

Pennichuck Water Works, Inc.
 Pumpage and Sales Normalization to Five Year Average
 For the Twelve Months Ended December 31, 2018
 Revised 1/24/2020 per Staff Tach DR 2-16

Schedule 1C

Revenue Type	2018 Test Year Billed Revenues w/o QCPAC	2018 Test Year Billed Revenues QCPAC Only	2018 Test Year Billed Revenues Total Sales	2018 Test Year Revenue Pro forma reflecting PEU Special Contract w/o QCPAC ⁷	2018 Test Year Billed Revenues proformed for PEU Special Contract w/o QCPAC	2018 Revenue Proforma's based on 5 Year Average ^{1,9}	Proposed Rate Case TY Revenues based on Five Yr Ave ⁴
Total CWS Volumetric Changes	\$ 1,205,965	\$ 9,472	\$ 1,215,437	\$ 457	\$ 1,206,422	\$ 24,409	\$ 1,230,831
Total Core Volumetric Changes	\$ 14,906,414	\$ 141,149	\$ 15,047,563	\$ 5,646	\$ 14,912,059	\$ 115,977	\$ 15,028,036
Anheuser-Busch Volumetric Changes	\$ 454,536	\$ 5,442	\$ 459,978	\$ 172	\$ 454,708	\$ (22,052)	\$ 432,656
Hudson Volumetric Changes ⁶	\$ 448,241	\$ 7,575	\$ 455,816	\$ (402,853)	\$ 45,388	\$	\$ 45,388
Milford Volumetric Changes	\$ 165,125	\$ 2,386	\$ 167,511	\$ 63	\$ 165,188	\$ (84,167)	\$ 81,021
Tyngsborough Water District (TWD) Volumetric Changes ³	\$ 336,714	\$ 3,720	\$ 340,434	\$ 128	\$ 336,842	\$ (25,159)	\$ 311,683
Pennichuck East Utility Volumetric Changes ⁴	\$	\$	\$ -	\$ 184,964	\$ 184,964	\$	\$ 184,964
Total Core Meter Changes (Fixed Fee)	\$ 8,131,419	\$ 114,731	\$ 8,246,150	\$ 3,081	\$ 8,134,499	\$ 106,423	\$ 8,240,922
Total CWS Meter Changes (Fixed Fee)	\$ 751,515	\$ 10,714	\$ 762,229	\$ 285	\$ 751,799	\$ 9,836	\$ 761,635
Total Core Public Fire Protection (Fixed Fee)	\$ 3,209,950	\$ 45,709	\$ 3,255,659	\$ 1,216	\$ 3,211,166	\$ -	\$ 3,211,166
Total CWS Public Fire Protection (Fixed Fee)	\$ 232,824	\$ 3,315	\$ 236,139	\$ 88	\$ 232,912	\$ -	\$ 232,912
Total Core Private Fire Protection (Fixed Fee)	\$ 1,196,391	\$ 17,066	\$ 1,213,457	\$ 453	\$ 1,196,845	\$ -	\$ 1,196,845
Total CWS Private Fire Protection (Fixed Fee)	\$ 14,568	\$ 208	\$ 14,776	\$ 6	\$ 14,574	\$ -	\$ 14,574
Anheuser-Busch Meter Charge (Fixed Fee)	\$ 24,056	\$ 271	\$ 24,327	\$ 9	\$ 24,066	\$ -	\$ 24,066
TWD Meter Charge (Fixed Fee)	\$ 508	\$ 400	\$ 908	\$ 0	\$ 508	\$ -	\$ 508
Anheuser-Busch Contract (Fixed Fee)	\$ 371,430	\$ -	\$ 371,430	\$ -	\$ 371,430	\$ -	\$ 371,430
Hudson Contract (Fixed Fee)	\$ 32,800	\$ -	\$ 32,800	\$ -	\$ 32,800	\$ -	\$ 32,800
Milford Contract (Fixed Fee)	\$ 81,000	\$ -	\$ 81,000	\$ -	\$ 81,000	\$ -	\$ 81,000
Pennichuck East Utility Meter Charge (Fixed Fee) ⁸	\$	\$	\$	\$ 465	\$ 465	\$	\$ 465
Pennichuck East Utility (Fixed Fee) ⁵	\$	\$	\$	\$ 121,213	\$ 121,213	\$	\$ 121,213
Unbilled Water sales, Billed and Unbilled Recoupment and Abatements	\$ 45,185	\$ -	\$ 45,185	\$ 17	\$ 45,202	\$ -	\$ 45,202
Total Billed Revenue	\$ 31,608,641	\$ 362,159	\$ 31,970,800	\$ (84,590)	\$ 31,524,051	\$ 125,265	\$ 31,649,316

PWW Volumetric Sales and Pumpage in CCF's

	2013	2014	2015	2017	2018	2018 Volumetric Sales & Pumpage Proforma's (CCF) ²	Proformed Five Year Average 2018 Volumetric Sales & Pumpage	Actual Five Year Average Volumetric Sales & Pumpage (exclusive of 2016, including 2013)	Proformed 2018 Volumetric Sales & Pumpage as a Percentage of 2018
Annual G-M Sales - PWW CWS (CCF)	324,822	322,530	380,880	323,149	329,509	6,669	336,178	336,178	2.02%
Annual G-M Sales - PWW Core (CCF)	4,090,408	4,113,299	4,245,167	4,001,124	4,072,890	31,688	4,104,578	4,104,578	0.78%
Anheuser-Busch Metered Sales (CCF)	396,800	374,300	413,186	423,889	428,000	(20,765)	407,235	407,235	-4.85%
Hudson Metered Sales (CCF) ⁶	112,380	152,420	225,630	144,370	192,825	(173,300)	19,525	19,525	-89.87%
Pennichuck East Meters Sales (CCF) ³	-	-	-	-	-	146,390	146,390	146,390	
Milford Metered Sales (CCF)	23,795	23,905	32,067	24,300	71,700	(36,547)	35,153	35,153	-50.97%
Tyngsborough Water District (TWD) Metered Sales (CCF) ²	570	1,730	52,239	139,760	147,340	(10,967)	136,373	136,373	-7.44%
Total PWW metered Sales (CCF)	4,948,775	4,988,184	5,349,169	5,056,592	5,242,264	(56,831)	5,185,433	5,185,433	-1.08%
Pumpage - WTP (CCF)	5,735,134	5,585,080	6,099,024	5,759,666	5,689,211	84,412	5,773,623	5,773,623	1.48%
Pumpage - CWS (CCF)	122,750	144,356	144,356	127,733	118,479	9,367	127,845	127,845	7.91%
Purchased Water - CWS (CCF)	189,642	232,925	281,125	229,166	243,044	(7,864)	235,180	235,180	-3.24%
Total PWW Pumpage and Purchased Water (CCF)	6,047,526	5,943,914	6,524,504	6,116,565	6,050,734	85,914	6,136,649	6,136,649	1.42%
% Unaccounted for in Core	19.4%	16.5%	18.5%	17.8%	13.6%				
% Unaccounted for in CWS	-4.0%	10.1%	10.5%	9.5%	8.9%				

Data:

	Jan - May 2018 Rate w/o QCPAC	Jun-Dec 2018 w/QCPAC
2018 PWW G-M Volumetric Rates	\$ 3.6600	\$ 3.72
2018 Anheuser-Busch Volumetric Rates	\$ 1.0620	\$ 1.0799
2018 Hudson Volumetric Rate	\$ 2.3246	\$ 2.3639
2018 Milford Volumetric Rate	\$ 2.3030	\$ 2.3419
2018 Pennichuck East Rate	\$ 1.2635	\$ 1.2849
2018 TWD Volumetric Rate	\$ 2.2941	\$ 2.3329

QCPAC % June through December 2018 - 1.69%

Notes:

- Revenues proformed to 5 year average consumption for volumetric changes only.
 - Proformed revenues are based on average sales for 2014-2018, exclusive of 2016 as 2016 was an extreme year that would skew the five year average.
 - Tyngsborough volumetric sales are based on the CCF's used in a year inclusive of the 334.2 CCF per day minimum 122,020 per year
 - Base Revenues without QCPAC Surcharge
 - Pennichuck East required to purchase from PWW 146,000 CCF from PWW in 2019 per contract.
 - Hudson will purchase 146,000 CCF less from PWW in 2019 as PWW will be selling directly to PEU rather than through Hudson
 - Increase TY revenues proportionally for disallowed credit from DW18-076, Order 26,200 in the amount of Total Revenue Pro forma \$ 11,620
- Total Test Year Revenues without Special Contract fixed fees - \$ 30,668,875
- Monthly Meter Fixed Meter Charge for Pennichuck East Special Contract is \$ 38.75 per month
- Adjust Fixed Meter Charges to TY ending meter count and sizes per COSS schedule in the amount of \$ 116,259 additional revenues

		Effective 11/23/2021						Effective 11/23/2022							
		Proposed COSS Rate Increases by Customer Class			Proposed Settlement Rate Increase			Year 1 after SRI rate adjustment			Year 2 after SRI rate adjustment				
Community	Customer Class	5 Yr. Average 2018 TY Revenues from 1604.06 submitted Sch 1C	COSS Recommended Percentage Increase in Revenues	Annual Increase in Revenues as requested in Rate Filing based on COSS ¹	Total Projected Revenues per COSS	Requested Increase % by Customer class ¹	Annual Increase in Revenues as requested in Rate Filing based on COSS ¹	Total Projected Revenues per Settlement	Rate increase at 3% to munifire as Migration to COSS	Annual Increase/Decrease in Revenues as requested in Rate Filing based on 3% increase in Muni fire migration to COSS	Total Projected Revenues per Settlement	Rate increase at 3% to munifire as Migration to COSS	Annual Increase/Decrease in Revenues as requested in Rate Filing based on 3% increase in Muni fire migration to COSS	Total Projected Revenues per Settlement	Increase over original DW16-806 after two years of 3% per year increases in of Muni Fire
	G-M 5/8" Fixed -	\$ 6,970,633	7.81%	\$ 541,711	\$ 7,512,344	7.81%	\$ 544,513	\$ 7,515,146	0.00%	\$ -	\$ 7,515,146	0.00%	\$ -	\$ 7,515,146	7.81%
	G-M, Fixed, All other meter sizes -	\$ 2,077,127	7.81%	\$ 161,420	\$ 2,238,547	10.17%	\$ 211,147	\$ 2,288,273	-0.53%	\$ (12,101)	\$ 2,276,172	-0.55%	\$ (12,464)	\$ 2,263,708	8.98%
	G-M Residential Volumetric -	\$ 12,066,589	7.81%	\$ 937,735	\$ 13,004,323	10.17%	\$ 1,226,609	\$ 13,293,198	-0.53%	\$ (70,298)	\$ 13,222,900	-0.55%	\$ (72,407)	\$ 13,150,492	8.98%
	G-M Commercial Volumetric -	\$ 2,894,712	7.81%	\$ 224,958	\$ 3,119,670	10.17%	\$ 294,257	\$ 3,188,969	-0.53%	\$ (16,864)	\$ 3,172,105	-0.55%	\$ (17,370)	\$ 3,154,735	8.98%
	G-M Industrial Volumetric -	\$ 991,344	7.81%	\$ 77,041	\$ 1,068,385	10.17%	\$ 100,773	\$ 1,092,118	-0.53%	\$ (5,775)	\$ 1,086,342	-0.55%	\$ (5,949)	\$ 1,080,394	8.98%
	G-M Municipal Volumetric -	\$ 306,222	7.81%	\$ 23,797	\$ 330,019	10.17%	\$ 31,128	\$ 337,350	-0.53%	\$ (1,784)	\$ 335,566	-0.55%	\$ (1,838)	\$ 333,728	8.98%
	Municipal Fire -	\$ 3,444,078	24.08%	\$ 825,114	\$ 4,269,193	10.17%	\$ 350,102	\$ 3,794,180	3.00%	\$ 113,825	\$ 3,908,006	3.00%	\$ 117,240	\$ 4,025,246	16.87%
	Private Fire -	\$ 1,211,418	71.74%	\$ 864,560	\$ 2,075,978	71.74%	\$ 869,031	\$ 2,080,449	0.00%	\$ -	\$ 2,080,449	0.00%	\$ -	\$ 2,080,449	71.74%
	A-B Annual Fixed Fee -	\$ 371,430	0.00%	\$ -	\$ 371,430	0.00%	\$ -	\$ 371,430	0.00%	\$ -	\$ 371,430	0.00%	\$ -	\$ 371,430	0.00%
	A-B Volumetric -	\$ 432,656	7.81%	\$ 33,623	\$ 466,279	10.17%	\$ 43,981	\$ 476,637	-0.53%	\$ (2,521)	\$ 474,116	-0.55%	\$ (2,596)	\$ 471,520	8.98%
	A-B Fixed meter -	\$ 24,066	7.81%	\$ 1,870	\$ 25,936	10.17%	\$ 2,446	\$ 26,512	-0.53%	\$ (140)	\$ 26,372	-0.55%	\$ (144)	\$ 26,227	8.98%
	Milford Annual Fixed Fee -	\$ 81,000	0.00%	\$ -	\$ 81,000	0.00%	\$ -	\$ 81,000	0.00%	\$ -	\$ 81,000	0.00%	\$ -	\$ 81,000	0.00%
	Milford Volumetric -	\$ 81,021	7.81%	\$ 6,296	\$ 87,317	10.17%	\$ 8,236	\$ 89,257	-0.53%	\$ (472)	\$ 88,785	-0.55%	\$ (486)	\$ 88,299	8.98%
	Hudson Annual Fixed Fee -	\$ 32,800	0.00%	\$ -	\$ 32,800	0.00%	\$ -	\$ 32,800	0.00%	\$ -	\$ 32,800	0.00%	\$ -	\$ 32,800	0.00%
	Hudson Volumetric -	\$ 45,388	7.81%	\$ 3,527	\$ 48,915	10.17%	\$ 4,614	\$ 50,002	-0.53%	\$ (264)	\$ 49,737	-0.55%	\$ (272)	\$ 49,465	8.98%
	Tyngsborough Volumetric -	\$ 311,683	7.81%	\$ 24,222	\$ 335,904	10.17%	\$ 31,684	\$ 343,366	-0.53%	\$ (1,816)	\$ 341,550	-0.55%	\$ (1,870)	\$ 339,680	8.98%
	Tyngsborough Fixed Meter -	\$ 508	7.81%	\$ 39	\$ 548	10.17%	\$ 52	\$ 560	-0.53%	\$ (3)	\$ 557	-0.55%	\$ (3)	\$ 554	8.98%
	Pennichuck East Minimum Volumetric Fee -	\$ 121,213	7.81%	\$ 9,420	\$ 130,633	10.17%	\$ 12,322	\$ 133,535	-0.53%	\$ (706)	\$ 132,829	-0.55%	\$ (727)	\$ 132,101	8.98%
	Pennichuck East Volumetric -	\$ 184,964	7.81%	\$ 14,374	\$ 199,338	10.17%	\$ 18,802	\$ 203,766	-0.53%	\$ (1,078)	\$ 202,689	-0.55%	\$ (1,110)	\$ 201,579	8.98%
	Pennichuck East Fixed Meter -	\$ 465	7.81%	\$ 36	\$ 501	10.17%	\$ 47	\$ 512	-0.53%	\$ (3)	\$ 510	-0.55%	\$ (3)	\$ 507	8.98%
	Total 5 Ave Year Test Year Revenues -	\$ 31,649,316		\$ 3,749,744	\$ 35,399,060		\$ 3,749,744	\$ 35,399,060		\$ (0)	\$ 35,399,060		\$ 0	\$ 35,399,060	

Full Muni Fire COSS Revenues - \$ 825,114 Rate Case Muni Fire - \$ 350,102

Subsidy GM res to Muni fire and return from City DW16-806 Revs, Muni to GM Res no QCPAC					
Subsidy/return	\$	% Increase	Current Yr	Rate Increase	
\$ (400,331.52)	\$ 3,189,668.68	10.17%	Yr. 1	Mar-20	
\$ (304,641.46)	\$ 3,285,358.74	3.00%	Yr. 2	Mar-21	Test Year 2021
\$ (206,080.70)	\$ 3,383,919.50	3.00%	Yr. 3	Mar-22	Rate Filing 7-1-22
\$ (104,563.11)	\$ 3,485,437.08	3.00%	Yr. 4	Mar-23	Rate in effect for TY 2021 back to 2022
	\$ 3,590,000.20	3.00%	Yr. 5	Mar-24	Test Year 2024
\$ 107,700.01	\$ 3,697,700.20	3.00%	Yr. 6	Mar-25	Rate Filing 7-1-25
\$ 218,631.01	\$ 3,808,631.21	3.00%	Yr. 7	Mar-26	Rate in effect for TY 2024 back to 2025
\$ 218,631.01	\$ 3,808,631.21	0.00%	Yr. 8	Mar-27	Test Year 2027
\$ 218,631.01	\$ 3,808,631.21	0.00%	Yr. 9	Mar-28	Rate in effect for TY 2027 back to 2026. Set rates to 2027 TY COSS

1. Percentages based on COSS which as run using initial filing revenue requirement which resulted in an 11.91% overall increase in revenue requirement.

Final percentages for each customer class will be changed rateably based on final approved revenue requirement in proportion to initially requested revenue requirement.

COSS Recommended GM Increase for Fixed Meter -	7.85%	
COSS Recommended GM Increase for Munifire Meter -	24.20%	
COSS Recommended GM Increase for Private fire Meter -	72.09%	
adjusted for projected overall increase of	11.85%	based on settlement revenue requirement and final bond sale with TIC of 4.01%
COSS increases based on requested increase of	11.91%	