



VARIABLE SURCHARGE UPDATES

TO: Brandy Reitter, Fred Tobias, Vern Brock, Dusty Walls, Bryon McGinnis, Jill Ewing – Town of Eagle

FROM: Chris Lehrman, P.E. and Bailey Leppek - SGM

DATE: March 22, 2018

RE: Variable Surcharge Study Update

Introduction

The purpose of this analysis is to update the average surcharge and annual rate increases, based on the most up-to-date information available. SGM made several updates to the assumptions, expenses, and revenues included in the January 4, 2018 Variable Surcharge Study, which are described in more detail in the next section of this memo. Some of the updates increased the revenue requirement and some decreased the revenue requirement. These updates balanced out such that cash flow projections did not change substantially, and the surcharge did not change. SGM also conducted a sensitivity analysis to determine the impact that the minimum reserve balance targets have on the surcharge, which is presented below.

The average surcharges and variable surcharges for Option 1 and Option 2 are the same as what was stated in the January 4, 2018 Variable Surcharge Study: \$18 average for Option 1 and \$28 average for Option 2. The future long-term annual rate increases (which are mainly to allow rate revenue to keep pace with inflation) have increased by 0.5% for Option 1 and Option 2. The average residential bill in 2018 is not affected.

Table 1 shows the three customer surcharge categories, and the average monthly usage in thousands of gallons (kgal) for residential and non-residential customers, and the resulting monthly surcharge for each customer surcharge category for Option 1 and Option 2. There are no changes from the numbers in Table 1 of the January 4, 2018 Study.

Table 1: Updated Customer Surcharge Categories and Monthly Surcharge for Options 1 & 2

Surcharge Category	Usage Percentile Range	Avg Monthly Usage (kgal)		Monthly Surcharge			Avg. Residential Monthly Bill 2018	
		Residential	Non-Residential	Option 1	Option 2	Scaling Factor	Option 1	Option 2
1: Low Usage	0 - 20%	0 – 4.1	0 – 1.6	\$ 11.75	\$ 18.25	65%	\$53 (4 kgal)	\$56 (4 kgal)
2: Average Usage	20 - 80%	4.1 – 13.8	1.6 – 46.2	\$ 18.00	\$ 28.00	100% (avg)	\$82 (8.9 kgal)	\$86 (8.9 kgal)
3: High Usage	80 - 100%	> 13.8	> 46.2	\$ 24.50	\$ 38.00	136%	\$184 (21.2 kgal)	\$182 (21.2 kgal)

Table 2: Summary of Rate and Surcharge Options

Any changes from the numbers presented in Table 2 of the January 4, 2018 Study are called out with red text.

		Option 1 \$18 Average Surcharge and Rate Structure Changes	Option 2 \$28 Average Surcharge and No Rate Structure Changes
Summary of Alternative		Implement \$18 surcharge. Adopt rate structure changes from SGM Rate Study Report. No rate/base fee increases 2018 or 2019, besides rate structure changes. Rate increases 2.5% starting 2020.	Implement \$28 surcharge. Do not adopt rate structure changes. Rate increase 5% 2018, 2019, & 2020. Rate increase 3% 2021 and beyond.
2018	Rate Increase	None	5.00%
	Base Fee Increase	None	5.00%
	Avg. Surcharge	\$18	\$28
	Rate Structure Changes	Tier 1: \$1.50 in-town / \$2.25 out Conservation oriented rates (Add Tier 4, move back the cutoff for Tier 3). See Figure 3 for rate structure & base fee.	None
2019	Rate Increase	None	5.00%
	Base Fee Increase	None	5.00%
	Avg. Surcharge	\$18	\$28
	Rate Structure Changes	Tier 1: \$3.00 in-town / \$4.50 out See Figure 3 for rate structure & base fee.	None
2020	Rate Increase	3.00% (was 2.50%)	5.00%
	Base Fee Increase	3.00% (was 2.50%)	5.00%
	Avg. Surcharge	\$18	\$28
	Rate Structure	No change	No change
2021	Rate Increase	3.00% (was 2.50%)	3.50% (was 3.00%)
	Base Fee Increase	3.00% (was 2.50%)	3.50% (was 3.00%)
	Avg. Surcharge	\$18	\$28
	Rate Structure	No change	No change
2022 and on	Rate Increase	3.00% (was 2.50%)	3.50% (was 3.00%)
	Base Fee Increase	3.00% (was 2.50%)	3.50% (was 3.00%)
	Avg. Surcharge	\$18	\$28
	Rate Structure	No change	No change

Updated Cash Flow Assumptions:

SGM worked with Town staff to determine the following updates to the cash flow assumptions, in order to calculate the updated average surcharges and rate increases.

1. Surcharge revenue is based on 3,100 surchargeable units, rather than 2,581 water accounts.

SGM updated the Cash Flow Model with the number of “surchargeable units,” or the total number of surcharges that the Town plans to charge. The projections now use 3,100 surchargeable units, which is based on the Town’s January 29, 2018 water system audit. Previous projections used approximately 2,581 water accounts for 2018 as the number of surcharges the Town can charge; however, the 3,100 surchargeable units and accounts for the fact that multiple surchargeable units may share a single water account. This update included more surcharge revenue that wasn’t calculated before.

2. Description of the number of accounts used for projecting rate revenue.

This is not a change to assumptions in the model, but these assumptions warrant discussion. Rate revenue uses a different basis than surcharge revenue. Rate revenue uses a growth percentage factor based on the number of water accounts. Town Staff expressed that there is uncertainty about the exact number of water accounts. The exact number of water is not as important as is understanding the relative growth from year to year. The number of accounts is used to calculate a growth percentage factor. The projected revenue from water rates is then scaled by that factor to account for growth. SGM checked the accuracy of this method of predicting water rate revenue but comparing our estimates for 2016 and 2017 to actual rate revenue from 2016 and 2017. SGM’s method underpredicted rate revenue by 3% in 2016 and by 4% in 2017. Based on conversations with Town Staff, this is conservative but acceptable.

3. Updated to the most recent estimated total LBWTP cost of \$28 M, with a total loan amount of \$18 M.

The model has been updated with the most up-to-date information (per the memo from SGM sent on March 15, 2018 regarding the Maximum Approved Loan Amount Request Recommendation) of \$28.0 M total construction cost for the Lower Basin Water Treatment Plant (LBWTP), with \$18 M from the loan and \$10 M from Town contribution. The previous study used a \$27.35 M total cost, with \$17.35 M from the loan and \$10 M from Town contribution. Previous assumptions were based on the October 6, 2017 letter from SGM to Tom Boni regarding the Town of Eagle Lower Basin Water Treatment Plant Project Construction Manager at Risk (CMAR) Firm Recommendation.

4. Removed the cost of the Phase 2 (2040) and Phase 3 (2049) expansions (this did not affect the surcharge).

The Town Trustees wanted to understand the effect that the two plant expansions were having on the calculated surcharge. Neither of these costs affected the surcharge because they were projected to occur far enough in the future that they did not affect the critical reserve balance (which occurs in 2035). The Town’s Capital Improvement Plan Schedule had projected the

following cost schedule: \$8.5 M for the Phase 2 LBWTP expansion occurring in 2040 and \$3.4 M for the Phase 3 LBWTP expansion occurring in 2049. The costs of both expansions have been removed from the projected expenses.

5. Incorporated revenue reduction if the Town meets its water conservation goal of reducing the per capita water use by 10% between 2017 and 2023.

The Town's December 2017 Five-Year Water Efficiency Planning Strategy set a goal to reduce the per capita water use by 10% between 2017 and 2023. This surcharge update analysis sought to:

- understand how much the revenue would decrease if the Town achieves its efficiency goal of 10% reduction in per capita use, and
- incorporate this into the model so that if Town achieves this conservation goal, the revenue stream will be adequate to meet the financial obligations.

A 10% decrease in water use over five years is an average of 2% decrease in water use each year. A 2% reduction in use does not directly equal a 2% reduction in revenue, because of the base fee and because of the tiered rate structure. SGM did a sensitivity analysis using the Rate Revenue Model, and estimated that a 2% annual decrease in water use would result in approximately 1.8% annual decrease in revenue. SGM built this revenue reduction of 1.8% per year for the next five years into the Cash Flow Model. This change would have increased the required surcharge, but this change essentially "canceled out" the increased revenue from the 3,100 surchargeable units, and so the resulting surcharge did not change.

6. Conducted a sensitivity analysis for minimum reserve balance targets.

The March 2, 2018 Raftelis "Review of Water Utility Rate Study" report identifies the Town's minimum reserve balance targets as conservative, especially the O&M reserve. Raftelis recommends an O&M reserve of only 90 days, per industry standard. The current calculations use an O&M reserve of approximately nine months of O&M costs, which is \$1.06 M in 2018. The minimum reserve balance targets were policy decisions that resulted from a meeting with SGM and the Town staff and Trustees at the beginning of the rate study process in October 2016.

Table 3: Current Reserve Account Balance Targets for 2018

Minimum Reserve Balance TOTAL	\$ 4.24 M
Capital Improvements Reserve	\$ 1.06 M
Operations and Maintenance Reserve <i>About 9 months of O&M</i>	\$ 1.06 M
Emergency Reserve	\$ 2.12 M

Town Staff want to know what effect the minimum reserve balance targets have on the surcharge. Following are some data points from SGM's sensitivity analysis to the minimum reserve balance target.

- If the Town chooses to set a target total reserve balance (capital, O&M, and emergency reserves) of half of the previous goal of \$4.24 M in 2018 (down to \$ 2.12 M in 2018), the average surcharge would be \$13.25 for Option 1 or \$23.00 for Option 2.
- If the Town chooses to set a target O&M reserve balance of 3 months (90 days) of O&M expenses (\$ 0.36 M in 2018), the average surcharge would be \$16.25 for Option 1 or \$26.00 for Option 2.
- If the Town chooses to set a target O&M reserve balance of 6 months of O&M expenses (\$ 0.72 M in 2018), the average surcharge would be \$17.25 for Option 1 or \$27.00 for Option 2.
- If the Town chooses to set a target O&M reserve balance of 9 months of O&M expenses (\$ 1.06 M in 2018), the average surcharge would be \$18.00 for Option 1 or \$28.00 for Option 2.

The ultimate decision of minimum reserve balance targets is a policy decision that the Trustees need to adopt.