

LIBERTY UTILITIES - KEENE DIVISION
 CONVERSION OF GAS COSTS - GALLONS TO THERMS
 SUMMER PERIOD 2020

	(1)	(2)	(3)	(4)	(5)	(6)
			<u>VOLUMES</u>		<u>UNIT COST</u>	
	<u>UNIT</u>	<u>CONVERSION FACTOR</u>	<u>GALLONS</u>	<u>THERMS</u>	<u>PER GALLON</u>	<u>PER THERM</u>
PROPANE FROM INVENTORY	GALLONS	0.91502	379,972	347,682	\$0.6219	\$0.6797

LIBERTY UTILITIES - KEENE DIVISION

CALCULATION OF COST OF GAS RATE
SUPPLY / DEMAND BALANCE
SUMMER PERIOD 2020

	PRIOR	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	TOTAL		
PROPANE COSTS										
1	PROPANE FIRM SENDOUT (therms)		51,850	38,794	34,999	36,111	42,532	74,452	278,738	
2	COMPANY USE (therms)		2,846	1,918	1,903	2,120	2,066	2,756	13,609	
3	TOTAL PROPANE SENDOUT (therms)		54,696	40,712	36,902	38,231	44,598	77,208	292,347	
4	COST PER THERM (WACOG)		\$0.8238	\$0.7438	\$0.7055	\$0.6888	\$0.6844	\$0.6875		
5	TOTAL CALCULATED COST OF PROPANE		\$45,059	\$30,280	\$26,035	\$26,335	\$30,524	\$53,077	\$211,310	
6	PROPANE ADJUSTMENTS		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
7	TOTAL COST OF PROPANE		\$45,059	\$30,280	\$26,035	\$26,335	\$30,524	\$53,077	\$211,310	
CNG COSTS										
7	CNG SENDOUT (therms)		15,330	8,300	6,308	6,867	8,831	9,699	55,335	
8	COST PER THERM (WACOG)		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
9	TOTAL CALCULATED COST OF CNG		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
10	CNG DEMAND CHARGES		\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$25,000	
11	CNG ADJUSTMENTS		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
12	TOTAL CNG COSTS		\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$4,167	\$25,000	
13	ACCOUNTING ADJUSTMENT		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
14	TOTAL COSTS OF GAS		\$49,226	\$34,447	\$30,202	\$30,502	\$34,691	\$57,244	\$236,312	
15	FPO PREMIUM		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
16	RETURN ON INVENTORY		\$2,354	\$2,354	\$2,354	\$2,354	\$2,354	\$2,354	\$14,126	
REVENUES										
17	BILLED FPO SALES (therms)		0	0	0	0	0	0		
18	COG FPO RATE		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
			\$0	\$0	\$0	\$0	\$0	\$0	\$0	
19	BILLED NON-FPO SALES PRIOR MONTH (therms)		0	0	0	0	0	0		
20	COG NON-FPO RATE PRIOR MONTH		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
			\$0	\$0	\$0	\$0	\$0	\$0	\$0	
21	BILLED NON-FPO SALES CURRENT MONTH (therms)		66,614	47,641	41,050	43,473	50,418	84,890	334,086	
22	COG NON-FPO RATE CURRENT MONTH		\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050		
			\$33,639	\$24,058	\$20,729	\$21,953	\$25,460	\$42,868	\$168,706	
23	BILLED SALES OTHER PRIOR PERIODS		0	0	0	0	0	0		
24	COG OTHER PRIOR PERIODS BLENDED RATE		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
			\$0	\$0	\$0	\$0	\$0	\$0	\$0	
25	TOTAL SALES		66,614	47,641	41,050	43,473	50,418	84,890	334,086	
26	TOTAL BILLED REVENUES		\$33,639	\$24,058	\$20,729	\$21,953	\$25,460	\$42,868	\$168,707	
27	UNBILLED REVENUES (NET)		\$0	\$0	\$0	\$0	\$0	\$0	\$0	
28	TOTAL REVENUES		\$33,639	\$24,058	\$20,729	\$21,953	\$25,460	\$42,868	\$168,707	
29	(OVER)/UNDER COLLECTION		\$17,941	\$12,743	\$11,827	\$10,903	\$11,585	\$16,730	\$81,731	
30	INTEREST AMOUNT		(\$255)	(\$201)	(\$159)	(\$119)	(\$80)	(\$30)	(\$844)	
31	FINAL (OVER)/UNDER COLLECTION		(\$80,938)	\$17,686	\$12,542	\$11,668	\$10,784	\$11,505	\$16,700	(\$51)

In Order No. 26,241 at 6 (Apr. 29, 2019), which approved Liberty Keene's 2019 summer cost of gas, the Commission "direct[ed] that in future Liberty-Keene filings, both fuel-type and costs for each fuel, shall be specified in summaries as well as in discrete schedules." The "COST/THERM FROM SCHEDULE K" of \$0.7324 on Line 85 is a blend of propane and CNG costs. The CNG specific cost of purchases received is \$1.1297 per therm on line 54; the propane specific cost is \$0.6572 on line 69 per therm.

LIBERTY UTILITIES - KEENE DIVISION
PROPANE SPOT MARKET PURCHASE COST ANALYSIS
SUMMER PERIOD 2020

	(1) <u>Mt. Belvieu</u>	(2) <u>Broker Fee</u>	(3) <u>Pipeline Rate</u>	(4) <u>PERC Fee</u>	(5) <u>Supplier Charge</u>	(6) <u>Cost @ Se kirk</u>	(7) <u>Trucking to Keene</u>	(8) <u>\$ per Gal.</u>	(9) <u>\$ per Therm</u>
1 MAY	[REDACTED]								
2 JUN	[REDACTED]								
3 JUL	[REDACTED]								
4 AUG	[REDACTED]								
5 SEP	[REDACTED]								
6 OCT	[REDACTED]								

NOTE: Summer spot purchases are based on market quotes from local suppliers. The above schedule provides a breakdown of the quote

- 1. Propane futures market quotations (cmegroup.com) on 03/13/20 close. See Appendix 1.
- 2. A generally accepted standard broker fee
- 3. Summer prices are quoted on a delivered basis with pipeline charges embedded in delivered price
- 4. Propane Education Research Council (propanecouncil.org)
- 5. Supplier charge
- 6. Se kirk Cost - all fees plus propane cost
- 7. Northern Gas Transport trucking rate including diesel fuel surcharge. See Appendix 3A & 3B.
- 8. Delivered Price per Gallon
- 9. Delivered Price per therm as converted using per gallon price / .91502

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LIBERTY UTILITIES - KEENE DIVISION

PROPANE INVENTORY & WEIGHTED AVERAGE COST OF PROPANE CALCULATION
SUMMER PERIOD 2020

LINE NO.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		<u>Therms</u>	<u>Cost</u>	<u>Therm</u>	<u>Gal.</u>	<u>CNG therms</u>	<u>Cost</u>	<u>Total Sendout</u>	<u>Total Cost</u>	<u>Therm Rate</u>
								(1)+(5)	(2)+(6)	(8) / (7)
1	May 2020 (Forecasted)									
2	Beginning Balance	54,138	\$56,827	\$1 0497	\$0.9605					
3	Purchases Received	60,000	\$37,201	\$0 6200	\$0.5673					
4	Total Available	114,138	\$94,028	\$0 8238	\$0.7538					
5	Less Sendout	54,696	\$45,059	\$0 8238	\$0.7538	15,330		70,026		
6	Ending Balance	59,442	\$48,969	\$0 8238	\$0.7538					
7	June 2020 (Forecasted)									
8	Beginning Balance	59,442	\$48,969	\$0 8238	\$0.7538					
9	Purchases Received	40,000	\$24,992	\$0 6248	\$0.5717					
10	Total Available	99,442	\$73,961	\$0.7438	\$0.6806					
11	Less Sendout	40,712	\$30,280	\$0.7438	\$0.6806	8,300		49,012		
12	Ending Balance	58,730	\$43,681	\$0.7438	\$0.6806					
13	July 2020 (Forecasted)									
14	Beginning Balance	58,730	\$43,681	\$0.7438	\$0.6806					
15	Purchases Received	40,000	\$25,975	\$0 6494	\$0.5942					
16	Total Available	98,730	\$69,656	\$0.7055	\$0.6456					
17	Less Sendout	36,902	\$26,035	\$0.7055	\$0.6456	6,308		43,210		
18	Ending Balance	61,828	\$43,621	\$0.7055	\$0.6456					
19	August 2020 (Forecasted)									
20	Beginning Balance	61,828	\$43,621	\$0.7055	\$0.6456					
21	Purchases Received	40,000	\$26,522	\$0 6630	\$0.6067					
22	Total Available	101,828	\$70,143	\$0 6888	\$0.6303					
23	Less Sendout	38,231	\$26,335	\$0 6888	\$0.6303	6,867		45,098		
24	Ending Balance	63,597	\$43,808	\$0 6888	\$0.6303					
25	September 2020 (Forecasted)									
26	Beginning Balance	63,597	\$43,808	\$0 6888	\$0.6303					
27	Purchases Received	40,000	\$27,096	\$0 6774	\$0.6198					
28	Total Available	103,597	\$70,904	\$0 6844	\$0.6263					
29	Less Sendout	44,598	\$30,524	\$0 6844	\$0.6263	8,831		53,429		
30	Ending Balance	58,999	\$40,380	\$0 6844	\$0.6263					
31	October 2020 (Forecasted)									
32	Beginning Balance	58,999	\$40,380	\$0 6844	\$0.6263					
33	Purchases Received	80,000	\$55,175	\$0 6897	\$0.6311					
34	Total Available	138,999	\$95,555	\$0 6875	\$0.6290					
35	Less Sendout	77,208	\$53,077	\$0 6875	\$0.6290	9,699		86,907		
36	Ending Balance	61,791	\$42,478	\$0 6875	\$0.6290					
37	AVERAGE SUMMER RATE - SENDOUT							347,682		

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LIBERTY UTILITIES - KEENE DIVISION
(OVER/UNDER) COLLECTION - MAY 2019 THROUGH OCTOBER 2019

	PRIOR	ACTUAL May-19	ACTUAL Jun-19	ACTUAL Jul-19	ACTUAL Aug-19	ACTUAL Sep-19	ACTUAL Oct-19	TOTAL
COSTS								
1	FIRM SENDOUT PROPANE (therms)	70,209	46,416	40,939	42,549	52,006	69,644	321,763
2	COMPANY USE PROPANE(therms)	2,846	1,918	1,903	2,120	2,066	2,756	13,609
3	TOTAL SENDOUT (therms)	73,055	48,334	42,842	44,669	54,072	72,400	335,372
4	COST PER THERM (WACOG)	\$0.9985	\$0.8872	\$0.7208	\$0.7049	\$0.7153	\$0.7741	\$0.8138
5	TOTAL COSTS PROPANE	\$72,943	\$42,882	\$30,882	\$31,487	\$38,680	\$56,043	\$272,917
6	COMMODITY COSTS CNG						\$7,992	
7	CNG DEMAND CHARGES	\$4,167	(\$41,667)	\$0	\$0	\$0	\$2,083	(\$35,417)
8	TOTAL CNG COSTS	\$4,167	(\$41,667)	\$0	\$0	\$0	\$10,075	(\$27,425)
9	PRODUCTION COSTS	\$1,622	(\$48,032)	\$0	(\$10,806)	\$0	\$0	(\$57,215)
10	ACCOUNTING ADJUSTMENT	\$0	\$0	\$0	(\$4,572)	\$48	\$0	(\$4,524)
11	TOTAL COSTS	\$78,732	(\$46,817)	\$30,882	\$16,109	\$38,728	\$66,118	\$183,753
REVENUES								
12	BILLED FPO SALES (therms)	0	0	0	0	0	0	0
13	COG FPO RATE	\$1.3743	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
14	FPO REVENUES	\$0	\$0	\$0	\$0	\$0	\$0	\$0
15	BILLED NON-FPO SALES PRIOR MONTH (therms)	0	60,103	36,726	34,303	38,050	0	169,182
16	COG NON-FPO RATE PRIOR MONTH	\$1.2651	\$1.1071	\$1.0063	\$0.8854	\$0.7068	\$0.4843	\$0.4843
17	PRIOR MONTH BILLED REVENUES	\$0	\$66,540	\$36,958	\$30,372	\$26,894	\$0	\$160,763
18	BILLED NON-FPO SALES CURRENT MONTH (therms)	11,047	9,305	6,839	5,195	7,622	50,703	90,711
19	COG NON-FPO RATE CURRENT MONTH	\$1.1071	\$1.0063	\$0.8854	\$0.7068	\$0.4843	\$0.4843	\$0.4843
20	CURRENT MONTH BILLED REVENUES	\$12,230	\$9,364	\$6,055	\$3,672	\$3,691	\$24,555	\$59,567
21	BILLED SALES OTHER PRIOR PERIODS	0	900	18	(422)	(205)	(138)	153
22	COG OTHER PRIOR PERIODS BLENDED RATE	\$0.0000	\$0.0008	\$1.1095	\$1.0382	\$0.9547	\$0.6968	\$0.6968
23	OTHER BILLED REVENUES	\$0	\$1	\$20	(\$438)	(\$196)	(\$96)	(\$709)
24	TOTAL SALES	11,047	70,308	43,583	39,076	45,467	50,565	260,046
25	TOTAL BILLED REVENUES	\$12,230	\$75,904	\$43,033	\$33,605	\$30,389	\$24,459	\$219,622
26	UNBILLED REVENUES (NET)	\$62,137	(\$28,096)	(\$5,076)	(\$3,585)	(\$4,580)	\$14,201	\$35,000.46
27	TOTAL REVENUES	\$74,367	\$47,808	\$37,957	\$30,021	\$25,810	\$38,660	\$254,622
28	(OVER)/UNDER COLLECTION	\$4,365	(\$94,625)	(\$7,075)	(\$13,912)	\$12,918	\$27,458	(\$70,870)
29	INTEREST AMOUNT	(\$258)	(\$455)	(\$233)	(\$494)	(\$429)	(\$139)	(\$2,009)
30	FINAL (OVER)/UNDER COLLECTION	\$300	\$4,107	(\$7,307)	(\$14,405)	\$12,489	\$27,318	(\$72,578)

SCHEDULE F

LIBERTY UTILITIES - KEENE DIVISION

INTEREST CALCULATION
SUMMER PERIOD 2020

LINE NO.	MONTH	(1) BEG. OF MONTH BALANCE	(2) (OVER) UNDER COLLECT	(3) REFUNDS	(4) END OF MONTH BALANCE (COL. 1+2+3)	(5) AVERAGE BALANCE COL. (COL. [1+4]/2)	(6) ANNUAL INTEREST RATE	(7) INTEREST AMOUNT	(8) MONTH END BAL. WITH INTEREST (COL. 4+7)
1	NOV 2019	(72,578)	\$4,904	\$0	(\$67,674)	(\$70,126)	4.25%	(247)	(\$67,921)
2	DEC	(67,921)	(1,224)	0	(69,145)	(68,533)	4.25%	(263)	(69,408)
3	JAN 2020	(69,408)	(10,375)	0	(79,783)	(74,596)	4.25%	(300)	(80,083)
4	FEB	(80,083)	0	0	(80,083)	(80,083)	4.25%	(284)	(80,367)
5	MAR	(80,367)	0	0	(80,367)	(80,367)	4.25%	(285)	(80,652)
6	APR	(80,652)	0	0	(80,652)	(80,652)	4.25%	(286)	(80,938)
7	MAY	(80,938)	17,941	0	(62,997)	(71,968)	4.25%	(255)	(63,252)
8	JUN	(63,252)	12,743	0	(50,509)	(56,880)	4.25%	(201)	(50,710)
9	JUL	(50,710)	11,827	0	(38,882)	(44,796)	4.25%	(159)	(39,041)
10	AUG	(39,041)	10,903	0	(28,138)	(33,590)	4.25%	(119)	(28,257)
11	SEP	(28,257)	11,585	0	(16,672)	(22,464)	4.25%	(80)	(16,752)
12	OCT	(16,752)	16,730	0	(21)	(8,387)	4.25%	(30)	(51)
13									
14								<u>(\$2,509)</u>	

15 = COL. 1, LINE 1 + COL. 7, LINES 1 TO 6

16 = (72,578) + (1,665) = (74,243) @ MAY 1, 2020
(TRANSFER TO SCHEDULE B, LINE 13)
(UNLESS ADJUSTMENTS UNDER COLUMN 2 LINES 1-6)

LIBERTY UTILITIES - KEENE DIVISION Weather Normalization - Firm Sendout													
Period	Actual Firm Sendout	Base Use	Heat Use	Actual Calendar Month Degree Days	Normal Calendar Month Degree Days	Colder (Warmer) Than Normal	Actual Unit Heat Load Therm/DD	Weather Adjustment	Normal Heat Load	Normalized Firm Sendout	Actual Company Use	Unaccounted For 0.90%	Total Firm Sendout
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
			(1) - (2)			(4) - (5)	(3) / (4)	(6) X (7)	(3) + (8)	(1) - (3) + (9)		(10 - 11) * 0.90%	(10) - (11) +(12)
May-19	73,055	43,756	29,300	323	283	40	90.71	(3,628)	25,671	69,427	2,846	599	67,180
Jun-19	48,334	43,756	4,579	71	75	(4)	64.49	258	4,836	48,592	1,918	420	47,094
Jul-19	42,842	43,756	0	0	12	(12)	0.00	0	0	42,842	1,903	368	41,307
Aug-19	44,669	43,756	914	20	21	(1)	45.68	46	959	44,715	2,120	383	42,978
Sep-19	54,072	43,756	10,317	178	159	19	57.96	(1,101)	9,215	52,971	2,066	458	51,363
Oct-19	84,363	43,756	40,608	453	473	(20)	89.64	1,793	42,401	86,156	2,756	751	84,151
Total	347,335	262,533	85,716	1,045	1,023	22		(2,633)	83,083	344,702	13,609	2,980	334,073

LIBERTY UTILITIES - KEENE DIVISION											
Revised Weather Normalization - Sales Rate Residential											
Period	Calendar Customers	Calendar Sales	Base Load	Heating Load	Calendar Monthly Actual Degree Days	Calendar Monthly Normal Degree Days	Colder (Warmer) Than Normal	Actual Unit Heat Load Therm/DD	Weather Adjustment	Normal Heat Load	Normal Firm Sales Therms
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				(1) - (2)			(4) - (5)	(3) / (4)	(6) X (7)	(3) + (8)	(1) - (3) + (9)
May-19	918	15,671	6,927	8,744	323	283	40	27.07	(1,083)	7,661	14,588
Jun-19	878	8,951	6,927	2,024	71	75	(4)	28.51	114	2,138	9,065
Jul-19	897	6,828	6,927	0	0	12	(12)	0	0	0	6,828
Aug-19	897	7,025	6,927	98	20	21	(1)	4.92	5	103	7,030
Sep-19	871	8,628	6,927	1,701	178	159	19	9.56	(182)	1,519	8,446
Oct-19	907	17,407	6,927	10,480	453	473	(20)	23.14	463	10,943	17,870
Total		64,510	41,561	23,048	1,045	1,023	22	31.03	(683)	22,365	63,827

LIBERTY UTILITIES - KEENE DIVISION											
Revised Weather Normalization - Sales Rate Commercial											
Period	Calendar Customers	Calendar Sales	Base Load	Heating Load	Calendar Monthly Actual Degree Days	Calendar Monthly Normal Degree Days	Colder (Warmer) Than Normal	Actual Unit Heat Load Therm/DD	Weather Adjustment	Normal Heat Load	Normal Firm Sales Therms
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				(1) - (2)			(4) - (5)	(3) / (4)	(6) X (7)	(3) + (8)	(1) - (3) + (9)
May-19	341	54,389	35,305	19,084	323	283	40	59.08	(2,363)	16,720	52,026
Jun-19	323	38,401	35,305	3,096	71	75	(4)	43.60	174	3,270	38,576
Jul-19	333	34,222	35,305	0	0	12	(12)	0	0	0	34,222
Aug-19	333	36,389	35,305	1,083	20	21	(1)	54.17	54	1,138	36,443
Sep-19	322	42,768	35,305	7,463	178	159	19	41.93	(797)	6,666	41,972
Oct-19	338	65,679	35,305	30,374	453	473	(20)	67.05	1,341	31,715	67,020
Total		271,849	211,833	61,099	1,045	1,023	22	72.29	(1,590)	59,509	270,259

Summary - Total Summer Season Billed Sales

	<u>Actual 2019</u>	<u>Normalized</u>
May	70,060	66,614
June	47,352	47,641
July	41,050	41,050
August	43,414	43,473
September	51,396	50,418
October	83,087	84,890
Total	336,359	334,086

LIBERTY UTILITIES - KEENE DIVISION
Typical Residential Heating Bill - Fixed Price Option Program
Forecasted 2020 Summer Period vs. Actual 2019 Summer Period

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
12 MONTHS ENDED 10/2019	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	Winter Nov-Apr	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Summer May-Oct	Total Nov-Oct
Typical Usage - therms (1)	64	120	158	251	245	132	970	91	28	14	10	9	20	172	1,142
Residential Heating R-3															
Customer Charge	Nov-18 - Apr-19	May-19 - Jun-19	Jul-19 - Oct-19												
Delivery Charge:	Winter	Summer	Summer												
All therms @	\$0.5502	\$0.5502	\$0.5569												
	\$15.02	\$15.02	\$15.02	\$15.02	\$15.02	\$15.02	\$90.12	\$15.02	\$15.02	\$15.20	\$15.20	\$15.20	\$15.20	\$90.84	\$180.96
	\$35.21	\$66.02	\$86.93	\$138.10	\$134.80	\$72.63	\$533.69	\$50.07	\$15.41	\$7.80	\$5.57	\$5.01	\$11.14	\$95.00	\$628.69
Base Delivery Revenue Total	\$50.23	\$81.04	\$101.95	\$153.12	\$149.82	\$87.65	\$623.81	\$65.09	\$30.43	\$23.00	\$20.77	\$20.21	\$26.34	\$185.84	\$809.65
Deferred Revenue Surcharge Rate	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
Deferred Revenue Surcharge Total	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00						
COG Rates	\$1.4002	\$1.4002	\$1.4002	\$1.4002	\$1.4002	\$1.4002	\$1.4002	\$1.1071	\$1.0063	\$0.8854	\$0.7068	\$0.4843	\$0.4843	\$0.9445	\$1.3316
Cost of Gas Total	\$89.61	\$168.02	\$221.23	\$351.45	\$343.05	\$184.83	\$1,358.19	\$100.75	\$28.18	\$12.40	\$7.07	\$4.36	\$9.69	\$162.45	\$1,520.64
LDAC Rate	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660		\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660		
LDAC Total	\$4.22	\$7.92	\$10.43	\$16.57	\$16.17	\$8.71	\$64.02	\$6.01	\$1.85	\$0.92	\$0.66	\$0.59	\$1.32	\$11.35	\$75.37
Total Bill	\$144	\$257	\$334	\$521	\$509	\$281	\$2,046	\$172	\$60	\$36	\$29	\$25	\$37	\$360	\$2,406
12 MONTHS ENDED 10/2020	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct
Typical Usage - therms (1)	64	120	158	251	245	132	970	91	28	14	10	9	20	172	1,142
Residential Heating															
Customer Charge	Nov-19 - Apr-20	May-20 - Jun-20	Jul-20 - Oct-20												
Delivery Charge:	Winter	Summer	Summer												
All therms @	\$0.5569	\$0.5569	\$0.5569												
	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$91.20	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$91.20	\$182.40
	\$35.64	\$66.83	\$87.99	\$139.78	\$136.44	\$73.51	\$540.19	\$50.68	\$15.59	\$7.80	\$5.57	\$5.01	\$11.14	\$95.79	\$635.98
Base Delivery Revenue Total	\$50.84	\$82.03	\$103.19	\$154.98	\$151.64	\$88.71	\$631.39	\$65.88	\$30.79	\$23.00	\$20.77	\$20.21	\$26.34	\$186.99	\$818.38
Seasonal Base Delivery Difference from previous year							\$7.58							\$1.15	\$8.73
Seasonal Percent Change from previous year							1.2%							0.6%	1.1%
Deferred Revenue Surcharge Rate	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000		
Deferred Revenue Surcharge Total	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00						
COG Rates	\$0.9692	\$0.9692	\$0.9692	\$0.9692	\$0.9692	\$0.9692	\$0.9692	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5051	\$0.8993
Cost of Gas Total	\$62.03	\$116.30	\$153.13	\$243.27	\$237.45	\$127.93	\$940.11	\$45.96	\$14.14	\$7.07	\$5.05	\$4.55	\$10.10	\$86.87	\$1,026.98
LDAC Rate	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.1860	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310		
LDAC Total	\$1.98	\$3.72	\$4.90	\$7.78	\$7.60	\$4.09	\$30.07	\$2.82	\$0.87	\$0.43	\$0.31	\$0.28	\$0.62	\$5.33	\$35.40
Seasonal COG Difference from previous year							-\$418.08							-\$75.58	-\$493.66
Seasonal Percent Change from previous year							-30.8%							-46.5%	-32.5%
Total Bill	\$115	\$202	\$261	\$406	\$397	\$221	\$1,602	\$115	\$46	\$31	\$26	\$25	\$37	\$279	\$1,881
Seasonal Total Bill Difference from previous year							-\$444.45							-\$80.45	-\$524.90
Seasonal Percent Change from previous year							-21.7%							-22.4%	-21.8%
Seasonal Percent Change resulting from Base Rates (incl. Def. Revenue Surch.)							-2.8%							-2.8%	-2.8%
Seasonal Percent Change resulting from COG							-20.4%							-21.0%	-20.5%
Seasonal Percent Change resulting from LDAC							-1.7%							-1.7%	-1.7%

(1) Residential Heating Typical Usage: Single family detached home using gas for heat, hot water and cooking.
 (2) LDAC was included in Keene distribution rates beginning on 05/01/18, as authorized by NHPUC Order No. 26,122 dated April 27, 2018, in Docket No. DG 17-048

LIBERTY UTILITIES - KEENE DIVISION
Typical Residential Heating Bill - Non-Fixed Price Option Program
Forecasted 2020 Summer Period vs. Actual 2019 Summer Period

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
12 MONTHS ENDED 10/2019	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	Winter Nov-Apr	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Summer May-Oct	Total Nov-Oct
Typical Usage - therms (1)	64	120	158	251	245	132	970	91	28	14	10	9	20	172	1,142
Residential Heating															
Customer Charge	Nov-18 - Apr-19	May-19 - Jun-19	Jul-19 - Oct-19												
Delivery Charge:	Winter	Summer	Summer												
All therms @	\$0.5502	\$0.5502	\$0.5569												
Base Delivery Revenue Total	\$50.23	\$81.04	\$101.95	\$153.12	\$149.82	\$87.65	\$623.81	\$65.70	\$30.61	\$22.82	\$20.59	\$20.03	\$26.16	\$185.91	\$809.72
Deferred Revenue Surcharge Rate	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.00	\$0.00
Deferred Revenue Surcharge Total	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.00	\$0.00
COG Rates	\$1.3802	\$1.4734	\$1.5311	\$1.5011	\$1.4298	\$1.2651	\$1.4445	\$1.1071	\$1.0063	\$0.8854	\$0.7068	\$0.4843	\$0.4843	\$0.9445	\$1.3692
Cost of Gas Total	\$88.33	\$176.81	\$241.91	\$376.78	\$350.30	\$166.99	\$1,401.12	\$100.75	\$28.18	\$12.40	\$7.07	\$4.36	\$9.69	\$162.45	\$1,563.57
LDAC Rate	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660
LDAC Total	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.0660	\$0.3960	\$6.01	\$1.8480	\$0.9240	\$0.6600	\$0.5940	\$1.3200	\$11.35	\$11.75
Total Bill	\$139	\$258	\$344	\$530	\$500	\$255	\$2,025	\$172	\$61	\$36	\$28	\$25	\$37	\$360	\$2,385
12 MONTHS ENDED 10/2020															
Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	Winter Nov-Apr	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Summer May-Oct	Total Nov-Oct	
64	120	158	251	245	132	970	91	28	14	10	9	20	172	1,142	
Residential Heating															
Customer Charge	Nov-18 - Apr-19	May-19 - Jun-19	Jul-19 - Oct-19												
Delivery Charge:	Winter	Summer	Summer												
All therms @	\$0.5569	\$0.5569	\$0.5569												
Base Delivery Revenue Total	\$50.84	\$82.03	\$103.19	\$154.98	\$151.64	\$88.71	\$631.39	\$65.88	\$30.79	\$23.00	\$20.77	\$20.21	\$26.34	\$186.99	\$818.38
Seasonal Base Delivery Difference from previous year							\$7.58							\$1.08	\$8.66
Seasonal Percent Change from previous year							1.2%							0.6%	1.1%
Deferred Revenue Surcharge Rate	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.00	\$0.00
Deferred Revenue Surcharge Total	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
COG Rates	\$0.9492	\$0.9492	\$0.9686	\$0.9352	\$0.6906	\$0.6906	\$0.8482	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5050	\$0.5051	\$0.7965
Cost of Gas Total	\$60.75	\$113.90	\$153.04	\$234.74	\$169.20	\$91.16	\$822.79	\$45.96	\$14.14	\$7.07	\$5.05	\$4.55	\$10.10	\$86.87	\$909.66
LDAC Rate	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310	\$0.0310
LDAC Total	\$1.98	\$3.72	\$4.90	\$7.78	\$7.60	\$4.09	\$30.07	\$2.82	\$0.87	\$0.43	\$0.31	\$0.28	\$0.62	\$5.33	\$35.40
Seasonal COG Difference from previous year							-\$578.33							-\$75.58	-\$653.91
Seasonal Percent Change from previous year							-41.3%							-46.5%	-41.8%
Total Bill	\$114	\$200	\$261	\$398	\$328	\$184	\$1,484	\$115	\$46	\$31	\$26	\$25	\$37	\$279	\$1,763
Seasonal Total Bill Difference from previous year							-\$541.08							-\$80.52	-\$621.60
Seasonal Percent Change from previous year							-26.7%							-22.4%	-26.1%
Seasonal Percent Change resulting from Base Rates (incl. Def. Revenue Surch.)							\$0.00							-2.9%	-0.1%
Seasonal Percent Change resulting from COG							-28.6%							-21.0%	-27.4%
Seasonal Percent Change resulting from LDAC							1.5%							-1.7%	1.0%

(1) Residential Heating Typical Usage: Single family detached home using gas for heat, hot water and cooking.
 (2) LDAC was included in Keene distribution rates beginning on 05/01/18, as authorized by NHPUC Order No. 26,122 dated April 27, 2018, in Docket No. DG 17-048

LIBERTY UT LIT ES - KEENE DIVISION

B D PREMIUM FOR PRE-PURCHASED GALLONS - PRIOR YEAR

	Mt. Belvieu Price		Pipeline Rate		Broker + Supplier Fee		PERC		Trucking		Keene Div. Price	Contract Volumes	Keene Div. Cost	Fixed Basis Bid	Plan Price	Contract Volumes	Plan Cost	Cost Premium	Per Gallon Premium
Apr-19	0.6605	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$1.0773	115,000	\$123,890			115,000			-\$0.0993
May-19	0.6728	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$1.0896	111,250	\$121,218			111,250			-\$0.0993
Jun-19	0.5752	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$0.9920	111,250	\$110,360			111,250			-\$0.0993
Jul-19	0.5929	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$1.0097	140,000	\$141,358			140,000			-\$0.0993
Aug-19	0.4986	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$0.9154	111,250	\$101,838			111,250			-\$0.0993
Sep-19	0.4894	+	\$0 2265	+	\$0.1000	+	\$0.0045	+	\$0.0858	=	\$0.9062	111,250	\$100,815			111,250			-\$0.0993
Total												700,000	\$699,479			700,000	\$629,969	(\$69,510)	-\$0.0993

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LIBERTY UTILITIES - KEENE DIVISION

COMPARISON OF CONTRACT COST TO HYPOTHETICAL SPOT COST
WINTER SEASON 2019-2020 TO DATE

Delivery Month	Contract Price (1)	Contract Volumes (2)	Contract Cost (3)	Average Spot Price (4)	Contract Volumes (5)	Hypothetical Spot Cost (6)	Incremental Cost / (Savings) of Plan (7)
			(1) x (2)			(4) x (5)	(3) - (6)
Nov-19	\$0.8900	91,726	\$81,640	\$0.9235	91,726	\$84,709	(\$3,069)
Dec-19	\$0.8986	140,000	\$125,801	\$0.9084	140,000	\$127,176	(\$1,375)
Jan-20	\$0.9081	164,138	\$149,046	\$0.8090	164,138	\$132,787	\$16,259
Feb-20	\$0.9099	135,172	\$122,991	\$0.7713	135,172	\$104,259	\$18,732
Total			\$479,477			\$448,931	\$30,546

6.8%

LIBERTY UTILITIES - KEENE DIVISION
 PROPANE PURCHASING STABILIZATION PLAN
 PRE-PURCHASES AND DELIVERY SCHEDULE

Delivery Month	Pre-Purchases (Gallons)							Total
	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20		
Nov-20	15,069	14,578	14,578	18,345	14,578	14,578	91,726	
Dec-20	23,000	22,250	22,250	28,000	22,250	22,250	140,000	
Jan-21	26,966	26,086	26,086	32,828	26,086	26,086	164,138	
Feb-21	22,207	21,483	21,483	27,034	21,483	21,483	135,172	
Mar-21	17,448	16,879	16,879	21,241	16,879	16,879	106,205	
Apr-21	10,310	9,974	9,974	12,552	9,974	9,974	62,759	
Total	115,000	111,250	111,250	140,000	111,250	111,250	700,000	
Monthly %	16.4%	15.9%	15.9%	20.0%	15.9%	15.9%		

L BERTY UTILITIES - KEENE DIVISION
CALCULATION OF PURCHASED GAS COSTS
SUMMER PERIOD 2020

L NE NO.	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	TOTAL
1 TOTAL SENDOUT (therms)	70,026	49,012	43,210	45,098	53,429	86,907	347,682
2 CHANGE TO ENDING INVENTORY BALANCE (therms)	-	-	-	-	-	-	-
3 TOTAL REQUIRED PURCHASES (therms)	70,026	49,012	43,210	45,098	53,429	86,907	347,682
4 PROPANE PURCHASE STABILIZATION PLAN DELIVERIES							
5 Therms	-	-	-	-	-	-	-
6 RATES - from Schedule D							
7 Contract Price	\$0.0000	\$0 0000	\$0.0000	\$0 0000	\$0.0000	\$0 0000	
8 Broker Fee	incl.	incl.	incl.	incl.	incl.	incl.	
9 Pipeline Fee	incl.	incl.	incl.	incl.	incl.	incl.	
10 PERC Fee	incl.	incl.	incl.	incl.	incl.	incl.	
11 Trucking Fee	incl.	incl.	incl.	incl.	incl.	incl.	
12 COST PER GALLON	\$0.0000	\$0 0000	\$0.0000	\$0 0000	\$0.0000	\$0 0000	
13 TOTAL COST - Propane Purchase Stabilization Plan Deliveries	\$0	\$0	\$0	\$0	\$0	\$0	\$0
14 AMHERST STORAGE PROPANE DELIVERIES							
15 Therms	-	-	-	-	-	-	-
16 RATES - from Schedule F							
17 WACOG Price	\$0.0000	\$0 0000	\$0.0000	\$0 0000	\$0.0000	\$0 0000	
18 Trucking Fee	\$0.0000	\$0 0000	\$0.0000	\$0 0000	\$0.0000	\$0 0000	
19 COST PER GALLON	\$0.0000	\$0 0000	\$0.0000	\$0 0000	\$0.0000	\$0 0000	
20 TOTAL COST - Amherst Storage Propane Deliveries	\$0	\$0	\$0	\$0	\$0	\$0	\$0
21 CNG DELIVERIES							
22 Therms	15,330	8,300	6,308	6,867	8,831	9,699	55,335
23 RATE							
24 PRICE							
25 COST PER Therm							
26 COST - CNG							
27 DEMAND FIXED							
28 COST PER Therm							
29 TOTAL CNG							
30 SPOT PURCHASES							
31 Therms	54,696	40,712	36,902	38,231	44,598	77,208	292,347
32 RATES - from Schedule E							
33 Mont Belvieu							
34 Broker Fee							
35 Pipeline Fee							
36 PERC Fee							
37 Supplier Charge							
38 Trucking Fee							
39 COST PER GALLON - Market Quotes							
40 COST PER THERM - Market Quotes							
41 TOTAL COST - Spot Purchases							
42 OTHER ITEMS							
43 Storage - Winter Period 2019-2020	\$0	\$0	\$0	\$0	\$0	\$0	\$0
44 Refund of Deferred Revenue Surcharge over collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0
45 TOTAL OTHER ITEMS	\$0	\$0	\$0	\$0	\$0	\$0	\$0
46 TOTAL							
47 THERMS	70,026	49,012	43,210	45,098	53,429	86,907	347,682
48 SENDOUT THERMS	70,026	49,012	43,210	45,098	53,429	86,907	347,682
49 COST	\$48,333	\$35,196	\$32,488	\$34,271	\$40,291	\$64,054	\$254,634
50 COST PER THERM	\$0.6902	\$0.7181	\$0.7519	\$0.7599	\$0.7541	\$0.7370	\$0.7324

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