

**DW 17-128
PENNICHUCK EAST UTILITIES, INC.
REVENUE REQUIREMENT - TEMPORARY RATES
CURRENT RATE STRUCTURE**

	<u>5-YEAR AVG PERMANENT RATES</u>	
<u>CALCULATION OF REVENUE REQUIREMENT OTHER THAN NCCRS and CBFRR</u>		
1) Rate Base (Sch 2-5YAvg)	\$ 9,873,201	
2) Rate of Return (Sch 1A-Perm)	<u>3.94%</u>	
3) Operating Income Requirement [(1) x (2)]	388,568	
4) Pro-forma Operating Income (Sch 3-5YAvg)	<u>(106,356)</u>	
5) Revenue Deficiency (Surplus) Before Taxes [(3) - (4)]	494,924	
6) Divided by Tax Factor (Sch 1B)	<u>60.59%</u>	
7) Revenue Deficiency (Surplus) [(5) + (6)]	816,868	
8) Pro-forma Water Rev's not Subject to NCCRS and CBFRR (Sch 3-5YAvg)	<u>5,777,610</u>	
9) Total Water Revenues not Subject to NCCRS and CBFRR [(7) + (8)]	<u>\$ 6,594,478</u>	
<u>CALCULATION OF PERCENT INCREASE (DECREASE) IN WATER REVENUES</u>		
10) Calculated Revenue Deficiency (Surplus) [(7)]	\$ 816,868	
11) Reduction in NCCRS	<u>(121,070)</u>	
12) Net Increase in Total Revenue Requirement [(10) + (11)]	<u>\$ 695,798</u>	
13) Test Year Pro-forma Water Revenues not Subject to NCCRS and CBFRR [(8)]	\$ 5,777,610	
14) Add: North Country Capital Recovery Surcharge Revenue (NCCRS)	299,985	
15) Add: City Bond Fixed Revenue Requirement Revenue (CBFRR)	<u>898,863</u>	
16) Total Test Year Pro-forma Water Revenues (including NCCRS and CBFRR) [(13) + (14) + (15)]	<u>\$ 6,976,458</u>	
17) Percent Increase (Decrease) in Water Revenues [(12) + (16)]	<table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="text-align: center;">9.97%</td></tr></table>	9.97%
9.97%		
<u>CALCULATION OF TOTAL PROPOSED WATER REVENUES (INCLUDING CBFRR)</u>		
18) Total Test Year Pro-forma Water Revenues (including NCCRS and CBFRR) [(16)]	\$ 6,976,458	
19) Add: Net Increase in Total Revenue Requirement [(12)]	<u>695,798</u>	
20) Total Water Revenues - Original Rate Structure [(18) + (19)]	<u>\$ 7,672,256</u>	

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
COST OF CAPITAL - TEMPORARY RATES

	<u>RATE</u>	<u>PRO-FORMA BALANCE</u>	<u>COMPONENT RATIO</u>	<u>WEIGHTED AVERAGE COST RATE</u>
Long-Term Debt	4.001% (a)	\$ 15,223,936 (b)	89.26%	3.57%
Intercompany Debt	3.200% (c)	1,701,516 (d)	9.98%	0.32%
Common Equity	5.928% (e)	129,440 (f)	0.76%	0.04%
TOTAL CAPITALIZATION		<u>\$ 17,054,892</u>	<u>100.00%</u>	<u>3.94%</u>

Notes:

(a) Per Sch 1Ai (Total Long-Term Debt - 2016)

(b) Per Sch 1Ai (Total Long-Term Debt - 2016)

(c) Per Sch 1Ai (Total Intercompany Debt)

(d) Per Sch 1Ai (Total Intercompany Debt)

(e) Co's Common Equity Rate was revised from 5.63% to 5.928%, as follows:

Nov-16	2.860%
Dec-16	3.110%
Jan-17	3.020%
Feb-17	3.030%
Mar-17	3.080%
Apr-17	2.940%
May-17	2.960%
Jun-17	2.800%
Jul-17	2.880%
Aug-17	2.800%
Sep-17	2.780%
Oct-17	2.880%
Average	2.928%

Additional Percentage per DW 11-026 Settlement	+	3.000%
Stipulated Return on Total Common Equity		<u>5.928%</u>

(f) Per Sch 1Aiii

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
COST OF DEBT - TEMPORARY RATES

Holder	Term	Maturity	Int Rate	LONG-TERM DEBT	LONG-TERM DEBT			ANNUAL INTEREST EXPENSE			ANNUAL AMORTIZATION OF ISSUE COSTS			ALL-IN ANNUAL COST	EFFECTIVE INTEREST RATE			
				AS OF 12/31/16	Balance Per Co's Rate Filing	Co Adj's per DR's	Adj's per Staff	Adjusted Balance	Per Co's Rate Filing	Co Adj's per DR's	Adj's per Staff	Adjusted Balance	Per Co's Rate Filing			Co Adj's per DR's	Adj's per Staff	Adjusted Balance
Long-Term Debt - 2016																		
CoBank	20	03/01/30	5.950%	\$ 3,331,797	\$ 3,331,797			\$ 3,331,797	\$ 198,242			\$ 198,242	\$ 1,455			\$ 1,455	\$ 199,697	5.994%
State of NH SRF: Green Hills	20	01/01/25	3.728%	182,618	182,618			182,618	6,808			6,808	6,854			6,854	13,662	7.481%
State of NH SRF: Pelham Tank	20	01/01/27	3.488%	330,182	330,182			330,182	11,517			11,517	247			247	11,764	3.563%
State of NH SRF: Maple Hills	20	06/01/30	2.952%	436,351	436,351			436,351	12,881			12,881	471			471	13,352	3.060%
State of NH SRF: Birch Hill	20	12/01/31	2.864%	1,435,010	1,435,010		(1,435,010)	-	41,099		(41,099)	-	549		(549)	-	-	N/A
State of NH SRF: Locke Lake - 2007	20	05/01/30	2.952%	199,933	199,933			199,933	5,902			5,902	90			90	5,992	2.997%
State of NH SRF: Locke Lake - 2011	20	06/01/33	2.864%	263,630	263,630			263,630	7,550			7,550	434			434	7,984	3.028%
State of NH SRF: Liberty Hill	20	04/01/35	3.104%	377,874	377,874			377,874	11,729			11,729	531			531	12,260	3.244%
State of NH SRF: Locke Lake - 2012	20	12/01/33	2.720%	351,578	351,578			351,578	9,563			9,563	136			136	9,699	2.759%
CoBank \$1.7M Loan (RX0848T4)	10	06/20/23	3.620%	1,505,183	1,505,183			1,505,183	54,488			54,488	1,663			1,663	56,151	3.731%
CoBank \$925K Loan (RX0848T3)	20	06/20/33	4.250%	814,894	814,894			814,894	34,633			34,633	446			446	35,079	4.305%
State of NH SRF: Locke Lake Dam Site - Phase 2	20	07/01/35	2.720%	376,950	376,950			376,950	10,253			10,253	-			-	10,253	2.720%
State of NH SRF: Winwood & Monroe - Phase 1	20	07/01/36	2.720%	379,426	379,426			379,426	10,320			10,320	343			343	10,663	2.810%
State of NH SRF: Winwood & Monroe - Phase 2	20	11/01/36	2.464%	397,415	397,415			397,415	9,792			9,792	263			263	10,055	2.530%
State of NH SRF: W&E Main Replacement	20	08/01/36	2.616%	1,005,196	1,005,196			1,005,196	26,296			26,296	672			672	26,968	2.683%
State of NH SRF: Hickory & Avery	20	04/01/36	2.720%	410,771	410,771			410,771	11,173			11,173	119			119	11,292	2.749%
State of NH SRF: Hardwood Treatment Station	20	07/01/36	2.464%	560,864	560,864			560,864	13,820			13,820	349			349	14,169	2.526%
CoBank \$625K Loan	25	03/06/40	4.900%	602,072	602,072			602,072	29,502			29,502	1,635			1,635	31,137	5.172%
CoBank \$1.25M Loan T6 (1st Traunch)	25	11/01/41	4.200%	1,250,000	1,250,000			1,250,000	52,500			52,500	278			278	52,778	4.222%
CoBank \$950K Loan T6 (2nd Traunch)	25	11/01/41	4.830%	950,000	950,000			950,000	45,885			45,885	211			211	46,096	4.852%
State of NH SRF: Locke Lake - Varney Road	20	11/01/37	1.960%	1,497,202	1,497,202			1,497,202	29,345			29,345	691			691	30,036	2.006%
Total Long-Term Debt - 2016				16,658,946	16,658,946	-	(1,435,010)	15,223,936	633,298	-	(41,099)	592,199	17,437	-	(549)	16,888	609,087	4.001%
Debt Associated with 2017 Capital Additions																		
State of NH SRF: Brady Ave (Derry) - 2017	30	TBD	1.960%	-	190,000			190,000	3,724			3,724	-			-	3,724	1.960%
State of NH SRF: Hillcrest Road (Litchfield) - 2017	20	TBD	1.960%	-	-			-	-			-	-			-	-	N/A
CoBank - 2017	25	TBD	4.250%	-	408,998			408,998	17,382			17,382	-			-	17,382	4.250%
Subtotal Long-Term Debt - 2017				-	598,998	-	-	598,998	21,106	-	-	21,106	-	-	-	-	21,106	3.524%
Total Long-Term Debt - 2017				16,658,946	17,257,944	-	(1,435,010)	15,822,934	654,404	-	(41,099)	613,305	17,437	-	(549)	16,888	630,193	3.983%
Intercompany Debt																		
Penn Corp: \$1.0M - 2015	10	03/04/25	2.700%	843,884	-			-	22,785		(22,785)	-	-			-	-	N/A
Penn Corp: \$3.0M - 2013 (\$1,276,850 PEU CapEx)	10	05/03/23	2.650%	857,632	-			-	22,727		(22,727)	-	-			-	-	N/A
Penn Corp: \$3.0M - 2013 (\$1,723,150 NC CapEx)	10	05/03/23	2.650%	1,157,403	1,157,403		(1,157,403)	-	30,671		(30,671)	-	-			-	-	N/A
Penn Corp			3.740%	1,179,110	-			-	-		-	-	-			-	-	N/A
Penn Corp: Ref'd \$1.0M - 2015	30	TBD	3.200%	-	843,884			843,884	27,004			27,004	-			-	27,004	3.200%
Penn Corp: Ref'd \$3.0M - 2013 (\$1,276,850 PEU CapEx)	30	TBD	3.200%	-	857,632			857,632	27,444			27,444	-			-	27,444	3.200%
Penn Corp: Ref'd \$3.0M - 2013 (\$1,723,150 NC CapEx)	30	TBD	3.200%	-	-			-	-			-	-			-	-	N/A
Total Intercompany Debt				4,038,029	2,858,919	-	(1,157,403)	1,701,516	130,631	-	(76,183)	54,448	-	-	-	-	54,448	3.200%
GRAND TOTAL DEBT				\$ 20,696,975	\$ 20,116,863	\$ -	\$ (2,592,413)	\$ 17,524,450	\$ 785,035	\$ -	\$ (117,282)	\$ 667,753	\$ 17,437	\$ -	\$ (549)	\$ 16,888	\$ 684,641	3.907%

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
COMMON EQUITY - TEMPORARY RATES

	<u>Year-end Balance</u>	<u>Co Adj's per Rate Filing</u>	<u>Co Adj's per DR's</u>	<u>Staff Adj's</u>	<u>Adjusted Pro-forma Balance</u>
Common Stock	\$ 100			\$ (100)	\$ -
Other Paid-in Capital	13,333,908	(13,333,908)			-
Other Comprehensive Income	(272,012)	529,702			257,690
Retained Earnings	(128,250)	128,250		(128,250)	(128,250)
Total Common Equity	<u>\$ 12,933,746</u>	<u>\$ (12,675,956)</u>	<u>\$ -</u>	<u>\$ (128,350)</u>	<u>\$ 129,440</u>

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
EFFECTIVE TAX FACTOR - TEMPORARY RATES

Taxable Income	100.00%
Less: NH Business Profits Tax	<u>8.20%</u>
Federal Taxable Income	91.80%
Federal Income Tax Rate	<u>34.00%</u>
Effective Federal Income Tax Rate	31.21%
Add: NH Business Profits Tax	<u>8.20%</u>
Effective Tax Rate	<u><u>39.41%</u></u>
Percent of Income Available if No Tax	100.00%
Effective Tax Rate	<u>39.41%</u>
Percent Used as a Divisor in Determining the Revenue Requirement	<u><u>60.59%</u></u>
Tax Multiplier	<u><u>0.65049</u></u>

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
RATE BASE - 5-YEAR AVERAGE - TEMPORARY RATES

	<u>Company Proposal (as revised per Co's Data Responses)</u>				<u>Staff Proposal</u>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	13-Month Average (Per Company Filing - Sch 3)	Co Proforma Adj's - 5-Yr Avg Perm Rates (Per Company Filing - Sch 3)	Revisions per Co Responses to DR's	Adj Rate Base - 5-Yr Avg Perm Rates	Staff Adjustments (Sch's 2B)	Staff Adjustment # (Sch's 2B)	Adjusted Rate Base Per Staff
Plant in Service	\$ 50,698,303	\$ (9,427,566)		\$ 41,270,737	\$ (426)	1	\$ 41,270,311
Accumulated Depreciation	(11,788,562)	498,900		(11,289,662)	30,277	2	(11,259,385)
Acquisition Adjustment	(9,820,410)			(9,820,410)			(9,820,410)
Accumulated Amortization Acq Adj	3,932,034			3,932,034			3,932,034
Contributions in Aid of Construction	(12,767,645)	14,096		(12,753,549)			(12,753,549)
Accumulated Amortization of CIAC	2,127,070	(2,459)		2,124,611			2,124,611
Net Plant in Service	22,380,790	(8,917,029)	-	13,463,761	29,851		13,493,612
Rate Stabilization Fund	-			-			-
Cash Working Capital	581,226	11,414		592,640	(719)	3	591,921
Materials and Supplies	-			-			-
Prepaid Expenses	128,316			128,316			128,316
Unamortized Deferred Debits	8,707,250	(8,121,034)		586,216			586,216
Customer Advances	-			-			-
Customer Deposits	(131,757)			(131,757)			(131,757)
Deferred Income Tax	(4,462,580)			(4,462,580)			(4,462,580)
Deferred Tax Liability	-			-			-
Unamortized Investment Tax Credit	-			-			-
Other Deferred Credits	-			-			-
Deferred Credit - Rate Stabilization Fund (Net)	-			-			-
Deferred Credit - Gain on SRF Loans	-	(332,527)		(332,527)			(332,527)
Unfunded FAS 106 and 158 Costs	-			-			-
NET RATE BASE - 5-YEAR AVERAGE	\$ 27,203,245	\$ (17,359,176)	\$ -	\$ 9,844,069	\$ 29,132		\$ 9,873,201
Staff Adjustments							
1: Per Co Response to Staff 1-45				\$ (426)			
2: Per Co Response to Staff 1-44		\$ 87,599					
Per Co Response to Staff 1-50		(57,322) →	30,277				
3: Per Co Response to Staff 1-51		1,343					
Staff O & M Exp Adj's	\$ (16,727)						
Cash Working Capital Factor	x 12.33% →	(2,062) →	(719)				
Total Rate Base Adjustments				\$ 29,132			

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
OPERATING INCOME STATEMENT - 5-YEAR AVERAGE - TEMPORARY RATES

	Company Proposal (as revised per Co's Data Responses)				Staff Proposal				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Test Year Operating Income	Co Proforma Adj's - Permanent Rates (Per Company Filing - Sch 1)	Perm Rate Adj Revisions per Co Responses to DR's	Adj Oper Income - 5-Yr Avg Perm Rates	Staff Adjustments (Sch's 3B)	Staff Adjustment # (Sch's 3B)	Pro-forma Operating Income Per Staff	Revenue Deficiency - Approved Methodology	Revenue Requirement - Approved Methodology
OPERATING REVENUES									
Water Revenues:									
Water Revenue other than NCCRS and CBFRR	\$ 6,172,696	\$ (197,543)		\$ 5,975,153	\$ (197,543)	4	\$ 5,777,610	\$ 816,868	\$ 6,594,478
Add: North Country Capital Recovery Surcharge (NCCRS)	299,985	(299,985)		-			-	-	-
Total Water Revenue other than CBFRR	6,472,681	(497,528)	-	5,975,153	(197,543)		5,777,610	816,868	6,594,478
City Bond Fixed Revenue Requirement (CBFRR) Revenue	898,863	(926,309)		(27,446)	27,446	5	-	-	-
Water Sales for Resale	-	-		-	-		-	-	-
Total Water Revenues	7,371,544	(1,423,837)	-	5,947,707	(170,097)		5,777,610	816,868	6,594,478
Other Operating Revenue	39,407			39,407			39,407		39,407
Total Operating Revenues	7,410,951	(1,423,837)	-	5,987,114	(170,097)		5,817,017	816,868	6,633,885
OPERATING EXPENSES									
O & M Expenses:									
Production Expense	1,991,779	(29,471)		1,962,308	(15,955)	6	1,946,353		1,946,353
Transmission and Distribution Expense	616,944	11,265		628,209			628,209		628,209
Engineering Expense	-			-			-		-
Customer Account and Collection Expense	184,106	310		184,416			184,416		184,416
Administrative and General Expense	155,295	7,881		163,176	(772)	7	162,404		162,404
Inter-Division Management Fee	1,811,425	102,584		1,914,009			1,914,009		1,914,009
Total O & M Expenses	4,759,549	92,569	-	4,852,118	(16,727)		4,835,391	-	4,835,391
Property Tax Expense	1,051,160	(58,924)		992,236	46,884	8	1,039,120		1,039,120
Payroll Tax Expense	-			-			-		-
Gain from Forgiveness of SRF Debt	(22,613)			(22,613)			(22,613)		(22,613)
Depreciation Expense	1,250,948	(228,330)		1,022,618	(18,838)	9	1,003,780		1,003,780
Amortization of Acquisition Adjustment	(211,341)			(211,341)			(211,341)		(211,341)
Amortization - CIAC	(259,085)	431		(258,654)			(258,654)		(258,654)
Amortization Expense	251,081	(207,347)		43,734			43,734		43,734
Total Operating Expenses	6,819,699	(401,601)	-	6,418,098	11,319		6,429,417	-	6,429,417
Net Operating Income									
Before Income Tax	591,252	(1,022,236)	-	(430,984)	(181,416)		(612,400)	816,868	204,468
Income Tax Expense:									
NH Business Profits Tax Expense	10,154	(100,256)		(90,102)	(14,876)	10	(104,978)	66,983	(37,995)
Federal Income Tax Expense	37,165	(381,607)		(344,442)	(56,624)	11	(401,066)	254,961	(146,105)
Total Income Tax Expense	47,319	(481,863)	-	(434,544)	(71,500)		(506,044)	321,944	(184,100)
NET OPERATING INCOME - 5-YEAR AVERAGE	\$ 543,933	\$ (540,373)	\$ -	\$ 3,560	\$ (109,916)		\$ (106,356)	\$ 494,924	\$ 388,568

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
OPERATING INCOME STATEMENT - 5-YEAR AVERAGE - TEMPORARY RATES

Staff Adjustments

4: Additional Revenue Normalization Adj	\$		(197,543)
5: Eliminate Δ in CBFRR			27,446
6: Per Co Response to Staff 1-5	\$	3,244	
Per Co Response to Staff 1-22		(7,750)	
Additional Expense Normalization Adj's		<u>20,461</u>	→ 15,955
7: Per Co Response to Staff 1-27		4,945	
Per Co Response to Staff 1-28		(1,657)	
Per Co Response to Staff 1-30		<u>(2,516)</u>	→ 772
8: Per Co Response to Staff 1-32		983	
Per Co Response to Staff 1-34		(363)	
Per Co Response to Staff 1-38		<u>(47,504)</u>	→ (46,884)
9: Per Co Response to Staff 1-35		(4,234)	
Per Co Response to Staff 1-54		<u>23,072</u>	→ 18,838
10: NHBPT Tax Effect per Sch 3Bii-5YAvg			14,876
11: FIT Tax Effect per Sch 3Bii-5YAvg			<u>56,624</u>
Total Operating Income Adjustments			<u><u>\$ (109,916)</u></u>

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
PRO-FORMA INCOME TAX EXPENSE - 5-YEAR AVERAGE - TEMPORARY RATES

Operating Revenues - 5-Year Average:

Total pro-forma adjustments - Water Revenue other than NCCRS and CBFRR	\$ (197,543)
Total pro-forma adjustments - NCCRS Revenue	-
Total pro-forma adjustments - CBFRR Revenue	27,446
Total pro-forma adjustments - Water Sales for Resale	-
Total pro-forma adjustments - Other Operating Revenue	-
Total pro-forma adjust's b/f Income Tax Exp - Operating Revenues - 5-Year Average	<u>(170,097)</u>

Operating Expenses - 5-Year Average:

Total pro-forma adjustments - Production Expense	(15,955)
Total pro-forma adjustments - Transmission and Distribution Expense	-
Total pro-forma adjustments - Engineering Expense	-
Total pro-forma adjustments - Customer Account and Collection Expense	-
Total pro-forma adjustments - Administrative & General Expense	(772)
Total pro-forma adjustments - Inter-Division Management Fee	-
Total pro-forma adjustments - Property Tax Expense	46,884
Total pro-forma adjustments - Payroll Tax Expense	-
Total pro-forma adjustments - Gain from Forgiveness SRF Debt	-
Total pro-forma adjustments - Depreciation Expense	(18,838)
Total pro-forma adjustments - Amortization of Acquisition Adjustment	-
Total pro-forma adjustments - Amortization-CIAC	-
Total pro-forma adjustments - Amortization Expense	-
Net pro-forma adjust's b/f Income Tax Exp - Operating Expenses - 5-Year Average	<u>11,319</u>

Net Operating Income Adj's per Staff subject to NHBPT - 5-Year Average (181,416)

New Hampshire Business Profits Tax @ 8.20% (14,876)

Net Operating Income Adj's per Staff subject to FIT - 5-Year Average (166,540)

Federal Income Tax @ 34.00% (56,624)

Net Pro-forma Operating Income Adjust's after Income Tax per Staff - 5-Year Average **\$ (109,916)**

DW 17-128
PENNICHUCK EAST UTILITIES, INC.
REPORT OF PROPOSED RATE CHANGES - 5-YEAR AVERAGE - TEMPORARY RATES
CURRENT RATE STRUCTURE

Rate or Class of Service	Effect of Proposed Change	Average Number Customers	5-Year Avg Permanent Rate Revenues	Calculated Revenues - 5-Yr Avg Perm	Change	
					Amount	% Increase
G-M	Increase	7,321	\$ 5,735,461	\$ 6,437,196	\$ 701,735	12.24%
Private FP	Increase	148	257,130	288,590	31,460	12.24%
FP - Hydrants	Increase	4	628,340	705,218	76,878	12.24%
Windham Public Hydrant	Increase	328	31,372	35,210	3,838	12.24%
Raymond Public Hydrant	Increase	232	5,171	5,804	633	12.24%
Lee Public Hydrant	Increase	34	3,581	4,019	438	12.24%
Exeter Public Hydrant	Increase	52	4,656	5,226	570	12.24%
Birch Hill Public Hydrant	Increase	214	9,211	10,338	1,127	12.24%
Bow Public Hydrant	Increase	24	1,550	1,740	190	12.24%
Sub-total		8,357	6,676,472	7,493,340	816,868	12.24%
NC Capital Recovery Surcharge	Decrease		299,985	178,915	(121,070)	-40.36%
		8,357	\$ 6,976,457	\$ 7,672,255	\$ 695,798	9.97%