

LIBERTY UTILITIES - KEENE DIVISION

CONVERSION OF PROPANE 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	322,487	295,082	\$0.7403	\$0.8091

LIBERTY UTILITIES - KEENE DIVISION
 REVISED 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)		38,887	29,096	28,000	32,500	38,279	70,729	237,490
2 COMPANY USE (therms)		2,135	1,439	1,522	1,908	1,859	2,618	11,481
3 TOTAL PROPANE SENDOUT (therms) (line 1 + line 2)		41,022	30,534	29,522	34,408	40,138	73,347	248,971
4 COST PER THERM (WACOG)		\$0.8714	\$0.7988	\$0.7525	\$0.7246	\$0.7110	\$0.6985	
5 TOTAL CALCULATED COST OF PROPANE (line 3 * line 4)		\$35,746	\$24,392	\$22,216	\$24,933	\$28,538	\$51,233	\$187,058
6 PROPANE ADJUSTMENTS		\$0	\$0	\$0	\$0	\$0	\$0	\$0
7 TOTAL COST OF PROPANE (line 5 + line 6)		\$35,746	\$24,392	\$22,216	\$24,933	\$28,538	\$51,233	\$187,058
CNG COSTS								
8 CNG SENDOUT (therms)		11,498	6,225	5,046	6,180	7,948	9,214	46,111
9 COST PER THERM (WACOG)		\$0.9131	\$1.1575	\$1.3448	\$1.2937	\$1.1376	\$1.1030	
10 TOTAL CALCULATED COST OF CNG (line 8 * line 9)		\$10,498	\$7,205	\$6,787	\$7,996	\$9,041	\$10,163	\$51,690
11 CNG ADJUSTMENTS		\$0	\$0	\$0	\$0	\$0	\$0	\$0
12 TOTAL COST OF CNG (line 10 + line 11)		\$10,498	\$7,205	\$6,787	\$7,996	\$9,041	\$10,163	\$51,690
13 ACCOUNTING ADJUSTMENT		\$0	\$0	\$0	\$0	\$0	\$0	\$0
14 TOTAL COSTS OF GAS (line 7 + line 12 + line 13)		\$46,244	\$31,597	\$29,003	\$32,929	\$37,579	\$61,396	\$238,748
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	
19 BILLED FPO SALES (line 17 * line 18)		\$0	\$0	\$0	\$0	\$0	\$0	\$0
20 BILLED NON-FPO SALES PRIOR MONTH (therms)		0	0	0	0	0	0	
21 COG NON-FPO RATE PRIOR MONTH		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
22 BILLED NON-FPO SALES PRIOR MONTH (line 20 * line 21)		\$0	\$0	\$0	\$0	\$0	\$0	\$0
23 BILLED NON-FPO SALES CURRENT MONTH (therms)		49,819	35,868	32,789	39,175	45,282	80,682	283,614
24 COG NON-FPO RATE CURRENT MONTH		\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	
25 BILLED NON-FPO SALES CURRENT MONTH (line 23 * line 24)		\$31,516	\$22,690	\$20,743	\$24,783	\$28,645	\$51,040	\$179,416
26 BILLED SALES OTHER PRIOR PERIODS		0	0	0	0	0	0	
27 COG OTHER PRIOR PERIODS BLENDED RATE		\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	
28 BILLED SALES OTHER PRIOR PERIODS (line 26 * line 27)		\$0	\$0	\$0	\$0	\$0	\$0	\$0
29 TOTAL SALES (line 17 + line 20 + line 23 + line 26)		49,819	35,868	32,789	39,175	45,282	80,682	283,614
30 TOTAL BILLED REVENUES (line 19 + line 22 + line 25 + line 28)		\$31,516	\$22,690	\$20,743	\$24,783	\$28,645	\$51,040	\$179,417
31 UNBILLED REVENUES (NET)		\$0	\$0	\$0	\$0	\$0	\$0	\$0
32 TOTAL REVENUES (line 30 + line 31)		\$31,516	\$22,690	\$20,743	\$24,783	\$28,645	\$51,040	\$179,417
33 (OVER)/UNDER COLLECTION (line 14 + Line 15 + line 16 - line 32)		\$17,082	\$11,261	\$10,614	\$10,500	\$11,288	\$12,710	\$73,457
34 INTEREST AMOUNT		(\$256)	(\$207)	(\$169)	(\$132)	(\$94)	(\$52)	(\$910)
35 FINAL (OVER)/UNDER COLLECTION (line 33 + line 34)		(\$80,938)	\$16,826	\$11,054	\$10,445	\$11,194	\$12,658	(\$8,391)

* COVID-19 Adjustments for 15% reductions in CNG demand charges and the prior period over-collection

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 @ Selkirk</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 04/14/20 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. Selkirk 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	45,000	\$29,561	\$0.6569	\$0.6011					
4	Total Available	99,138	\$86,388	\$0.8714	\$0.7973					
5	Less Sendout	41,022	\$35,746	\$0.8714	\$0.7973	11,498		52,519		
6	Ending Balance	58,116	\$50,642	\$0.8714	\$0.7974					
7	June 2020 (Forecasted)									
8	Beginning Balance	58,116	\$50,642	\$0.8714	\$0.7974					
9	Purchases Received	30,000	\$19,748	\$0.6583	\$0.6023					
10	Total Available	88,116	\$70,390	\$0.7988	\$0.7310					
11	Less Sendout	30,534	\$24,392	\$0.7988	\$0.7310	6,225		36,759		
12	Ending Balance	57,582	\$45,998	\$0.7988	\$0.7309					
13	July 2020 (Forecasted)									
14	Beginning Balance	57,582	\$45,998	\$0.7988	\$0.7309					
15	Purchases Received	32,000	\$21,414	\$0.6692	\$0.6123					
16	Total Available	89,582	\$67,412	\$0.7525	\$0.6886					
17	Less Sendout	29,522	\$22,216	\$0.7525	\$0.6886	5,046		34,568		
18	Ending Balance	60,060	\$45,196	\$0.7525	\$0.6886					
19	August 2020 (Forecasted)									
20	Beginning Balance	60,060	\$45,196	\$0.7525	\$0.6886					
21	Purchases Received	36,000	\$24,411	\$0.6781	\$0.6205					
22	Total Available	96,060	\$69,607	\$0.7246	\$0.6630					
23	Less Sendout	34,408	\$24,933	\$0.7246	\$0.6631	6,180		40,588		
24	Ending Balance	61,652	\$44,674	\$0.7246	\$0.6630					
25	September 2020 (Forecasted)									
26	Beginning Balance	61,652	\$44,674	\$0.7246	\$0.6630					
27	Purchases Received	36,000	\$24,755	\$0.6876	\$0.6292					
28	Total Available	97,652	\$69,429	\$0.7110	\$0.6506					
29	Less Sendout	40,138	\$28,538	\$0.7110	\$0.6506	7,948		48,086		
30	Ending Balance	57,514	\$40,891	\$0.7110	\$0.6506					
31	October 2020 (Forecasted)									
32	Beginning Balance	57,514	\$40,891	\$0.7110	\$0.6506					
33	Purchases Received	76,000	\$52,368	\$0.6891	\$0.6305					
34	Total Available	133,514	\$93,259	\$0.6985	\$0.6391					
35	Less Sendout	73,347	\$51,233	\$0.6985	\$0.6391	9,214		82,561		
36	Ending Balance	60,166	\$42,026	\$0.6985	\$0.6391					
37	AVERAGE SUMMER RATE - SENDOUT							295,082		

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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)

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)	17,082	0	(63,856)	(72,397)	4.25%	(256)	(64,112)
8	JUN	(64,112)	11,261	0	(52,851)	(58,481)	4.25%	(207)	(53,058)
9	JUL	(53,058)	10,614	0	(42,443)	(47,751)	4.25%	(169)	(42,612)
10	AUG	(42,612)	10,500	0	(32,112)	(37,362)	4.25%	(132)	(32,244)
11	SEP	(32,244)	11,288	0	(20,956)	(26,600)	4.25%	(94)	(21,050)
12	OCT	(21,050)	12,710	0	(8,339)	(14,695)	4.25%	(52)	(8,391)
13									
14								<u>(\$2,575)</u>	

15 = COL. 1, LINE 1 + COL. 2, LINES 1 TO 6 + COL. 7, LINES 1 TO 6

16 (72,578) + (\$6,694.99) + (1,665) = (80,938) @ MAY 1, 2020
(TRANSFER TO SCHEDULE B, LINE 35)

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	Normalized Firm Sendout COVID19 Impact	% Reduction COVID-19	Actual Company Use	% Reduction COVID-19	Unaccounted For 0.90%	Total Firm Sendout
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			(1) - (2)			(4) - (5)	(3) / (4)	(6) X (7)	(5) + (7)	(1) - (3) + (9)	(10)*(1-(12))			(13)*(1-(12))	(11 - 14) * 0.90%	(11) - (14) +(15)
May-19	73,055	43,756	29,300	323	283	40	90.71	(3,628)	25,671	69,427	52,070	25%	2,846	2,135	449	50,385
Jun-19	48,334	43,756	4,579	71	75	(4)	64.49	258	4,836	48,592	36,444	25%	1,918	1,439	315	35,321
Jul-19	42,842	43,756	0	0	12	(12)	0.00	0	0	42,842	34,274	20%	1,903	1,522	295	33,046
Aug-19	44,669	43,756	914	20	21	(1)	45.68	46	959	44,715	40,243	10%	2,120	1,908	345	38,680
Sep-19	54,072	43,756	10,317	178	159	19	57.96	(1,101)	9,215	52,971	47,674	10%	2,066	1,859	412	46,227
Oct-19	84,363	43,756	40,608	453	473	(20)	89.64	1,793	42,401	86,156	81,848	5%	2,756	2,618	713	79,943
Total	347,335	262,533	85,716	1,045	1,023	22		(2,633)	83,083	344,702	292,553		13,609	11,481	2,530	283,601

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	Normal Firm COVID 19 IMPACT
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	-11
				(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	14,588
Jun-19	878	8,951	6,927	2,024	71	75	(4)	28.51	114	2,138	9,065	9,065
Jul-19	897	6,828	6,927	0	0	12	(12)		0	0	6,828	6,828
Aug-19	897	7,025	6,927	98	20	21	(1)	4.92	5	103	7,030	7,030
Sep-19	871	8,628	6,927	1,701	178	159	19	9.56	(182)	1,519	8,446	8,446
Oct-19	907	17,407	6,927	10,480	453	473	(20)	23.14	463	10,943	17,870	17,870
Total		64,510	41,561	23,048	1,045	1,023	22	31.03	(683)	22,365	63,827	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	Normal Firm COVID 19 IMPACT	Percent Impact COVID19
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(12)	(13)
				(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	35,231	32%
Jun-19	323	38,401	35,305	3,096	71	75	(4)	43.60	174	3,270	38,576	26,803	31%
Jul-19	333	34,222	35,305	0	0	12	(12)		0	0	34,222	25,961	24%
Aug-19	333	36,389	35,305	1,083	20	21	(1)	54.17	54	1,138	36,443	32,145	12%
Sep-19	322	42,768	35,305	7,463	178	159	19	41.93	(797)	6,666	41,972	36,836	12%
Oct-19	338	65,679	35,305	30,374	453	473	(20)	67.05	1,341	31,715	67,020	62,812	6%
Total		271,849	211,833	61,099	1,045	1,023	22	72.29	(1,590)	59,509	270,259	219,787	

19%

Summary - Total Summer Season Sales

	Actual 2019	Normalized
May	70,060	49,819
June	47,352	35,868
July	41,050	32,789
August	43,414	39,175
September	51,396	45,282
October	83,087	80,682
Total	336,359	283,614

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)	39	69	81	103	89	66	447	35	18	9	7	7	11	87	534			
Residential Heating R-3																		
Customer Charge	Nov-18 - Apr-19	May-19 - Jun-19	Jul-19 - Oct-19															
Delivery Charge:	Winter \$0.5502	Summer \$0.5502	Summer \$0.5569				\$90.12	\$15.02	\$15.02	\$15.20	\$15.20	\$15.20	\$15.20	\$90.84	\$180.96			
All therms @	\$0.5502	\$0.5502	\$0.5569	\$21.22	\$38.05	\$44.49	\$56.78	\$48.98	\$36.42	\$245.94	\$19.20	\$9.84	\$5.12	\$3.73	\$4.00	\$6.23	\$48.12	\$294.06
Base Delivery Revenue Total	\$36.24	\$53.07	\$59.51	\$71.80	\$64.00	\$51.44	\$336.06	\$34.22	\$24.86	\$20.32	\$18.93	\$19.20	\$21.43	\$138.96	\$475.02			
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	\$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	\$0.9007	\$1.3188			
Cost of Gas Total	\$54.00	\$96.83	\$113.21	\$144.49	\$124.66	\$92.68	\$625.87	\$38.63	\$18.00	\$8.13	\$4.73	\$3.48	\$5.42	\$78.39	\$704.26			
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	\$2.55	\$4.56	\$5.34	\$6.81	\$5.88	\$4.37	\$29.50	\$2.30	\$1.18	\$0.61	\$0.44	\$0.47	\$0.74	\$5.74	\$35.25			
Total Bill	\$93	\$154	\$178	\$223	\$195	\$148	\$991	\$75	\$44	\$29	\$24	\$23	\$28	\$223	\$1,215			
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)	27	71	82	76	81	66	404	35	18	9	7	7	11	87	491			
Residential Heating																		
Customer Charge	Nov-19 - Apr-20	May-20 - Jun-20	Jul-20 - Oct-20															
Delivery Charge:	Winter \$0.5569	Summer \$0.5569	Summer \$0.5569				\$91.20	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$15.20	\$91.20	\$182.40			
All therms @	\$0.5569	\$0.5569	\$0.5569	\$15.25	\$39.54	\$45.76	\$42.33	\$44.99	\$36.86	\$224.73	\$19.43	\$9.96	\$5.12	\$3.73	\$4.00	\$6.23	\$48.47	\$273.20
Base Delivery Revenue Total	\$30.45	\$54.74	\$60.96	\$57.53	\$60.19	\$52.06	\$315.93	\$34.63	\$25.16	\$20.32	\$18.93	\$19.20	\$21.43	\$139.67	\$455.60			
Seasonal Base Delivery Difference from previous year																		
Seasonal Percent Change from previous year																		
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	\$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	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.9095			
Cost of Gas Total	\$26.53	\$68.82	\$79.64	\$73.66	\$78.30	\$64.15	\$391.10	\$22.08	\$11.32	\$5.81	\$4.23	\$4.54	\$7.08	\$55.06	\$446.16			
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	\$0.85	\$2.20	\$2.55	\$2.36	\$2.50	\$2.05	\$12.51	\$1.08	\$0.55	\$0.28	\$0.21	\$0.22	\$0.35	\$2.70	\$15.21			
Seasonal COG Difference from previous year																		
Seasonal Percent Change from previous year																		
Total Bill	\$58	\$126	\$143	\$134	\$141	\$118	\$720	\$58	\$37	\$26	\$23	\$24	\$29	\$197	\$917			
Seasonal Total Bill Difference from previous year																		
Seasonal Percent Change from previous year																		
Seasonal Percent Change resulting from Base Rates (incl. Def. Revenue Surch.)																		
Seasonal Percent Change resulting from COG																		
Seasonal Percent Change resulting from LDAC																		

(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)	39	69	81	103	89	66	447	35	18	9	7	7	11	87	534
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	\$36.24	\$54.09	\$60.23	\$56.84	\$59.47	\$51.44	\$318.31	\$34.45	\$24.98	\$20.14	\$18.75	\$19.02	\$21.25	\$138.59	\$456.90
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	\$1.4427	\$1.1071	\$1.0063	\$0.8854	\$0.7068	\$0.4843	\$0.4843	\$0.9007	\$1.3543
Cost of Gas Total	\$53.23	\$101.89	\$123.80	\$154.90	\$127.29	\$83.74	\$644.85	\$38.63	\$18.00	\$8.13	\$4.73	\$3.48	\$5.42	\$78.39	\$723.24
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	\$2.55	\$4.56	\$5.34	\$6.81	\$5.88	\$4.37	\$29.5012	\$2.30	\$1.1807	\$0.6062	\$0.4416	\$0.4741	\$0.7384	\$5.74	\$35.25
Total Bill	\$92	\$161	\$189	\$219	\$193	\$140	\$993	\$75	\$44	\$29	\$24	\$23	\$27	\$223	\$1,215
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)	27	71	82	76	81	66	404	35	18	9	7	7	11	87	491
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	\$30.45	\$54.74	\$60.96	\$57.53	\$60.19	\$52.06	\$315.93	\$34.63	\$25.16	\$20.32	\$18.93	\$19.20	\$21.43	\$139.67	\$455.60
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	\$0.8563	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.8166
Cost of Gas Total	\$25.98	\$67.40	\$79.59	\$71.08	\$55.80	\$45.71	\$345.56	\$22.08	\$11.32	\$5.81	\$4.23	\$4.54	\$7.08	\$55.06	\$400.62
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		
LDAC Total	\$0.85	\$2.20	\$2.55	\$2.36	\$2.50	\$2.05	\$12.51	\$1.08	\$0.55	\$0.28	\$0.21	\$0.22	\$0.35	\$2.69	\$15.20
Seasonal Base Delivery Difference from previous year														\$1.08	-\$1.30
Seasonal Percent Change from previous year														0.8%	-0.3%
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	\$0.8563	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.6326	\$0.8166
Cost of Gas Total	\$25.98	\$67.40	\$79.59	\$71.08	\$55.80	\$45.71	\$345.56	\$22.08	\$11.32	\$5.81	\$4.23	\$4.54	\$7.08	\$55.06	\$400.62
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		
LDAC Total	\$0.85	\$2.20	\$2.55	\$2.36	\$2.50	\$2.05	\$12.51	\$1.08	\$0.55	\$0.28	\$0.21	\$0.22	\$0.35	\$2.69	\$15.20
Seasonal COG Difference from previous year														-\$23.33	-\$322.62
Seasonal Percent Change from previous year														-29.8%	-44.6%
Total Bill	\$57	\$124	\$143	\$131	\$118	\$100	\$674	\$58	\$37	\$26	\$23	\$24	\$29	\$197	\$871
Seasonal Total Bill Difference from previous year														-\$25.30	-\$343.97
Seasonal Percent Change from previous year														-11.4%	-28.3%
Seasonal Percent Change resulting from Base Rates (incl. Def. Revenue Surch.)														-2.1%	-3.0%
Seasonal Percent Change resulting from COG														-10.5%	-26.5%
Seasonal Percent Change resulting from LDAC														-1.4%	-1.6%

(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

BID 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%		

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

LINE NO.		May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	TOTAL
1	TOTAL SENDOUT (therms)	52,519	36,759	34,568	40,588	48,086	82,561	295,082
2	CHANGE TO ENDING INVENTORY BALANCE (therms)	-	-	-	-	-	-	-
3	TOTAL REQUIRED PURCHASES (therms)	52,519	36,759	34,568	40,588	48,086	82,561	295,082
4	<u>PROPANE PURCHASE STABILIZATION PLAN DELIVERIES</u>							
5	Therms	-	-	-	-	-	-	-
6	<u>RATES</u> - 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	<u>AMHERST STORAGE PROPANE DELIVERIES</u>							
15	Therms	-	-	-	-	-	-	-
16	<u>RATES</u> - 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	<u>CNG DELIVERIES</u>							
22	Therms	11,498	6,225	5,046	6,180	7,948	9,214	46,111
23	RATE							
24	PRICE							
25	COST PER Therm							
26	COST - CNG							
27	DEMAND FIXED							
28	COST PER Therm							
29	TOTAL CNG							
30	<u>SPOT PURCHASES</u>							
31	Therms	41,022	30,534	29,522	34,408	40,138	73,347	248,971
32	<u>RATES</u> - 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	<u>OTHER ITEMS</u>							
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	<u>TOTAL</u>							
47	THERMS	52,519	36,759	34,568	40,588	48,086	82,561	295,082
48	SENDOUT THERMS	52,519	36,759	34,568	40,588	48,086	82,561	295,082
49	COST	\$37,445	\$27,305	\$26,543	\$31,327	\$36,641	\$60,703	\$219,964
50	COST PER THERM	\$0.7130	\$0.7428	\$0.7678	\$0.7718	\$0.7620	\$0.7352	\$0.7454

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