sell a commodity or security at a predetermined price at a specified time in the future for a standardized quantity. A *Swap* is a contract where parties agree to exchange a variable performance, such as an interest rate or commodity price, for a fixed market rate.
3. *Options Contracts* – A call option is a contract that gives the option buyer the right to buy an underlying asset at a specified price within a specific time period.
4. *Weather Derivatives* – a weather derivative is a financial instrument that has at least one element tied to a weather related event. They offer protection against a range of weather conditions like high or low temperatures or amounts of precipitation.

All of the products referenced above have a good level of liquidity for ISO-NE, especially at the major trading hub in the New England Region ("Mass Hub"). Mass Hub is a pricing index derived from the simple average of a pre-defined number of nodes in Massachusetts as defined in Market Rule 1 of the ISO-NE tariff. Historically, the price difference or basis, between Mass Hub and the New Hampshire zone has been very stable with an average DA spread of $0.17/MWh over the last five years. Tyr was able to find multiple counterparties willing to provide indicative bids for the call options at various strike prices and settlement locations in ISO-NE.

Analysis of Hedge Effectiveness

The primary metric that Tyr used to measure hedge effectiveness was Gross Margin at Risk ("GMaR") which is an earnings-at-risk metric, versus a Value-at-Risk ("VaR") metric. Although an extremely popular risk metric used widely in financial markets and the energy industry, VaR is a measure of the level of loss of value which would not be expected to be exceeded within a chosen probability, over a defined period of time. For example, a VaR of $1 million over two days at 95% means that we would not expect a loss (or adverse change in market value) on a portfolio, over a two-day period, to exceed $1 million more than 5% of the time (i.e., once in every twenty independent two-day periods).

GMaR looks at minimizing the variability of the cash flow or earnings over the entire time period being evaluated. The time series of gas and power are very different than cash flows

of interest rates, foreign exchange, and stocks. Gas and power time series are characterized by high levels of seasonality, mean reversion in prices, and jumps in prices. For example, power prices can often jump from $40/MWh to $1,000/MWh and back again in a few intervals. GMaR captures these uncertainties over the period of evaluation. Additionally, GMaR captures a wide range of non-financial risks including volumetric and weather risks that do not fit into a typical VaR framework. Using GMaR allows for a detailed analysis and risk assessment of the cost to serve load, particularly when it varies widely with weather and customer behavior, as well as how the use of various financial instruments offsets the variability of those costs.

Tyr utilized PowerSIMM for all modeling and ran 500 simulations for each scenario.[1] We first ran a base line production cost model of Liberty's SCG Load using a forecasted load profile to develop an expected cost to serve load with no hedges in place. Based on new Liberty market dynamics, the most recent twelve months of load history was viewed as being more representative of future market conditions. Therefore, PowerSIMM leveraged the most recent twelve months of historical data to arrive at an estimate of the load and the uncertainty or variability of this load in the study forecast horizon. The power and gas pricing profiles were, respectively, a function of ISO-NE-NH and Algonquin Gas using market curves as the source.

From the base line model, we ran scenarios that calculated an optimal hedge strategy utilizing fixed price Swaps. We then ran scenarios utilizing daily around-the-clock look back call options at various strikes. We represent the change in the GMaR in each scenario in the tables as a reduction of risk from the base line model.

The baseline cost to serve load using market values as of May 14, 2024, for the 6-month service period starting August 1, 2024, and running through January 31, 2024, is projected to be 6.71 cents/kWh with 2.02 cents/kWh "at risk" at the 95th percentile. This means that we would expect only a 5% chance of the cost to serve load being 8.73 cents/kWh or higher without any hedges in place. Table 1[2] and Figure 1[3] provide a summary of these base line Cost to Serve results.

Table 1: Cost to Serve New Hampshire Load with No Hedges

Strategy	Total Cost ($)	Total Volume (MWh)	Average Cost (c/kWh)	Increase in Average Cost (c/kWh)	Reduction in Risk ($)
Base Case - No Hedges	7,685,155	114,469	6.714	-	-
95th Percentile @ Risk	2,314,971		2.022		

[1] Scenarios evaluated included one with no hedges (i.e., a "base line"), and ones with various Call Option strike prices.

[2] In Table 1, the $7.6 million total cost reflects the expected total cost of wholesale energy to serve the load during the six-month period. The $2.3 million cost represents the expected incremental cost to service the same load under higher market conditions– the 95th percentile of the cost distribution. On average, we expect the cost to serve this load will average 6.7 cents/kWh during this period but could be 7.7 cents/kWh or higher with a probability of 5%.

[3] Figure 1 illustrates the range of total costs by month based on a range of price scenarios simulated for the period from June 1, 2024, through August 31, 2025. Only the six-month period from August 1, 2024, through January 31, 2025, was used in the hedging analysis.

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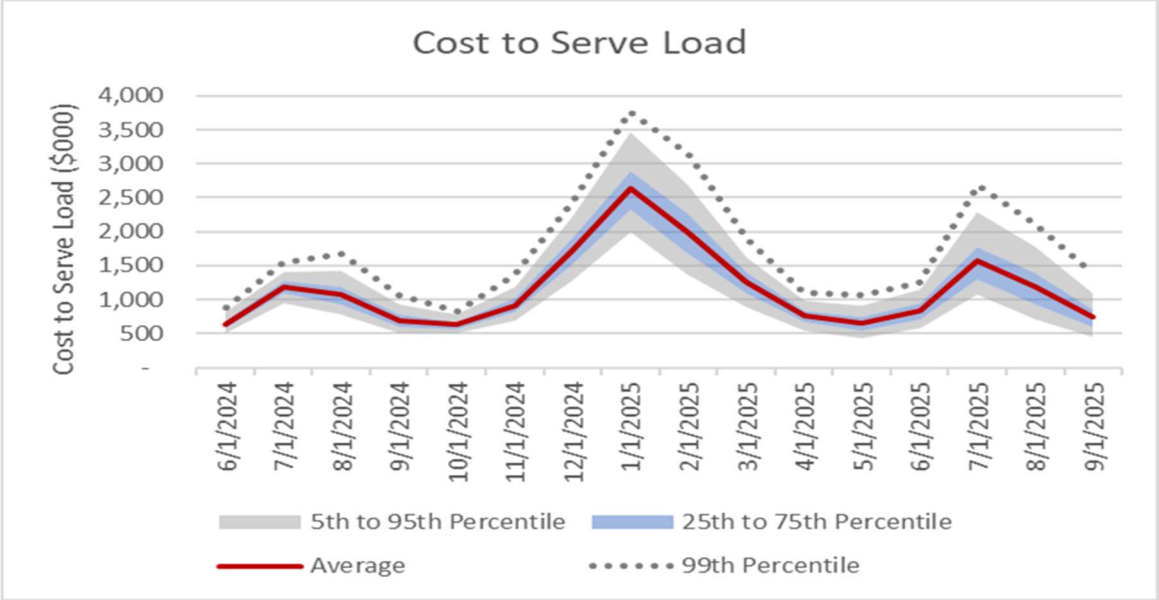
Figure 1: Cost to Serve with No Hedges

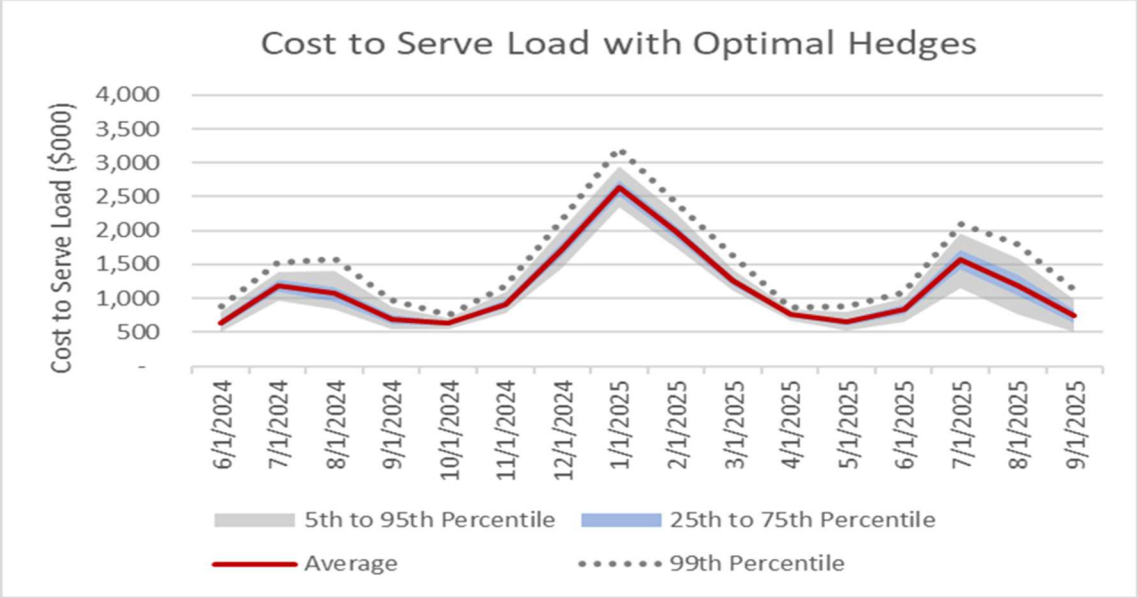


Next, we ran a scenario calculating the optimal hedge strategy utilizing Swaps. To recap, a Swap is a financial instrument that exchanges a variable price for a fixed price. Liberty would purchase a fixed price Swap for each month of the service period at current market prices at a fixed volume. The model calculates the optimal hedge volume for each month. The strategy's objective function is to minimize the gross margin at risk at the 95th percentile. With optimal hedge volumes, the energy cost at risk value drops from 2.02 cents/kWh to 1.20 cents/kWh or an approximately 41% reduction in the cost at risk. Table 2 and Figure 2 summarize the results of this analysis.

Table 2: Cost to Serve New Hampshire Load with Optimal Hedges

Strategy	Total Cost ($)	Total Volume (MWh)	Average Cost (c/kWh)	Increase in Average Cost (c/kWh)	Reduction in Risk ($)
Optimal Hedge - Swaps	7,685,155	114,469	6.714	-	943,655
95th Percentile @ Risk	1,371,317		1.200		

Figure 2: Cost to Serve with Optimal Hedges



Our first step in evaluating the benefit of utilizing out-of-the-money call options to reduce tail risks was to look at the frequency at which the options would be struck and the corresponding reduction in gross margin at risk. As expected, both the frequency of strikes and the highest reduction in gross margin at risk were concentrated in the summer and winter periods, as illustrated in Figure 3.

Figure 3: Option Strike Frequency

Option Premiums

To evaluate the cost of potential Option structures, Tyr solicited quotes from three large energy marketers that are active in the New England Region but only two responded in time for inclusion in this study. Table 3 details the quotes received.

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Table 3: Potential Option Premiums

		$100 Strike				$125 Strike				$150 Strike			
		Counterparty 1 Mass Hub		Counterparty 2 NH Zone		Counterparty 1 Mass Hub		Counterparty 2 NH Zone		Counterparty 1 Mass Hub		Counterparty 2 NH Zone	
Month	NH Zone DA LMP ATC ($/MWh)	Premium ($/MWh)	% of Mkt Price	Premium ($/MWh)	% of Mkt Price	Premium ($/MWh)	% of Mkt Price	Premium ($/MWh)	% of Mkt Price	Premium ($/MWh)	% of Mkt Price	Premium ($/MWh)	% of Mkt Price
11/1/2024	48.19	27.06	56%	28.00	58%	22.67	47%	25	52%	19.19	40%	23.00	48%
12/1/2024	79.11	27.06	34%	28.00	35%	22.67	29%	25	32%	19.19	24%	23.00	29%
1/1/2025	115.50	27.06	23%	28.00	24%	22.67	20%	25	22%	19.19	17%	23.00	20%
2/1/2025	99.68	27.06	27%	28.00	28%	22.67	23%	25	25%	19.19	19%	23.00	23%
3/1/2025	63.10	27.06	43%	28.00	44%	22.67	36%	25	40%	19.19	30%	23.00	36%
6/1/2025	42.74			14.00	33%			12	28%				
7/1/2025	63.53	16.50	26%	14.00	22%	14.00	22%	12	19%				
8/1/2025	49.35	16.50	33%	14.00	28%	14.00	28%	12	24%				
Nov 2024 - Mar 2025	80.96	27.06	33%	28.00	35%	22.67	28%	25	31%	19.19	24%	23.00	28%
Jul - Aug 2025	56.44	16.50	29%			14.00	25%						
Jun - Aug 2025	51.97			14.00	27%			12	23%				

The premiums as a percentage of the underlying values came in a little higher than our initial indications, primarily due to the narrowing of tenor on the options. Initially, when we requested indicative pricing, we priced options for the full 6-month service period and have since narrowed that to the summers and winters only. This increased the average premium due to the increased volatility. The reason we narrowed the tenors was based on the data showing that the options would rarely strike outside of the summer and winter periods. Despite paying a slightly higher price, we can reduce the total premium paid and receive nearly the same reduction in GMaR.

Table 4 includes the Total Cost for the August 2024 through January 2025 period including the option premiums. Any gains from utilizing option striking are also included as offsets to total cost.

Table 4: Cost to Serve New Hampshire Load at Various Option Strike Prices

Strategy	Total Cost ($)	Total Volume (MWh)	Average Cost (c/kWh)	Increase in Average Cost (c/kWh)	Reduction in Risk ($)
Daily Look Back Call Options					
$100 Strike	8,484,036	114,469	7.412	0.698	433,444
95th Percentile @ Risk	1,881,527				
$125 Strike	8,515,333	114,469	7.439	0.725	278,414
95th Percentile @ Risk	2,036,557				
$150 Strike	8,467,003	114,469	7.397	0.683	148,767
95th Percentile @ Risk	2,166,204				

Despite the higher premium, we found that the $100/MWh strike price Call Option provided the largest reduction in the margin at risk while only adding fractions of a cent more to the overall cost of the option.

The graphs in Figures 4 through 6 illustrate the distribution of the simulation results for each of the option strikes at various confidence intervals. An additional benefit option strategy is that if prices go lower than forecast, the ability to reduce the cost to serve the Company's load further is retained.

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Figure 4: Cost to Serve with $100/MWh Strike Price

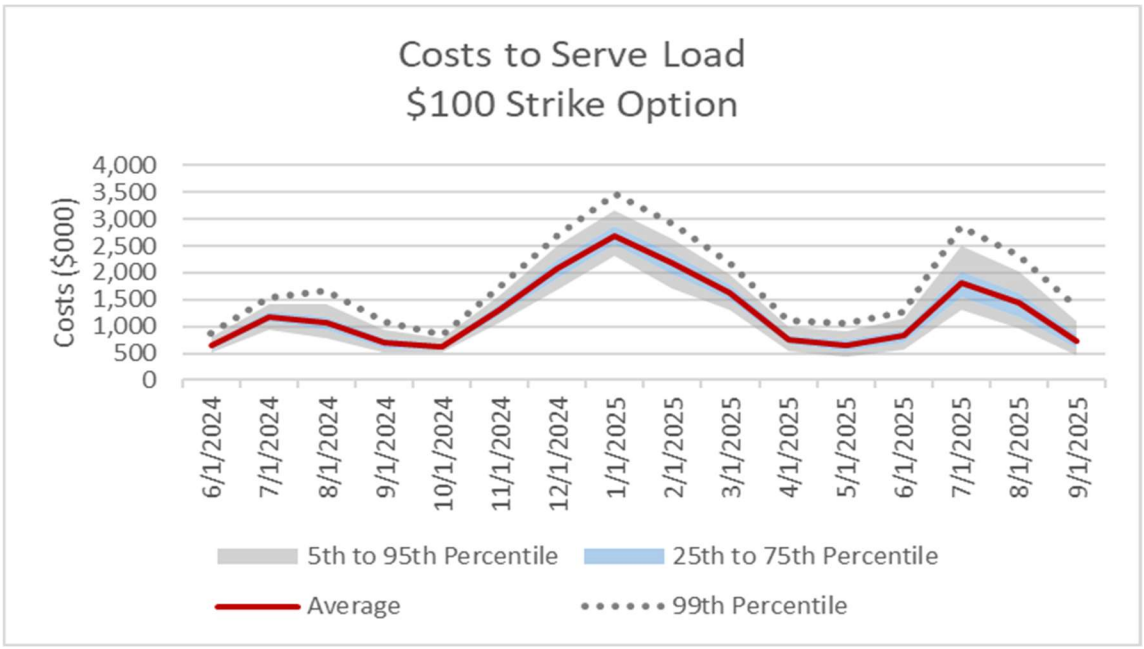


Figure 5: Cost to Serve with $125/MWh Strike Price

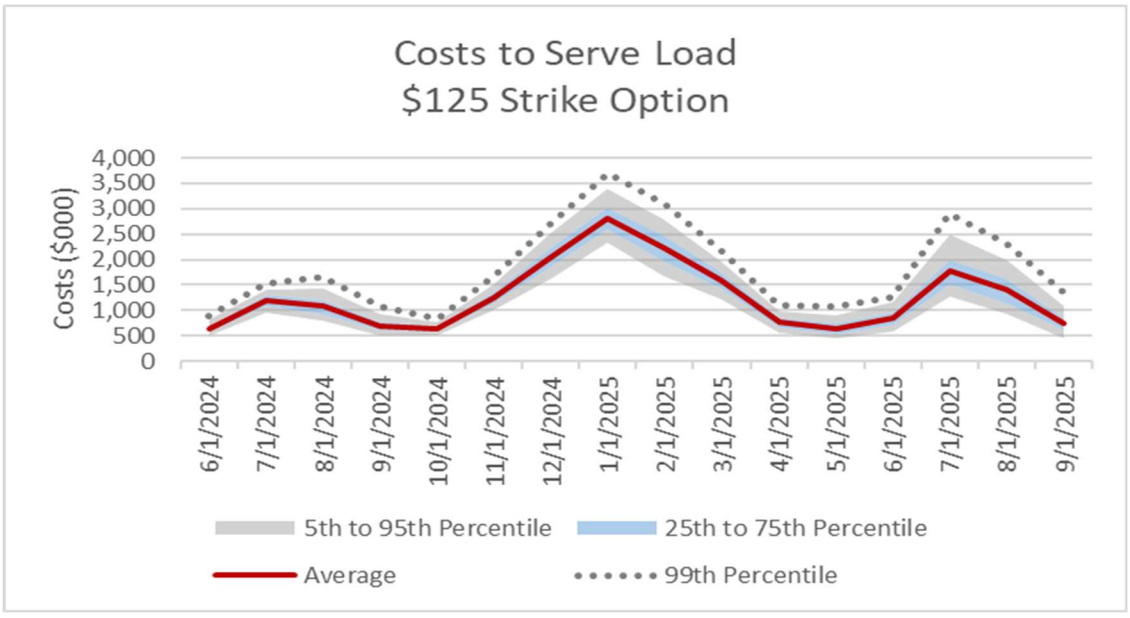
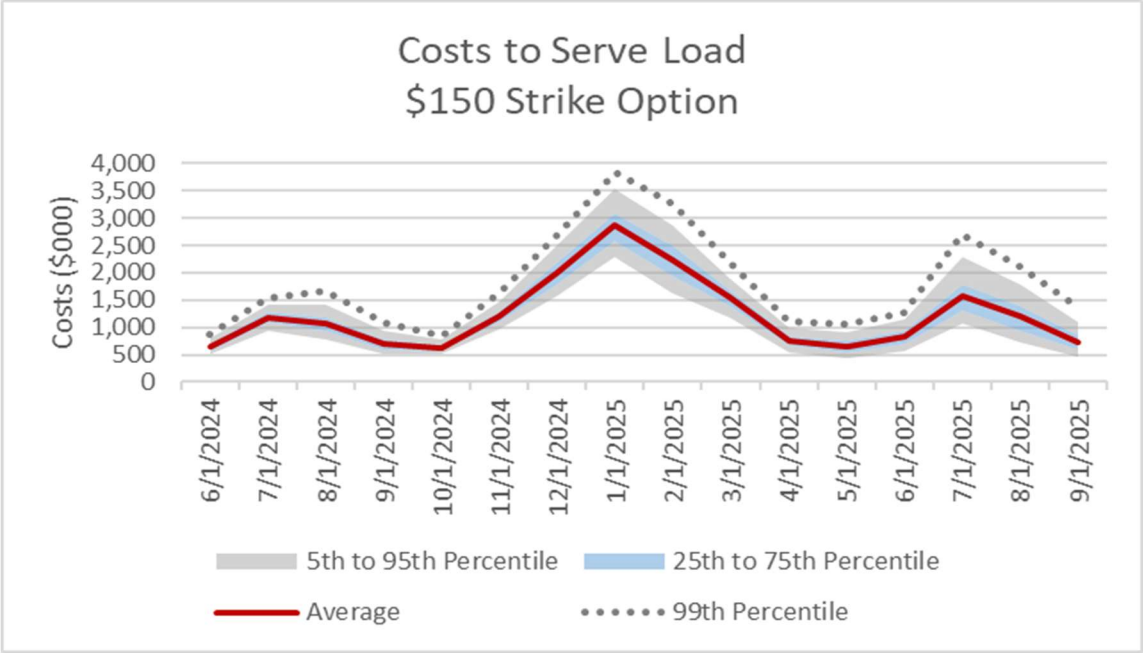


Figure 6: Cost to Serve with $150/MWh Strike Price



Historical Backcast

Tyr analyzed the historical results for Daily Look Back Call Options at the $100/MWh, $125/MWh, and $150/MWh levels, looking at the frequency each option was struck, revenue received from the options when struck, and the cost of energy to serve load. See Table 8 in the appendix. We assumed the pricing would be consistent with current solicited market pricing and so did not factor in the option premium into the historical backcast. The results were consistent with the simulated results and definitively showed that the $100/MWh strike provided the best combination of revenue and risk mitigation, while allowing for lower cost to serve load when market prices declined.

Recommendations

Although the use of Futures or Swaps provide the largest reduction in the variability of the cost to serve load, it does not do so without taking on some additional risks. When executing financial hedges, two components are often overlooked. Maintenance margin required to initiate the position and the potential for additional cash collateral needed as prices vary from the underlying contract, both add to the risk of using Futures and Swaps. As demonstrated in recent events in the Electric Reliability Council of Texas ("ERCOT") and the Southwest Power Pool ("SPP") during Winter Storm Uri and again in the PJM Interconnection ("PJM") during Winter Storm Elliott, severe movement in prices can put significant stress on an entities' cash flow. Often, the mismatch in the timing of the cash required to post margin trails the timing of the cash receipts, which can lead to insolvency.

In contrast to purchasing forward contracts, purchasing an option contract limits the cash exposure to the premium paid for the option. Under a worst case scenario, the option expires without being exercised. The cash flow requirement is known in advance and is

therefore much easier to forecast. By purchasing an out-of-the money call option, additional cost savings can be realized if prices move lower than forecasted.

Given the combination of risk reduction, ease of management, and nominal increase to serve load, if Liberty were to pursue a financial instrument to provide some level of price protection to market exposure, Tyr recommends utilizing the $100/MWh out-of-the money call option from November 2024 through February 2025 and July 2025. We believe this provides the benefit of supplying power at market prices while still providing protection against extreme price excursions that may occur during the summer and winter.

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Appendices

Table 5: PowerSimm Results

As of
05.14.2024

Cost to Serve Load

		6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025
ATC	Cost	644,682	1,189,879	1,077,900	696,526	630,114	920,320	1,722,095	2,638,200	1,991,433	1,252,367	755,706	647,957	835,789	1,570,303	1,190,650	739,835
	-in $/MWh	(36.41)	(55.54)	(52.40)	(40.94)	(37.57)	(51.33)	(83.55)	(122.31)	(105.94)	(65.86)	(46.71)	(39.14)	(47.40)	(73.00)	(57.91)	(43.44)
	-in $/kw-mo	(26.22)	(41.32)	(38.98)	(29.47)	(27.95)	(37.01)	(62.16)	(91.00)	(71.19)	(48.93)	(33.63)	(29.12)	(34.13)	(54.31)	(43.09)	(31.27)
	95th Percentile @ Risk ($)	169,211	222,870	346,331	235,138	145,721	265,125	494,012	828,644	700,577	368,068	231,691	264,915	319,843	714,354	589,944	350,264
	99th Percentile @ Risk ($)	233,900	346,194	586,849	377,372	204,696	437,427	718,421	1,135,704	1,145,761	634,204	351,102	416,337	422,772	1,117,863	921,908	631,517
	95th Percentile @ Risk ($/MWh)	(3.22)	(5.78)	(7.88)	(8.00)	(6.93)	(10.85)	(19.47)	(30.64)	(33.43)	(17.31)	(14.20)	(13.62)	(14.86)	(25.48)	(21.62)	(14.10)
	99th Percentile @ Risk ($/MWh)	(4.55)	(7.59)	(11.21)	(12.02)	(10.94)	(15.32)	(33.41)	(47.20)	(51.70)	(25.89)	(19.48)	(20.87)	(20.66)	(35.80)	(31.39)	(22.51)
	Position (MWh)	(17,705)	(21,424)	(20,571)	(17,015)	(16,773)	(17,930)	(20,611)	(21,569)	(18,798)	(19,017)	(16,180)	(16,554)	(17,631)	(21,512)	(20,560)	(17,033)
	Average MW	(25)	(29)	(28)	(24)	(23)	(25)	(28)	(29)	(28)	(26)	(22)	(22)	(24)	(29)	(28)	(24)

Margin - Scenario 1: with Optimal Hedges

		6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025
ATC	Cost	644,682	1,189,879	1,077,900	696,526	630,114	920,320	1,722,095	2,638,200	1,991,433	1,252,367	755,706	647,957	835,789	1,570,303	1,190,650	739,835
	-in $/MWh	(36.41)	(55.54)	(52.40)	(40.94)	(37.57)	(51.33)	(83.55)	(122.31)	(105.94)	(65.86)	(46.71)	(39.14)	(47.40)	(73.00)	(57.91)	(43.44)
	-in $/kw-mo	(26.22)	(41.32)	(38.98)	(29.47)	(27.95)	(37.01)	(62.16)	(91.00)	(71.19)	(48.93)	(33.63)	(29.12)	(34.13)	(54.31)	(43.09)	(31.27)
	95th Percentile @ Risk ($)	159,488	200,964	321,885	183,164	81,635	169,148	299,268	316,216	278,154	179,686	74,835	151,693	165,111	390,880	405,183	253,462
	99th Percentile @ Risk ($)	235,337	342,572	506,371	278,335	130,287	251,115	451,365	586,180	420,745	363,063	117,224	239,116	252,492	526,442	614,478	376,359
	95th Percentile @ Risk ($/MWh)	(2.55)	(2.39)	(2.14)	(2.08)	(1.22)	(2.56)	(4.58)	(5.12)	(3.66)	(2.99)	(1.43)	(2.28)	(4.30)	(4.14)	(9.29)	(4.40)
	99th Percentile @ Risk ($/MWh)	(3.53)	(3.60)	(3.28)	(2.94)	(1.70)	(3.41)	(6.94)	(8.32)	(5.56)	(5.22)	(2.26)	(3.07)	(6.16)	(7.03)	(12.27)	(6.70)
	Add'l ATC Power Hedge Position (MWh)	7,200	14,880	22,320	21,600	18,600	18,025	26,040	22,320	20,160	18,575	18,000	18,600	25,200	26,040	33,480	21,600
	Average MW	10	20	30	30	25	25	35	30	30	25	25	25	35	35	45	30
	Average Price ($/MWh)	32.52	49.67	45.57	37.78	35.90	48.19	79.11	115.50	99.68	63.10	44.58	36.32	42.74	63.53	49.35	38.79
	Notional	234,160	739,096	1,017,216	816,000	667,660	868,605	2,060,100	2,577,972	2,009,568	1,172,172	802,500	675,510	1,077,048	1,654,366	1,652,130	837,792
	Net Position (MWh)	(10,505)	(6,544)	1,749	4,585	1,827	95	5,429	751	1,362	(442)	1,820	2,046	7,569	4,528	12,920	4,567
	Average MW	(15)	(9)	2	6	2	0	7	1	2	(1)	3	3	11	6	17	6

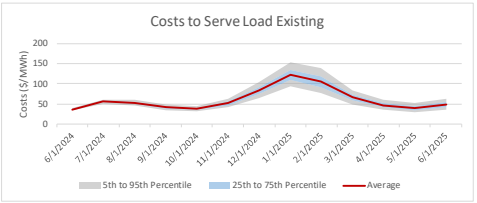
Margin - Scenario 2: with Capped Hedges

		6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025
ATC	Cost	644,682	1,189,879	1,077,900	696,526	630,114	920,320	1,722,095	2,638,200	1,991,433	1,252,367	755,706	647,957	835,789	1,570,303	1,190,650	739,835
	-in $/MWh	(36.41)	(55.54)	(52.40)	(40.94)	(37.57)	(51.33)	(83.55)	(122.31)	(105.94)	(65.86)	(46.71)	(39.14)	(47.40)	(73.00)	(57.91)	(43.44)
	-in $/kw-mo	(26.22)	(41.32)	(38.98)	(29.47)	(27.95)	(37.01)	(62.16)	(91.00)	(71.19)	(48.93)	(33.63)	(29.12)	(34.13)	(54.31)	(43.09)	(31.27)
	95th Percentile @ Risk	159,488	200,964	321,885	187,625	81,635	169,148	301,878	316,216	278,154	179,686	74,835	151,693	169,427	423,013	422,388	261,543
	99th Percentile @ Risk	235,337	342,572	506,371	282,542	130,287	251,115	441,334	586,180	420,745	363,063	117,224	239,116	257,662	550,794	601,319	376,333
	95th Percentile @ Risk ($/MWh)	(2.55)	(2.39)	(2.14)	(2.04)	(1.22)	(2.56)	(3.34)	(5.12)	(3.66)	(2.99)	(1.43)	(2.28)	(2.98)	(4.59)	(3.91)	(3.90)
	99th Percentile @ Risk ($/MWh)	(3.53)	(3.60)	(3.28)	(3.30)	(1.70)	(3.41)	(5.32)	(8.32)	(5.56)	(5.22)	(2.26)	(3.07)	(4.24)	(7.37)	(6.83)	(6.86)
	Add'l ATC Power Hedge Position (MWh)	7,200	14,880	22,320	18,000	18,600	18,025	22,320	22,320	20,160	18,575	18,000	18,600	18,000	22,320	22,320	18,000
	Average MW	10	20	30	25	25	25	30	30	30	25	25	25	25	30	30	25
	Average Price ($/MWh)	32.52	49.67	45.57	37.78	35.90	48.19	79.11	115.50	99.68	63.10	44.58	36.32	42.74	63.53	49.35	38.79
	Notional	234,160	739,096	1,017,216	680,000	667,660	868,605	1,765,800	2,577,972	2,009,568	1,172,172	802,500	675,510	769,320	1,418,028	1,101,420	698,160
	Net Position (MWh)	(10,505)	(6,544)	1,749	985	1,827	95	1,709	751	1,362	(442)	1,820	2,046	369	808	1,760	967
	Average MW	(15)	(9)	2	1	2	0	2	1	2	(1)	3	3	1	1	2	1

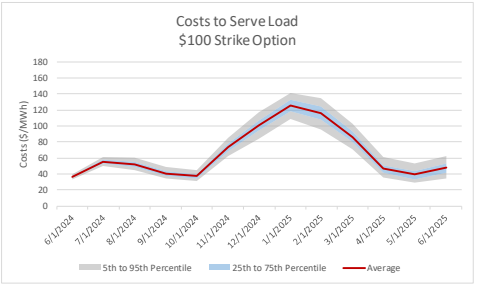
Granite State Electric - Small Customer Group Hedging Analysis

Table 6: PowerSimm Results – Daily Look Back Call Options

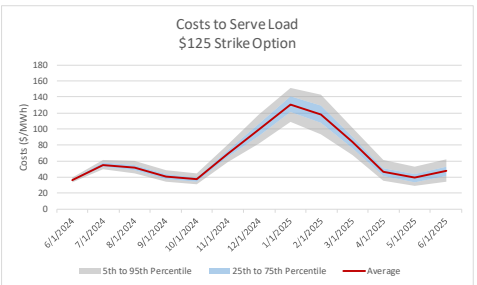
Month	6/1/2024	7/1/2024	8/1/2024	9/1/2024	10/1/2024	11/1/2024	12/1/2024	1/1/2025	2/1/2025	3/1/2025	4/1/2025	5/1/2025	6/1/2025	7/1/2025	8/1/2025	9/1/2025
Load (MWh)	17,705	21,424	20,571	17,015	16,773	17,930	20,611	21,569	18,798	19,017	16,180	16,554	17,631	21,512	20,560	17,033
Avg Load MW)	25	29	28	24	23	25	28	29	28	26	22	22	24	29	28	24
Cost to Serve Load																
Average	36.41	55.54	52.40	40.94	37.57	51.33	83.55	122.31	105.94	65.86	46.71	39.14	47.40	73.00	57.91	43.44
99th Percentile	40.91	63.16	63.54	52.89	48.51	66.63	117.01	169.59	157.52	91.73	66.18	59.99	68.04	108.88	89.22	65.83
95th Percentile	39.58	61.34	60.21	48.87	44.50	62.15	103.07	153.03	139.24	83.15	60.90	52.74	62.25	98.56	79.45	57.42
75th Percentile	37.62	57.98	55.18	43.65	40.05	55.60	90.40	135.09	117.75	72.69	51.35	44.00	53.15	81.13	65.60	47.99
25th Percentile	35.03	53.28	49.15	37.72	34.79	46.84	75.67	108.99	91.99	58.64	41.41	33.82	41.14	63.46	49.04	37.69
5th Percentile	33.41	49.49	45.20	33.90	31.67	41.15	65.48	94.12	76.50	48.34	35.00	28.73	34.77	52.98	39.57	31.27
95th PercentileAt Risk	3.17	5.81	7.81	7.94	6.94	10.82	19.52	30.71	33.30	17.29	14.20	13.60	14.85	25.57	21.54	13.98
99th Percentile at Risk	4.50	7.62	11.14	11.96	10.94	15.30	33.46	47.27	51.58	25.87	19.47	20.85	20.64	35.88	31.31	22.39



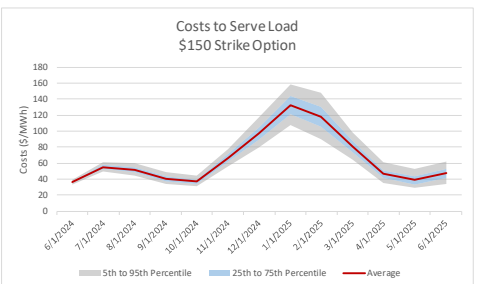
$100 Strike Option																
Volume (MW)	-	-	-	-	-	20.00	20.00	20.00	20.00	20.00	-	-	-	20.00	20.00	-
Premium ($/MWh)	-	-	-	-	-	27.06	27.06	27.06	27.06	27.06	-	-	-	16.50	16.50	-
Total Premium Cost ($)	-	-	-	-	-	390,205.20	402,652.80	402,652.80	363,686.40	402,111.60	-	-	-	245,520.00	245,520.00	-
Net Cost to Serve Load	36.41	55.54	52.40	40.94	37.57	73.25	100.74	125.09	115.66	86.28	46.71	39.14	47.40	84.47	70.11	43.44
99th Percentile	40.91	63.16	63.54	52.89	48.51	89.05	123.40	146.35	140.78	108.86	66.18	59.99	68.04	117.23	102.86	65.83
95th Percentile	39.58	61.34	60.21	48.87	44.50	85.18	116.82	140.74	134.32	102.96	60.90	52.74	62.25	108.56	92.70	57.42
75th Percentile	37.62	57.98	55.18	43.65	40.05	77.80	107.30	132.39	124.77	92.94	51.35	44.00	53.15	93.27	77.14	47.99
25th Percentile	35.03	53.28	49.15	37.72	34.79	68.58	94.41	118.34	107.58	79.39	41.41	33.82	41.14	74.49	61.88	37.69
5th Percentile	33.41	49.49	45.20	33.90	31.67	62.76	84.47	108.88	95.67	70.32	35.00	28.73	34.77	63.94	51.43	31.27
95th PercentileAt Risk	3.17	5.81	7.81	7.94	6.94	11.94	16.08	15.65	18.66	16.68	14.20	13.60	14.85	24.09	22.59	13.98
99th Percentile at Risk	4.50	7.62	11.14	11.96	10.94	15.81	22.66	21.26	25.12	22.58	19.47	20.85	20.64	32.76	32.74	22.39
Change in Cost	-	-	-	-	-	21.92	17.19	2.77	9.72	20.42	-	-	-	11.48	12.20	-
Change in 95th Percentile Risk	-	-	-	-	-	1.12	(3.44)	(15.06)	(14.64)	(0.62)	-	-	-	(1.48)	1.05	-
Change in 99th Percentile Risk	-	-	-	-	-	0.51	(10.80)	(26.02)	(26.46)	(3.29)	-	-	-	(3.13)	1.44	-



$125 Strike Option																
Volume (MW)	-	-	-	-	-	20.00	20.00	20.00	20.00	20.00	-	-	-	20.00	20.00	-
Premium ($/MWh)	-	-	-	-	-	22.67	22.67	22.67	22.67	22.67	-	-	-	14.00	14.00	-
Total Premium Cost ($)	-	-	-	-	-	326,901.40	337,329.60	337,329.60	304,684.80	336,876.20	-	-	-	208,320.00	208,320.00	-
Net Cost to Serve Load	36.41	55.54	52.40	40.94	37.57	69.72	99.53	130.63	118.24	83.52	46.71	39.14	47.40	82.94	68.27	43.44
99th Percentile	40.91	63.16	63.54	52.89	48.51	84.96	128.28	158.79	153.39	108.46	66.18	59.99	68.04	118.83	100.96	65.83
95th Percentile	39.58	61.34	60.21	48.87	44.50	81.17	118.44	151.10	143.16	101.38	60.90	52.74	62.25	107.91	90.88	57.42
75th Percentile	37.62	57.98	55.18	43.65	40.05	74.07	106.98	140.64	129.88	90.29	51.35	44.00	53.15	91.44	75.35	47.99
25th Percentile	35.03	53.28	49.15	37.72	34.79	64.98	91.66	121.67	108.04	76.18	41.41	33.82	41.14	73.05	59.98	37.69
5th Percentile	33.41	49.49	45.20	33.90	31.67	59.16	81.99	109.24	92.90	66.99	35.00	28.73	34.77	62.39	49.68	31.27
95th PercentileAt Risk	3.17	5.81	7.81	7.94	6.94	11.45	18.91	20.46	24.92	17.86	14.20	13.60	14.85	24.98	22.61	13.98
99th Percentile at Risk	4.50	7.62	11.14	11.96	10.94	15.24	28.75	28.16	35.16	24.94	19.47	20.85	20.64	35.90	32.69	22.39
Change in Cost	-	-	-	-	-	18.39	15.98	8.32	12.30	17.66	-	-	-	9.94	10.36	-
Change in 95th Percentile Risk	-	-	-	-	-	0.62	(0.61)	(10.25)	(8.38)	0.56	-	-	-	(0.59)	1.07	-
Change in 99th Percentile Risk	-	-	-	-	-	(0.06)	(4.71)	(19.11)	(16.42)	(0.93)	-	-	-	0.01	1.38	-



$150 Strike Option																
Volume (MW)	-	-	-	-	-	20.00	20.00	20.00	20.00	20.00	-	-	-	20.00	20.00	-
Premium ($/MWh)	-	-	-	-	-	19.19	19.19	19.19	19.19	19.19	-	-	-	-	-	-
Total Premium Cost ($)	-	-	-	-	-	276,719.80	285,547.20	285,547.20	257,913.60	285,163.40	-	-	-	-	-	-
Net Cost to Serve Load	36.41	55.54	52.40	40.94	37.57	66.90	97.47	132.70	118.26	80.90	46.71	39.14	47.40	73.08	57.83	43.44
99th Percentile	40.91	63.16	63.54	52.89	48.51	81.72	129.41	167.52	160.94	105.84	66.18	59.99	68.04	108.88	89.22	65.83
95th Percentile	39.58	61.34	60.21	48.87	44.50	77.89	117.29	158.34	148.39	98.62	60.90	52.74	62.25	98.56	79.45	57.42
75th Percentile	37.62	57.98	55.18	43.65	40.05	71.18	104.96	144.22	130.63	87.80	51.35	44.00	53.15	81.13	65.60	47.99
25th Percentile	35.03	53.28	49.15	37.72	34.79	62.32	89.16	121.52	105.77	73.64	41.41	33.82	41.14	63.46	49.04	37.69
5th Percentile	33.41	49.49	45.20	33.90	31.67	56.13	79.75	107.62	90.35	64.18	35.00	28.73	34.77	52.98	39.57	31.27
95th PercentileAt Risk	3.17	5.81	7.81	7.94	6.94	10.99	19.82	25.64	30.13	17.72	14.20	13.60	14.85	25.49	21.62	13.98
99th Percentile at Risk	4.50	7.62	11.14	11.96	10.94	14.82	31.93	34.82	42.68	24.94	19.47	20.85	20.64	35.81	31.39	22.39
Change in Cost	-	-	-	-	-	15.57	13.92	10.38	12.32	15.04	-	-	-	0.08	(0.08)	-
Change in 95th Percentile Risk	-	-	-	-	-	0.17	0.30	(5.08)	(3.17)	0.43	-	-	-	(0.08)	0.08	-
Change in 99th Percentile Risk	-	-	-	-	-	(0.48)	(1.52)	(12.46)	(8.90)	(0.93)	-	-	-	(0.08)	0.08	-



Granite State Electric - Small Customer Group Hedging Analysis

Table 7: Historical Option Strike Analysis

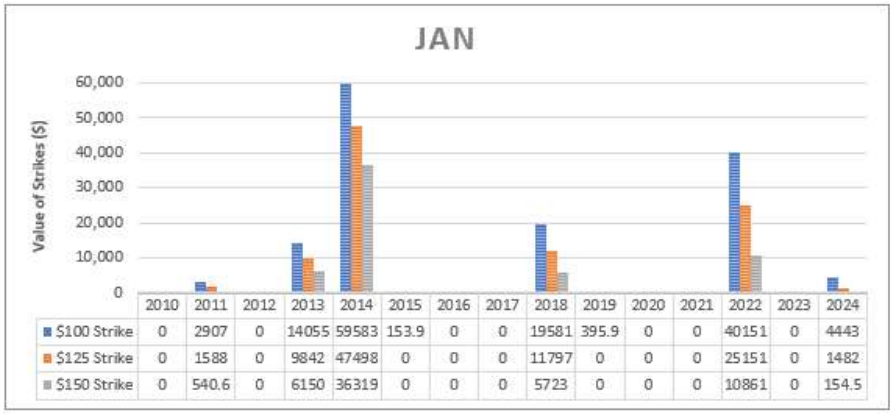
			2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
		Average DA LMP	$ 59.74	$ 68.52	$ 39.75	$ 79.11	$ 158.82	$ 68.89	$ 38.63	$ 40.09	$ 102.03	$ 55.03	$ 26.56	$ 42.60	$ 145.30	$ 49.31
Jan	$100 Strike	Days Struck	-	4	-	8	21	1	-	-	16	2	-	-	25	-
		Value ($)	$ -	$ 2,907	$ -	$ 14,055	$ 59,583	$ 154	$ -	$ -	$ 19,581	$ 396	$ -	$ -	$ 40,151	$ -
	$125 Strike	Days Struck	-	2	-	7	20	-	-	-	11	-	-	-	25	-
		Value ($)	$ -	$ 1,588	$ -	$ 9,842	$ 47,498	$ -	$ -	$ -	$ 11,797	$ -	$ -	$ -	$ 25,151	$ -
	$150 Strike	Days Struck	-	1	-	6	17	-	-	-	9	-	-	-	21	-
		Value ($)	$ -	$ 541	$ -	$ 6,150	$ 36,319	$ -	$ -	$ -	$ 5,723	$ -	$ -	$ -	$ 10,861	$ -
		Average DA LMP	$ 51.47	$ 53.79	$ 30.46	$ 113.32	$ 151.67	$ 117.33	$ 30.16	$ 30.12	$ 39.16	$ 35.79	$ 23.29	$ 70.89	$ 114.06	$ 64.95
Feb	$100 Strike	Days Struck	-	1	-	17	24	18	-	-	-	-	-	4	17	8
		Value ($)	$ -	$ 207	$ -	$ 21,211	$ 37,888	$ 18,162	$ -	$ -	$ -	$ -	$ -	$ 419	$ 21,180	$ 8,067
	$125 Strike	Days Struck	-	-	-	9	20	14	-	-	-	-	-	-	14	3
		Value ($)	$ -	$ -	$ -	$ 13,180	$ 25,079	$ 8,316	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,244	$ 5,460
	$150 Strike	Days Struck	-	-	-	8	15	6	-	-	-	-	-	-	10	3
		Value ($)	$ -	$ -	$ -	$ 8,318	$ 14,180	$ 1,956	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,024	$ 3,660
		Average DA LMP	$ 37.31	$ 45.16	$ 25.82	$ 52.61	$ 103.69	$ 62.32	$ 21.11	$ 35.65	$ 35.20	$ 37.93	$ 17.44	$ 34.97	$ 63.78	$ 35.45
Mar	$100 Strike	Days Struck	-	-	-	-	15	4	-	-	-	-	-	-	5	-
		Value ($)	$ -	$ -	$ -	$ -	$ 21,905	$ 1,645	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,741	$ -
	$125 Strike	Days Struck	-	-	-	-	11	-	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ 14,611	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 834	$ -
	$150 Strike	Days Struck	-	-	-	-	6	-	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ 9,560	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 234	$ -
		Average DA LMP	$ 35.03	$ 43.10	$ 25.95	$ 43.16	$ 45.00	$ 28.29	$ 28.22	$ 29.23	$ 44.88	$ 26.76	$ 18.46	$ 26.01	$ 61.43	$ 28.81
Apr	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Average DA LMP	$ 42.28	$ 42.17	$ 25.92	$ 40.41	$ 36.70	$ 25.19	$ 21.34	$ 26.67	$ 24.21	$ 24.24	$ 16.48	$ 24.93	$ 75.54	$ 25.16
May	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 490	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Average DA LMP	$ 47.74	$ 43.04	$ 33.31	$ 36.42	$ 37.76	$ 21.55	$ 22.97	$ 25.21	$ 26.90	$ 22.17	$ 20.06	$ 36.77	$ 68.44	$ 33.55
Jun	$100 Strike	Days Struck	-	-	1	-	-	-	-	-	-	-	-	1	-	-
		Value ($)	$ -	$ -	$ 190	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 46	$ -	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Average DA LMP	$ 58.80	$ 53.76	$ 41.23	$ 50.65	$ 37.16	$ 27.64	$ 31.39	$ 27.84	$ 33.02	$ 29.69	$ 24.00	$ 37.37	$ 85.49	$ 41.63
Jul	$100 Strike	Days Struck	-	2	-	1	-	-	-	-	-	-	-	-	7	-
		Value ($)	$ -	$ 1,286	$ -	$ 129	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,692	$ -
	$125 Strike	Days Struck	-	1	-	-	-	-	-	-	-	-	-	-	6	-
		Value ($)	$ -	$ 234	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,750	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	3	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,204	$ -
		Average DA LMP	$ 52.11	$ 43.50	$ 38.52	$ 34.79	$ 30.54	$ 33.98	$ 35.51	$ 25.19	$ 39.15	$ 26.17	$ 24.35	$ 49.36	$ 96.04	$ 27.01
Aug	$100 Strike	Days Struck	-	-	-	-	-	1	-	-	-	-	-	-	8	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ 1,331	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,562	$ -
	$125 Strike	Days Struck	-	-	-	-	-	1	-	-	-	-	-	-	4	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ 731	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,274	$ -
	$150 Strike	Days Struck	-	-	-	-	-	1	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ 131	$ -	$ -	$ -	$ -	$ -	$ -	$ 487	$ -
		Average DA LMP	$ 44.72	$ 40.71	$ 31.92	$ 37.29	$ 34.36	$ 31.16	$ 29.17	$ 24.31	$ 34.12	$ 21.39	$ 21.35	$ 48.09	$ 67.38	$ 29.67
Sep	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Average DA LMP	$ 36.12	$ 41.52	$ 35.62	$ 34.15	$ 32.27	$ 37.49	$ 22.58	$ 29.74	$ 38.84	$ 20.97	$ 25.08	$ 58.13	$ 53.26	$ 26.62
Oct	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Average DA LMP	$ 43.53	$ 36.05	$ 54.69	$ 44.76	$ 47.49	$ 30.05	$ 25.02	$ 34.45	$ 56.16	$ 32.36	$ 26.16	$ 57.33	$ 60.45	$ 39.66
Nov	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	3	-	-	-	3	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 581	$ -	$ -	$ -	$ 2,237	$ -
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 767	$ -
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-	-	1	-
		Value ($)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 167	$ -
		Average DA LMP	$ 63.20	$ 35.36	$ 45.88	$ 88.88	$ 42.94	$ 23.11	$ 52.52	$ 68.99	$ 47.54	$ 39.97	$ 40.51	$ 63.81	$ 109.27	$ 37.30
Dec	$100 Strike	Days Struck	2	-	-	10	-	-	-	6	-	2	1	4	15	-
		Value ($)	$ 415	$ -	$ -	$ 16,612	$ -	$ -	$ -	$ 6,915	$ -	$ 340	$ 57	$ 1,714	$ 24,311	$ -
	$125 Strike	Days Struck	-	-	-	9	-	-	-	5	-	-	-	1	10	-
		Value ($)	$ -	$ -	$ -	$ 10,963	$ -	$ -	$ -	$ 3,860	$ -	$ -	$ -	$ 292	$ 17,292	$ -
	$150 Strike	Days Struck	-	-	-	8	-	-	-	4	-	-	-	-	7	-
		Value ($)	$ -	$ -	$ -	$ 5,842	$ -	$ -	$ -	$ 1,303	$ -	$ -	$ -	$ -	$ 11,898	$ -

[4]

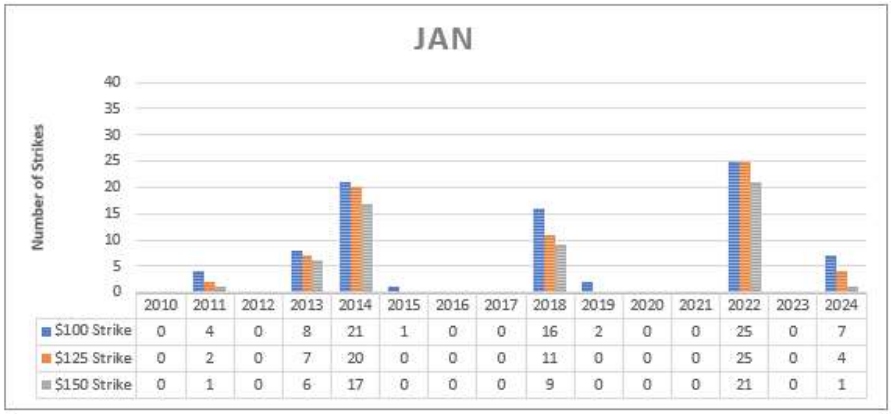
[4] Highlighted cells indicate values greater than $100/MWh.

Granite State Electric - Small Customer Group Hedging Analysis

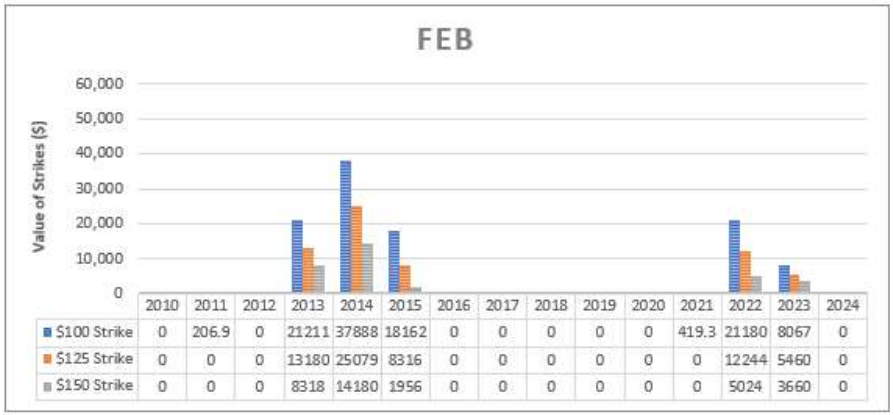
Figure 7: Historical Option Strike Analysis (Jan – Mar)



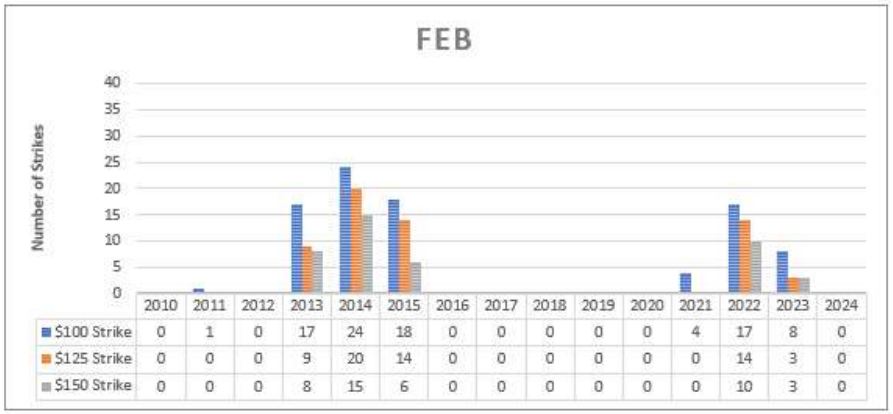
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	2907	0	14055	59583	153.9	0	0	19581	395.9	0	0	40151	0	4443
$125 Strike	0	1588	0	9842	47498	0	0	0	11797	0	0	0	25151	0	1482
$150 Strike	0	540.6	0	6150	36319	0	0	0	5723	0	0	0	10861	0	154.5



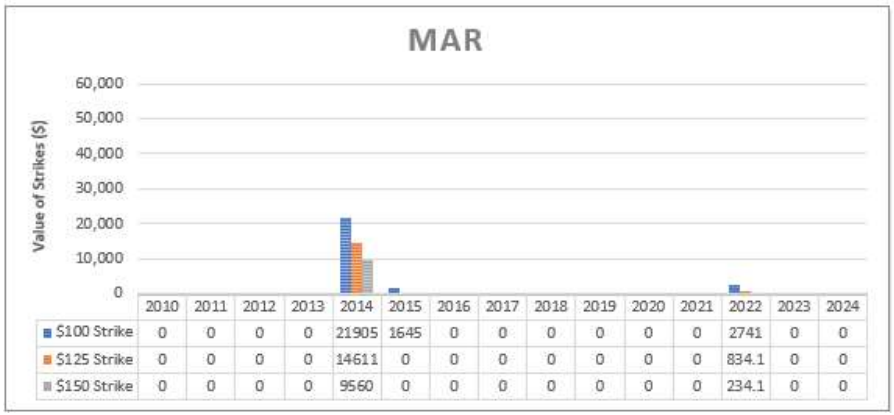
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	4	0	8	21	1	0	0	16	2	0	0	25	0	7
$125 Strike	0	2	0	7	20	0	0	0	11	0	0	0	25	0	4
$150 Strike	0	1	0	6	17	0	0	0	9	0	0	0	21	0	1



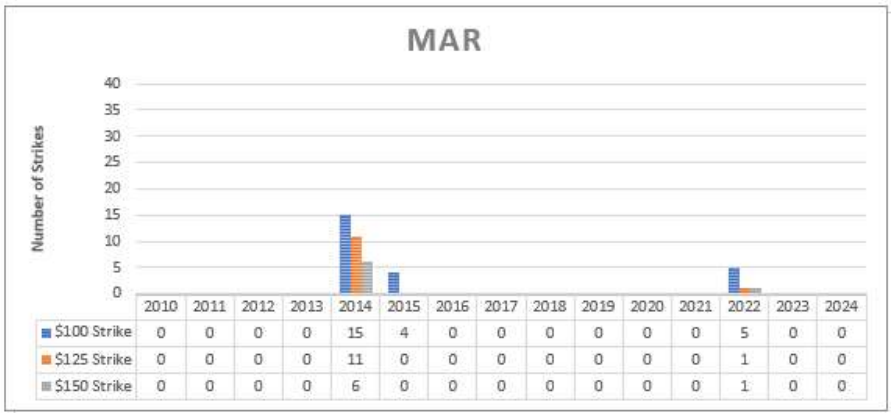
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	206.9	0	21211	37888	18162	0	0	0	0	0	419.3	21180	8067	0
$125 Strike	0	0	0	13180	25079	8316	0	0	0	0	0	0	12244	5460	0
$150 Strike	0	0	0	8318	14180	1956	0	0	0	0	0	0	5024	3660	0



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	1	0	17	24	18	0	0	0	0	0	4	17	8	0
$125 Strike	0	0	0	9	20	14	0	0	0	0	0	0	14	3	0
$150 Strike	0	0	0	8	15	6	0	0	0	0	0	0	10	3	0



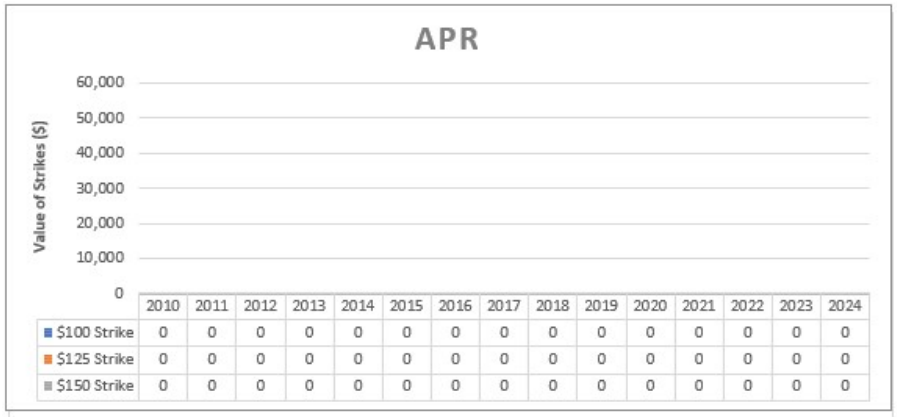
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	21905	1645	0	0	0	0	0	0	2741	0	0
$125 Strike	0	0	0	0	14611	0	0	0	0	0	0	0	834.1	0	0
$150 Strike	0	0	0	0	9560	0	0	0	0	0	0	0	234.1	0	0



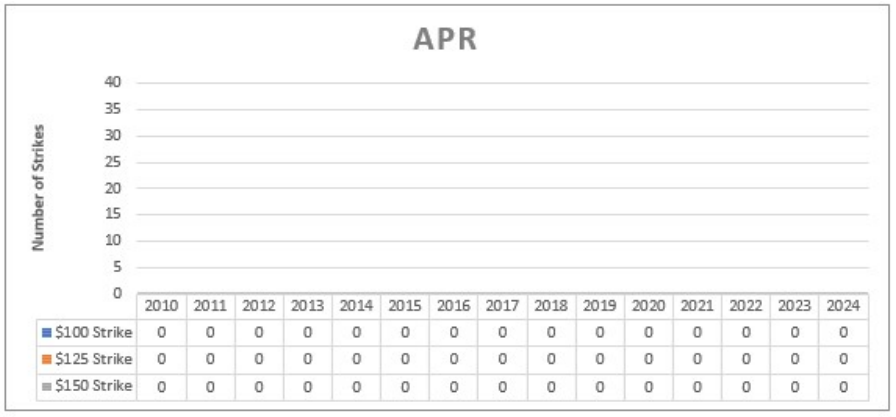
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	15	4	0	0	0	0	0	0	5	0	0
$125 Strike	0	0	0	0	11	0	0	0	0	0	0	0	1	0	0
$150 Strike	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0

Granite State Electric - Small Customer Group Hedging Analysis

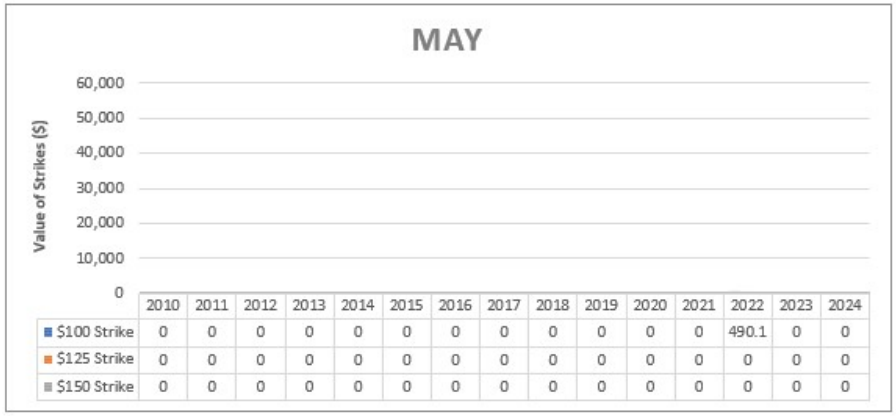
Figure 8: Historical Option Strike Analysis (Apr - Jun)



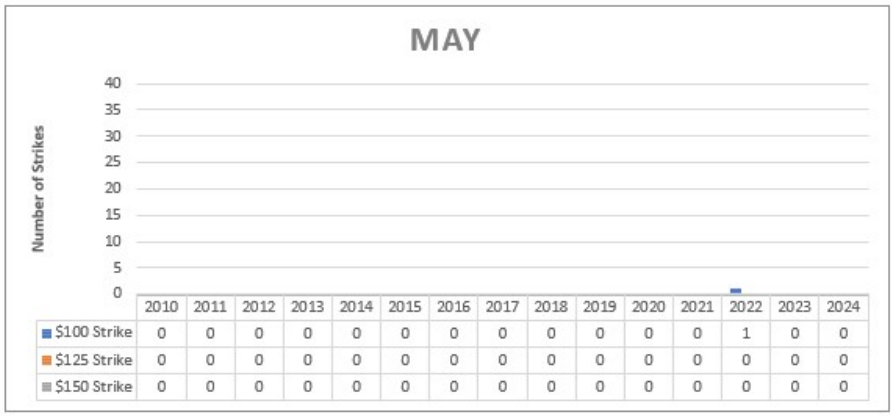
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



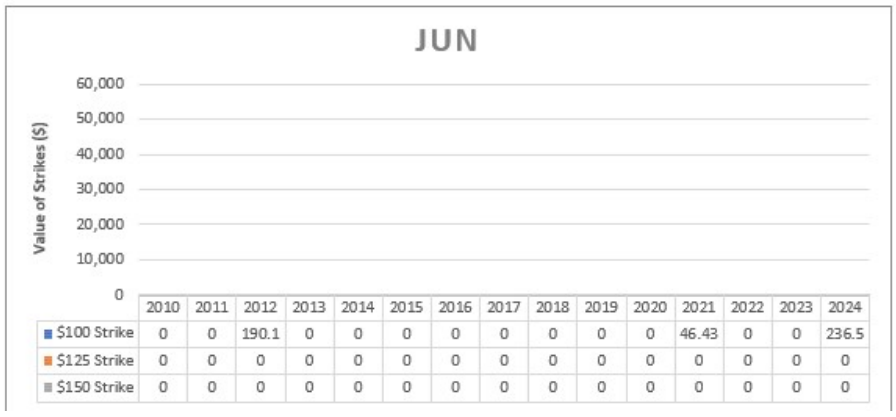
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



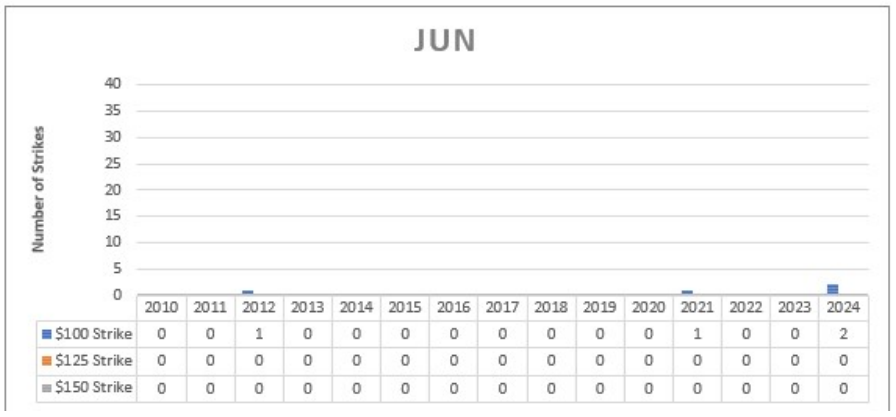
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	490.1	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



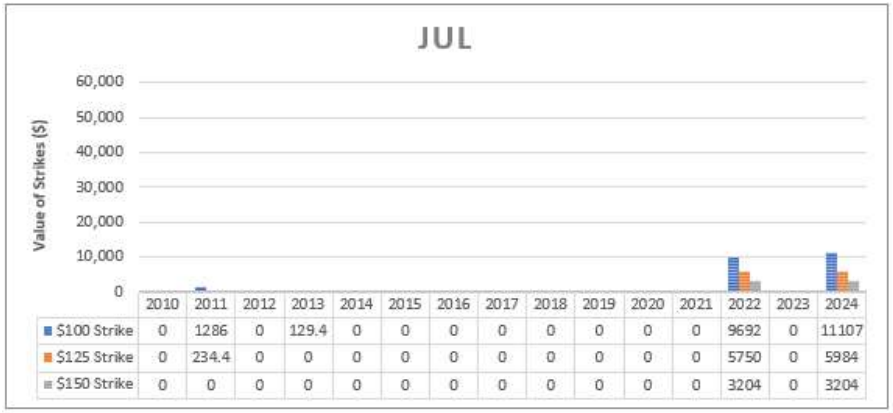
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	190.1	0	0	0	0	0	0	0	0	46.43	0	0	236.5
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



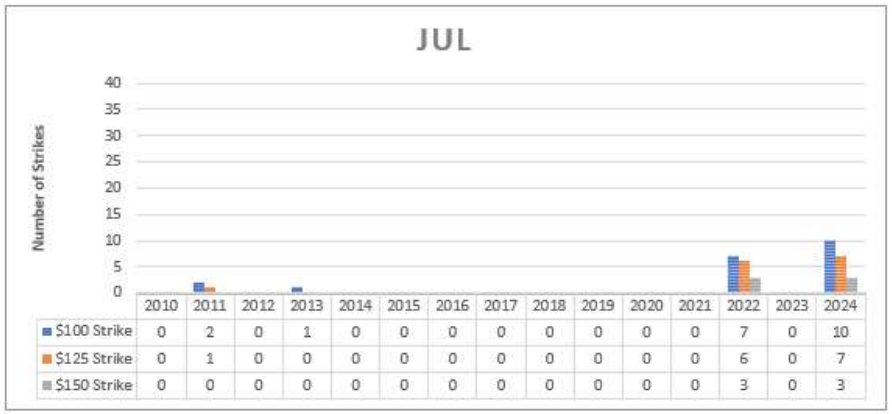
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Granite State Electric - Small Customer Group Hedging Analysis

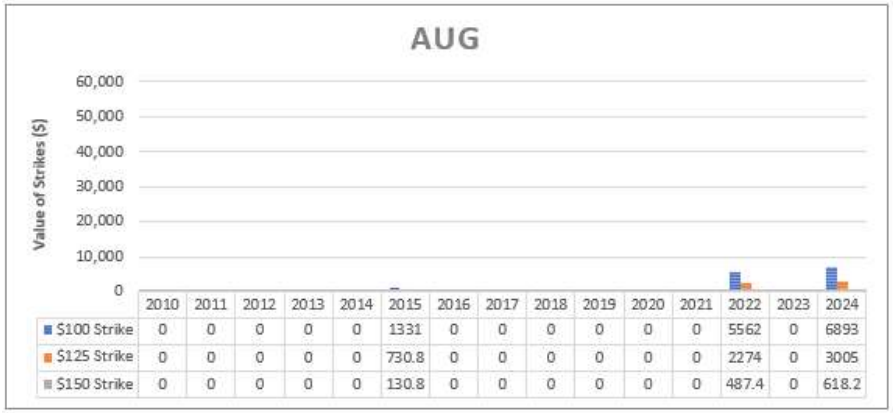
Figure 9: Historical Option Strike Analysis (Jul – Sep)



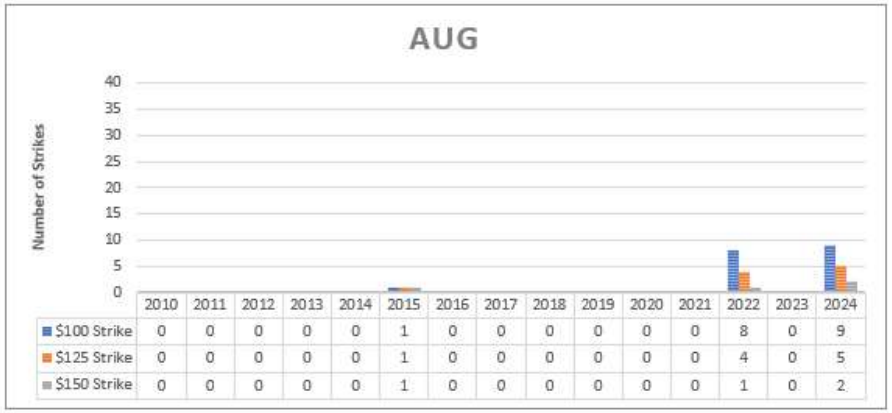
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	1286	0	129.4	0	0	0	0	0	0	0	0	9692	0	11107
$125 Strike	0	234.4	0	0	0	0	0	0	0	0	0	0	5750	0	5984
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	3204	0	3204



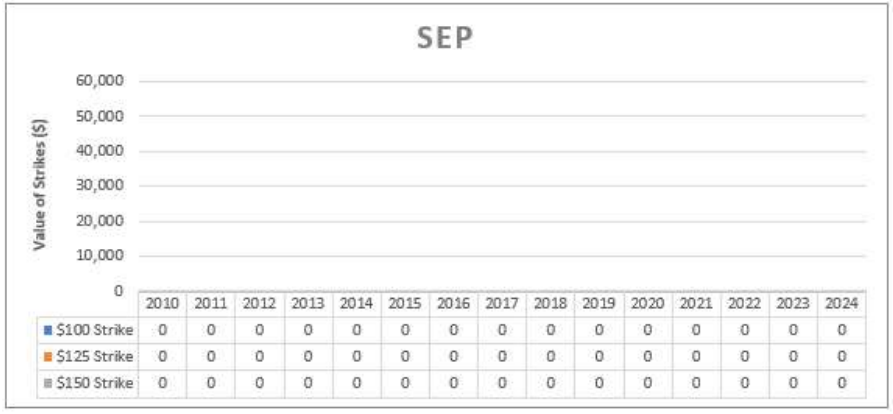
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	2	0	1	0	0	0	0	0	0	0	0	7	0	10
$125 Strike	0	1	0	0	0	0	0	0	0	0	0	0	6	0	7
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3



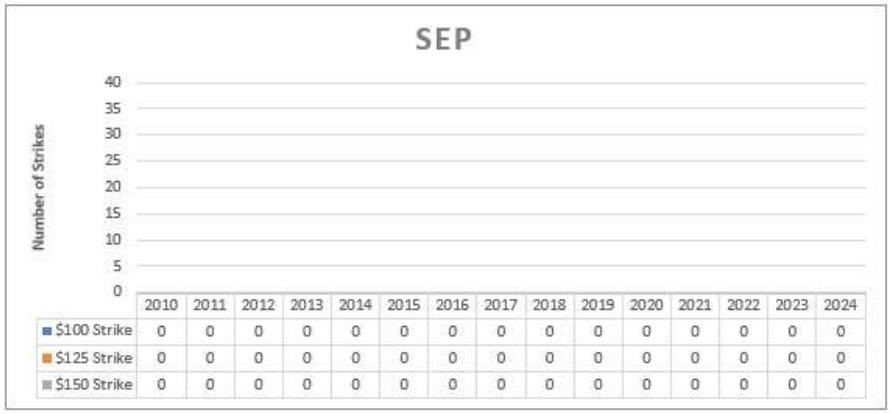
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	1331	0	0	0	0	0	0	5562	0	6893
$125 Strike	0	0	0	0	0	730.8	0	0	0	0	0	0	2274	0	3005
$150 Strike	0	0	0	0	0	130.8	0	0	0	0	0	0	487.4	0	618.2



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	1	0	0	0	0	0	0	8	0	9
$125 Strike	0	0	0	0	0	1	0	0	0	0	0	0	4	0	5
$150 Strike	0	0	0	0	0	1	0	0	0	0	0	0	1	0	2



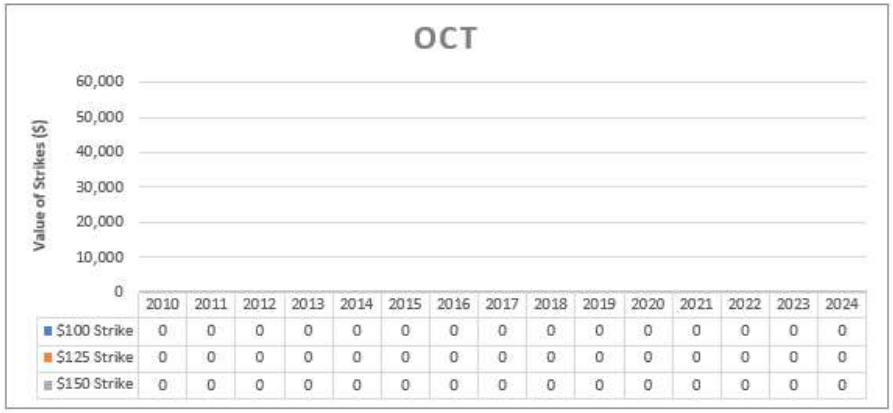
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



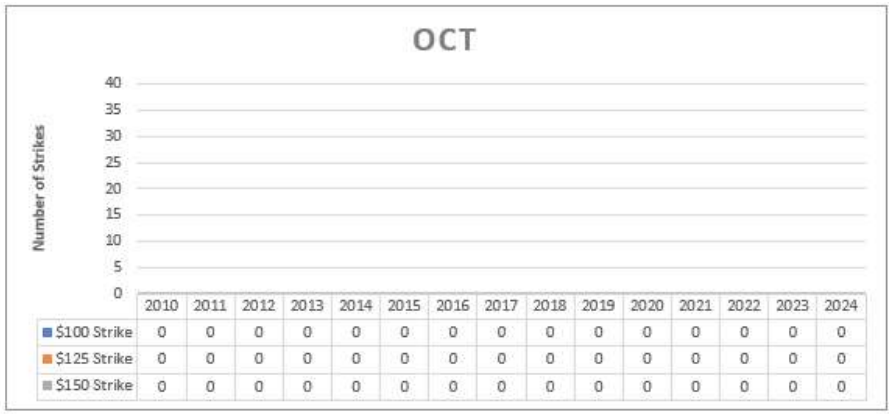
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Granite State Electric - Small Customer Group Hedging Analysis

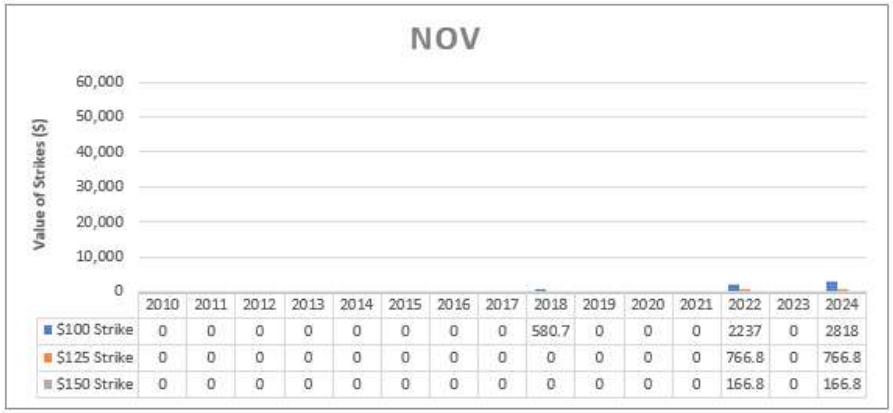
Figure 10: Historical Option Strike Analysis (Oct – Dec)



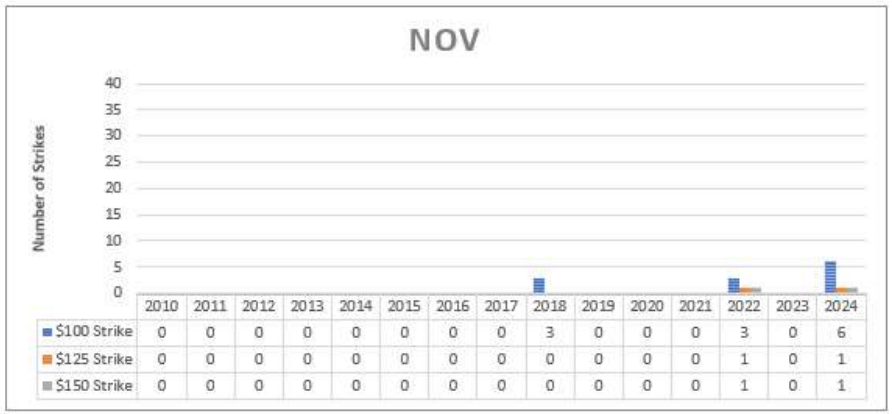
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



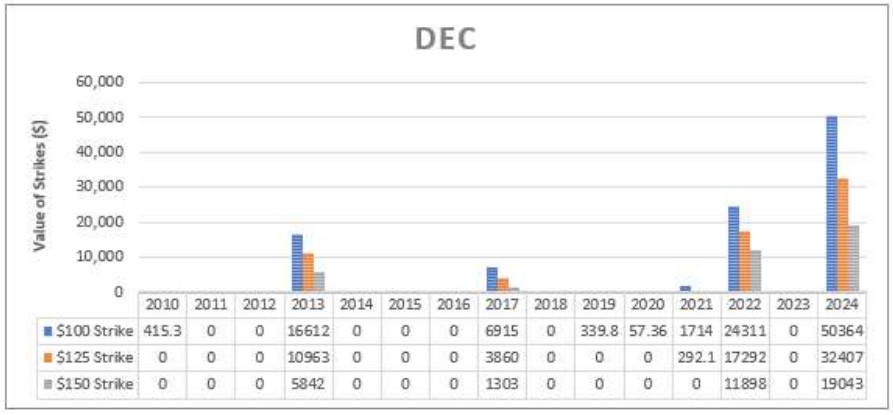
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



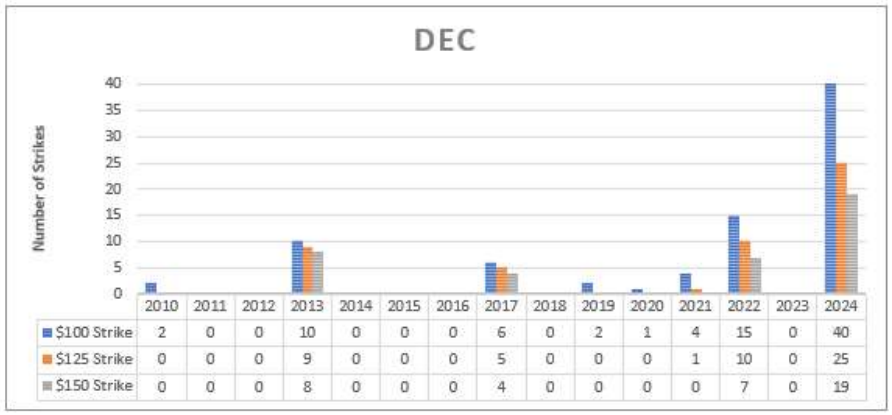
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	580.7	0	0	0	2237	0	2818
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	766.8	0	766.8
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	166.8	0	166.8



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6
$125 Strike	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
$150 Strike	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	415.3	0	0	16612	0	0	0	6915	0	339.8	57.36	1714	24311	0	50364
$125 Strike	0	0	0	10963	0	0	0	3860	0	0	0	292.1	17292	0	32407
$150 Strike	0	0	0	5842	0	0	0	1303	0	0	0	0	11898	0	19043



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$100 Strike	2	0	0	10	0	0	0	6	0	2	1	4	15	0	40
$125 Strike	0	0	0	9	0	0	0	5	0	0	0	1	10	0	25
$150 Strike	0	0	0	8	0	0	0	4	0	0	0	0	7	0	19

Granite State Electric - Small Customer Group Hedging Analysis

Table 8: Historical Hedge Revenue using Daily Look Back Call Options (2013 – 2023)

			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jan	Avg DA LMP ($/MWh)		$ 79.11	$ 158.82	$ 68.89	$ 38.63	$ 40.09	$ 102.03	$ 55.03	$ 26.56	$ 42.60	$ 145.30	$ 49.31
	ATC Average Load (MW)		54	55	49	42	42	48	47	44	49	52	45
	Cost to Serve Load ($000)		$ 3,646	$ 7,307	$ 2,685	$ 1,245	$ 1,319	$ 4,053	$ 2,078	$ 905	$ 1,612	$ 5,947	$ 1,699
	ATC Hedge Volume (MW)		50	55	45	40	40	45	45	40	45	50	40
	$100 Strike	Days Struck	8	21	1	-	-	16	2	-	-	25	-
		Net Revenue from Hedge ($000)	$ 703	$ 3,277	$ 7	$ -	$ -	$ 881	$ 18	$ -	$ -	$ 2,008	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 2,943	$ 4,030	$ 2,678	$ 1,245	$ 1,319	$ 3,172	$ 2,060	$ 905	$ 1,612	$ 3,939	$ 1,699
	$125 Strike	Days Struck	7	20	-	-	-	11	-	-	-	25	-
		Net Revenue from Hedge ($000)	$ 492	$ 2,612	$ -	$ -	$ -	$ 531	$ -	$ -	$ -	$ 1,258	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 3,153	$ 4,694	$ 2,685	$ 1,245	$ 1,319	$ 3,522	$ 2,078	$ 905	$ 1,612	$ 4,689	$ 1,699
	$150 Strike	Days Struck	6	17	-	-	-	9	-	-	-	21	-
		Net Revenue from Hedge ($000)	$ 307	$ 1,998	$ -	$ -	$ -	$ 258	$ -	$ -	$ -	$ 543	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 3,338	$ 5,309	$ 2,685	$ 1,245	$ 1,319	$ 3,796	$ 2,078	$ 905	$ 1,612	$ 5,404	$ 1,699
Feb	Avg DA LMP ($/MWh)		$ 113.32	$ 151.67	$ 117.33	$ 30.16	$ 30.12	$ 39.16	$ 35.79	$ 23.29	$ 70.89	$ 114.06	$ 64.95
	ATC Average Load (MW)		52	50	48	41	41	42	45	44	49	47	45
	Cost to Serve Load ($000)		$ 4,429	$ 5,381	$ 3,946	$ 892	$ 851	$ 1,151	$ 1,107	$ 722	$ 2,507	$ 3,869	$ 2,312
	ATC Hedge Volume (MW)		50	45	45	40	40	40	40	40	45	45	45
	$100 Strike	Days Struck	17	24	18	-	-	-	-	-	4	17	8
		Net Revenue from Hedge ($000)	$ 1,061	$ 1,705	$ 817	$ -	$ -	$ -	$ -	$ -	$ 19	$ 953	$ 363
		Cost to Serve Load w/ Hedge ($000)	$ 3,368	$ 3,676	$ 3,128	$ 892	$ 851	$ 1,151	$ 1,107	$ 722	$ 2,488	$ 2,916	$ 1,949
	$125 Strike	Days Struck	9	20	14	-	-	-	-	-	-	14	3
		Net Revenue from Hedge ($000)	$ 659	$ 1,129	$ 374	$ -	$ -	$ -	$ -	$ -	$ -	$ 551	$ 246
		Cost to Serve Load w/ Hedge ($000)	$ 3,770	$ 4,252	$ 3,572	$ 892	$ 851	$ 1,151	$ 1,107	$ 722	$ 2,507	$ 3,318	$ 2,066
	$150 Strike	Days Struck	8	15	6	-	-	-	-	-	-	10	3
		Net Revenue from Hedge ($000)	$ 416	$ 638	$ 88	$ -	$ -	$ -	$ -	$ -	$ -	$ 226	$ 165
		Cost to Serve Load w/ Hedge ($000)	$ 4,013	$ 4,742	$ 3,858	$ 892	$ 851	$ 1,151	$ 1,107	$ 722	$ 2,507	$ 3,643	$ 2,147
Mar	Avg DA LMP ($/MWh)		$ 52.61	$ 103.69	$ 62.32	$ 21.11	$ 35.65	$ 35.20	$ 37.93	$ 17.44	$ 34.97	$ 63.78	$ 35.45
	ATC Average Load (MW)		46	47	41	36	40	38	40	39	42	40	40
	Cost to Serve Load ($000)		$ 1,860	$ 4,085	$ 2,040	$ 567	$ 1,085	$ 1,021	$ 1,173	$ 507	$ 1,149	$ 2,043	$ 1,083
	ATC Hedge Volume (MW)		45	45	40	35	35	35	40	35	40	35	35
	$100 Strike	Days Struck	-	15	4	-	-	-	-	-	-	5	-
		Net Revenue from Hedge ($000)	$ -	$ 986	$ 66	$ -	$ -	$ -	$ -	$ -	$ -	$ 96	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,860	$ 3,100	$ 1,975	$ 567	$ 1,085	$ 1,021	$ 1,173	$ 507	$ 1,149	$ 1,947	$ 1,083
	$125 Strike	Days Struck	-	11	-	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ 657	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,860	$ 3,428	$ 2,040	$ 567	$ 1,085	$ 1,021	$ 1,173	$ 507	$ 1,149	$ 2,014	$ 1,083
	$150 Strike	Days Struck	-	6	-	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ 430	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,860	$ 3,655	$ 2,040	$ 567	$ 1,085	$ 1,021	$ 1,173	$ 507	$ 1,149	$ 2,035	$ 1,083

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[5] Highlighted cells indicate values greater than $100/MWh.
[6] Results do not include cost of premiums.

Granite State Electric - Small Customer Group Hedging Analysis

Table 9: Historical Hedge Revenue using Daily Look Back Call Options (cont.)

			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Apr	Avg DA LMP ($/MWh)		$ 43.16	$ 45.00	$ 28.29	$ 28.22	$ 29.23	$ 44.88	$ 26.76	$ 18.46	$ 26.01	$ 61.43	$ 28.81
	ATC Average Load (MW)		41	38	34	33	33	35	34	36	36	34	33
	Cost to Serve Load ($000)		$ 1,310	$ 1,244	$ 710	$ 694	$ 721	$ 1,187	$ 673	$ 488	$ 681	$ 1,539	$ 696
	ATC Hedge Volume (MW)		40	35	30	30	30	35	30	35	35	30	30
	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,310	$ 1,244	$ 710	$ 694	$ 721	$ 1,187	$ 673	$ 488	$ 681	$ 1,539	$ 696
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,310	$ 1,244	$ 710	$ 694	$ 721	$ 1,187	$ 673	$ 488	$ 681	$ 1,539	$ 696
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,310	$ 1,244	$ 710	$ 694	$ 721	$ 1,187	$ 673	$ 488	$ 681	$ 1,539	$ 696
May	Avg DA LMP ($/MWh)		$ 40.41	$ 36.70	$ 25.19	$ 21.34	$ 26.67	$ 24.21	$ 24.24	$ 16.48	$ 24.93	$ 75.54	$ 25.16
	ATC Average Load (MW)		39	35	34	33	33	33	33	36	36	38	26
	Cost to Serve Load ($000)		$ 1,200	$ 970	$ 663	$ 536	$ 671	$ 606	$ 596	$ 444	$ 692	$ 2,278	$ 500
	ATC Hedge Volume (MW)		35	30	30	30	30	30	30	35	35	35	25
	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,200	$ 970	$ 663	$ 536	$ 671	$ 606	$ 596	$ 444	$ 692	$ 2,261	$ 500
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,200	$ 970	$ 663	$ 536	$ 671	$ 606	$ 596	$ 444	$ 692	$ 2,278	$ 500
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,200	$ 970	$ 663	$ 536	$ 671	$ 606	$ 596	$ 444	$ 692	$ 2,278	$ 500
Jun	Avg DA LMP ($/MWh)		$ 36.42	$ 37.76	$ 21.55	$ 22.97	$ 25.21	$ 26.90	$ 22.17	$ 20.06	$ 36.77	$ 68.44	$ 33.55
	ATC Average Load (MW)		46	39	37	37	39	38	37	43	48	41	28
	Cost to Serve Load ($000)		$ 1,268	$ 1,113	$ 587	$ 642	$ 756	$ 764	$ 602	$ 657	$ 1,510	$ 2,086	$ 729
	ATC Hedge Volume (MW)		45	35	35	35	35	35	35	40	45	40	25
	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	1	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,268	$ 1,113	$ 587	$ 642	$ 756	$ 764	$ 602	$ 657	$ 1,508	$ 2,086	$ 729
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,268	$ 1,113	$ 587	$ 642	$ 756	$ 764	$ 602	$ 657	$ 1,510	$ 2,086	$ 729
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,268	$ 1,113	$ 587	$ 642	$ 756	$ 764	$ 602	$ 657	$ 1,510	$ 2,086	$ 729

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[7] Highlighted cells indicate values greater than $100/MWh.
[8] Results do not include cost of premiums.

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Table 10: Historical Hedge Revenue using Daily Look Back Call Options (cont.)

			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Jul	Avg DA LMP ($/MWh)		$ 50.65	$ 37.16	$ 27.64	$ 31.39	$ 27.84	$ 33.02	$ 29.69	$ 24.00	$ 37.37	$ 85.49	$ 41.63
	ATC Average Load (MW)		58	47	43	45	42	48	49	51	45	53	38
	Cost to Serve Load ($000)		$ 2,439	$ 1,390	$ 936	$ 1,134	$ 926	$ 1,258	$ 1,150	$ 976	$ 1,338	$ 4,030	$ 1,332
	ATC Hedge Volume (MW)		55	45	40	40	40	45	45	50	45	50	35
	$100 Strike	Days Struck	1	-	-	-	-	-	-	-	-	7	-
		Net Revenue from Hedge ($000)	$ 7	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 485	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 2,432	$ 1,390	$ 936	$ 1,134	$ 926	$ 1,258	$ 1,150	$ 976	$ 1,338	$ 3,545	$ 1,332
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	6	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 287	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 2,439	$ 1,390	$ 936	$ 1,134	$ 926	$ 1,258	$ 1,150	$ 976	$ 1,338	$ 3,742	$ 1,332
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	3	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 160	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 2,439	$ 1,390	$ 936	$ 1,134	$ 926	$ 1,258	$ 1,150	$ 976	$ 1,338	$ 3,870	$ 1,332
Aug	Avg DA LMP ($/MWh)		$ 34.79	$ 30.54	$ 33.98	$ 35.51	$ 25.19	$ 39.15	$ 26.17	$ 24.35	$ 49.36	$ 96.04	$ 27.01
	ATC Average Load (MW)		48	41	43	45	40	47	43	48	52	52	30
	Cost to Serve Load ($000)		$ 1,285	$ 982	$ 1,214	$ 1,290	$ 786	$ 1,511	$ 876	$ 922	$ 2,136	$ 4,195	$ 615
	ATC Hedge Volume (MW)		45	40	40	45	35	45	40	45	50	50	25
	$100 Strike	Days Struck	-	-	1	-	-	-	-	-	-	8	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ 53	$ -	$ -	$ -	$ -	$ -	$ -	$ 278	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,285	$ 982	$ 1,161	$ 1,290	$ 786	$ 1,511	$ 876	$ 922	$ 2,136	$ 3,917	$ 615
	$125 Strike	Days Struck	-	-	1	-	-	-	-	-	-	4	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ 29	$ -	$ -	$ -	$ -	$ -	$ -	$ 114	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,285	$ 982	$ 1,185	$ 1,290	$ 786	$ 1,511	$ 876	$ 922	$ 2,136	$ 4,081	$ 615
	$150 Strike	Days Struck	-	-	1	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ 5	$ -	$ -	$ -	$ -	$ -	$ -	$ 24	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,285	$ 982	$ 1,209	$ 1,290	$ 786	$ 1,511	$ 876	$ 922	$ 2,136	$ 4,171	$ 615
Sep	Avg DA LMP ($/MWh)		$ 37.29	$ 34.36	$ 31.16	$ 29.17	$ 24.31	$ 34.12	$ 21.39	$ 21.35	$ 48.09	$ 67.38	$ 29.67
	ATC Average Load (MW)		43	39	38	36	36	38	34	38	39	37	29
	Cost to Serve Load ($000)		$ 1,205	$ 1,009	$ 910	$ 781	$ 653	$ 995	$ 539	$ 596	$ 1,383	$ 1,861	$ 728
	ATC Hedge Volume (MW)		40	35	35	35	35	35	30	35	35	35	25
	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,205	$ 1,009	$ 910	$ 781	$ 653	$ 995	$ 539	$ 596	$ 1,383	$ 1,861	$ 728
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,205	$ 1,009	$ 910	$ 781	$ 653	$ 995	$ 539	$ 596	$ 1,383	$ 1,861	$ 728
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,205	$ 1,009	$ 910	$ 781	$ 653	$ 995	$ 539	$ 596	$ 1,383	$ 1,861	$ 728

[9] Highlighted cells indicate values greater than $100/MWh.

[10] Results do not include cost of premiums.

Granite State Electric - Small Customer Group Hedging Analysis

Table 11: Historical Hedge Revenue using Daily Look Back Call Options (cont.)

			2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Oct	Avg DA LMP ($/MWh)		$ 34.15	$ 32.27	$ 37.49	$ 22.58	$ 29.74	$ 38.84	$ 20.97	$ 25.08	$ 58.13	$ 53.26	$ 26.62
	ATC Average Load (MW)		41	36	33	32	33	35	33	35	35	34	23
	Cost to Serve Load ($000)		$ 1,054	$ 889	$ 940	$ 542	$ 744	$ 1,013	$ 517	$ 679	$ 1,537	$ 1,356	$ 461
	ATC Hedge Volume (MW)		40	35	30	30	30	30	30	35	30	30	20
	$100 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,054	$ 889	$ 940	$ 542	$ 744	$ 1,013	$ 517	$ 679	$ 1,537	$ 1,356	$ 461
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,054	$ 889	$ 940	$ 542	$ 744	$ 1,013	$ 517	$ 679	$ 1,537	$ 1,356	$ 461
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	-	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,054	$ 889	$ 940	$ 542	$ 744	$ 1,013	$ 517	$ 679	$ 1,537	$ 1,356	$ 461
Nov	Avg DA LMP ($/MWh)		$ 44.76	$ 47.49	$ 30.05	$ 25.02	$ 34.45	$ 56.16	$ 32.36	$ 26.16	$ 57.33	$ 60.45	$ 39.66
	ATC Average Load (MW)		46	41	35	36	38	40	40	40	41	35	24
	Cost to Serve Load ($000)		$ 1,586	$ 1,461	$ 782	$ 663	$ 963	$ 1,768	$ 962	$ 772	$ 1,738	$ 1,639	$ 737
	ATC Hedge Volume (MW)		45	40	35	35	35	40	35	40	40	35	20
	$100 Strike	Days Struck	-	-	-	-	-	3	-	-	-	3	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ 23	$ -	$ -	$ -	$ 78	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,586	$ 1,461	$ 782	$ 663	$ 963	$ 1,745	$ 962	$ 772	$ 1,738	$ 1,560	$ 737
	$125 Strike	Days Struck	-	-	-	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,586	$ 1,461	$ 782	$ 663	$ 963	$ 1,768	$ 962	$ 772	$ 1,738	$ 1,612	$ 737
	$150 Strike	Days Struck	-	-	-	-	-	-	-	-	-	1	-
		Net Revenue from Hedge ($000)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 1,586	$ 1,461	$ 782	$ 663	$ 963	$ 1,768	$ 962	$ 772	$ 1,738	$ 1,633	$ 737
Dec	Avg DA LMP ($/MWh)		$ 88.88	$ 42.94	$ 23.11	$ 52.52	$ 68.99	$ 47.54	$ 39.97	$ 40.51	$ 63.81	$ 109.27	$ 37.30
	ATC Average Load (MW)		53	45	39	43	46	44	45	47	47	42	27
	Cost to Serve Load ($000)		$ 3,982	$ 1,492	$ 679	$ 1,785	$ 2,646	$ 1,624	$ 1,424	$ 1,476	$ 2,457	$ 3,912	$ 796
	ATC Hedge Volume (MW)		50	40	35	40	45	40	40	45	45	40	25
	$100 Strike	Days Struck	10	-	-	-	6	-	2	1	4	15	-
		Net Revenue from Hedge ($000)	$ 831	$ -	$ -	$ -	$ 311	$ -	$ 14	$ 3	$ 77	$ 972	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 3,151	$ 1,492	$ 679	$ 1,785	$ 2,335	$ 1,624	$ 1,411	$ 1,473	$ 2,379	$ 2,939	$ 796
	$125 Strike	Days Struck	9	-	-	-	5	-	-	-	1	10	-
		Net Revenue from Hedge ($000)	$ 548	$ -	$ -	$ -	$ 174	$ -	$ -	$ -	$ 13	$ 692	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 3,434	$ 1,492	$ 679	$ 1,785	$ 2,472	$ 1,624	$ 1,424	$ 1,476	$ 2,443	$ 3,220	$ 796
	$150 Strike	Days Struck	8	-	-	-	4	-	-	-	-	7	-
		Net Revenue from Hedge ($000)	$ 292	$ -	$ -	$ -	$ 59	$ -	$ -	$ -	$ -	$ 476	$ -
		Cost to Serve Load w/ Hedge ($000)	$ 3,690	$ 1,492	$ 679	$ 1,785	$ 2,587	$ 1,624	$ 1,424	$ 1,476	$ 2,457	$ 3,436	$ 796

[11] Highlighted cells indicate values greater than $100/MWh.
[12] Results do not include cost of premiums.