December 20, 2021

The Board of Directors
Skyline Improvement & Service District
P O Box 3601
Jackson, WY 83001

Subject: Water Rate Analysis Report

Dear Board Members:

I am glad I had the opportunity to attend your board meeting on December 16, by way of Zoom. You ran an excellent meeting and I hope my presentation and discussion of customer concerns was helpful to all.

Having presented the final report and discussed it at the meeting, Service Package 1 and one meeting of Service Package 3 are now complete, so I have attached the invoice for those services.

But I will not leave you in the lurch. When I signed on to help you set rates, if you desire, I committed to being there to help you well past completion of service packages. If you have easy to answer questions, just ask and you will get answers without charge. If an issue is more complex and requires some modeling, I will be glad to help for a couple of years on the hourly basis described in the proposal. If we go beyond that I will still be glad to help, but I would just look to adjust the hourly rate to the rate I will be using for other projects at that time. You are working toward making expensive capital improvements soon. I suspect you will need a bit more rate setting help before things settle into a more "steady state" condition.

Now, there is one more task to complete. That is answering questions customers submitted before the meeting. As promised, in the following, along with those questions you will see my responses, in *italics*. Questions were submitted by people by e-mail messages. We all use some grammar and typographical shortcuts in that medium. And e-mail applications are a bit clunky when it comes to formatting anyway. I cleaned up formatting and typos a bit. But for the most part, I copied questioner text below as-is from the list sent to me by Jim Lewis, my contact.

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Jim Lewis jamesl5546@gmail.com Dec 11, 2021, 10:54 AM (2 days ago) to Skyline

As an alternative to a tiered conservation rate structure what would be a flat rate or unitary block rate per thousand gallons which would generate equivalent pro-forma water usage revenue? Jim Lewis

Answer: See Table A that follows. This is the same table as appears in the final rate analysis report, except I eliminated the conservation rate tiers from this model and then solved for the same reserves target. Thus, the unit charge was the only thing that changed.

Table A: System Development Fees; Minimum and Unit Charges With No Usage Allowance Calculated by the Skyline I&SD, Jackson, WY, Water Rates Model 2021-1D, No Conservation

In addition to the minimum charges below:

Each customer and ARU would be charged a meter loan repayment asssessment of $170 in Fiscal Year 2022-23. That would drop to $85 in Fiscal Year 2023-24 and thereafter.

Each landowner and ARU would be charged a meter loan asssessment of $220 in each of Fiscal Years 2022, 2023 and 2024.

Water Meter Size in Inches	Meter Type	Fee per New Tap for Peak Costs	Annual Minimum Charge for Each Meter Size	Unit Charge per 1,000 Gallons For Following Ranges of Gallons Used Semi-annually: 0 to 99,999	100,000 to 199,000	200,000 or More
0.625	Displacement	$6,416	$519.70	$2.60	$2.60	$2.60
0.750	Displacement	$6,416	$519.70	$2.60	$2.60	$2.60
1.000	Displacement	$14,435	$562.99	$2.60	$2.60	$2.60
1.500	Displacement	$25,983	$625.33	$2.60	$2.60	$2.60
2.000	Displacement	$37,416	$687.04	$2.60	$2.60	$2.60
2.500	Displacement	$52,616	$769.09	$2.60	$2.60	$2.60
3.000	Singlet	$60,614	$812.26	$2.60	$2.60	$2.60
3.000	Compound, Class I	$60,614	$812.26	$2.60	$2.60	$2.60
3.000	Turbine, Class I	$59,667	$807.15	$2.60	$2.60	$2.60
4.000	Singlet	$76,714	$899.18	$2.60	$2.60	$2.60
4.000	Compound, Class I	$76,714	$899.18	$2.60	$2.60	$2.60
4.000	Turbine, Class I	$85,613	$947.21	$2.60	$2.60	$2.60

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Corbin McNeill Sun, Dec 12, 9:27 PM (10 hours ago) to John

1. Would you relate your methodology to our electric rate structure wherein we are charged:

(1) A fixed distribution charge that accounts for such expenses as meter reading and billing, maintenance and a system replacement reserve and

(2) A variable usage charge based upon the KW used monthly which includes purchased power cost and transmission charges .

Answer: The methodologies are nearly the same.

2. How does your report address the need to develop reserves for distribution system replacement? These account for the vast majority of future capital expenses which have never been reserved in the past. I would have expected that the rate analyst would have seen this in the WWDC report and as a minimum commented upon it and further highlighted that failure to reserve in prior years needs to be addressed.

Answer: From the WWDC report I gleaned the capital improvements it says will be needed in the near term, ten years. In Table 5 of the model, which was appended to the report, I entered "projects" that will be needed within the next few years. The report included some longer-term needs but did not place those in a year to be done. Those I combined and placed in the ninth year of my model to get them on the "radar screen" for future rates.

In my experience, almost no public water systems fund whole-system replacement prior to the arrival of need. Most fund capital improvement needs as they arrive by borrowing. "Poorer" systems qualify for some grant programs, as well. Funding by way of borrowing does a reasonable job of distributing capital costs to customers on a real-time basis because debt service is covered by the rates they pay while they are customers of the utility.

3. The use of conservation rates is controversial to say the least. Your methodology is self admitted to be arbitrary. Since the water subject to conservation rates is almost all used for irrigation would it not be better to base the conservation rates on an objective standard such as 'X' gals per irrigated lawn per month or some other measurable standard.

Answer: First, a clarification. My entire methodology for calculating conservation rates is not arbitrary in that most of it is just mathematics. The part that is arbitrary is deciding where to place the rate blocks and how much to increase the unit charge at each block. I suspect that is the part Mr. McNeill was referring to.

Except during extreme drought conditions in some communities or areas, I have not seen a water use control regime as Mr. McNeill described. I do not have personal experience with such a regime. I have only seen that sort of regime discussed in the news and in trade journals, mostly in California which has experienced serious drought and water shortage problems for years. In California, most recently I have read industry news announcements about entire agricultural areas having their water supply throttled to the point that some producers have had to fallow their farms. In those situations, the water suppliers have

metered control over how much water those customers get and when. Fortunately, that use is strictly for agricultural production, not human consumption, so "cutting them off" creates a financial hardship for those producers but it does not create a public health problem. It seems that a water use mandate would be difficult for Skyline to police.

Finally, I will state what I consider to be a useful principle, or at least a good goal. That is, once the water passes through the meter and becomes the customer's water, the water supplier should not endeavor to control how the customer uses that water. I do not foist this notion on my utility clients – it is up to them to decide how to conduct their business. But I think a water utility can reduce follow-on problems, maybe even litigation, if it will produce and sell water and leave it at that.

4. Chapter 12 of the Wyoming Statutes and Codes which covers ISDs in section 18-12-112 Powers of District states (a) each district may (vi) Assess the costs of improvements within the district against the property specially benefited upon a frontage, zone, or other equitable basis, in accordance with benefits;
In ratemaking, "benefits" must be both tangible and quantifiable.
Would you please relate how conservation rates meet the standard of being tangible and quantifiable and therefore a legitimate cost.

Answer: Conservation rates themselves are not a "cost" to the utility. But I think the questioner is getting at the notion of, "What additional costs of high use are conservation rates intended to recover?"

If those costs must be demonstrated to be "tangible and quantifiable," I wonder if conservation rates under such a law could be legal in any situation. I know of no utility with conservation rates that could quantify the tangible benefit of a gallon of water just below a rate break and a gallon of water just above the rate break. I am not offering a legal opinion – I am not an attorney. I am just recognizing the fact that cost accounting systems and practices in water systems simply do not track costs to that level of detail to enable verification that a cost is related to different volumes of use. We can only quantify benefit of a unit of the commodity by calculating the average unit cost – the unit charge, with no usage allowance – and leave it at that.

By the way, this discussion also applies to declining rate structures whereby the unit charge goes down as volume used goes up. (The basic notion behind that structure is economy of scale.) We still have many utilities, including electric utilities, that assess declining rates.

In the final tally, to adopt conservation rates, declining rates, a level unit charge, or some other structure is largely a policy decision for each utility and each situation is different.

michael minter 8:40 AM (5 minutes ago) to info@skylineranchisd.com

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Questions for Carl Brown

1)Josh Kilpatrick, the engineer who conducted the Skyline water study has stated that "water conservation within Teton County is not a concern to residences and limited measures have been adopted to address it". He also stated that "recently the Town of Jackson moved to a tiered rate structure. Even though the town implemented this rate structure, I believe that it will be unlikely to reduce usage". John Willott, a resident of Skyline, conducted a study for the board in recent years and found that Skyline has ample supplies of water of excellent quality.
If Skyline doesn't need to conserve water, why implement "conservation rates"?

Answer: Again, such rates are mainly a policy issue. But conservation rates can, and sometimes do one or more of a few things:

- *Sometimes they cause customers to change their use of water. (In fact, increasing the unit charge, regardless of the structure of the unit charges can cause some customers to examine their water use.) That may be advantageous if source water, itself, is quite limited.* ***That does not seem to be a problem in the Jackson area****, but it is becoming a critical issue in the arid west and southwest.*
- *More commonly, conservation rates can be advantageous if the infrastructure used to source, pump, treat, store and/or distribute water is overly taxed at a high rate of use, or by high peaks of use. By lowering that use, the infrastructure is better able to "keep up" with demand.* ***I am not in a position to judge this about your capital improvement needs. You and your engineering firm are the ones who need to assess this issue.***
- *Finally, and this may be the most practical use of conservation rates, some communities have a high percentage of low-income, difficult to pay customers. Many such customers are already trying to conserve on their use to lower their bills. Conservation rates cause higher volume customers to pay more, reducing the amount that needs to be paid by low-volume customers who end up not being subject to the marginally higher unit charges of conservation rates. By reducing the burden on low-volume customers, some of whom are difficult to pay customers, the utility reduces non-payment and its cost of trying to get payment or write off the non-payment, thereby passing those costs on to those who are able to pay.* ***I do not believe this is an issue at all for Skyline.***

2)The are 193 water districts in Wyoming, according to the most recent study of such. Of that number only 17 use tiered pricing, and almost all of those are either cities/towns or are water/sewer districts. Skyline is neither of these.
Why tiered rates for a small residential water district?

Answer: Discussed above.

3)The American Water Works Association's Manuals for Water Supply Practices (Principles of Water Rates, Fees and Charges-M1 and Developing Rates for Small Systems-M54) in their discussion of the various types of pricing conclude that most water utilities use and should use level unit charges.
Do you disagree with conclusion from the AWWA?

Answer: I agree, most water utilities should assess level unit charges for several reasons – averages are easy to calculate (a level unit charge is the average unit charge of a group of variable costs), simplicity of structure, assurance that predicted revenues will materialize, and others.

4) Rate stability is critical, especially for a small water system like Skyline's. Should Skyline proceed with its expensive capital improvement program, it is important to collect revenues which will not only ensure that the costs of operating the system are covered but provide the funds needed to repay the debt incurred for the system upgrade.
Uniform/block rates are simple to implement/understand. Water bills rise with usage and are considered equitable. Large volume users don't subsidize small users. Steps could be taken to address affordability concerns by the few on fixed incomes.
If rate stability is important, doesn't this argue for the use of more fixed charges(higher base rates)?

Answer: First, a small "quibble." I would stress that liquidity is the critical financial issue for a utility. One way to assure liquidity is to have rates that generate fairly dependable revenues.

The most dependable rate structure is flat rates, with no unit charges. However, if all costs were assessed through a base charge only, low-volume customers would pay the same bill as high-volume customers and there would be no incentive to curb high use, running up the utility's costs. The low-volume customers would not consider a flat rate-only to be a fair rate structure, and they would be right.

In addition, some costs rise as use rises – power use, water treatment chemicals, and others. If all costs were recovered through a flat base charge, there could be and probably would be some years when the utility would dip into reserves or even exhaust reserves. If you go too far to the base charge side, you run the risk of having dependable, but at some times, insufficient revenues. Thus, dependable revenues are only one tool of a well-funded utility. There should be a mix of one or more minimum charges and one or more unit charges, plus a few other kinds of charges, if needed.

I believe the most prudent approach is a cost-to-serve rate structure that is set high enough to enable the utility to pay all costs during most years, plus build and maintain prudent reserves during most years.

5) It is important to point out that the water study undertaken for Skyline did not recommend a tiered rate structure, but included the Town of Jackson's tiered rates as an example of a rate structure. It did not include other rate structures.
I look forward to your presentation.
Thank you, Mike Minter

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jwillott@aol.com 10:17 AM (23 minutes ago) to info@skylineranchisd.com, me, lat@aol.com, thekurtharland@gmail.com, latham@circ.biz, carl1@gettinggreatrates.com, jwillott
Jim and all, Here are some of my questions delivered prior to the original 5 PM Monday deadline. I do not look at my computer on Sunday evenings! Please include these questions and their answers in the meeting minutes. JOHN
Questions for Carl Brown Of Getting Great Rates
By John Willott 12/12/21

On page 11, you say that "I am told that Skyline sees a need for conservation rates. I am glad to hear that." Why are you glad to hear that given that:

- our two wells are drilled into the Snake River aquifer and show little drawdown,
- we have always been able to meet the demand,
- we are nearly fully developed,
- nearly all our water is returned to the aquifer by irrigation and septic systems,
- and that in your model demand grows less than one half of one percent over ten years even with the addition of 5 new customers.

> *Answer: I feel uplifted and hopeful for us all when folks consider if they should, and how they might use less of something, or encourage less use of something. I think the notion of conservation can be applied to most things – how many trout we take from the river, how many tons of fertilizer we apply to crops or our lawns, and many other opportunities we have to conserve. The phrase, "Do more with less" is quite tiresome. But I suspect many of us can enjoy a nice lifestyle while using less water. Now, I'm not an advocate of cutting back because it is some huge moral imperative. When we need water, we should source it, pump it, usually treat it, store it, deliver it and use it. But it is a reasonable exercise to consider conservation as we consider use of things.*

On page 5, you say that "Skyline is rather unique." How many other water studies have you done that are in small neighborhood that are nearly fully developed that you recommend a "conservation rate?"

> *Answer: I have completed 336 rate analysis projects, to-date. The following is not a statistic, but to my recollection I have recommended, or at least modeled conservation rates on request for two-dozen clients. Skyline is my smallest client, on a customer count basis. Thus, for me, Skyline is unique on two counts. Per capita of its customers, Skyline might be my "richest" client, too.*

On page 11, you state, "Conservation makes sense when source water is limited. Skyline is situated right next to the Snake River, so it may seem you have an essentially unlimited supply of water." You go on suggestion that it may not "remain a robust water source"

- Are you a trained geologist?

> *Answer: No*

- Are you aware that Jackson Lake is up river from us?

Answer: Yes

- Our wells are in the Snake River Aquifer not the Snake River.
- The Snake River aquifer in more that 250 feet thick and extends in width from our wells to Wilson, yet you suggest that it is at risk of drying up!

Answer: That was not a question, but to address the statement, I do not suggest the Snake aquifer is at (great) risk of drying up. Though just as a news consumer, watching what is happening in the Colorado basin on out to the west coast, I would not place your risk at zero percent, either. Still, I think source water, for Skyline, is at best an interesting or academic issue to think about. The practical issues concern the infrastructure needed to get water and deliver it to customers. Every system must consider where it is on the infrastructure development, refurbishment and eventual replacement timeline. It appears Skyline is approaching the time when major components of the water system will need to be replaced.

Were you provided a copy of my 2017 report on the geology of our wells?

Answer: No

On page 7, you say "Upcoming capital improvements are an important driver of new rates and special assessments." Should we not question or at least prioritize all expenditures prior to indebting Skyline home owners with nearly $100,000 of annual debt within 10 years? Capital improvements include:

- Replacing Skyline's meter reading system with a remote read system since current meters are old and may be under-registering use. ($145,000 Cost)
- Adding an additional well, before we optimize our current wells. ($234,671 Cost)
- Supply and Storage improvements. (1,052,162 Cost)

Answer: Yes, you should question capital improvements thoroughly until you are satisfied that an improvement is needed, and it is needed on the schedule of when it is proposed to be done. You may also want to consider delayed or accelerated timing of improvements to capture other opportunities, such as getting an improvement done earlier to avoid excessive cost inflation or to capture fleeting grant opportunities. Or you might delay improvements to take advantage of a low inflation rate if that is occurring and if the existing infrastructure will serve without undue risk of failure. There are many facets to capital improvements planning.

In your cover letter, you state, "My calculations found that overall, rate revenues need to go up 86 percent. That increase is needed to fund a combination of system improvements, operating cost increases and the need to build a more prudent level of reserves." So the largest home owner group is in the 121,452 to 249,999 volume range, what is their current total all in annual bill and what would be the new all in bill that you are proposing?

Answer: First, I apologize for that scary statistic. The 86 percent was the increase from a previous modeling that was later revised but I failed to update that value in the cover letter for the final report version. The correct all-in bill increase for the average volume customer is 47 percent.

The "Skyline I&SD, Jackson, WY, Water Rates Model 2021-1D" model is the model in the final report. That model generated Table A, which shows the modeled rates and fees. That table also lists and describes two temporary, flat special assessments of $170 and $220 per year. Those are special assessments requested by my contact, Mr. Lewis.

To show what Mr. Willott requested, I revised Table 18 to show the effect of adding the two special assessments to the calculated user charge bills for various volumes. All such bills are shown in the table below, with the requested average use bill shown in the gold highlighted row. I also added a column on the right that shows the percentage increase of each bill. The results should be self-explanatory.

Table 18 - Bills Before and After Rate Adjustments

Skyline I&SD, Jackson, WY, Water Rates Model 2021-1D, All-in

Customer, Rate Class or Meter Size	Gallons of Use	Customers at or Above This Volume But Below the Next	Customers Using This Volume or Less	Customers Using This Volume or More	Current Semi-annual Bill	Modeled Semi-annual Bill	"All-in" Bill Increase or Decrease (-)	Average All-in Bill Increase in %
All Metered Usage Note: The two special assessments are included in the modeled bills	0	4	4	89	$309.71	$454.85	$145.14	47%
	1,000	2	5	86	$311.41	$456.70	$145.29	47%
	2,000	1	6	84	$313.11	$458.55	$145.44	46%
	3,000	1	7	83	$314.81	$460.40	$145.59	46%
	4,000	2	9	82	$316.51	$462.25	$145.74	46%
	5,000	0	9	81	$318.21	$464.10	$145.89	46%
	6,000	3	11	81	$319.91	$465.95	$146.04	46%
	7,000	2	13	78	$321.61	$467.80	$146.19	45%
	8,000	1	14	77	$323.31	$469.65	$146.34	45%
	9,000	0	14	76	$325.01	$471.50	$146.49	45%
	10,000	5	18	76	$326.71	$473.35	$146.64	45%
	15,000	3	21	71	$335.21	$482.60	$147.39	44%
	20,000	7	28	69	$343.71	$491.85	$148.14	43%
	30,000	6	34	62	$360.71	$510.35	$149.64	41%
	40,000	5	38	56	$377.71	$528.85	$151.14	40%
	50,000	6	44	51	$394.71	$551.97	$157.27	40%
	60,000	3	47	46	$411.71	$580.88	$169.18	41%
	70,000	3	50	43	$428.71	$609.79	$181.08	42%
	80,000	3	52	40	$445.71	$638.69	$192.99	43%
	90,000	4	56	37	$462.71	$667.60	$204.89	44%
	100,000	5	60	34	$479.71	$696.51	$216.80	45%
	121,452	17	77	29	$516.17	$758.52	$242.34	47%
	250,000	10	87	13	$734.71	$1,130.10	$395.39	54%
	500,000	2	88	3	$1,159.71	$1,852.76	$693.05	60%
	750,000	1	89	1	$1,584.71	$2,575.41	$990.71	63%
	1,000,000	0	89	1	$2,009.71	$3,298.07	$1,288.36	64%
	1,007,881	1	89	1	$2,023.10	$3,320.85	$1,297.75	64%
Readiness-to-Serve Unoccupied Lots	0	6	6	6	$309.71	$454.85	$145.14	47%

On Table 8, Page 52, please explain why Water Operations Expenses and Payment to Reserve are not all Fixed Costs. Why are Contract Labor Expenses, Clerical Contract Services, Water Contingency Expenses, & Deprecation split 52-47 and not all Fixed Costs?

I request that these questions and their answers are included in the minutes on the meeting.

Answer: I first classified all costs except for these, to arrive at the weighted average of all other costs. Then I applied that percentage to these costs to cause them to accrue to the fixed and variable cost categories without affecting the overall classification of costs of the system.

- *Clerical costs may be a 100 percent fixed cost, but I was unsure of its nature.*
- *Contract labor was immaterial because there was no cost to this item.*
- *Water contingency expense, I believe, is a payment to a reserve or is an assumed annual cost for fixing leaks or dealing with other unexpected expenses. It seems the nature of that cost could vary year to year, so I wanted that classification to match the overall system classification.*
- *Depreciation, I rarely recommend including depreciation as a recoverable expense. Rarely is the dollar value of depreciation that appears in an income and expense statement actually deposited in an account for later use to replace whatever is being depreciated. Doing that would make depreciation an actual cash transaction, not just a "paper" transaction. But I do not ignore what depreciation is trying to get at – using up the infrastructure. My analogues to depreciation are the actual costs of debt service and cash-paid capital improvements, plus the annuity calculated to cover items listed in a repair and replacement schedule. The depreciation amount in Skyline's financial statements was small, so to keep my expense statement as much like Skyline's, I left that item in and I classified this item at the overall classification percentage rate. However, there is logic that this cost could have been classified at the slightly lower rate I used for the equipment repair and replace annuity and capital improvement costs. As it turned out, the overall classification percentage came in close to the percentage for equipment and infrastructure costs, so going either way would have a marginal effect on the resulting rates.*

The final question, response and table to follow cover this issue a bit more, as well.

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Near the end of the board meeting, perhaps it was Corbin McNeill or Warren Machol, raised an issue, and the board agreed to include it. The issue concerns cost classification, which I perform in Table 8 of the model. He said that the resulting rate structure hinges on classification.

Response: He is correct, if one allocates costs to customers in the same structure by which costs are classified, classification is the key to rate structure and the bills customers will pay for different volumes of water. I think the gentleman probably thought I should have "called" more costs "fixed," resulting in a higher base or minimum charge, and lower unit charge.

I classify costs based upon a few decades of experience working with utilities, primarily water and sewer. I have found that most commonly, such utilities set minimum and unit charges under the assumption that if a cost does not change (much), it is "fixed" and recoverable from minimum charges. I think of that as the accountant's view of costs, and I do not mean that as a slight to accountants. That notion is valid for accounting purposes. However, one must view costs in a different light for rate setting purposes. It is fairer to ratepayers to consider why costs are incurred, rather than the stability of costs. I give this example to illustrate.

There is a town with 1,000 water connections on its town-owned water system. Modest use residential customers make up 999 of the customers. One customer uses 50 percent of the water system's total flow. Based upon a rate analysis, it is found that 50 percent of the system's costs are "fixed," recoverable from a flat minimum charge, and 50 percent are "variable," recoverable from a level unit charge. Based on this cost classification the annual bills for these customers would be as shown in Option 1 of the following table. This town later decides to sell the water system to a private water operating company. Terms of the sale say the operating company will bill the town a flat $1,000,000 per year forever with no limit on use. The town may recover its annual fee however it chooses. In the normal accounting sense, to the town, this fee is a "fixed" cost. It will never change. Therefore, the town decides to bill water customers based on classification of this cost as a "fixed" cost, as shown in the table in Option 2.

A 1,000 Water Connections Town, 999 are Low-use Residential, 1 Uses 50 Percent of Total Flow

Water Use 119,880,000 Gallons per Year

Option 1: Rates Based on Classification by Nature of Cost

	Classified Costs		Average Costs		Gallons of Use per Year		Annual Bills	
Total Cost	Fixed	Variable	Per Year Fixed	Per 1,000 Gallons Variable	Large Customer	Small Customer	Large Customer	Small Customer
$1,000,000	$500,000	$500,000	$500	$4.17	59,940,000	60,000	$250,500	$750

Option 2: Rates Based on Fixed Rate Contract With Operating Company

$1,000,000	$1,000,000	$0	$1,000	$0.00	59,940,000	60,000	$1,000	$1,000

The point of this extreme example is this. One could call a cost whatever they wanted, but that would not change the nature of the values of each of the costs of the system. And it is the nature of those values, what those costs are related to, or what the function of each of those costs is, that should determine the structure of "cost-to-serve" rates for each system.

Unfortunately, because in the water and sewer field, we do not do cradle to grave cost accounting and classification of cost components, so that cost classification can be mathematically and historically verified, the analyst must make assumptions about the nature of costs, or who or what those costs are related to. Some costs are easy to classify. Some can only be classified by using a system of reasoning.

In my practice, based on classification of the easy-to-classify costs, I find a wide range of ratios of fixed versus variable costs. Large systems serving, say, 10,000 customers or more seem to consistently have 25 percent or so of their costs in the fixed costs category. Most smaller systems, down to about 500 or so connections, have more costs in the fixed cost category, but usually not more than 35 percent. Below 500 connections, fixed costs can range widely from almost no fixed costs to almost all variable costs.

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I hope this was helpful to all.

Again, as you progress towards rate and fees adoption, and you firm up capital improvement costs, timing, and other things, I will be glad to help you navigate rate setting. Rates and fees should serve the utility and its customers well. I want that for you, too.

Best regards,
GettingGreatRates.com

Carl E. Brown
President

Enclosure