



NORTHERN UTILITIES, INC.

DIRECT TESTIMONY OF DAVID L. CHONG  
REGARDING TEMPORARY RATES

EXHIBIT No. \_\_\_\_

New Hampshire Public Utilities Commission

Docket No. DG 17-070

SCHEDULES

Schedule DLC-4

Computation of Revenue  
Deficiency and Revenue  
Requirement for Temporary  
Rates

1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. David L. Chong, 6 Liberty Lane West, Hampton, New Hampshire 03842.

4 **Q. What is your position and what are your responsibilities?**

5 A. I am Director of Finance and Treasurer for Unitil Service Corp., a subsidiary of  
6 Unitil Corporation that provides managerial, financial, regulatory and engineering  
7 services to Unitil Corporation's utility subsidiaries. I am also the Treasurer of  
8 Northern Utilities, Inc. (hereinafter referred to as "Northern" or the "Company")  
9 and Unitil Corporation's other utility subsidiaries. My responsibilities are  
10 primarily in the areas of financial planning and analyses, regulatory projects,  
11 treasury operations and banking relationships.

12 **Q. Please describe your business and educational background.**

13 A. I have approximately sixteen years of professional experience in the energy and  
14 utilities industries. From 2001 through 2005, I worked for Exxon Mobil  
15 Corporation in various facilities engineering roles with my last position as a  
16 Senior Project Engineer. From 2005 through 2008, I worked for RBC Capital  
17 Markets Corporation in the energy investment banking group, where I provided  
18 corporate finance and mergers and acquisitions advisory services. While at RBC,  
19 I raised equity and debt capital on numerous occasions for various energy  
20 companies. I also advised on several buy-side and sell-side mergers and  
21 acquisitions transactions. From 2008 through 2009, I worked for El Paso

1 Exploration & Production Company in its business development group as an  
2 Acquisition & Divestiture Principal. I began working for Unitil Service Corp. in  
3 August 2009 as Director of Finance. I hold a Master's Degree in Business  
4 Administration from Tulane University and a Bachelor of Science degree in  
5 Mechanical Engineering with Honors from the University of Texas at Austin.

6 **Q. Have you previously testified before this Commission?**

7 A. Yes, I have testified before the New Hampshire Public Utilities Commission (the  
8 "Commission") on various financial, ratemaking and utility regulation matters,  
9 including utility cost of service and revenue requirements analysis. I have also  
10 testified before the Maine Public Utilities Commission and Massachusetts  
11 Department of Public Utilities on similar matters on several occasions.

## 12 **II. TEMPORARY RATES**

13 **Q. Is the company requesting that temporary rates be set in this proceeding?**

14 A. Yes. The company requests that temporary rates be established in the amount of  
15 \$1,996,875 on an annualized basis to become effective on August 1, 2017. The  
16 development of the temporary rate amount is detailed in Schedule DLC-4.

17 **Q. Please explain how the temporary rate amount of \$1,996,875 was derived.**

18 A. In general, I employed a conservative approach in calculating the amount of the  
19 temporary rate request. The amount of the temporary rate request was based on  
20 2016 test year-end rate base. The cost of capital used in the calculation is based  
21 on the rate case filing capital structure and debt costs as provided in Schedule

1 RevReq-6. However, the cost of equity was set at 9.5% reflecting the last  
2 authorized return on equity awarded to the Company in its last base rate case. As  
3 shown in page 23 of Schedule DLC-4, this results in an overall cost of capital of  
4 7.89%. The test year net operating income was adjusted to reflect only a handful  
5 of pro forma adjustments, as shown in page 6 of Schedule DLC-4, and also  
6 portrays a weather-normal 2016 distribution test year. In general, the pro forma  
7 adjustments selected were confined to the 2016 test year, such as depreciation  
8 annualization to bring depreciation levels up to year-end balances, and property  
9 taxes to reflect the most recent annualized 2016 property tax bills. No  
10 adjustments pertaining to 2017 and beyond were incorporated.

11 **Q. Please describe the derivation of the proposed temporary delivery charge per**  
12 **therm.**

13 **A.** The annualized proposed temporary rate increase is determined by dividing the  
14 proposed temporary revenue requirement by test year weather-normalized  
15 delivery volumes excluding special contracts rounded to four decimals:

16 
$$\$1,996,875 / 69,908,225 \text{ therms} = \$0.0285 \text{ per therm}$$

17 **Q. How does the Company account for and collect the difference between**  
18 **temporary rates and permanent rates once the Commission issues its order**  
19 **for permanent rates?**

20 **A.** After the Commission issues its order in this case, the Company will submit for  
21 collection the difference in revenue (or "recoupment") between temporary and  
22 permanent rates from the date temporary rates went into effect to the date

1 permanent rates became effective. The recoupment surcharge will be a charge per  
2 therm, and included in the Local Delivery Adjustment Charge ("LDAC").

3 **III. CONCLUSION**

4 **Q. Does this conclude your testimony?**

5 **A. Yes, it does.**

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
 COMPUTATION OF REVENUE REQUIREMENT AND REVENUE REQUIREMENT  
 12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	DESCRIPTION	REFERENCE	AMOUNT
1	Rate base	Schedule 2	1,010,000
2	Rate of return	Schedule 3	7.5%
3	Income required	Line 1-Line 2	75,750
4	Adjusted Operating Income	Schedule 4	1,000,000
5	Deprecy	Schedule 5	200,000
6	Income Tax Effect	Line 3-Line 5	55,750
7	Revenue Required	Line 4-Line 6	1,055,750

**NORTHERN UTILITIES, INC. - NEW HAMPSHIRE**  
**DOCKET DG 17-070**  
**COMPUTATION OF REVENUE REQUIREMENT FOR TEMPORARY RATES**

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
COMPUTATION OF REVENUE DEFICIENCY AND REVENUE REQUIREMENT  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3) AMOUNT
1	Rate Base	Schedule RevReq-5	\$ 130,163,278
2	Rate of Return	Schedule RevReq-6	7.89%
3	Income Required	Line 1 * Line 2	10,269,883
4	Adjusted Net Operating Income	Schedule RevReq-2	9,060,016
5	Deficiency	Line 3 - Line 4	1,209,867
6	Income Tax Effect	Line 7 - Line 5	787,009
7	Revenue Deficiency	1.6505 (Schedule RevReq-1-1) * Line 5	\$ 1,996,875



NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
COMPUTATION OF GROSS-UP FACTOR FOR REVENUE REQUIREMENT  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-1-1

LINE NO.	(1) DESCRIPTION	(2) RATE	(3) AMOUNT
1	Federal Income Tax Rate	34.00%	0.3400
2	State Income Tax Rate	8.20%	0.0820
3	Federal Benefit of State Income Tax	-(Line 1 * Line 2)	<u>(0.0279)</u>
4	Northern Effective Tax Rate	(Line 1 + Line 2 + Line 3)	<u>0.3941</u>
5	Gross-Up Factor	(1 / 1 - Line 4)	<u><u>1.6505</u></u>

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
OPERATING INCOME STATEMENT  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) TEST YEAR 12 MONTHS ENDED 12/31/2016	LESS		(5) TEST YEAR DISTRIBUTION, PROD. & OH.	(6) TEST YEAR DISTRIBUTION	(7) TEST YEAR PROD. & OH.	(8) CALENDAR YEAR 2015 <sup>(3)</sup>	(9) CALENDAR YEAR 2014 <sup>(3)</sup>
			(3) COST OF GAS EXCLUDING PROD. & OH. <sup>(1)</sup>	(4) OTHER FLOWTHROUGH <sup>(2)</sup>					
<b>Operating Revenues:</b>									
1	Total Sales	\$ 64,072,405	\$ 29,435,850	\$ 2,017,620	\$ 32,618,935	\$ 31,680,906	\$ 938,029	\$ 75,705,750	\$ 75,803,435
2	Total Other Operating Revenues	874,936	(104,143)	-	979,079	979,079	-	436,168	87,436
3	Total Operating Revenues	\$ 64,947,341	\$ 29,331,707	\$ 2,017,620	\$ 33,598,014	\$ 32,659,985	\$ 938,029	\$ 76,141,918	\$ 75,890,871
<b>Operating Expenses:</b>									
4	Production	\$ 29,536,386	\$ 29,182,381	\$ (55,172)	\$ 409,176	\$ 409,176	\$ -	\$ 40,209,523	\$ 41,732,970
5	Transmission	394,724	-	-	394,724	394,724	-	372,390	331,810
6	Distribution	2,994,785	-	-	2,994,785	2,994,785	-	3,271,999	3,082,947
7	Customer Accounting	1,854,455	129,165	-	1,725,290	1,725,290	-	2,226,964	2,155,862
8	Customer Service	1,349,005	-	1,346,436	2,570	2,570	-	1,345,356	1,169,254
9	Administrative & General	6,359,650	-	248,135	6,111,515	6,111,515	-	6,386,621	5,120,283
10	Depreciation	6,118,814	-	-	6,118,814	6,118,814	-	5,565,273	5,003,869
11	Amortizations	74,496	-	-	74,496	74,496	-	320,945	321,371
12	Taxes Other Than Income	3,763,930	-	-	3,763,930	3,763,930	-	3,240,165	3,354,140
13	Federal Income Tax	3,227,137	-	-	3,227,137	3,227,137	-	(228,650)	177,105
14	State Income Tax	(269,173)	-	-	(269,173)	(269,173)	-	962,594	(981,197)
15	Deferred Federal & State Income Taxes	4,699	-	-	4,699	4,699	-	2,660,085	4,638,434
16	Interest on Customer Deposits	13,346	-	-	13,346	13,346	-	13,444	13,619
17	Total Operating Expenses	\$ 55,422,256	\$ 29,311,546	\$ 1,539,399	\$ 24,571,311	\$ 24,571,311	\$ -	\$ 66,348,711	\$ 66,120,468
18	Net Operating Income	\$ 9,525,085	\$ 20,161	\$ 478,221	\$ 9,026,704	\$ 8,088,674	\$ 938,029	\$ 9,793,207	\$ 9,770,403

Notes

- (1) Refer to Workpaper - Cost of Gas  
(2) Refer to Workpaper - Flowthrough Detail. Consists of Energy Efficiency, Environmental Response Costs, Residential Low Income Assistance Rate Case Costs, and Recoupment  
(3) Calendar Years 2015 and 2014 represents Total Company (i.e., Flowthrough and Distribution).

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
PRO FORMA DISTRIBUTION OPERATING INCOME STATEMENT  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) TEST YEAR DISTRIBUTION, PROD. & OH.	(3) PRO FORMA ADJUSTMENTS	(4) TEST YEAR DISTRIBUTION, PROD. & OH. PRO FORMA	(5) PROOF		(6)
					REVENUE REQUIREMENT	PRO FORMA RATE RELIEF	
<b>Operating Revenues:</b>							
1	Total Sales	\$ 32,618,935	\$ 1,417,934	\$ 34,036,869	\$ 1,996,875	\$	36,033,745
2	Total Other Operating Revenues	979,079	-	979,079	-	-	979,079
3	Total Operating Revenues	\$ 33,598,014	\$ 1,417,934	\$ 35,015,948	\$ 1,996,875	\$	37,012,824
<b>Operating Expenses:</b>							
4	Production	\$ 409,176	\$ 67,212	\$ 476,388	\$ -	\$	476,388
5	Transmission	394,724	-	394,724	-	-	394,724
6	Distribution	2,994,785	-	2,994,785	-	-	2,994,785
7	Customer Accounting	1,725,290	2,498	1,727,788	-	-	1,727,788
8	Customer Service	2,570	-	2,570	-	-	2,570
9	Administrative & General	6,111,515	-	6,111,515	-	-	6,111,515
10	Depreciation	6,118,814	376,599	6,495,413	-	-	6,495,413
11	Amortizations	74,496	352,468	426,964	-	-	426,964
12	Taxes Other Than Income	3,763,930	462,380	4,226,310	-	-	4,226,310
13	Federal Income Tax	3,227,137	97,777	3,324,914	623,265	-	3,948,179
14	State Income Tax	(269,173)	25,688	(243,485)	163,744	-	(79,741)
15	Deferred Federal & State Income Taxes	4,699	-	4,699	-	-	4,699
16	Interest on Customer Deposits	13,346	-	13,346	-	-	13,346
17	Total Operating Expenses	\$ 24,571,311	\$ 1,384,622	\$ 25,955,932	\$ 787,009	\$	26,742,941
18	Net Operating Income	\$ 9,026,704	\$ 33,313	\$ 9,060,016	\$ 1,209,867	\$	10,269,883

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
SUMMARY OF ADJUSTMENTS  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3

LINE NO.	(1) DESCRIPTION	(2) CLASSIFICATION	(3) SCHEDULE NO.	(4) AMOUNT
<b>Revenue Adjustments</b>				
1	Weather Normalization	Dist Rev	Schedule RevReq-3-1	\$ 897,399
2	Residential Low Income	Dist Rev	Schedule RevReq-3-2	366,440
3	Unbilled Revenue	Dist Rev	Schedule RevReq-3-3	151,597
4	Non-Distribution Bad Debt	Dist Rev	Schedule RevReq-3-4	2,498
5	Special Contract Customer Revenue Adjustment	Dist Rev	Schedule RevReq-3-5	
6	Total Revenue Adjustments			<u>\$ 1,417,934</u>
<b>Operating &amp; Maintenance Expense Adjustments</b>				
7	Production Expense (O&M)	Prod	Schedule RevReq-3-6	\$ 67,212
8	Payroll	Dist	Schedule RevReq-3-7	
9	Distribution Bad Debt	Cust Acct	Schedule RevReq-3-8	
10	Non-Distribution Bad Debt	Cust Acct	Schedule RevReq-3-4	2,498
11	Medical & Dental Insurances	A&G	Schedule RevReq-3-9	
12	Pension	A&G	Schedule RevReq-3-10	
13	PBOP	A&G	Schedule RevReq-3-10	
14	SERP	A&G	Schedule RevReq-3-10	
15	401K	A&G	Schedule RevReq-3-10	
16	Property & Liability Insurances	A&G	Schedule RevReq-3-11	
17	Postage	A&G	Schedule RevReq-3-12	
18	NH PUC Assessment	A&G	Schedule RevReq-3-13	
19	Inflation Allowance	A&G	Schedule RevReq-3-14	
20	Total Operating & Maintenance Expense Adjustments			<u>\$ 69,710</u>
<b>Depreciation And Amortization Expense Adjustments</b>				
21	Depreciation Annualization	Depr	Schedule RevReq-3-15 P1	\$ 337,999
22	Proposed Depreciation Rates	Depr	Schedule RevReq-3-15 P2	
23	Production Expense (Depreciation)	Depr	Schedule RevReq-3-6	38,600
24	Reserve Variance Amortization	Amort	Schedule RevReq-3-15 P3	
25	Customer Information System Amortization	Amort	Schedule RevReq-3-16	
26	Plant Acquisition Adjustment	Amort	Schedule RevReq-3-17	352,468
27	Total Depreciation And Amortization Expense Adjustments			<u>\$ 729,067</u>
<b>Taxes Other Than Income Adjustments</b>				
28	Property Taxes	Oth Tax	Schedule RevReq-3-18	\$ 462,380
29	Payroll Taxes	Oth Tax	Schedule RevReq-3-19	
30	Total Taxes Other Than Income Adjustments			<u>\$ 462,380</u>
<b>Income Taxes Adjustments</b>				
31	Federal Income Tax	FIT	Schedule RevReq-3-20	\$ 97,777
32	NH State Tax	SIT	Schedule RevReq-3-20	25,688
33	Total Income Taxes Adjustments			<u>\$ 123,465</u>
<b>Rate Base Adjustments</b>				
34	NH Supplemental Plant Adjustment	Plant	Schedule RevReq-5-3	\$ 2,193,573
35	NH Supplemental Plant Adjustment	Acc Depr	Schedule RevReq-5-3	1,586,351
36	Customer Information System - Accumulated Depreciation	Acc Depr	Schedule RevReq-3-16	
37	Customer Information System - Accumulated Deferred Taxes	RB DIT	Schedule RevReq-3-16	
38	DIT Settlement Adjustment	RB DIT	Schedule RevReq-5-4	1,510,242
39	Cash Working Capital (Due To Pro Forma Adjustments)	CWC	Schedule RevReq-5-2	18,001
40	Total Rate Base Adjustments			<u>\$ (885,018)</u>

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
WEATHER NORMALIZATION  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3-1

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	To Increase Test Year Base Revenue to Normalize for the Effect of Warmer than Normal Weather <sup>(1)</sup>	\$ 897,399

Notes

(1) Refer to Direct Testimony of Paul Normand

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
RESIDENTIAL LOW INCOME ASSISTANCE  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3-2

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	To Reflect Recovery Of The Low Income Discount Through the LDAC. See Workpaper - Flowthrough Detail	<u>\$ 366,440</u>

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
UNBILLED REVENUE  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3-3

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Pro Forma Adjustment to Remove Unbilled Revenue	<u>\$ 151,597</u>

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
NON-DISTRIBUTION BAD DEBT  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3-4

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Remove: Accrued Revenue - Non Dist Bad Debt	\$ 2,498
2	Remove: Provision For Doubtful Accts - Non-Dist - NH	\$ 2,498



NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
PRODUCTION EXPENSE ADJUSTMENTS  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) NH	(3) ME	(4) TOTAL	(5) NH PR ALLOC. 43.73%	(6) ME PR ALLOC. 56.27%	(7) NH REVREQ ADJUST.	(8) ME REVREQ ADJUST.
Operation & Maintenance Expense								
Liquefied Propane Gas Production								
Operation Expense								
1	710 - Supervision	\$ -	\$ 28,303	\$ 28,303	\$ 12,377	\$ 15,926		
2	717 - Propane Expenses	-	21,706	21,706	9,492	12,214		
3	718 - Dispatching Production	-	-	-	-	-		
4	723 - Fuel LPG Gas Process	-	9,322	9,322	4,077	5,245		
5	728 - Liquid Petroleum Gas	-	-	-	-	-		
6	735 - Miscellaneous	-	29,283	29,283	12,805	16,478		
7	736 - Rents	-	-	-	-	-		
8	Total Operation Expense	-	88,614	88,614	38,751	49,863		
Maintenance								
9	740 - Supervision	-	28,303	28,303	12,377	15,926		
10	741 - Maintenance of Plant	-	17,581	17,581	7,688	9,893		
11	742 - Maint of Equipment	-	17,637	17,637	7,713	9,924		
12	743 - Gas System Prod Training	-	-	-	-	-		
13	Total Maintenance Expense	-	63,521	63,521	27,778	35,743		
14	769 - Maint of Scada - Product	-	1,563	1,563	683	880		
15	Total Manuf Gas Prod Exp	\$ -	\$ 153,698	\$ 153,698	\$ 67,212	\$ 86,486	\$ 67,212	\$ (67,212)
Depreciation Expense								
Depreciation Expense								
Production Plant Exp								
16	305 - Structures	\$ -	\$ -	\$ -	\$ -	\$ -		
17	311 - LPG Gas Equipment	-	-	-	-	-		
18	320 - Other Equipment	-	-	-	-	-		
19	321 - LNG Equipment	-	-	-	-	-		
20	321 - LNG Equipment	-	-	-	-	-		
21	Total Production Plant	-	-	-	-	-		
Other Storage Plant								
22	361 - Structures & Improve	-	11,705	11,705	5,119	6,586		
23	362 - Gas Holders	-	76,564	76,564	33,481	43,083		
24	363 - Purification Equipment	-	-	-	-	-		
25	Total Other Storage Plant	-	88,269	88,269	38,600	49,669		
26	Total Depreciation & Amortization	\$ -	\$ 88,269	\$ 88,269	\$ 38,600	\$ 49,669	\$ 38,600	\$ (38,600)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
DEPRECIATION ANNUALIZATION  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) PLANT BALANCE 12/31/2016	(3) CURRENT DEPRECIATION RATES	(4) ANNUAL DEPRECIATION EXPENSE
<b>Mfg. Gas Prod. Plant:</b>				
1	305 Struct. And Improvements	\$ 161,860	N/A	N/A
2	320 Other Equipment	7,640	N/A	N/A
3	321 LNG Equipment	84,156	N/A	N/A
4	Total Mfg Gas Prod. Plant	\$ 253,656	N/A	N/A
<b>Distribution Plant:</b>				
5	375.2 Structures - City Gate Meas & Reg	45,256	3.66%	1,656
6	375.7 Structures - Other Dist Sys	2,864,939	0.25%	7,162
7	376.2 Mains - Coated/Wrapped	17,974,411	2.67%	479,917
8	376.3 Mains - Bare Steel	192,301	N/A	N/A
9	376.4 Mains - Plastic	87,306,939	2.64%	2,304,903
10	376.5 Mains - Joint Seals	542,145	14.69%	79,641
11	376.6 Mains - Cathodic Protection	798,083	8.41%	67,119
12	376.8 Mains - Cast Iron	35,988	N/A	N/A
13	378.2 Mea & Reg Station Eq, Regulating	3,445,431	2.25%	77,522
14	379 Mea & Reg Ta-G	39,266	N/A	N/A
15	380 Services	60,250,315	3.61%	2,175,036
16	381 Meters	3,913,705	1.98%	77,491
17	382 Meter Installations	19,938,729	3.39%	675,923
18	383 House Regulators	537,766	3.12%	16,778
19	386 Water Heaters/Conversion Burners	1,637,356	5.07%	83,014
20	Total Distribution Plant	\$ 199,522,629	3.03%	\$ 6,046,162
<b>General Plant:</b>				
21	391.10 Off Furn & Eq.- Unspecified	\$ 420,149	5.85%	\$ 24,579
22	393 Stores Equipment	31,520	N/A	N/A
23	394.10 Tools, Garage & Service Equipment	1,173,029	3.84%	45,044
24	396 Power Operated Equipment	75,266	5.56%	4,185
25	397 Communication Equipment	1,453,181	7.69%	111,750
26	397.25 Metscan Communication Equip	112,656	7.69%	8,663
27	397.35 ERT Automatic Reading Dev	2,936,629	7.37%	216,430
28	Total General Plant	\$ 6,202,431	6.65%	\$ 410,651
29	Total Depreciable Plant	\$ 205,978,716	3.14%	\$ 6,456,813
<b>Non-Depreciable Plant:</b>				
30	304.2 Land & Rights - Mfg Gas Prod. PI	\$ 6,816	N/A	N/A
31	374.4 Land Rgts, Other Distr Sy	89,111	N/A	N/A
32	374.5 Land Rgts, Rights Of Way	17,911	N/A	N/A
33	389.1 Land	232,947	N/A	N/A
34	Total Non-Depreciable Plant	\$ 346,785	N/A	N/A
<b>Amortizable Plant:</b>				
35	303 Misc Intangible Plant	3,540,586	N/A	N/A
36	Total Amortizable Plant	\$ 3,540,586	N/A	N/A
37	Total Plant in Service	\$ 209,866,086	3.14%	\$ 6,456,813
38	Test Year Expense			\$ 6,118,814
39	Increase In Depreciation Expense			\$ 337,999



NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
PROPERTY TAXES  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-3-18  
Page 1 of 2

LINE NO.	(1) MUNICIPALITY & STATE	(2) TAXATION PERIOD	(3) TOTAL ANNUALIZED TAXES <sup>(1)</sup>	(4) TOTAL TEST YEAR TAXES ACCRUED	(5) PROFORMA ADJUSTMENT (3)-(4)	(6) LOCAL TAX RATE	(7) ASSESSED VALUATION
1	Atkinson	4/1 - 3/31	4,832			\$ 15.68	296,300
2	Brentwood	4/1 - 3/31	5,126			\$ 22.01	239,700
3	Dover	4/1 - 3/31	489,210			\$ 23.90	20,468,900
4	Durham	4/1 - 3/31	210,128			\$ 27.46	7,842,100
5	East Kingston	4/1 - 3/31	10,308			\$ 22.40	462,700
6	Exeter	4/1 - 3/31	291,781			\$ 23.83	10,547,200
7	Greenland	4/1 - 3/31	5,507			\$ 14.21	439,900
8	Hampton--Class 4000	4/1 - 3/31	276,098			\$ 13.92	17,228,400
9	Hampton--Class 5000	4/1 - 3/31	143,218			\$ 14.66	8,485,600
10	Hampton Falls	4/1 - 3/31	440			\$ 19.03	27,000
11	Kensington	4/1 - 3/31	34,344			\$ 21.07	1,194,800
12	Madbury	4/1 - 3/31	7,186			\$ 26.25	263,800
13	Newington	4/1 - 3/31	21,978			\$ 6.83	2,318,200
14	North Hampton	4/1 - 3/31	16,998			\$ 15.28	786,700
15	Plaistow	4/1 - 3/31	109,556			\$ 20.28	3,749,960
16	Portsmouth	4/1 - 3/31	416,420			\$ 14.63	28,463,345
17	Rochester (Gonic & E. Rochester)	4/1 - 3/31	385,402			\$ 25.80	15,060,600
18	Rollinsford	4/1 - 3/31	1,666			\$ 25.38	60,700
19	Salem	4/1 - 3/31	286,528			\$ 18.04	10,232,700
20	Seabrook	4/1 - 3/31	134,650			\$ 12.48	11,222,100
21	Somersworth	4/1 - 3/31	196,200			\$ 29.75	6,606,100
22	Stratham	4/1 - 3/31	7,064			\$ 18.07	400,000
23	State Of NH	4/1 - 3/31	908,164			\$ 6.60	126,987,200
24	Total		<u>\$ 3,962,803</u>				<u>\$ 273,384,005</u>
25	Property Tax Increase <sup>(2)</sup>		0.00%				
26	Total		<u>\$ 3,962,803</u>	<u>\$ 3,500,423</u>	<u>\$ 462,380</u>		

Notes

(1) Based on final 2016 property tax bills

(2) Compound annual growth rate in taxes between calendar years 2014 and 2016 applied. Refer to Schedule RevReq-3-18 Page 2

**NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
 PROPERTY TAX ESCALATION RATE  
 12 MONTHS ENDED DECEMBER 31, 2016**

Schedule RevReq-3-18  
 Page 2 of 2

LINE NO.	(1) DESCRIPTION	(2) 2016	(2) 2015	(2) 2014
1	Total Northern New Hampshire Property Taxes	\$ 3,500,423	\$ 3,228,060	\$ 3,147,557
2	Annual Percentage Change	8.44%	2.56%	
3	Average Annual Percentage Change	5.46%		

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
COMPUTATION OF FEDERAL AND STATE INCOME TAXES  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) Amount
	<u>Increases / (Decreases) To Revenue</u>	
1	Weather Normalization	\$ 897,399
2	Residential Low Income	366,440
3	Unbilled Revenue	151,597
4	Non-Distribution Bad Debt	2,498
5	Special Contract Customer Revenue Adjustment	-
6	Total Revenue Adjustments	\$ 1,417,934
	<u>Increases / (Decreases) To Expenses</u>	
7	Production Expense (O&M)	\$ 67,212
8	Payroll	-
9	Medical & Dental Insurances	-
10	Distribution Bad Debt	-
11	Non-Distribution Bad Debt	2,498
12	Pension	-
13	PBOP	-
14	SERP	-
15	401K	-
16	Property & Liability Insurances	-
17	Postage	-
18	NH PUC Assessment	-
19	Inflation Allowance	-
20	Depreciation Annualization	337,999
21	Proposed Depreciation Rates	-
22	Production Expense (Depreciation)	38,600
23	Reserve Variance Amortization	-
24	Customer Information System Amortization	-
25	Plant Acquisition Adjustment	352,468
26	Property Taxes	462,380
27	Payroll Taxes	-
28	Flowthrough Net Operating Income	498,382
29	Change In Interest Exp (Refer To Schedule RevReq 3-20 Page 2)	(654,871)
30	Total Expense Adjustments	\$ 1,104,668
31	Increase / (Decrease) In Taxable Income	\$ 313,266
32	Effective Federal Income Tax Rate <sup>(1)</sup>	31.21%
33	NH State Tax Rate <sup>(2)</sup>	8.20%
	<u>Federal Income &amp; NH State Tax</u>	
34	Effective Federal Income Tax	\$ 97,777
35	NH State Tax	25,688
36	Increase (Decrease) In Income Taxes	\$ 123,465
	<u>Notes</u>	
37	Federal Income Tax Rate	34.00%
38	Federal Benefit of State Tax -(Line 37 * Line 40)	-2.79%
39	(1) Effective Federal Income Tax Rate	31.21%
40	(2) State Income Tax Rate	8.20%
41	Northern New Hampshire Tax Rate (Line 39 + Line 40)	39.41%

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
CHANGE IN INTEREST EXPENSE APPLICABLE TO INCOME TAX COMPUTATION  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) AMOUNT
1	Ratemaking Interest Synchronization	
2	Rate Base <sup>(1)</sup>	\$ 130,163,278
3	Cost Of Debt In Proposed Rate Of Return <sup>(2)</sup>	2.98%
4	Interest Expense for Ratemaking	\$ 3,878,866
5	Test Year Interest Expense	
6	Interest Charges (427-431)	\$ 4,533,737
7	Increase / (Decrease) in Interest Expense	\$ (654,871)

Notes

- (1) Refer to Schedule RevReq-5
- (2) Refer to Schedule RevReq-6

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
RATE BASE  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-5

LINE NO.	DESCRIPTION	(1)	(2)	(3)	(4)
		RATE BASE AT DECEMBER 31, 2016	PRO FORMA ADJUSTMENTS	PRO FORMA RATE BASE AT DECEMBER 31, 2016	
1	Utility Plant In Service	\$ 209,866,086	\$ 2,193,573	\$ 212,059,659	
2	Less: Reserve for Depreciation	65,869,111	1,586,351	67,455,462	
3	Net Utility Plant	143,996,975	607,223	144,604,198	
4	Add: M&S Inventories	2,421,808	-	2,421,808	
5	Cash Working Capital <sup>(1)</sup>	227,592	18,001	245,593	
6	Sub-Total	2,649,400	18,001	2,667,401	
7	Less: Net Deferred Income Taxes	15,167,491	1,510,242	16,677,733	
8	Customer Advances	-	-	-	
9	Customers Deposits	430,588	-	430,588	
10	Sub-Total	15,598,079	1,510,242	17,108,321	
11	Rate Base	\$ 131,048,296	\$ (885,018)	\$ 130,163,278	

**Notes**

(1) Computed Working Capital Based on Test Year O&M Expenses. Refer to Schedule RevReq-5-2



NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
RATE BASE ITEMS  
QUARTERLY BALANCES

LINE NO.	(1) DESCRIPTION	(2) DECEMBER 31 2016	(3) SEPTEMBER 30 2016	(4) JUNE 30 2016	(5) MARCH 31 2016	(6) DECEMBER 31 2015	(7) 5 QUARTER AVERAGE
	Utility Plant in Service						
1	Plant in Service	\$ 205,055,527	\$ 193,239,987	\$ 192,269,462	\$ 189,209,236	\$ 186,483,678	\$ 193,251,578
2	Completed Construction not Classified	4,810,559	6,798,514	5,233,962	7,261,364	7,950,054	6,410,891
3	Total Utility Plant in Service	209,866,086	200,038,501	197,503,424	196,470,600	194,433,732	199,662,469
4	Depreciation Reserve	\$ (65,869,111)	\$ (65,302,474)	\$ (63,952,560)	\$ (62,897,701)	\$ (61,477,716)	\$ (63,899,912)
	Add:						
	M&S Inventories						
5	Material and Supplies	\$ 2,191,928	\$ 2,302,844	\$ 2,199,829	\$ 2,066,014	\$ 1,960,475	\$ 2,144,218
6	Stores Expense Undistributed	229,880	152,222	290,915	387,527	305,511	273,211
7	Total M&S Inventories	\$ 2,421,808	\$ 2,455,066	\$ 2,490,744	\$ 2,453,541	\$ 2,265,986	\$ 2,417,429
8	Cash Working Capital	\$ 227,592	\$ 227,592	\$ 227,592	\$ 227,592	\$ 227,592	\$ 227,592
	Less:						
	Total Deferred Income Taxes						
9	Def Inc Tax - Accel Depr	\$ 15,759,546	\$ 19,242,404	\$ 18,423,290	\$ 18,174,347	\$ 17,181,308	\$ 17,756,179
10	Def Inc Tax - FAS 87 / 106	(849,723)	(859,279)	(721,765)	(738,323)	(687,559)	(771,330)
11	Def Inc Tax - Bad Debt	(19,530)	(24,515)	(37,342)	(36,565)	(27,218)	(29,034)
12	Def Inc Tax - Prepaid Property Tax	225,277	(23,256)	231,227	(97,340)	174,879	102,157
13	Def Inc Tax - Def Rate Case Costs	18,120	23,556	-	-	-	8,335
14	Def Inc Tax - Unamort ITC (Acct 255)	36,300	36,300	36,300	-	-	21,780
15	Def Inc Tax - Accum Non-Current	418	418	418	418	418	418
16	Def Inc Tax - Insurance Claim	(2,917)	(2,535)	(1,378)	(1,486)	(878)	(1,839)
17	Total Deferred Income Taxes	\$ 15,167,491	\$ 18,393,093	\$ 17,930,750	\$ 17,301,051	\$ 16,640,950	\$ 17,086,866
18	Customer Advances	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Customer Deposits	\$ 430,588	\$ 415,978	\$ 408,192	\$ 430,464	\$ 434,532	\$ 423,951
20	Rate Base	\$ 131,048,296	\$ 118,609,614	\$ 117,930,258	\$ 118,522,517	\$ 118,374,112	\$ 120,896,961

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
CASH WORKING CAPITAL  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) REFERENCE	(3)	(4)	(5)
			TEST YEAR ACTUAL	PRO FORMA ADJUSTMENTS	TEST YEAR PRO FORMA
1	Distribution O&M Expense	Schedule RevReq-2	\$ 11,485,431	\$ 67,212	\$ 11,552,643
2	Tax Expense	Schedule RevReq-2	6,721,895	1,372,853	8,094,748
3	Total		\$ 18,207,326	\$ 1,440,065	\$ 19,647,391
4	Cash Working Capital Requirement:		1.25%	1.25%	1.25%
5	Other O&M Expense Days Lag (1) / 366	5 days			
6	Total Cash Working Capital	Line 5 X Line 3	\$ 227,592	\$ 18,001	\$ 245,592

**Notes**

(1) Based On Lead-Lag Study In Docket 11-069

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
SUPPLEMENTAL PLANT PRO FORMA ADJUSTMENT  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-5-3

LINE NO.	(1) DESCRIPTION	(2) BALANCE 12/31/2016
	<b>Plant In Service:</b>	
	<u>New Hampshire</u>	
1	304 Land - Barberry Lane	\$ 6,816
2	305 Structures & Improvements	161,860
3	311 LP Gas Equipment	-
4	320 Other Equipment	7,640
5	321 LNG Equipment	84,156
6	Total NH	\$ 260,472
	<u>Maine</u>	
7	304 Land - Portland	\$ -
8	305 Structures & Improvements	99,759
9	311 LP Gas Equipment	703,742
10	320 Other Equipment	62,375
11	360 Land - Lewiston	58,301
12	361 Structures & Improvements	568,201
13	362 Gas Holders	3,771,649
14	363 Other Equipment	87,313
15	Total ME	\$ 5,351,340
16	Total Plant In Service NH And ME	\$ 5,611,812
17	NH Allocation Via Annual Proportional Responsibility Factor	43.73% \$ 2,454,045
18	ME Allocation Via Annual Proportional Responsibility Factor	56.27% \$ 3,157,766
	<b>Depreciation Reserve</b>	
	<u>New Hampshire</u>	
19	305 Structures & Improvements	\$ 129,465
20	311 LP Gas Equipment	-
21	320 Other Equipment	2,756
22	321 LNG Equipment	56,611
23	Total NH	\$ 188,832
	<u>Maine</u>	
24	305 Structures & Improvements	\$ 70,701
25	311 LP Gas Equipment	703,742
26	320 Other Equipment	41,619
27	361 Structures & Improvements	220,358
28	362 Gas Holders	2,742,181
29	363 Other Equipment	91,983
30	Total ME	\$ 3,870,584
31	Total Depreciation Reserve NH And ME	\$ 4,059,417
32	NH Allocation Via Annual Proportional Responsibility Factor	43.73% \$ 1,775,183
33	ME Allocation Via Annual Proportional Responsibility Factor	56.27% \$ 2,284,234
	<b>Supplemental Plant Adjustment</b>	
34	NH Supplemental Plant Adjustment (Line 17 - Line 6)	\$ 2,193,573
35	ME Supplemental Plant Adjustment (Line 18 - Line 15)	\$ (2,193,573)
	<b>Supplemental Depreciation Reserve Adjustment</b>	
36	NH Supplemental Plant Adjustment (Line 32 - Line 23)	\$ 1,586,351
37	ME Supplemental Plant Adjustment (Line 33 - Line 30)	\$ (1,586,351)

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
 DEFERRED INCOME TAX PRO FORMA ADJUSTMENT  
 SETTLEMENT ADJUSTMENT PURSUANT TO DOCKET 2008-155  
 12 MONTHS ENDED DECEMBER 31, 2016

Northern Utilities, Inc.  
 Docket No. DG 17-070  
 Schedule DLC-4  
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 Schedule RevReq-5-4

LINE NO.	(1) DESCRIPTION	(2) DECEMBER 31 2016
1	Nisource Original Plant Federal and State DIT Basis	\$ 7,722,002
2	Unitil Acquired Plant Federal and State DIT Basis	6,211,759
3	Greater of Line 1 or Line 2 to be Utilized as DIT Basis per Stipulation	<u>\$ 7,722,002</u>
4	Post-Acquisition Capital Expenditures Federal and State DIT Basis	\$ 17,237,606
5	Net Operating Loss DIT Related to Rate Base at 12/31/16	(7,689,820)
6	Total Plant and Capex Federal and State DIT to be Used in Rate Base (Line 3 + Line 4 + Line 5)	<u>\$ 17,269,788</u>
7	Less Test Year: Def Inc Tax - Accel Depr	<u>15,759,546</u>
8	Required Pro Forma Adjustment (Line 6 - Line 7)	<u>\$ 1,510,242</u>

NORTHERN UTILITIES, INC.  
WEIGHTED COST OF CAPITAL  
DECEMBER 31, 2016 PRO FORMA

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
LINE NO.	DESCRIPTION	AMOUNT	PROFORMA ADJUSTMENT	PROFORMED AMOUNT	WEIGHT	COST OF CAPITAL	WEIGHTED COST OF CAPITAL	REFERENCE
1	Common Stock Equity	\$ 155,183,729	\$ -	\$ 155,183,729	51.70%	9.50%	4.91%	Schedule RevReq 6-1 and 6-2
2	Preferred Stock Equity	-	-	-	-	-	-	Schedule RevReq 6-1 and 6-3
3	Long Term Debt	145,000,000	-	145,000,000	48.30%	6.16%	2.98%	Schedule RevReq 6-1 and 6-4
4	Short Term Debt	-	-	-	0.00%	2.19%	0.00%	Schedule RevReq 6-1 and 6-5
5	Total	\$ 300,183,729	\$ -	\$ 300,183,729	100.00%	-	7.89%	

NORTHERN UTILITIES, INC.  
CAPITAL STRUCTURE FOR RATEMAKING PURPOSES  
DECEMBER 31, 2016 PRO FORMA

LINE NO.	(1) DESCRIPTION	(2) AMOUNT	(3) PROFORMA ADJUSTMENT	(4) PROFORMA AMOUNT	(5) PERCENT
1	Common Stock Equity				
2	Common Stock	\$ 1,000	\$ -	\$ 1,000	
3	Misc. Paid In Capital	143,199,000	-	143,199,000	
4	Retained Earnings	11,983,729	-	11,983,729	
5	Total Common Stock Equity	155,183,729	-	155,183,729	51.70%
6	Preferred Stock Equity	-	-	-	-
7	Long-Term Debt	145,000,000	-	145,000,000	48.30%
8	Short-Term Debt <sup>(1)</sup>	-	-	-	0.00%
9	Total	\$ 300,183,729	\$ -	\$ 300,183,729	100.0%

Notes

(1) Refer to Schedule RevReq-6-5, Page 1 of 2

Northern Utilities, Inc.  
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Schedule RevReq-6-2

NORTHERN UTILITIES, INC.  
COST OF COMMON EQUITY CAPITAL  
12 MONTHS ENDED DECEMBER 31, 2016

THE INFORMATION CONCERNING THE COST OF COMMON EQUITY CAPITAL IS PROVIDED  
IN THE TESTIMONY AND EXHIBITS OF MR. ROBERT HEVERT

**NORTHERN UTILITIES, INC.  
WEIGHTED AVERAGE COST OF PREFERRED STOCK  
12 MONTHS ENDED DECEMBER 31, 2016**

Northern Utilities, Inc.  
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**NORTHERN UTILITIES, INC. DOES NOT HAVE PREFERRED STOCK OUTSTANDING**



NORTHERN UTILITIES, INC.  
WEIGHTED AVERAGE COST OF LONG-TERM DEBT  
DECEMBER 31, 2016 PRO FORMA

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
LINE NO.	ISSUE	DATE ISSUED	TERM	FACE VALUE	OUTSTANDING AMOUNT	ISSUANCE COSTS	NET PROCEEDS RATIO [(5)-(7)/(5)]	UNAMORTIZED ISSUANCE COSTS	NET PROCEEDS OUTSTANDING (6)-(9)	ANNUAL ISSUANCE COST	ANNUAL INTEREST COST Rate * (6)	TOTAL ANNUAL COST (11)+(12)	COST RATE BASED ON NET PROCEEDS (13)/[(6)-(9)]
1	6.95% Sr. Notes	12/3/2008	10 Yrs	\$ 30,000,000	\$ 20,000,000	\$ 266,834	99.11%	\$ 51,188	\$ 19,948,812	\$ 26,707	\$ 1,390,000	\$ 1,416,707	7.10%
2	7.72% Sr. Notes	12/3/2008	30 Yrs	50,000,000	50,000,000	435,899	99.13%	318,536	49,681,464	14,534	3,860,000	3,874,534	7.80%
3	5.29% Sr. Notes	3/2/2010	10 Yrs	25,000,000	25,000,000	368,866	98.52%	116,444	24,883,556	36,772	1,322,500	1,359,272	5.48%
4	4.42% Sr. Notes	10/15/2014	30 Yrs	50,000,000	50,000,000	482,981	99.03%	447,428	49,552,572	16,099	2,210,000	2,226,099	4.49%
5	Total			\$ 155,000,000	\$ 145,000,000	\$ 1,554,580		\$ 933,597	\$ 144,066,403	\$ 94,112	\$ 8,782,500	\$ 8,876,612	6.16%

NORTHERN UTILITIES, INC.  
DISTRIBUTION SHORT-TERM DEBT  
12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	(1) DESCRIPTION	(2) TOTAL
1	Average 2016 Short-Term Debt Balance	\$ 23,493,566
2	Average Accrued Revenue Net of Unbilled	(7,514,780)
3	Purchased Gas Working Capital	(3,517,711)
4	Average CWIP Balance	(24,628,577)
5	Short-Term Debt Balance Used In Capital Structure (Max of Sum of Lines 1-4 Or Zero)	<u>\$ -</u>

NORTHERN UTILITIES, INC.  
COST OF SHORT-TERM DEBT  
12 MONTHS ENDED DECEMBER 31, 2016

Schedule RevReq-6-5  
Page 2 of 2

LINE NO.	(1) MONTH	(2) MONTH-END AMOUNT OUTSTANDING	(3) AVERAGE DAILY BORROWINGS	(4) MONTHLY SHORT-TERM INTEREST	(5) INTEREST RATE <sup>(1)</sup>
1	January 2016	23,139,112	\$ 20,259,745	\$ 29,234	1.70%
2	February 2016	24,017,936	21,242,483	28,744	1.70%
3	March 2016	21,903,664	21,721,629	31,545	1.71%
4	April 2016	24,718,368	22,294,538	31,339	1.71%
5	May 2016	22,583,562	22,232,158	32,348	1.71%
6	June 2016	28,909,816	25,805,444	36,616	1.73%
7	July 2016	34,814,539	31,615,398	47,118	1.75%
8	August 2016	9,688,340	27,824,097	42,124	1.78%
9	September 2016	14,933,016	11,916,313	17,651	1.80%
10	October 2016	21,524,718	18,237,562	27,953	1.80%
11	November 2016	25,490,682	23,345,246	35,132	1.83%
12	December 2016	36,977,214	35,428,174	59,456	1.98%
13	January 2017	36,188,037	35,076,715	61,041	2.05%
14	February 2017	33,134,699	30,932,429	48,743	2.05%
15	March 2017	28,491,707	28,704,035	53,272	2.19%

Notes

(1) The Interest Rate is calculated as follows: [Column (4) / # of days in month \* 365] / Column (3).

NORTHERN UTILITIES, INC.  
 COST OF SHORT TERM DEBT  
 12 MONTHS ENDED DECEMBER 31, 2016

LINE NO.	MONTH	MONTH END BALANCE	AVERAGE DAILY BALANCE	MONTHLY SHORT-TERM INTEREST	INTEREST RATE
1	January 2016	22,127,816	22,127,816	28,324	1.28%
2	February 2016	24,171,928	24,171,928	31,144	1.27%
3	March 2016	21,200,664	21,200,664	27,288	1.27%
4	April 2016	24,444,228	24,444,228	31,378	1.27%
5	May 2016	22,222,222	22,222,222	28,692	1.27%
6	June 2016	22,200,224	22,200,224	28,672	1.27%
7	July 2016	24,222,228	24,222,228	31,172	1.28%
8	August 2016	24,222,228	24,222,228	31,172	1.28%
9	September 2016	24,222,228	24,222,228	31,172	1.28%
10	October 2016	24,222,228	24,222,228	31,172	1.28%
11	November 2016	24,222,228	24,222,228	31,172	1.28%
12	December 2016	24,222,228	24,222,228	31,172	1.28%
13	January 2017	24,222,228	24,222,228	31,172	1.28%
14	February 2017	24,222,228	24,222,228	31,172	1.28%
15	March 2017	24,222,228	24,222,228	31,172	1.28%

Northern Utilities, Inc.  
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**NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
 WORKPAPERS SUPPORTING REVENUE REQUIREMENT  
 12 MONTHS ENDED DECEMBER 31, 2016**

If the interest rate is not stated, it is the rate in effect at the end of the month.

Northern Utilities, Inc.  
Gas Inc Strmt - NH - YTD  
R\_NU\_4\_BF\_NH

	2015 Base	2015 Flowthru	Total	2016 Base	2016 Flowthru	Total
<b>OPERATING REVENUES</b>						
Sales:						
Residential (480)	15,524,274	16,126,270	31,650,544	15,215,731	10,868,909	26,084,639
General Service (481)	9,402,596	19,117,799	28,520,395	8,947,067	12,113,407	21,060,474
Firm Transport Revenues (484, 489) (External Sup)	7,166,248	1,011,983	8,178,231	7,672,203	739,494	8,411,697
Sales for Resale (483)	-	5,958,987	5,958,987	-	3,382,422	3,382,422
Other Sales (495)	(325,863)	1,723,455	1,397,592	(154,095)	5,287,268	5,133,173
<b>Total Sales</b>	<b>31,767,255</b>	<b>43,938,495</b>	<b>75,705,750</b>	<b>31,680,906</b>	<b>32,391,500</b>	<b>64,072,405</b>
Other Operating Revenues:						
Late Charge (487)	158,330	-	158,330	104,863	-	104,863
Misc. Service Revenues (488)	751,110	-	751,110	721,444	-	721,444
Rent from Property (493 & 457)	66,029	-	66,029	152,772	-	152,772
Other Revenues	-	(539,300)	(539,300)	-	(104,143)	(104,143)
<b>Total Other Operating Revenues</b>	<b>975,468</b>	<b>(539,300)</b>	<b>436,168</b>	<b>979,079</b>	<b>(104,143)</b>	<b>874,936</b>
<b>TOTAL OPERATING REVENUES</b>	<b>32,742,723</b>	<b>43,399,195</b>	<b>76,141,918</b>	<b>32,659,985</b>	<b>32,287,357</b>	<b>64,947,341</b>
<b>OPERATING EXPENSES</b>						
Operation & Maint. Expenses:						
Production (710-813)	358,176	39,851,347	40,209,523	409,176	29,127,210	29,536,386
Transmission (850-857)	372,390	-	372,390	394,724	-	394,724
Distribution (870-894) (586)	3,271,999	-	3,271,999	2,994,785	-	2,994,785
Cust. Accounting (901-905)	1,940,097	286,867	2,226,964	1,725,290	129,165	1,854,455
Cust. Service & Info (906-910)	3,889	1,341,468	1,345,356	2,570	1,346,436	1,349,005
Admin. & General (920-935)	6,122,598	264,023	6,386,621	6,111,515	248,135	6,359,650
<b>Total O &amp; M Expenses</b>	<b>12,069,149</b>	<b>41,743,705</b>	<b>53,812,854</b>	<b>11,638,060</b>	<b>30,850,946</b>	<b>42,489,006</b>
Other Operating Expenses:						
Deprtn. & Amort. (403-407)	5,704,647	181,571	5,886,219	6,193,310	-	6,193,310
Taxes-Other Than Inc. (408)	3,240,165	-	3,240,165	3,763,930	-	3,763,930
Federal Income Tax (409)	(226,650)	-	(226,650)	3,227,137	-	3,227,137
State Franchise Tax (409)	962,594	-	962,594	(269,173)	-	(269,173)
Def. Income Taxes (410,411)	2,660,085	-	2,660,085	4,699	-	4,699
<b>Total Other Operating Expenses</b>	<b>12,340,842</b>	<b>181,571</b>	<b>12,522,413</b>	<b>12,919,904</b>	<b>-</b>	<b>12,919,904</b>
<b>TOTAL OPERATING EXPENSES</b>	<b>24,409,990</b>	<b>41,925,276</b>	<b>66,335,267</b>	<b>24,557,964</b>	<b>30,850,946</b>	<b>55,408,910</b>
<b>NET UTILITY OPERATING INCOME</b>	<b>8,332,733</b>	<b>1,473,918</b>	<b>9,806,651</b>	<b>8,102,020</b>	<b>1,436,411</b>	<b>9,538,431</b>
<b>OTHER INCOME &amp; DEDUCTIONS</b>						
Other Income:						
AFUDC - Other Funds (41901)	49	-	49	189	-	189
Other (415- 421)	308,980	(27,697)	281,284	241,755	(18,319)	223,436
Other Income Deduc. (425, 426)	287,645	-	287,645	407,902	-	407,902
Taxes Other than Income Taxes:						
Income Tax, Other Inc & Ded	(444)	-	(444)	(71,855)	-	(71,855)
<b>Net Other Income (Deductions)</b>	<b>21,828</b>	<b>(27,697)</b>	<b>(5,868)</b>	<b>(94,103)</b>	<b>(18,319)</b>	<b>(112,422)</b>
<b>GROSS INCOME</b>	<b>8,354,561</b>	<b>1,446,222</b>	<b>9,800,783</b>	<b>8,007,917</b>	<b>1,418,093</b>	<b>9,426,010</b>
Interest Charges (427 - 432)	4,546,659	2,335	4,548,994	4,645,691	1,842	4,647,533
<b>NET INCOME</b>	<b>3,807,903</b>	<b>1,443,886</b>	<b>5,251,789</b>	<b>3,362,226</b>	<b>1,416,250</b>	<b>4,778,477</b>

Northern Utilities, Inc.  
Docket No. DG 17-070  
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Northern Utilities, Inc.  
Gas Inc Stmt - NY - YTD  
R\_NU\_L\_B\_FT+M\_NH

Worksheet - Flowthrough Detail  
1/28/2017  
1:40:44 PM  
For Periods Ending December 31, 2016

	Commodity Demand CDD Peak	Commodity Demand CDD Off Peak	Working Capital Peak	Working Capital Off Peak	Bad Debt Peak	Bad Debt Off Peak	Supplier Refund	Residential Low Income Assistance	Energy Efficiency	Environ Response Costs	Rate Case Exp	Recoup	Total Flowthru	Total Base	Total New Hampshire Division	Cost of Gas Total	LDAC Flowthrough Total	
<b>OPERATING REVENUES</b>																		
Sales																		
Residential (492)	\$ 8,943,620	\$ 1,182,378	\$ 8,887	\$ 405	\$ 84,071	\$ 3,208	\$ -	\$ 182,157	\$ 489,557	\$ (14,002)	\$ 126	\$ 485	\$ 10,868,908	\$ 15,215,731	\$ 28,084,839	\$ 10,220,585	\$ 648,323	
General Service (451)	10,038,171	1,553,889	7,716	798	93,971	4,028	172	186,248	274,708	(15,711)	(122)	(469)	12,113,407	8,947,087	21,060,474	11,688,752	444,655	
Firm Transport Revenues (484, 489) (External Sup)	-	-	-	-	-	-	-	-	308,009	455,954	(25,458)	(4)	(16)	738,494	7,872,203	8,411,687	739,494	(8)
Sales for Realease (493)	4,623,754	75,705	-	-	-	-	(1,317,637)	-	-	-	-	-	-	3,382,422	-	3,382,422	-	-
Other Sales (490)	(928,988)	300,490	1,120	1,384	(58,315)	304	5,382,228	(42,839)	227,987	-	-	-	-	5,287,288	(154,965)	5,133,173	-	185,147
<b>Total Sales</b>	<b>23,048,558</b>	<b>3,132,472</b>	<b>15,734</b>	<b>2,585</b>	<b>121,726</b>	<b>7,439</b>	<b>4,045,368</b>	<b>614,575</b>	<b>1,458,217</b>	<b>(55,172)</b>	<b>-</b>	<b>-</b>	<b>32,391,500</b>	<b>31,880,906</b>	<b>84,072,405</b>	<b>30,373,660</b>	<b>2,017,820</b>	
Other Operating Revenues																		
Late Charge (487)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104,863	-	-	
Misc. Service Revenues (488)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	721,444	-	-	
Repr from Property (493 & 457)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	152,772	-	-	
Other Revenues	(103,524)	(819)	-	-	-	-	-	-	-	-	-	-	-	(104,143)	-	(104,143)	-	
<b>Total Other Operating Revenues</b>	<b>(103,524)</b>	<b>(819)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(104,143)</b>	<b>979,079</b>	<b>874,936</b>	<b>(104,143)</b>	<b>-</b>	
<b>TOTAL OPERATING REVENUES</b>	<b>22,945,031</b>	<b>3,131,653</b>	<b>15,734</b>	<b>2,585</b>	<b>121,726</b>	<b>7,439</b>	<b>4,045,368</b>	<b>614,575</b>	<b>1,458,217</b>	<b>(55,172)</b>	<b>-</b>	<b>-</b>	<b>32,287,357</b>	<b>32,859,985</b>	<b>84,947,341</b>	<b>30,269,737</b>	<b>2,017,820</b>	
<b>OPERATING EXPENSES</b>																		
Operation & Maint. Expenses																		
Production (710-813)	22,398,475	2,738,538	-	-	-	-	4,045,368	-	-	(55,172)	-	-	29,127,210	409,178	29,536,388	29,162,381	(55,172)	
Transmission (850-857)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	394,724	-	-	
Distribution (870-894) (898)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,994,785	2,994,785	-	
Cust. Accounting (901-905)	-	-	-	-	122,666	6,499	-	-	-	-	-	-	129,165	1,725,290	1,854,455	129,165	-	
Cust. Service & Info (906-910)	-	-	-	-	-	-	-	-	1,348,438	-	-	-	1,348,438	2,570	1,349,005	-	1,348,438	
Admin & General (920-933)	-	-	-	-	-	-	-	248,135	-	-	-	-	248,135	6,111,515	6,359,650	-	248,135	
<b>Total O &amp; M Expenses</b>	<b>22,398,475</b>	<b>2,738,538</b>	<b>-</b>	<b>-</b>	<b>122,666</b>	<b>6,499</b>	<b>4,045,368</b>	<b>248,135</b>	<b>1,348,438</b>	<b>(55,172)</b>	<b>-</b>	<b>-</b>	<b>30,850,948</b>	<b>11,638,060</b>	<b>42,489,008</b>	<b>29,311,548</b>	<b>1,538,399</b>	
Other Operating Expenses																		
Depn. & Amort. (403-407)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8,193,310	-	-	
Taxes-Other Than Inc. (408)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,763,930	-	-	
Federal Income Tax (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,227,137	-	-	
State Franchise Tax (409)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(889,173)	-	-	
Def. Income Taxes (410,411)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,989	-	-	
<b>Total Other Operating Expenses</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12,918,904</b>	<b>12,910,804</b>	<b>-</b>	<b>-</b>	
<b>TOTAL OPERATING EXPENSES</b>	<b>22,398,475</b>	<b>2,738,538</b>	<b>-</b>	<b>-</b>	<b>122,666</b>	<b>6,499</b>	<b>4,045,368</b>	<b>248,135</b>	<b>1,348,438</b>	<b>(55,172)</b>	<b>-</b>	<b>-</b>	<b>30,850,948</b>	<b>24,557,964</b>	<b>55,400,810</b>	<b>29,311,548</b>	<b>1,538,399</b>	
<b>NET UTILITY OPERATING INCOME</b>	<b>546,556</b>	<b>393,316</b>	<b>15,734</b>	<b>2,585</b>	<b>(839)</b>	<b>939</b>	<b>-</b>	<b>366,440</b>	<b>111,781</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,436,411</b>	<b>8,102,020</b>	<b>9,538,431</b>	<b>958,190</b>	<b>478,221</b>	
<b>OTHER INCOME &amp; DEDUCTIONS</b>																		
Other Income																		
AFUDC - Other Funds (41901)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	189	-	189	
Other (415-421)	-	(15,848)	(2,472)	-	-	-	-	-	-	-	-	-	(18,319)	241,755	223,436	(18,319)	-	
Other Income Deduc. (425, 426)	-	-	-	-	-	-	-	-	-	-	-	-	-	407,902	407,902	-	-	
Taxes Other than Income Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(71,855)	-	(71,855)	
Income Tax, Other Inc & Ded	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Net Other Income (Deductions)</b>	<b>-</b>	<b>(15,848)</b>	<b>(2,472)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>(18,319)</b>	<b>(84,103)</b>	<b>(112,422)</b>	<b>(18,319)</b>	<b>-</b>	
<b>GROSS INCOME</b>	<b>546,556</b>	<b>393,316</b>	<b>(112)</b>	<b>112</b>	<b>(839)</b>	<b>939</b>	<b>-</b>	<b>366,440</b>	<b>111,781</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,418,093</b>	<b>8,007,917</b>	<b>9,428,010</b>	<b>939,872</b>	<b>478,221</b>	
Interest Charges (427 - 432)	1,842	-	-	-	-	-	-	-	-	-	-	-	1,842	4,845,891	4,847,533	1,842	-	
<b>NET INCOME</b>	<b>\$ 544,714</b>	<b>\$ 393,316</b>	<b>\$ (112)</b>	<b>\$ 112</b>	<b>\$ (839)</b>	<b>\$ 939</b>	<b>\$ -</b>	<b>\$ 366,440</b>	<b>\$ 111,781</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 1,418,250</b>	<b>\$ 3,362,226</b>	<b>\$ 4,778,477</b>	<b>\$ 938,029</b>	<b>\$ 478,221</b>	

NORTHERN UTILITIES, INC. - NEW HAMPSHIRE  
COST OF GAS OPERATING INCOME STATEMENT  
12 MONTHS ENDED DECEMBER 31, 2016

Workpaper - Cost of Gas

LINE NO.	(1) DESCRIPTION	(2) TEST YEAR COST OF GAS	(3) LESS: INDIRECT PRODUCTION & O.H.	(4) COST OF GAS EXCL. PROD. & O.H.
	OPERATING REVENUES			
1	TOTAL SALES	30,373,880	938,029	29,435,850
2	TOTAL OTHER OPERATING REVENUES	(104,143)	-	(104,143)
3	TOTAL OPERATING REVENUES	30,269,737	938,029	29,331,707
	OPERATING EXPENSES:			
4	PRODUCTION	29,182,381	-	29,182,381
5	TRANSMISSION	-	-	-
6	DISTRIBUTION	-	-	-
7	CUSTOMER ACCOUNTING	129,165	-	129,165
8	CUSTOMER SERVICE	-	-	-
9	ADMINISTRATIVE & GENERAL	-	-	-
10	DEPRECIATION	-	-	-
11	AMORTIZATIONS	-	-	-
12	TAXES OTHER THAN INCOME	-	-	-
13	FEDERAL INCOME TAX	-	-	-
14	STATE INCOME TAX	-	-	-
15	DEFERRED FEDERAL & STATE INCOME TAXES	-	-	-
16	INTEREST ON CUSTOMER DEPOSITS	-	-	-
17	TOTAL OPERATING EXPENSES	29,311,546	-	29,311,546
18	NET OPERATING INCOME	958,190	938,029	20,161