

**Exh. CRM-3
Dockets UE-190334, UG-190335,
and UE-190222
Witness: Chris R. McGuire**

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

**AVISTA CORPORATION, d/b/a
AVISTA UTILITIES,**

Respondent.

**DOCKETS UE-190334, UG-190335,
and UE-190222 (*Consolidated*)**

**EXHIBIT TO
TESTIMONY OF**

Chris R. McGuire

**STAFF OF
WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION**

Natural Gas Revenue Requirement Growth Model

October 3, 2019

STAFF'S ANALYSIS			
Natural Gas			
Revenue Growth Rate Calculation - Rate Year 2:			
Line No.	Category	(a) Growth Rate 2014-2018	(b) Revenue Portion of Category
			(c) Growth Rate % (a) x (b)
1	Operating Expenses	3.19%	39.53%
2	Depreciation/Amortization	8.26%	22.38%
3	Taxes Other than Income	6.92%	7.97%
4	Net Plant After ADFIT (REMOVED)	0.00%	30.13%
5	Annual Growth In Sales Revenue		100.00%
6	Total Revenue Growth Rate %		2.32%
7	Net Plant After ADFIT (IF INCLUDED)	7.16%	30.13%
8	Total Revenue Growth Rate %		4.47%
		No RB esc	w/ RB esc
9	Revenue Base (AMA 2018)	\$ 92,722	
10	Revenue Increase Year 1	\$ 7,044	Exh. JH-3
11	Escalation Base	\$ 99,766	
12	Year 2 Increase	\$ 2,310	\$ 4,463

AS FILED BY AVISTA			
Natural Gas			
Revenue Growth Rate Calculation - Rate Year 2:			
	(a)	(b)	(c)
Category	Growth Rate 2014-2018	Revenue Portion of Category	Growth Rate % (a) x (b)
Operating Expenses ⁽¹⁾	3.99%	39.53%	1.58%
Depreciation/Amortization ⁽¹⁾	11.03%	22.38%	2.47%
Taxes Other than Income	8.36%	7.97%	0.67%
Net Plant After ADFIT	9.11%	30.13%	2.74%
Annual Growth In Sales Revenue		100.00%	-1.34%
Total Revenue Growth Rate %			6.11%
See Exh. EMA- 5, pg. 4 for growth rates and pg. 2 for revenue proportion and annual growth in sales revenue.			
⁽¹⁾ Reflects a 30 basis points efficiency adjustment in O&M expenses.			
⁽²⁾ The growth rate in depreciation/amortization expense is primarily driven by shorter-lived assets representing a higher proportion of investment in recent years.			

AVISTA UTILITIES
WASHINGTON NATURAL GAS
TWELVE MONTHS ENDED DECEMBER 31, 2018
(000'S OF DOLLARS)

Line No.	DESCRIPTION	Restated
	Adjustment Number	Commission Basis
	Workpaper Reference	PF-STH
	REVENUES	TOTAL
1	Total General Business	\$ 146,870
2	Total Transportation	4,960
3	Other Revenues	(4,216)
4	Total Gas Revenues	147,614
	EXPENSES	
	Production Expenses	
5	City Gate Purchases	51,519
6	Purchased Gas Expense	959
7	Net Nat Gas Storage Trans	-
8	Total Production	52,478
	Underground Storage	
9	Operating Expenses	1,532
10	Depreciation/Amortization	627
11	Taxes	224
12	Total Underground Storage	2,383
	Distribution	
13	Operating Expenses	12,308
14	Depreciation/Amortization	11,629
15	Taxes	9,458
16	Total Distribution	33,395
17	Customer Accounting	6,967
18	Customer Service & Information	1,232
19	Sales Expenses	-
	Administrative & General	
20	Operating Expenses	14,612
21	Depreciation/Amortization	8,492
22	Regulatory Amortizations	(476)
23	Taxes	-
24	Total Admin. & General	22,628
25	Total Gas Expense	119,083
26	OPERATING INCOME BEFORE FIT	28,531
	FEDERAL INCOME TAX	
27	Current Accrual	2,893
28	Debt Interest	43
29	Deferred FIT	393
30	Amort ITC	(15)
31	NET OPERATING INCOME	\$ 25,216
	RATE BASE	
	PLANT IN SERVICE	
32	Underground Storage	\$ 28,442
33	Distribution Plant	455,595
34	General Plant	114,053
35	Total Plant in Service	598,090
	ACCUMULATED DEPRECIATION/AMORT	
36	Underground Storage	(11,051)
37	Distribution Plant	(144,969)
38	General Plant	(32,354)
39	Total Accumulated Depreciation/Amortization	(188,374)
40	NET PLANT	409,716
41	DEFERRED TAXES	(89,585)
42	Net Plant After DFIT	320,131
43	GAS INVENTORY	8,355
44	GAIN ON SALE OF BUILDING	-
45	OTHER	5,331
46	WORKING CAPITAL	7,549
47	TOTAL RATE BASE	\$ 341,366

STAFF'S ANALYSIS						
REVENUE GROWTH RATE CALCULATION						
Authorized ROR						
Component	Capital Structure	Cost	Weighted Cost		Tax	Tax on equity return
Total Debt	51.5%	5.62%	2.89%			
Common	48.5%	9.50%	4.61%		26.58%	1.23%
Total	100.00%		7.50%			
			Tax on Equity Return			1.23%
			Total % to apply to RB			8.73%

	Revenue on CB *	Portion of Total	2014-2018 Growth Rate
Depreciation	20,748	22.38%	8.3%
O&M	36,651	39.53%	3.19%
Taxes OTI	7,390	7.97%	6.92%
Net Plant After ADFIT	320,131	27,933	30.13%
			100%
Revenue	\$ 92,722	Non-gas cost revenues (1)	

*includes revenue related expenses
(1) Non-gas cost revenues, covering investment-related costs and operating expenses.

Revenue Growth: (see page 5 - 2.25 years from 2018 to 03.31.2020)		
	Annual	
\$	4,050	\$ 1,246
		1.34%

	04.2021-03.2022 Growth Rate
Depreciation	1.85%
O&M	1.26%
Taxes OTI	0.55%
Net Plant After ADFIT	0.00%
Revenues	-1.34%
	2.32%

AS FILED BY AVISTA						
REVENUE GROWTH RATE CALCULATION						
Authorized ROR						
Component	Capital Structure	Cost	Weighted Cost		Tax	Tax on equity return
Total Debt	51.5%	5.62%	2.89%			
Common	48.5%	9.50%	4.61%		26.58%	1.23%
Total	100.00%		7.50%			
			Tax on Equity Return			1.23%
			Total % to apply to RB			8.73%

	Revenue on CB *	Portion of Total	2014-2018 Growth Rate
Depreciation	20,748	22.38%	11.0%
O&M	36,651	39.53%	3.99%
Taxes OTI	7,390	7.97%	8.36%
Net Plant After ADFIT	320,131	27,933	30.13%
(RB*9.77%)			9.11%
Revenue	\$ 92,722	Non-gas cost revenues (1)	

*includes revenue related expenses
(1) Non-gas cost revenues, covering investment-related costs and operating expenses.

Revenue Growth: (see page 5 - 2.25 years from 2018 to 03.31.2020)		
	Annual	
\$	4,050	\$ 1,246
		1.34%

	Rate Year 2 04.2021-03.2022 Growth Rate
Depreciation	2.47%
O&M	1.58%
Taxes OTI	0.67%
Net Plant After ADFIT	2.74%
Revenues	-1.34%
	6.11%

includes efficiency adj.

NATURAL GAS COST AND REVENUE TREND CALCULATIONS 2014-2018

AVISTA UTILITIES

WASHINGTON NATURAL GAS RESULTS

Commission Basis Results of Operations

(000'S OF DOLLARS)

Line No.	DESCRIPTION	2014 Restated Total	2015 Restated Total	2016 Restated Total	2017 Restated Total	2018 Restated Total
REVENUES						
1	Total General Business	\$ 154,546	\$ 149,865	\$ 150,970	\$ 157,743	\$ 146,870
2	Total Transportation	3,960	4,054	4,477	5,049	4,960
3	Other Revenues	332	7,129	1,020	(824)	(4,216)
4	Total Gas Revenues	158,838	161,048	156,467	161,968	147,614
EXPENSES						
Production Expenses						
5	City Gate Purchases	84,187	79,634	63,460	64,414	51,519
6	Purchased Gas Expense	779	840	994	944	959
7	Net Nat Gas Storage Trans	-	-	1	-	-
8	Total Production	84,966	80,474	64,455	65,358	52,478
Underground Storage						
9	Operating Expenses	893	857	974	1,032	1,532
10	Depreciation/Amortization	402	439	492	537	627
11	Taxes	184	196	210	85	224
12	Total Underground Storage	1,479	1,492	1,676	1,654	2,383
Distribution						
13	Operating Expenses	10,704	12,315	12,050	12,380	12,308
14	Depreciation/Amortization	8,513	9,088	9,866	10,638	11,629
15	Taxes	8,719	8,554	8,383	9,144	9,458
16	Total Distribution	27,936	29,957	30,299	32,162	33,395
17	Customer Accounting	6,108	6,632	6,811	6,991	6,967
18	Customer Service & Information	865	837	964	1,000	1,232
19	Sales Expenses	-	-	-	-	-
Administrative & General						
20	Operating Expenses	12,777	14,007	13,267	13,375	14,612
21	Depreciation/Amortization	4,389	5,649	6,260	6,864	7,965
22	Regulatory Amortizations	(91)	(2,087)	1,079	917	51
23	Taxes	-	-	-	-	-
24	Total Admin. & General	17,075	17,569	20,606	21,156	22,628
25	Total Gas Expense	138,429	136,961	124,811	128,321	119,083
26	OPERATING INCOME BEFORE FIT	20,409	24,087	31,656	33,647	28,531
FEDERAL INCOME TAX						
27	Current Accrual	(6,945)	(729)	(1,133)	2,630	2,893
28	Debt Interest	(137)	(37)	11	13	43
29	Deferred FIT	13,105	7,842	9,923	6,462	393
30	Amort ITC	(20)	(20)	(17)	(15)	(15)
31	NET OPERATING INCOME	\$ 14,406	\$ 17,031	\$ 22,872	\$ 24,557	\$ 25,216
RATE BASE						
PLANT IN SERVICE						
32	Underground Storage	\$ 25,235	\$ 25,720	\$ 26,868	\$ 27,138	\$ 28,442
33	Distribution Plant	337,894	360,612	390,508	422,774	455,595
34	General Plant	59,169	75,514	82,624	93,491	114,053
35	Total Plant in Service	422,298	461,846	500,000	543,403	598,090
ACCUMULATED DEPRECIATION/AMORT						
36	Underground Storage	9,521	9,906	10,318	10,493	11,051
37	Distribution Plant	114,795	121,623	129,098	136,840	144,969
38	General Plant	17,429	20,741	23,473	27,497	32,354
39	Total Accumulated Depreciation/Amortization	141,745	152,270	162,889	174,830	188,374
40	NET PLANT	280,553	309,576	337,111	368,573	409,716
41	DEFERRED TAXES	(54,652)	(64,929)	(74,181)	(83,133)	(89,585)
42	Net Plant After DFIT	225,901	244,647	262,930	285,440	320,131
43	GAS INVENTORY	14,762	12,740	9,116	10,595	8,355
44	GAIN ON SALE OF BUILDING	-	-	-	-	-
45	OTHER	(479)	(485)	(249)	2,064	5,331
46	WORKING CAPITAL	10,073	16,069	14,800	15,075	7,549
47	TOTAL RATE BASE	\$ 250,257	\$ 272,971	\$ 286,597	\$ 313,174	\$ 341,366

NATURAL GAS COST AND REVENUE TREND CALCULATIONS 2014-2018

AVISTA UTILITIES
WASHINGTON NATURAL GAS RESULTS
(000'S OF DOLLARS)
Natural Gas Data for Escalators

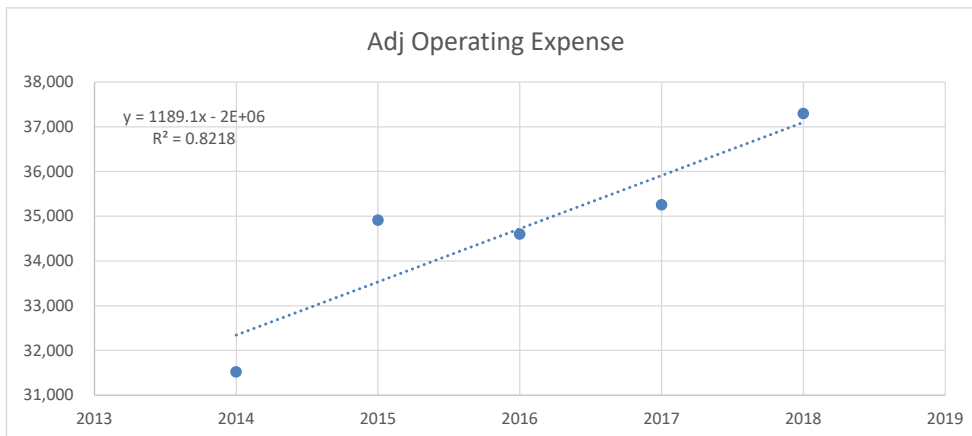
			2014	2015	2016	2017	2018
Line No.	Exclude Gas Cost and Adder Schedule Expenses (DSM Tariff Rider, Decoupling Surcharge/Rebate) from O&M						
1	Underground Storage	CBR Line 9	893	857	974	1,032	1,532
2	Distribution	CBR Line 13	10,704	12,315	12,050	12,380	12,308
3	Customer Accounting	CBR Line 17	6,108	6,632	6,811	6,991	6,967
4	Customer Service and Information	CBR Line 18	865	837	964	1,000	1,232
5	Sales	CBR Line 19	0	0	0	0	0
6	Administrative and General	CBR Line 20	12,777	14,007	13,267	13,375	14,612
7	Operating expenses excluding production		31,347	34,648	34,066	34,778	36,651
8	Add Non PGA production O&M expenses		779	840	994	944	959
9	Deduct Gas Cost Rev Related Expenses		-602	-570	-454	-461	-312
10	Deduct DSM Tariff Rider Expenses		0	0	0	0	0
11	Deduct Decoupling Surcharge/Rebate Expenses		0	0	0	0	0
12	Adjusted Operating Expenses		31,524	34,918	34,606	35,261	37,298
	Annual Percentage Change			10.77%	-0.89%	1.89%	5.78%
	Depreciation/Amortization						
13	Underground Storage	CBR Line 10	402	439	492	537	627
14	Distribution	CBR Line 14	8,513	9,088	9,866	10,638	11,629
15	Administrative & General	CBR Line 21	4,389	5,649	6,260	6,864	7,965
16	Total Depreciation/Amortization		13,304	15,176	16,618	18,039	20,221
	Annual Percentage Change			14.07%	9.50%	8.55%	12.10%
	Exclude Adder Schedule amortizations (Decoupling Surcharge/Rebate) from Regulatory Amortizations						
17	Regulatory Amortizations	CBR Line 22	-91	-2,087	1,079	917	51
18	Deduct Decoupling Surcharge/Rebate Expenses		0	0	0	0	0
19	Adjusted Regulatory Amortizations		-91	-2,087	1,079	917	51
	Exclude Gas Cost and Adder Schedule excise taxes (DSM Tariff Rider, Decoupling Surcharge/Rebate) from Taxes Other Than Income Tax						
20	Underground Storage	CBR Line 11	184	196	210	85	224
21	Distribution	CBR Line 15	8,719	8,554	8,383	9,144	9,458
22	Administrative & General	CBR Line 23	0	0	0	0	0
23	Total Taxes Other Than Income		8,903	8,750	8,593	9,229	9,682
24	Deduct Gas Cost Excise Tax		-3,380	-3,197	-2,548	-2,586	-2,068
25	Deduct DSM Tariff Rider Excise Tax		0	0	0	0	0
26	Deduct Decoupling Surcharge/Rebate Excise Tax		0	0	0	0	0
27	Adjusted Taxes Other Than Income		5,523	5,553	6,045	6,643	7,614
	Annual Percentage Change			0.54%	8.86%	9.89%	14.62%
28	Net Plant After Deferred Income Tax		225,901	244,647	262,930	285,440	320,131
	Annual Percentage Change			8.30%	7.47%	8.56%	12.15%

ANNUAL AND COMPOUND GROWTH RATES		AS FILED BY AVISTA	
Line	Natural Gas Revenue Growth Rate Analysis	2014-2018	
	Compound Growth Rate to 2018		
	Adjusted Operating Expenses	4.29%	3.99% 30 bps Efficiency Adj
	Adjusted Depreciation/Amortization	11.03%	
	Adjusted Taxes Other than Income	8.36%	
	Net Plant After Deferred Income Taxes	9.11%	
	Rate base	0.00%	
			04.2021-03.2022
	Depreciation	22.38%	2.47%
	O&M	39.53%	1.70%
	Taxes OTI	7.97%	0.67%
	Net Plant After ADFIT	30.13%	2.74%
	Revenues		-1.34%
	Total K Factor %	6.23%	6.11%

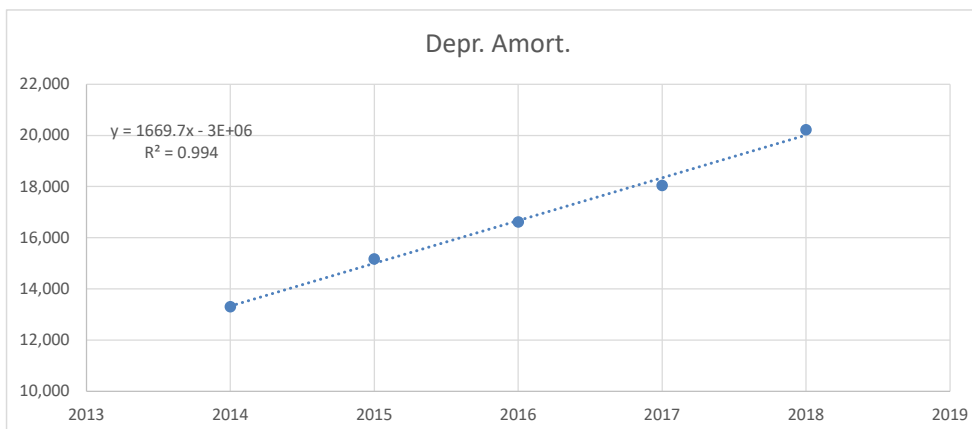
NATURAL GAS COST AND REVENUE TREND CALCULATIONS 2014-2018

ANNUAL GROWTH RATE ANALYSIS					
Line No.	STAFF'S ANALYSIS		2014-2018		
	1	Adjusted Operating Expenses		3.19%	
2	Depreciation/Amortization		8.26%		
3	Taxes OTI		6.92%		
4	Net Plant after DFIT		7.16%		
				Without Net Plant Esc.	
		Portion	2014-2018	Portion	2014-2018
5	Depreciation	22.38%	1.85%	22.38%	1.85%
6	O&M	39.53%	1.26%	39.53%	1.26%
7	Taxes OTI	7.97%	0.55%	7.97%	0.55%
8	Net Plant After ADFIT	30.13%	0%	30.13%	2.16%
9	Revenues		-1.34%		-1.34%
10	Total K Factor %		2.32%		4.47%

	2014	2015	2016	2017	2018
Adj Operating Expense	31,524	34,918	34,606	35,261	37,298
Per Year	1189.1				
Percent	3.19%				

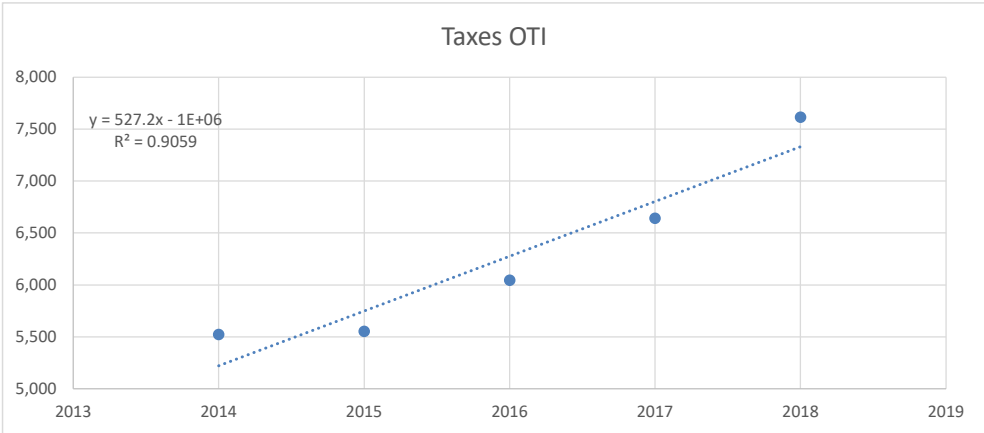


	2014	2015	2016	2017	2018
Depr. Amort.	13,304	15,176	16,618	18,039	20,221
Per Year	1669.7				
Percent	8.26%				

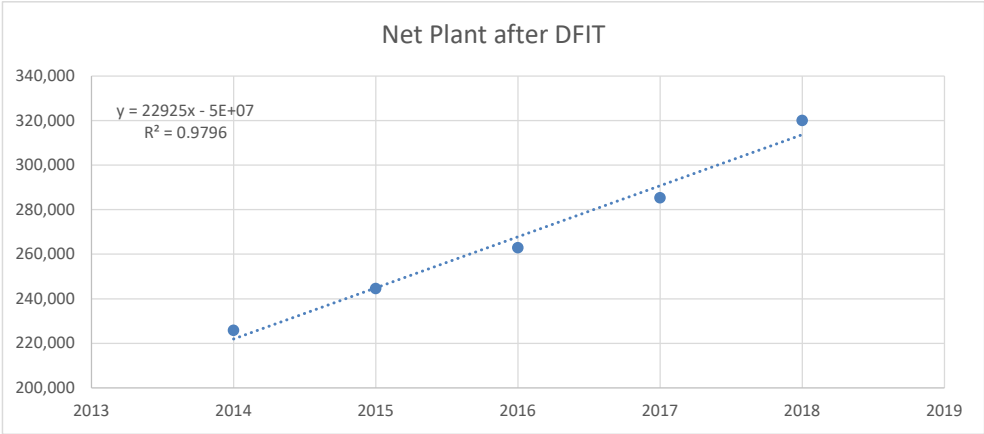


NATURAL GAS COST AND REVENUE TREND CALCULATIONS 2014-2018

	2014	2015	2016	2017	2018
Taxes OTI	5,523	5,553	6,045	6,643	7,614
Per Year	527.2				
Percent	6.92%				



	2014	2015	2016	2017	2018
Net Plant after DFIT	225,901	244,647	262,930	285,440	320,131
Per Year	22925				
Percent	7.16%				



Decoupled Revenue Comparison

12 ME December 2018 Test Year
Natural Gas Service

UG-19____ Proposed Decoupling Base at Present Rates

	UG-19____ Proposed Decoupling Base at Present Rates					SCHEDULES	SCHEDULES
	TOTAL	RESIDENTIAL SCHEDULE 101/102	GENERAL SVC. SCH. 111/112/116	LG. GEN. SVC. SCH. 121/122/126	INTERRUPTIBLE SCH 131	132	146 & 148
Revenue at Present Rates	\$93,707,000	\$71,132,000	\$17,111,000	\$307,000	\$0	\$201,000	\$4,956,000
Usage	275,981,665	128,985,980	54,329,806	1,555,071	-	985,267	90,125,541
Customer Bills	1,978,935	1,941,495	36,840	36	-	24	540
Fixed Charge per Bill		\$9.50	\$97.25	\$240.44			
PGA Sch 150 Rate		\$0	\$0	\$0			
Decoupled Gas Cost Revenue	\$0	\$0	\$0	\$0			
Decoupled Fixed Charge Revenue	\$22,035,548	\$18,444,203	\$3,582,690	\$8,656			
Revenue Not Subject to Decoupling	\$5,157,000				\$0	\$201,000	\$4,956,000
Decoupled Revenues from Rates	\$66,514,452	\$52,687,798	\$13,528,310	\$298,344	\$0	\$0	\$0
Allowed Annual Decoupled Revenue per Customer		\$325.65	\$4,499.40		Usage Per Customer	average \$/therm	UG-19____ Base
Allowed Decoupled Revenues	\$66,513,977	\$52,687,321	\$13,826,656		Residential	\$ 0.408473	797
Decoupling Revenue Adjustment	(\$475)	(\$477)	\$2		Non-Residential	\$ 0.247413	18,186
					Average Customers		
Total Revenue with Decoupling excl Gas Cost	\$93,706,525				Residential		161,791
					Non-Residential		3,073
Test Year Annual Decoupled Revenue per Customer		\$325.65	\$4,499.40				

12 ME March 2022 Forecast Customers

2019 Final Budget Version GSFM December MidMonth_(12 13 18 pricing) - v4 GRC update 1-18-19.xlsm

Natural Gas Service

	2019 Final Budget Version GSFM December MidMonth_(12 13 18 pricing) - v4 GRC update 1-18-19.xlsm					SCHEDULES	SCHEDULES
	TOTAL	RESIDENTIAL SCHEDULE 101/102	GENERAL SVC. SCH. 111/112/116	LG. GEN. SVC. SCH. 121/122/126	INTERRUPTIBLE SCH 131	132	146 & 148
Revenue at Present Rates	\$97,774,862	\$ 73,117,804	\$ 18,327,051	\$ 1,197,260	\$ -	\$ 188,557	\$ 4,944,190
Usage	232,924,161	131,829,018	57,664,429	4,862,904	-	931,312	37,636,498
Customer Bills	2,069,839	2,030,793	38,196	299	0	24	527
Fixed Charge per Bill		\$9.50	\$97.25	\$240.44			
PGA Sch 150 Rate		\$0	\$0	\$0			
Decoupled Gas Cost Revenue	\$0	\$0	\$0	\$0			
Decoupled Fixed Charge Revenue	\$23,078,918	\$19,292,534	\$3,714,585	\$71,799			
Revenue Not Subject to Decoupling	\$5,132,747				\$0	\$188,557	\$4,944,190
Decoupled Revenues from Rates	\$69,563,197	\$53,825,270	\$14,612,466	\$1,125,461	\$0	\$0	\$0
Allowed Annual Decoupled Revenue per Customer		\$325.65	\$4,499.40				
Allowed Decoupled Revenues	\$69,544,790	\$55,111,145	\$14,433,645				
Decoupling Revenue Adjustment	(\$18,407)	\$1,285,876	(\$1,304,283)				
Total Revenue with Decoupling	\$97,756,454						

Change in Non-Gas Cost Revenue	\$4,049,929
Annual Average Revenue Growth 3.25 years	\$1,246,132