Received: December 8, 2017

Request Number: LU 1-4

Date of Response: December 21, 2017

Witness: Al-Azad Iqbal

Request:

Attachment AI-DEP-2, Bates 000031 – 000033. Please provide the analysis supporting the recommended changes to Average Service Lives for each of the following FERC accounts. For each of those accounts please also provide the information reviewed as part of your analysis that supports your recommended ASLs.

- a. Account 303.00
- b. Account 381.00
- c. Account 381.10
- d. Account 381.20
- e. Account 382.00
- f. Account 391.10
- g. Account 397.00
- h. Account 398.00

.

Response:

For each of the accounts, staff reviewed the model output provided by the company (Staff 2-38.b) and rationale to deviate from the output (as discussed in Attachment PMN-2) or the existing ASLs. In absence of any compelling argument to change the ASL, staff recommended keeping the current rate where possible.

Docket No. 16-384 Schedule DLC-1 Page 1 of 3

UNITIL ENERGY SYSTEMS, INC. SCHEDULE OF DEPRECIATION ACCRUAL RATES @12/31/2015 SCHEDULE A WHOLE LIFE SCHEDULE WITH RESERVE VARIANCE

DE 10-055 Settlement ASLs & N.S. @1/20/2011 2009 Study Iowa curves

Column C	ACCOUNT DESCRIPTION NUMBER	PLANT BALANCE @12/31/2015	DISP TYPE	ASL	ACCRUAL RATE W/O NET SALV.	ACCRUAL WITHOUT NET SALV.	NET SALV. %	SALV. FACTOR	ACCRUAL RATE W/ NET SALV.	ACCRUAL WITH NET SALV.	THEO. RSV. WITHOUT NET SALV.	THEO. RSV. WITH NET SALV.	BOOK RSV. @12/31/2015	RESERVE VARIANCE	ARL	COR RATE
MATERIAL PROPERTIES 10,000 14,700 10,000		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Solid Description Solid Principle S AMPROVINENTS 19773 195 3272 282 1.08 2.00 4.194 87.628 112.084 143.027 37.8 37.8 38.00 37.57 17.67 37.8 38.00 37.57 17.67 37.8 38.00 37.57 17.67 37.8 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.57 37.5 38.00 37.5 37.5 38.00 37.5 37.5 38.00 37.5 37.5 38.00 37.5 37.5 38.00 37.5 37.5 38.00 37.5	DISTRIBUTION PLANT															
Solid STRUCTURES A MARCONIMENTS 107,773																
9200 STATION EQUIPMENT (2,736,448) S 15 501 200 474,009 334 133 260 501,209 5,009,169 7,744,262 7,944,421 979,377 37,8 31,8 10,8 10 1,9 14,6 14,6 14,6 14,6 14,6 14,6 14,6 14,6																0.009
24.00 24.00 25.0																0.66%
Section Concentration Co																1.319
396.00 IMPERISONUMENTS 1,641,623 R 2.5 5.5 1 1.6 3.33.33 1.49 1.5 2.0 36,800 0.41,720 565,021 587,417 22.396 40.4																1.139
SET DID US CONDUCTORES DEFOCES 18-24-289 R 1.5 51.1 1.96 357.599 33.4 1.30 2.81 476.186 3.460.222 4.866.000 6.396.941 -2.223.911 41.4																0.289
88.10 LINE TRANSFORMERS 824,903.384 R 3.0 34.3 202 718.039 4-52 1.05 3.07 759.855 8,884.74 9.357.177 8,931.891 425.316 21.9 826.0 TARKSCREEN INSTALLATIONS 18,724.91 R 3.0 34.3 2.02 54.2309 1.1 0.01 2.95 641.992 4.725.209 4.71,718.89 38,947.99 727.718																0.659
886 10 LNE TRANSFORMERS 24,590,384 R 30 34.3 292 T18,039 4-52 106 307 T59,955 8,884,74 9,37,177 8,931,881 425,316 219 868 20 TARKSFORMER INSTALLATIONS 18,724 R 30 34.3 292 1,260,369 1 103 3.02 1,300,287 13,619,863 14,134,883 12,929,311 1,205,072 26.6 10,000 5,000 5,000 1,000 5,000 1,000 5,000 1,000 5,000 1,000 1,000 5,000 1,000	LINE TRANSFORMERS															
TOTAL ACCOUNT 388		24,590,384	R 3.0	34.3	2.92	718,039	-5.2	1.05	3.07	754,925	8,894,674	9,357,197	8,931,881	425,316	21.9	0.15%
## Services	368.20 TRANSFORMER INSTALLATIONS	18,572,941	R 3.0	34.3	2.92	542,330	-1.1	1.01	2.95	547,902	4,725,209	4,777,186	3,997,430	779,756	25.6	0.03%
METERS 371-01 METERS 371-01 METERS 371-01 METERS 371-01 METERS 368-3822 S 3.0 19.7 5.08 489.529 0 1.00 5.08 489.529 1.822.566 1.622.566 2.2077.150 3.899.716 11.8 TOTAL ACCOUNT 3710 13.663.883 19.7 5.08 294.692 0 1.00 5.08 294.692 1.622.566 1.622.566 2.2077.150 3.899.716 11.8 TOTAL ACCOUNT 3710 13.663.883 19.7 5.08 694.131 1.00 5.08 694.131 5.512.799 5.512.799 5.512.799 -10.847 5.523.646 371-00 INSTALL ON CUSTOMERS PREMISES 1.880,305 S 5.5 16.6 6.02 113.593 -29.3 1.29 7.79 146.992 459.052 598.554 365.888 229.666 12.6 371-00 INSTALL ON CUSTOMERS PREMISES 3.207.6528 R 1.0 16.6 6.02 114.207 -38.4 1.33 8.04 260.007 1.281.815 1.725.149 1.881.888 1.155.887 10.0 TOTAL ACCOUNT 3710 1.008-11.008	TOTAL ACCOUNT 368	43,163,325		34.3	2.92	1,260,369		1.03	3.02	1,302,827	13,619,883	14,134,383	12,929,311	1,205,072		
370.0 METERS 9.868.932 S 3.0 19.7 5.08 499.229 0 1.00 5.08 499.29 3.889.233 3.890.233 2.006.303 1.823.930 11.7 370.20 METER INSTALLATIONS 4 0.07.591 13.685.883 S 19.7 5.08 204.602 0 1.00 5.08 204.602 10.25.60 1.825.60 1	369.00 SERVICES	20,341,811	R 3.0	26.5	3.77	766,886	-54.4	1.54	5.83	1,185,928	7,574,947	11,695,718	13,235,456	-1,539,738	16.6	2.06%
370.0 METERS 9.696.992 \$ 3.0 19.7 5.08 499.229 0 1.00 5.08 499.29 3.890.233 3.890.233 2.006.303 1.823.930 11.7 370.2 METER INSTALLATIONS 4.027.591 5 3.0 19.7 5.08 204.602 0 1.00 5.08 204.602 2 0 1.00 5.08 204.602 1.02.568 1.02.5269 1.02	METERS															
371.00 INSTALLATIONS 4,027,991 S 3.0 19.7 5.08 204,002 0 1.00 5.08 204,002 1,022,058 1,022,058 2,077,159 5,512,799 10,847 5,523,646 11.8 TOTAL ACCOUNT 370 15,663,883 1,963,083 S 1.5 16,66 6.02 113,693 2.93 11.29 7.79 146,992 459,052 593,554 383,888 229,666 12.6 12.6 12.6 12.6 12.6 12.6 12.6 1		9.636.392	S 3.0	19.7	5.08	489.529	0	1.00	5.08	489.529	3.890.233	3.890.233	2.066.303	1.823.930	11.7	0.00%
TOTAL ACCOUNT 370 13,663,883 19,7 5.08 694,131 1.00 5.08 694,131 5,512,799 5,512,799 10,847 5,523,646 371.00 INSTALL ON CUSTOMERS PREMISES 1,886,935 \$ -5 16,6 6.02 113,593 -29,3 1.29 7,79 146,992 469,052 593,554 363,888 229,666 12,6 373.00 ST. LUCHTING & SIGNAL SYSTEMS 3,227,653 R 1.0 16,6 6.02 194,907 33.4 1.33 8.04 280,307 1,283,815 17,25,949 1,881,836 155,887 10.0 GENERAL PLANT 252,328,112 35.4 2.82 7,125,242 1.33 3,76 9,481,71 67,773,344 90,243,751 88,484,852 1,758,899 1.00 GENERAL PLANT 390.00 STRUCTURES & IMPROVEMENTS 3,787,332 R 2.5 43.0 2.33 88,245 10.5 0.90 2.08 78,777 1,460,323 1,306,989 1,804,666 497,677 26,4 391,10 0,971,00 0,971,10 0,97																0.00%
373.00 ST. LIGHTING A SIGNAL SYSTEMS 3.227.653 R 1.0 166 6.02 194.907 -33.4 1.33 8.04 280.307 1.293.815 1.725.949 1.881.836 1.55.887 10.0 GENERAL PLANT 390.00 STRUCTURES A IMPROVEMENTS 3.787.332 R 2.5 43.0 2.33 88.245 10.5 0.90 2.08 78,777 1.460.323 1.306.889 1.804.666 -497.677 26.4 391.10 DFICE FUNNITURE 267.375 L 2.0 15.0 6.67 17.854 12.5 0.88 5.83 15.588 145.667 127.460 -525.160 652.600 6.8 393.00 STORES EQUIPMENT 79.908 R 5.0 29.0 3.45 2.757 2.5 0.98 3.36 2.685 49.002 47.777 58.463 -10.086 11.2 394.00 TOOLS, SHOP & GARAGE EQUIPMENT 15.591,71 R 2.0 25.0 4.00 61.567 9.0 0.91 3.64 56.026 653.799 513.048 672.814 -1895.666 1.498.612 1.398.610 1.898.612 1.398	TOTAL ACCOUNT 370			19.7	5.08				5.08							
373.00 ST. LIGHTING & SIGNAL SYSTEMS 3,227,653 R 1.0 16.6 6.02 194,907 - 33.4 1.33 8.04 260,307 1,293.815 1,725,949 1,881,838 1.155,887 10.0 TOTAL DEPREC, DISTRIBUTION PLANT 252,328,112 35.4 2.82 7,125,242 1.33 3.76 9,489,171 67,773,64 90,243,751 88,484,852 1,758,899 1.00 SERVICTURES & MIRROY CHIEF & 267,375 L 2.0 15.0 6.67 17,854 12.5 0.89 5.83 15,588 145,667 127,450 - 452,5150 652,600 6.8 393.00 STORES EQUIPMENT 79,908 R 5.0 2.90 3.45 2,757 2.5 0.98 3.36 2,885 49,002 47,777 58,463 -10,868 11.2 39,000 STORES EQUIPMENT 79,908 R 5.0 25.0 4.00 61,677 9.0 9.0 91 3.64 56,026 563,789 513,048 672,614 159,566 15.8 395.00 LABORATORY EQUIPMENT 79,2711 R 2.0 25.0 4.00 61,677 9.0 9.0 91 3.64 56,026 563,789 513,048 672,614 159,566 15.8 395.00 LABORATORY EQUIPMENT 79,2711 SQ 25.0 4.00 31,708 2.5 0.98 3.90 30,916 270,938 264,165 297,321 - 33,156 16.5 395.00 MISCELLANEOUS EQUIPMENT 102,493 R 4.0 20.0 5.00 5.147 2.5 0.98 4.88 5.024 73,694 71,826 297,321 - 33,156 16.5 395.00 MISCELLANEOUS EQUIPMENT 103,4498 2.26 4.44 48,854 0.95 4.24 43,7972 4.31,590 4.083,66 52,876,847 1.245,662 8.0 393.00 INTANGIBLE SOFTWARE - 5 VERR 3,986,040 1.00 SAR,048 EQUIPMENT 2,02 25.0 4.04 5.147 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,488,46 458,871 1.00 ORGANIZATION 2,036,101 STRIBUTION LAND 116,862 1.00 SAR,048 1.00	371.00 INSTALL. ON CUSTOMERS' PREMISES	5 1,886,935	S5	16.6	6.02	113,593	-29.3	1.29	7.79	146,992	459,052	593,554	363,888	229,666	12.6	1.77%
TOTAL DEPREC DISTRIBUTION PLANT 252,328,112 35.4 2.82 7,125,242 1.33 3.76 9,489,171 67,773,364 90,243,751 88,484,852 1,758,899	373.00 ST. LIGHTING & SIGNAL SYSTEMS															2.02%
391.00 STRUCTURES & IMPROVEMENTS 3,787,332 R 2.5 43.0 2.33 88,245 10.5 0.90 2.08 78,777 1,460,323 1,306,989 1,804,666 -497,677 26.4 391.10 OFFICE FURNITURE 267,375 L 2.0 15.0 6.67 17,834 12.5 0.88 5.83 15,588 145,657 127,450 -525,150 652,600 6.8 393.00 STORES EQUIPMENT 79,908 R 5.0 2.90 3.45 2,757 2.5 0.98 3.36 2,685 49,002 47,777 58,463 -10,686 11.2 394.00 TOOLS, SHOP & GARAGE EQUIPMENT 1,539,171 R 2.0 25.0 4.00 61,567 9.0 0.91 3.64 56,026 553,769 513,048 672,614 199,566 15.8 395.00 LABORATORY EQUIPMENT 3,772,058 S 3.0 15.0 6.67 251,596 1.0 0.99 6.60 248,956 1,750,187 1,732,685 2,978,647 -1,245,962 8.0 398.00 MISCELLANEOUS EQUIPMENT 103,41,498 22.6 4.44 458,854 0.95 4.24 437,972 4,313,590 4,063,966 5,363,994 -1,300,028 TOTAL DEPREC. ELECTRIC PLANT 262,669,610 34.7 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,848,846 458,871 301.00 ORGANIZATION 380 330.0 INTANGIBLE SOFTWARE - 3 YEAR 87,196 333.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 333.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 330.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 330.10 INTANGIBLE SOFTWARE - 1 YEAR 2,307,249 380.0 GENERAL LIND 1991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 380.0 GENERAL LIND 1991,116 380.0 GENER	TOTAL DEPREC. DISTRIBUTION PLAN			35.4	2.82			1.33	3.76							
391.10 OFFICE FUNITURE 267.375 L 2.0 15.0 6.67 17.834 12.5 0.88 5.83 15.588 145.657 127.450 525.150 652.600 6.8 393.00 STORES EQUIPMENT 79.908 R 5.0 29.0 3.45 2.757 2.5 0.98 3.36 2.685 49.002 47.777 55.463 1.06.660 11.2 394.00 TOOLS, SHOP & GARAGE EQUIPMENT 79.908 R 5.0 29.0 3.45 2.757 2.5 0.98 3.36 2.685 49.002 47.777 55.463 1.06.660 11.2 395.00 LABORATORY EQUIPMENT 79.911 R 2.0 25.0 4.00 61.567 9.0 0.91 3.64 56.026 563,789 513.048 672.614 1.595.666 15.8 395.00 LABORATORY EQUIPMENT 79.2711 SQ 25.0 4.00 31.708 2.5 0.98 3.30 30.916 270.938 264.165 297.321 33.156 16.5 397.00 COMMUNICATION EQUIPMENT 3.772.058 S 3.0 15.0 6.67 251.596 1.0 0.99 6.60 248,956 1.750.187 1.732.685 2.978.647 1.245.962 8.0 398.00 MISCELLANEOUS EQUIPMENT 10.341.498 4.0 20.0 5.00 5.147 2.5 0.98 4.88 5.024 73.694 71.852 77.433 4.55.81 5.7 TOTAL DEPREC. GENERAL PLANT 10.341.498 2.2 6 4.44 458.854 0.95 4.24 437.972 4.313.590 4.063.966 5.363.994 1.300.028 **TOTAL DEPREC. ELECTRIC PLANT 262.669.610 34.7 2.89 7.584.096 1.31 3.78 9.927.143 72.086.954 94.307.717 93.848.846 458.871 **301.00 ORGANIZATION 380 303.00 INTANGIBLE SOFTWARE - 5 YEAR 3.958.942 303.10 INTANGIBLE SOFTWARE - 5 YEAR 87.196 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87.196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 87.196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 87.196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 99.116 360.20 DISTRIBUTION LAND 991.116 360.20 DISTRIBUTION RIGHTS OF WAY 1.674.812 389.00 GENERAL LAND 18.620 389.00 GENERAL LAND 18.620 389.00 GENERAL LAND 10.078,761	GENERAL PLANT															
393.00 STORES EQUIPMENT 79,908 R 5.0 29.0 3.45 2,757 2.5 0.98 3.36 2,885 49,002 47,777 58,463 -10,886 11.2 394.00 TOOLS, SHOP & GARAGE EQUIPMENT 1,539,171 R 2.0 25.0 4.00 61,567 9.0 0.91 3.64 56,026 563,789 513,048 672,614 -159,566 15.8 395,00 LABORATORY EQUIPMENT 792,711 SQ 25.0 4.00 31,708 2.5 0.98 3.90 30,916 270,938 264,165 297,321 -33,156 15.8 395,00 LABORATORY EQUIPMENT 3,772,058 S 3.0 15.0 6.67 251,596 1.0 0.99 6.60 248,956 1,750,187 1,732,885 2,978,647 -1,245,962 8.0 398.00 MISCELLANEOUS EQUIPMENT 102,943 R 4.0 20.0 5.00 5,147 2.5 0.98 4.88 5,024 73,694 71,852 77,433 5,581 5.7 TOTAL DEPREC. GENERAL PLANT 10,414,499 Z 28.6 4.44 458,884 0.95 4.24 437,972 4,315,900 4,063,966 5,363,994 -1,300,028 1.30 1.30 1,771,771,771,771,771,771,771,771,771,7	390.00 STRUCTURES & IMPROVEMENTS	3,787,332	R 2.5	43.0	2.33	88,245	10.5	0.90	2.08	78,777	1,460,323	1,306,989	1,804,666	-497,677	26.4	0.00%
394.00 TOOLS, SHOP & GARAGE EQUIPMENT 394.00 TOOLS, SHOP & GARAGE EQUIPMENT 792.711 SQ 25.0 4.00 31.708 2.5 0.0 31.708 2.5 0.0 3.90 3.90 3.90 3.90 3.90 3.90 3.90	391.10 OFFICE FURNITURE	267,375	L 2.0	15.0	6.67	17,834	12.5	0.88	5.83	15,588	145,657	127,450	-525,150	652,600	6.8	0.00%
395.00 LABORATORY EQUIPMENT 792,711 SQ 25.0 4.00 31,708 2.5 0.98 3.90 30,916 270,938 264,165 297,321 -33,156 16.5 397.00 COMMUNICATION EQUIPMENT 3,772,058 S 3.0 15.0 6.67 251,596 1.0 0.99 6.60 248,956 1,750,187 1,732,685 2,978,647 -1,245,962 8.0 398.00 MISCELLANEQUIS EQUIPMENT 10,241,498 20 5.00 5.147 2.5 0.98 4.88 5.024 73,694 71,682 77,433 5.5631 5.7 TOTAL DEPREC. GENERAL PLANT 10,341,498 22.6 4.44 458,854 0.95 4.24 437,972 4,313,590 4,063,966 5,363,994 -1,300,028 7.00 COMMUNICATION 380 30.01 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 30.310 INTANGIBLE SOFTWARE - 5 YEAR 87,196 30.310 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 36.01 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 1,078,761 1.078,761 1.078,761 1.078,761	393.00 STORES EQUIPMENT	79,908	R 5.0	29.0	3.45	2,757	2.5	0.98	3.36	2,685	49,002	47,777	58,463	-10,686	11.2	0.00%
397.00 COMMUNICATION EQUIPMENT 3,772,058 S 3.0 15.0 6.67 251,596 1.0 0.99 6.60 248,956 1,750,187 1,732,685 2,978,647 -1,245,962 8.0 398.00 MISCELLANEOUS EQUIPMENT 102,943 R 4.0 20.0 5.00 5.147 2.5 0.98 4.88 5.024 73,694 71,852 77.433 5.581 5.7 TOTAL DEPREC. GENERAL PLANT 10,341,498 22.6 4.44 458,854 0.95 4.24 437,972 4,313,590 4,063,966 5,363,994 -1,300,028 70.00 CREATER TOTAL DEPREC. ELECTRIC PLANT 262,669,610 34.7 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,848,846 458,871 301.00 ORGANIZATION 380 303.10 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION LAND 18,620 391.03 COMPUTER EQUIPMENT 0 0 392.00 TRANSPORTATION EQUIPMENT 1 0.0 392.00 TRANSPORTATION EQUIPMENT 1 1,078,761	394.00 TOOLS, SHOP & GARAGE EQUIPMEN	T 1,539,171	R 2.0	25.0	4.00	61,567	9.0	0.91	3.64	56,026	563,789	513,048	672,614	-159,566	15.8	0.00%
398.00 MISCELLANEOUS EQUIPMENT 102.943 R 4.0 20.0 5.00 5.147 2.5 0.98 4.88 5.024 73.694 71.852 77.433 5.581 5.7 TOTAL DEPREC. GENERAL PLANT 10.341,498 22.6 4.44 458,854 0.95 4.24 437,972 4,313,590 4,063,966 5,363,994 -1,300,028 TOTAL DEPREC. ELECTRIC PLANT 262,669,610 34.7 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,848,846 458,871 301.00 ORGANIZATION 303.00 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 1,078,761	395.00 LABORATORY EQUIPMENT	792,711	SQ	25.0	4.00	31,708	2.5	0.98	3.90	30,916	270,938	264,165	297,321	-33,156	16.5	0.00%
TOTAL DEPREC. GENERAL PLANT 10,341,498 22.6 4.44 458,854 0.95 4.24 437,972 4,313,590 4,063,966 5,363,994 -1,300,028 TOTAL DEPREC. ELECTRIC PLANT 262,669,610 34.7 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,848,846 458,871 301.00 ORGANIZATION 380 303.00 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078,761		3,772,058	S 3.0	15.0	6.67	251,596	1.0	0.99	6.60	248,956	1,750,187	1,732,685	2,978,647	-1,245,962	8.0	0.00%
TOTAL DEPREC. ELECTRIC PLANT 262,669,610 34.7 2.89 7,584,096 1.31 3.78 9,927,143 72,086,954 94,307,717 93,848,846 458,871 301.00 ORGANIZATION 380 303.00 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 389,00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 518 392.00 TRANSPORTATION EQUIPMENT 1,078,761			R 4.0				2.5								5.7	0.00%
301.00 ORGANIZATION 380 303.00 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078,761																
303.00 INTANGIBLE SOFTWARE - 5 YEAR 3,958,942 3,273,350 303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 87,196 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 721,991 721,99	TOTAL DEFREC. ELECTRIC PLANT	202,009,010		34.7	2.09	7,004,096		1.31	3.70	9,921,143	12,000,954	34,307,717	33,040,046	40,071		
303.10 INTANGIBLE SOFTWARE - 3 YEAR 87,196 303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078,761																
303.10 INTANGIBLE SOFTWARE - 10 YEAR 2,307,249 360.10 DISTRIBUTION LAND 991,116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078,761																
360.10 DISTRIBUTION LAND 991.116 360.20 DISTRIBUTION RIGHTS OF WAY 1,674.812 389.00 GENERAL LAND 18.620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078.761																
360.20 DISTRIBUTION RIGHTS OF WAY 1,674,812 389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 518 392.00 TRANSPORTATION EQUIPMENT 1,078,761													721,991			
389.00 GENERAL LAND 18,620 391.03 COMPUTER EQUIPMENT 0 392.00 TRANSPORTATION EQUIPMENT 1,078,761 -135,621																
391.03 COMPUTER EQUIPMENT 0 518 392.00 TRANSPORTATION EQUIPMENT 1,078,761 -135,621																
392.00 TRANSPORTATION EQUIPMENT 1,078,761 -135,621													51Ω			
<u>TOTAL ELECTRIC PLANT</u> 272,786,686 97,796,280	TOTAL ELECTRIC PLANT	272,786,686											97,796,280			

Received: December 8, 2017

Request Number: LU 1-6

Date of Response: December 21, 2017

Witness: Al-Azad Iqbal

Request:

Reference Attachment AI-DEP-2, Bates 000031, FERC account 303.00 and Attachment PNM-2, pages 26 of 66, Bates 436 of the Company's filing.

- a. Please provide your understanding of how the Company's proposed ASL of 6.2 years was determined.
- b. In developing your recommended ASL of 7.0 years, did you take into account the information on Attachment PNM-2, pages 26 of 66, Bates 436 of the Company's filing? If so, please explain how that information was taken into account. If not, please explain why not.
- c. Do any other New Hampshire utilities have approved depreciation rates for multiple ASLs for capitalized software? If so, please list those companies along with each ASL and applicable depreciation rate.

Response:

- a) See response to LU 1-4. In the Service Life Analysis (Attachment PNM-2, pages 26 of 66, Bates 436), it was stated: "A review of this account indicates the existing 7.0-year ASL <u>may be</u> too long given the software included in this account. We therefore recommend a change from a 7.0-year ASL to a 6.2-year ASL with an S 4.0 Iowa curve. Our service life of 6.2 years represents a composite dollar-weighted average of the existing 3,5, and 10-year software life". There was no support provided for the ASL used in weighing and corresponding plant balance. Instead Account 1372.10 in Staff 2-38.b (page 25-27) shows consistent ASL of 11 years. So Staff believes that keeping it at the current level is reasonable.
- b) See a)
- c) Grouping similar types of assets in depreciation studies is a common practice. In the limited time to respond to this question, Staff was unable to find any particular instance where the Commission specifically approved depreciation rates for multiple ASLs for capitalized software. Given that each depreciation study is based on a particular company's experience and rationale to predict future life expectancy, the decision could vary from company to company.

Received: December 8, 2017

Request Number: LU 1-5

Date of Response: December 21, 2017

Witness: Al-Azad Iqbal

Request:

Reference Attachment AI-DEP-2, Bates 000031 - 000033. In preparing your analysis including your recommended ASLs, did you review the ASLs and depreciation rates of any other New Hampshire utilities? If so, please identify the utilities and provided all relevant information. If not, please explain.

Response:

No.

See response to 4.

Liberty Utilities (EnergyNorth Natural Gas) Corp. d/b/a Liberty Utilities

DG 17-048 Distribution Service Rate Case

Staff Data Requests – Set 7

Date Request Received: 9/21/17 Date of Response: 10/5/17 Request No. Staff 7-9 Respondent: Paul Normand

REQUEST:

Reference testimony of Paul M. Normand, attachment PMN-2, Bates page 445: Given that average life, net salvage, and similar curve are being used for this account in the current and most recent depreciation study:

- a. In your expert opinion, what are the possible reasons for the very large swings in reserve variances?
- b. Does the Company's proposed level reserve variance amortization address the account level variances?
- c. What are your recommendations to minimize such swings in reserve variances at the account level?

RESPONSE:

- a. The large swing in the reserve variance is primarily from two accounts: Mains (367.00) and Services (380.00) since the Company's last study. The large deviation is a direct result of the very large plant dollar increases for these accounts (Mains \$98M, Services \$66M) driven primarily by the mandated replacement program (CIBS) which is expected to continue for some period of time. As a result, we expect that this behavior will continue to be exhibited in a similar fashion as has been experienced but at a lower level since the recent amortization from the last study will be terminated.
- b. The Company's proposed amortization factors consider many additional aspects that go well beyond a typical depreciation study to consider. The depreciation study itself continues to recommend a two cycle amortization of the variances without any consideration for the impact to the reserve variances from the last ten years.
- c. As I mentioned in response part a. above, the Company's continued replacement program is impacting primarily two accounts which will continue to require large plant investment well into the foreseeable future. The current results and variances will continue to be exhibited, but a reduced level for the immediate future with the following options capable of minimizing future variances:

- 1) Change the current depreciation model from a Whole Life (WL) to a Remaining Life (RL) model which is well recognized in the industry and regulators alike. This calculation incorporates the existing reserve levels for each account in deriving the accrual rate for each account. In this manner, the RL approach is self-correcting over time.
- 2) If maintaining the WL approach is required, then consider establishing a collar or a threshold band width for the variance such that no amortization would occur unless the variance is in excess of 5 or 10% of the theoretical level.
- 3) More frequent studies for selected accounts to evaluate the variance levels. This would control the costs somewhat while providing additional information to regulators with respect to the larger and faster growing plant accounts, especially where mandated requirements are in effect.

Received: December 8, 2017

Request Number: LU 1-30

Date of Response: December 21, 2017

Witness: Stephen Frink

Request:

Reference Bates 000031, lines 18-20. Please provide copies all documentation and communications between Staff, Liberty Consulting and the Commission supporting the statement, "In conjunction with this proceeding, the Commission asked LCG to review and report on the progress made by Liberty in implementing the LCG recommendations."

Response:

Staff objects to the questions on the grounds that it is not relevant to the contents of any testimony submitted by Staff's witnesses in this docket. Further, all documents and communications between Staff and Liberty Consulting are protected by attorney client privilege and/or attorney work product and complying with the request would constitute an undue burden on Staff and Liberty Consulting, given the lack of relevance any answer would have to Staff's testimony in this docket.

Notwithstanding this objection, Staff states that Liberty Utilities was provided the contract between Liberty Consulting Group and the Commission, in the ordinary course of Commission business.

Received: December 8, 2017

Request Number: LU 1-33

Date of Response: December 21, 2017

Witness: Stephen Frink

Request:

Reference Liberty Consulting Group contract dated July 27, 2017. Please provide a copy of the "Contractor's letter proposal dated July 11, 2017." Please also provide copies of all communications to and from Liberty Consulting that predate that letter proposal.

Response:

Staff objects to the questions on the grounds that it is not relevant to the contents of any testimony submitted by Staff's witnesses in this docket. Further, all communications between Staff and Liberty Consulting are protected by attorney client privilege and/or attorney work product and complying with the request would constitute an undue burden on Staff and Liberty Consulting, given the lack of relevance any answer would have to Staff's testimony in this docket.

Received: December 8, 2017

Request Number: LU 1-31

Date of Response: December 21, 2017

Witness: Stephen Frink

Request:

Reference Bates 000031, lines 18-20. As LCG's recommendations included customer service topics as well as planning and budgeting, please explain why Staff felt it was not necessary to inform the Commission in its testimony about the customer service topics.

Response:

LCG's report was provided in its entirety as an attachment to the testimony of Stephen Frink.

Liberty Utilities' Comments to the Liberty Consulting Group's November 1, 2017 Draft Report

(Note: All page numbers in brackets at the end of each comment refer to the Bates numbering in Attachment SPF-8 of Mr. Frink's testimony. Items highlighted in yellow are comments that were not taken into account in the final November 2017 Report)

A1,Parts of the report are difficult to follow due to the interspersed use of footnotes and endnotes, many with the same numbers. [000082]

A2, Company names are inconsistent throughout the report. [000082]

A3,LCG has not identified any problem that these metrics are intended to address. Similar metrics are not in place at other utilities. [000084]

A4,For 2015 through 2017, the overall employee engagement scores are fine to be public as those are shared with all employees. Individual department scores, however, are not shared with all employees, so the individual department scores for Customer Care should be kept confidential. Those numbers have been highlighted in gray in this section. [000087]

A5,The 2017 information was provided on October 25, prior to the issuance of the draft report. The 2017 information should be treated confidentially, similar to the 2016 information. So, as with 2015 and 2016, the individual department scores for 2017 should be kept confidential. [000087]

A6, Same as prior comment on this topic. [000089]

A7,As stated in the prior paragraph, the plan was updated with respect to the contingency site. [000089]

A8, While this is a true statement, the May 2014 Business Case added \$25,000 for 2015, so that should be taken into account when comparing to the final cost, at least in relation to the Business Case documents. [000092]

A9,This comment ignores the contract documents signed by the CEO, purchase orders, change orders, and other signed documents that were provided. See three paragraphs below. [000093]

A10, Citation needed. [000093]

A11,This ignores the fact that the contract with North Branch specifically listed the types of costs that were not included in the \$2.042 million contract, so of course the total amount would be higher than the contract amount. See Attachment PB-13.1. [000093, 000094]

A12, This wasn't a "management finding." This was a notation on a "Project Cost History." [000094]

A13,Again, the North Branch contract price would not include all costs, so that is not the correct amount to use as a baseline. [000094]

A14, Having a higher allowance in the contract would have simply increased the initial contract price. [000095]

A15, Furniture, Fixtures and Equipment (see W.B. Mason notation on cited document). [000095]

A16, Many of these items are items that were specifically excluded from the scope of the North Branch contract. [000095]

A17,This should be replaced with "iNATGAS" throughout the document. INAT is not the name of the company. [000096]

A18,This is not a full representation of the information provided. The statement was that a copy of the Business Case document with additional signatures, beyond the three that were included on the copy of the provided Business Case, could not be located. The Company did provide information demonstrating that \$2.25 million was included in the 2014 budget as an emergent project. [partially considered] [000096]

A19,It was explained to LCG that the Project Close out Reports were first used in 2016 and were done based on a look at annual project spending, not overall spending. This is how the form is currently used, so this is not at odds with the process that was in place. See, for instance, the response to PB-9. [000097]

A20,This is inaccurate. The signed Over Expenditure Application clearly states that the revised project costs as of the date of the preparation of that document were \$4.654 million, so the signers of the document were aware of costs in excess of \$4.159 million. [000097]

A21,This is very misleading. It was clearly explained to LCG that \$230,000 was only for local costs and that \$1.66 million was for additional Oakville IT costs which were later added to the spending. This statement makes it appear as though work that was originally estimated to cost \$230,000 ending up costing eight times as much, which is clearly not the case. [000097]

A22,Outside of the local capital budget process, but approved as part of the Oakville budget process as noted in the preceding clause.

The Oakville IT budget was approved by the Board, but as part of the Oakville capital budget as opposed to the New Hampshire budget. Thus, the project approvals were not "outside the capital budget process." [000098]

A23,From the outset, the Company requested clarification as to the specific information being sought because it does not have a "Keene Propane" project. As LCG was seeking 2016 and 2017 budget and spending information, the Company needed clarification as to which particular project LCG was seeking supporting information. After a bit of back and forth and LCG communicating with Staff, LCG informed the Company on August 8 that the project number it was interested in was 8843-C-18820. We provided information on the temporary conversion, but based on the write-up below, it is apparent that LCG did not understand the distinction between projects. [000098]

A24,The January 1, 2017, date of the Business Case was a direct result of the delay in the project requested by Staff, otherwise the project would have been completed, and the dollars spent, in 2016. One should not infer that the January 1, 2017, date of the Business Case was due to a deficiency in the budgeting and planning processes. [000099]

A25,The Capital Project Expenditure Application indicates that a) the proposed source of funding is the 2017 Approved Capital Budget, and b) that the project was not included in the annual budget. As those notations are seemingly at odds, the Company planned to reallocate funds within the approved 2017 capital budget. [000099]

A26, This wording was unfortunately not revised by the author of the document. [000099]

A27,This information all relates to the planned multi-year conversion of the entire Keene system, a wholly different project than 8843-C-18820 (8843-C-18821 in 2017), the temporary CNG conversion. So, as LCG requested information on a specific project, including this information in the write-up is mixing apples and oranges. [000099, 000100]

A28,The Company was asked to provide examples of preliminary business cases, prepared by September of each year, for budget approval for the following year, to demonstrate that they were in fact being prepared. There was no specification beyond that. The Company provided examples of such business cases. If, upon receipt, LCG felt that preliminary business cases for blanket projects were not sufficient for their review, then it was incumbent on LCG to ask for examples of preliminary business cases for other projects. LCG's failure do so results in an insufficient basis to reach the conclusions stated in this section regarding the lack of "reasonably detailed cost estimates" and "lack of sufficient cost estimating." Had LCG asked for preliminary business cases for other projects, that information would have been provided. [000102]

A29, Same as prior comment.

LCG cannot, on the one hand, ask for generic examples of preliminary business cases, and on the other, fault the Company for not providing specific project information. If LCG wanted additional information on specific projects, it should have requested such specific information. [000102]

A30, Same as earlier comment regarding this sentence being misleading. [000103]

A31,This comment is uncalled for and is clearly inaccurate since the projects received approval at the Oakville level, as acknowledged by the statement earlier in the document which reads, "A number of Oakville projects underwent business-case review by and received approval at Oakville headquarters." [000103]

A32,LCG is writing about the eventual conversion of the entire 2017 Keene system, but that was not in the 2017 budget as that work would not be performed in 2017. See also the comments regarding the timing of the preparation of the 2017 Business Case. [000103]

A33,See earlier comment regarding the reason for the timing of the date on this Business Case, directly resulting from Staff's requested delay of the project. [000103]

A34, See earlier comment on this issue. [000104]

A35,This conclusion is completely misleading and is premised on erroneous assumptions, as discussed in other comments above and below. Therefore, it should be stricken from this report. [000104]

A36,See earlier comment on this issue. LCG has inappropriately included write-up of a planned multiyear conversion of the entire Keene system with the actual project to convert only a small portion of the system. LCG's comments inappropriately mix projects and will mislead the reader. The full conversion of the system is not a project that was part of the 2017 budget.

Regarding the full conversion of the Keene system, the following statements were included in the Company's response to Staff 2-41 (Supplemental):

"The final business plan will be completed once the Commission approves EnergyNorth's request to set the Keene Division's distribution rates at the level of EnergyNorth's distribution rates. That business plan will include information such as, but not limited to, the marketing plan, operations, how the sales force will be utilized (i.e., personnel in the Keene Division, personnel in the central office or a combination of the two). Since EnergyNorth's growth plans are contingent on approval of its proposal regarding the Keene Division's distribution rates, it would not be productive to establish a detailed business plan prior to receiving such approval." [Text to which the comment was directed was removed when final version of the report was prepared, so there is no current reference]

Steven Mullen

From: Steven Mullen

Sent: Thursday, November 09, 2017 2:17 PM

To: Dexter, Paul; Michael Antonuk

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

Paul,

Thanks for the reply.

We will certainly be providing feedback, consistent with my comments below but, as stated below, they will be on more than just obvious factual errors and confidentiality issues.

We share the interest in having a report without obvious factual errors, but just wanted to know the process for further comments to be provided and considered by any interested party.

Thanks again.

Steven Mullen | Liberty Utilities (New Hampshire) | Senior Manager, Rates and Regulatory Affairs P: 603-216-3516 | C: 603-327-9446 | E: Steven.Mullen@libertyutilities.com

From: Dexter, Paul [mailto:Paul.Dexter@puc.nh.gov]

Sent: Thursday, November 09, 2017 2:02 PM

To: Steven Mullen: Michael Antonuk

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

Hello Steve.

My understanding of this process is that Liberty Consulting (LC) sent Liberty Utilities (LU) a draft version of the report, offering/requesting LU the opportunity to comment on the draft to correct any obvious factual errors (and to highlight any information that LU believes is confidential), as was done in the past.

The purpose was to avoid having a report issued with obvious factual errors, working under the understanding this would be in all parties' best interest.

If LU chooses not to offer such feedback, LC will issue the report, using the information it has.

As for further process, to the extent the report is filed in the rate case (likely - at least in part) then LU could issue data requests and rebuttal testimony as it sees the need. The pre-review could limit the areas needing to be addressed, if all LC agreed with LU's comments and incorporated them into the final version.

Paul

From: Steven Mullen [mailto:Steven.Mullen@libertyutilities.com]

Sent: Thursday, November 09, 2017 10:43 AM

To: Michael Antonuk; Dexter, Paul

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

Paul,

Anything on the comment process from Staff's perspective?

Steven Mullen | Liberty Utilities (New Hampshire) | Senior Manager, Rates and Regulatory Affairs P: 603-216-3516 | C: 603-327-9446 | E: Steven.Mullen@libertyutilities.com

From: Michael Antonuk [mailto:michael@libertyconsultinggroup.com]

Sent: Wednesday, November 08, 2017 1:51 PM

To: Steven Mullen; 'Dexter, Paul'

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

I am not sure if there is a process for that. But we will review any comments LU-NH provides.

Michael Antonuk The Liberty Consulting Group (201) 683-8888 (Office) (717) 421-7715 (Cell)

From: Steven Mullen [mailto:Steven.Mullen@libertyutilities.com]

Sent: Wednesday, November 8, 2017 10:17 AM

To: Michael Antonuk < michael@libertyconsultinggroup.com >; 'Dexter, Paul' < Paul. Dexter@puc.nh.gov >

Cc: Michael Sheehan < Michael. Sheehan@libertyutilities.com >

Subject: RE: Liberty Recommendation Follow Up

Ok, but have you heard back from Staff consistent with the voice message you left me on Monday regarding the process for Liberty's comments to be evident to readers of the final document?

Steven Mullen | **Liberty Utilities** (New Hampshire) | Senior Manager, Rates and Regulatory Affairs P: 603-216-3516 | C: 603-327-9446 | E: <u>Steven.Mullen@libertyutilities.com</u>

From: Michael Antonuk [mailto:michael@libertyconsultinggroup.com]

Sent: Wednesday, November 08, 2017 10:14 AM

To: Steven Mullen; 'Dexter, Paul'

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

Steve.

We would like to review and consider all of the comments you describe below before we finalize, including your thoughts on information use and disagreement with conclusions. So those items should be included in LU's feedback, and will be evaluated for the finalization of the document.

Michael Antonuk The Liberty Consulting Group (201) 683-8888 (Office) (717) 421-7715 (Cell)

From: Steven Mullen [mailto:Steven.Mullen@libertyutilities.com]

Sent: Monday, November 6, 2017 9:45 AM

To: Michael Antonuk <michael@libertyconsultinggroup.com>; 'Dexter, Paul' <Paul.Dexter@puc.nh.gov>

Docket No. DG 17-048 Attachment SEM-10-Rebuttal Page 3 of 4

Cc: Michael Sheehan < <u>Michael Sheehan@libertyutilities.com</u> > **Subject:** RE: Liberty Recommendation Follow Up

Michael,

The concern with the prior approach is that our comments will not be evident to any reader of the final document. In addition, based on the current draft, our comments will extend beyond factual issues because, for example, there are instances where information that was provided was not taken into account and, thus, there are conclusions that we disagree with.

What is the process for taking those types of comments into account?

Thanks.

Steven Mullen | Liberty Utilities (New Hampshire) | Senior Manager, Rates and Regulatory Affairs

P: 603-216-3516 | C: 603-327-9446 | E: Steven.Mullen@libertyutilities.com

From: Michael Antonuk [mailto:michael@libertyconsultinggroup.com]

Sent: Friday, November 03, 2017 10:46 AM

To: Steven Mullen; 'Dexter, Paul'

Cc: Michael Sheehan

Subject: RE: Liberty Recommendation Follow Up

Steve,

What we envision is pretty straightforward, and similar to the process for our audit report in 2016. LU-NH reviews the report and provides redlines or comments to any areas you believe are not captured accurately or think information has not been properly considered, or other information might be useful. We would then review those comments before finalizing. And also identify anything that should be treated as confidential, protected, etc.

Hopefully this is what you are looking for, but let me know if you have any questions.

Thanks

Michael Antonuk The Liberty Consulting Group (201) 683-8888 (Office) (717) 421-7715 (Cell)

From: Steven Mullen [mailto:Steven.Mullen@libertyutilities.com]

Sent: Thursday, November 2, 2017 2:20 PM

To: Michael Antonuk <michael@libertyconsultinggroup.com>; 'Dexter, Paul' <Paul.Dexter@puc.nh.gov>

Cc: Michael Sheehan < Michael. Sheehan@libertyutilities.com >

Subject: RE: Liberty Recommendation Follow Up

Michael,

Thinking about your message below, you've asked for comments on factual accuracy as well as identification of items that would require redaction. Could you provide a description of the process that will be involved leading up to the finalization of the report? I ask because as I read your contract, Activity 9 states "[a]rrange a suitable means for comment and questions on the draft, followed by preparation of a final report..."

Docket No. DG 17-048 Attachment SEM-10-Rebuttal

The "means for comment and questions on the draft" can be read as being a bit more expansive than what was in your message below, so it would be good to get an idea of the process that was envisioned for allowing for the Company's comments and having an opportunity for those comments to be taken into account in a final report. We are familiar with the process when a PUC Staff draft audit report is issues, so any further information you can provide would be appreciated.

Thanks.

Steven Mullen | Liberty Utilities (New Hampshire) | Senior Manager, Rates and Regulatory Affairs P: 603-216-3516 | C: 603-327-9446 | E: Steven.Mullen@libertyutilities.com

From: Michael Antonuk [mailto:michael@libertyconsultinggroup.com]

Sent: Wednesday, November 01, 2017 12:07 PM

To: Steven Mullen; 'Dexter, Paul'

Subject: Liberty Recommendation Follow Up

Steve,

Attached is a draft of Liberty's recommendation follow up. Please advise if you have any comments on factual accuracy, and also identify any material in the document that would require redaction for confidentiality reasons.

Thank you,

Michael

Michael Antonuk The Liberty Consulting Group (201) 683-8888 (Office) (717) 421-7715 (Cell)

THIS PAGE INTENTIONALLY LEFT BLANK