ARCADIS Design & Consultancy for natural and built assets

NEW Water, the brand of the Green Bay Metropolitan Sewerage District Wastewater Fixed Charge Alternatives Support

Customer Advisory Group Workshop #1 Minutes

Date: January 31, 2018
Time: 9:00-11:00 AM CST
Location: NEW Water Daniel J. Alesch Training Center
Attendees: See sign in sheet attached as Appendix A.

Minutes:

Presentation

- Arcadis presented the history of the fixed charge, current and alternative methodologies, and projected customer impacts based on 2018 budgeted data. A copy of the presentation is attached to this meeting summary.
- Customers requested that the actual bill calculation be discussed in more detail:
    - In both the status quo variable portion and the proposed alternative fixed portion, the first step in the calculation apportions budgeted capital costs to unit processes and then parameters.
    - For the non-fixed charge portion of capital costs (currently 35% of budgeted capital costs), budget-based rates for flow and strength loading parameters are calculated by dividing the allocated cost by the units of each parameter. Those rates are then multiplied by NEW Water customers' actual flows and loadings to derive the customer's bill amount.
    - For the fixed charge portion of capital costs (currently 65% of budgeted capital costs), the fixed charge is billed in 12 monthly installments based on an average of each customer's percent share of budgeted flows and loadings. This ensures that NEW Water can forecast, bill, and recover predictable revenue portions from each customer.
    - When originally developed, the fixed charge included not only capital costs, but also operations and maintenance (O&M) costs, and the approach to allocating the fixed charge was identified as a straightforward way to calculate fixed charge customer allocations, while reflecting relative flow and loading contributions from each customer. The proposed alternative would have involved additional complexity and extensive model adjustments due to the inclusion of an O&M portion in the fixed charge.
    - However, with the fixed charge now applied only to capital costs, it is more practical to align the fixed charge customer allocation methodology to something closer to the variable charge customer allocation methodology for capital; this is done by distributing the fixed charges in accordance with unit process and then parameter-level costs and customer shares instead of to an average of customer parameter shares applied to the total fixed charge portion.
    - NEW Water also detailed their process for updating the budgeted flows and loadings projections involved in rate setting and fixed charge allocations:
        - This process involves a letter that goes out to customers typically in the summertime. The letter indicates the projected annual flows and loadings for the customer and requests input to significant changes in their respective communities that might be expected to impact the wastewater flows and loadings to be delivered to NEW Water. The letter applies to the budget year preparation under way at that time (so in summer 2017 customer input is

requested for flows and loadings forecasts used for the 12-month period beginning January 1, 2018).

- NEW Water utilizes a custom-built forecasting tool within its Billing Program to project each community's flows and loadings for the upcoming budget year. The program incorporates selection options to account for changes in the community and whether associated flows and loadings have been either dynamic over a period, or more related to random variations in weather and customer behavior.
- For example, if a community has not seen significant changes to its residential population, industrial or commercial customer mix, or water consumption behavior, it may then be most statistically rigorous to take an average of medium-term (say five years) of data history to increase the sample size and thereby reduce the influence of outlier weather years, while avoiding going too far back into what could be a divergent climate cohort. On the other hand, if a community has recently seen industrial account growth and is in a period of residential population expansion, then it may make sense to input only one year of history in addition to a growth factor.
- In some cases, more advanced regression analytics may be deemed appropriate or necessary in a given community to produce estimated flows and loadings values based on multiple variables.
- NEW Water's goal is to be as accurate as possible with this process by doing its diligence to ensure projections cannot be manipulated in an unrealistic or biased fashion by any community stakeholders.

- NEW Water indicated that in the future, the Capital Cost and Solids Project lines shown on Page 5 of the 2018 Adopted Budget would be combined as R2E2 investments become more fully integrated both physically and from a financial planning and budgeting perspective.
- Customers asked if significant industrial users (SIUs) were invited to the workshop and NEW Water responded indicating that the municipalities served as the voice of their customers. In later discussions with NEW Water after the meeting, its staff clarified that SIUs were made aware that fixed charge alternatives might possibly be discussed this year and that they are invited to quarterly meetings where this effort will be tracked as it evolves.
- A customer noted that the proposed alternative would do a better job of incentivizing more accurately account for communities that invest in pre-treatment infrastructure, and that in general the alternative would recover costs from their source more closely aligned with how costs are incurred relative to the status quo.

Parking Lot

- A parking lot was established to identify questions that might require further discussion or exploration within or beyond the workshop. Customers requested that NEW Water respond to these items. The minutes below summarize these questions and any contextual discussion that occurred as they were raised in the workshop:

  1. How does NEW Water handle unmetered/unsampled (UMS) customers?
     - In discussions after the meeting, NEW Water and Arcadis confirmed the UMS approach. NEW Water performs metering and sampling at two control sites that: a) do not have industrial influence; b) are believed to have high data accuracy; and c) have accurate sewer lateral (or connection) counts. The control sites are used to generate per-connection inputs for modeling UMS flows and loads. Control sites provide daily readings, and UMS projections are updated annually. In addition, a third control site is under consideration to further enhance this information. The customers with UMS basins provide their respective number of connections, which when multiplied by the per-connection flows and loadings

parameters from the control sites, provide an estimate of flows and loadings for each UMS. From there, UMS data flows through the same calculations as other customers.

2. How does the impact of a significant loss/gain in flows or loads change the rate setting approach? For example, if a large industrial customer invested in new pretreatment capital projects, how would that impact the municipalities? How would costs redistribute and how would rate setting change if this occurred?
    - If the total projected flows and loads were reduced due to the introduction of pretreatment processes for a large industrial customer, then the budgeted costs would be distributed over a smaller denominator of units, which would increase rates and fixed charges for most customers. Effectively the same capital costs (and likely only slightly reduced variable O&M costs) would be distributed across a smaller denominator, thereby increasing the proportion of cost recovery for most communities. The community in which the large industrial customer operates would likely see a reduction in their share of the fixed charge but variable unit rates would increase for all customers.
3. Is there a potential to true-up the fixed charge customer allocations with actual flows and loads once the billing year has concluded?
4. Might NEW Water consider recovering all capital rate revenue (~80% of total) as a fixed charge?
5. Do the changes to capital cost allocations involved in the alternative require that any associated changes to O&M cost allocations be made?
6. Will NEW Water re-convene the customer advisory group when any future changes are made to the percentage of capital costs recovered through the fixed charge?
7. Will NEW Water project forward any known capital cost increases so that customers can evaluate the impact of the current and alternative fixed charge methodologies over time as the CIP is implemented?
8. Will NEW Water provide 2018 monthly fixed charge amounts to each customer, as well as the latest unit Capital Cost?

NEW Water and Arcadis will work on addressing all of these Parking Lot questions prior to the next workshop, scheduled for Tuesday, March 27, 2018 at 9 AM.

APPENDIX A

SIGN-IN SHEET

ARCADIS Design & Consultancy for natural and built assets

Arcadis U.S., Inc.
27-01 Queens Plaza North
Suite 800
Long Island City
New York 11101
Tel 718 446 0116
Fax 718 446 4020

FIXED CHARGE ALTERNATIVE WORKSHOP

Wednesday, January 31st, 2018	9:00AM-11:00AM	NEW Water Offices, Green Bay

During this workshop we will review the current fixed charge and discuss its history, and review an alternative and discuss its potential impacts.

Name	Organization	Email	Role/Title
John Mastracchio	Raftelis	jmastracchio@raftelis.com	Associate
Zach Green	Arcadis	zachary.green@arcadis.com	Director
[illegible]	NEW Water		
[illegible]	NEW Water	bvanderloop@newwater.us	Director
Dave Martin	VOA	dmartin@[illegible]	DPW
Shawn Geiger	Bellevue		Manager
David Betts	Bellevue	dbetts@villageofbellevue.org	DPW
[illegible]	Village of Bellevue		Trustee
Craig [illegible]	Allouez		
Steve Piotte	Allouez		
Brian Hospach	Fox River Fiber	bhospach@foxriverfiber.com	
Tricia Garrison	NEW Water		
Scott Thoresen	City DePere		
Eric Rakers	City DePere		
Jessica Legois	Suamico	Jessica@Suamico.org	Dir. Admin Svcs
Al Hermann	Scott	alh@centurytel.net	President, Scott
Matt [illegible]	Green Bay	MattHo@greenbaywi.gov	Utility Manager
Tom Sigmund	NEW Water		
Grant Fonz	VOH	gf@villageofhoward	DPW

NEW Water
The brand of the Green Bay Metropolitan Sewerage District

RAFTELIS
FINANCIAL CONSULTANTS, INC.

ARCADIS
Design & Consultancy for natural and built assets

FIXED CHARGE METHODOLOGY CUSTOMER WORKSHOP

Prepared for NEW Water by Arcadis and Raftelis

January 31, 2018

Agenda

1. Introductions
2. History, Roles, Mission, & Today's Purpose
3. Current Fixed Charge Allocation Methodology
4. Alternative Fixed Charge Allocation Methodology
5. Considerations
6. Allocation Results & Customer Impacts of Alternative Methodology
7. Conclusions and Open Discussion

History of the Fixed Charge

Concept: Implemented to stabilize a portion of annual revenue.

Development: The fixed charge was introduced in 2013 following completion of an Arcadis (f.k.a. Red Oak) Study “Rate Methodology for Cost of Service Allocation”.

Methodology: Allocated to each customer based on an average of each customer’s portion of flow and loads

2014 - Began at 15% of total budget .

2017 - Increased to 45% of the budget and changed to capital only.

2018 - Increased to 65% of the budget and remains capital only.

Note: Regardless of the % chosen this is ***not a new or incremental charge***, rather these efforts seek to recover the same total dollar amount overall when combined with the variable flow and strength based charges.

DRAFT – DATA IS ILLUSTRATIVE

Roles & Mission

Our Role: As part of ongoing support with budget processes and financial modeling analytics Arcadis/NEW Water began developing an alternative to calculate the fixed charge to achieve more consistency with the current fixed asset capital allocation.

Your Role: We have created this stakeholder/customer advisory group to review our findings and provide feedback.

Mission Statement: To serve in an advisory capacity in support of the development of a defensible and equitable Fixed Charge Allocation Methodology.

Status: This is the first of two workshops during the first half of 2018.

End of This Process: We would like to recommend a fixed charge alternative by April 2018 for Commission approval.

Implementation: The goal is to implement an alternative for the 2019 budget.

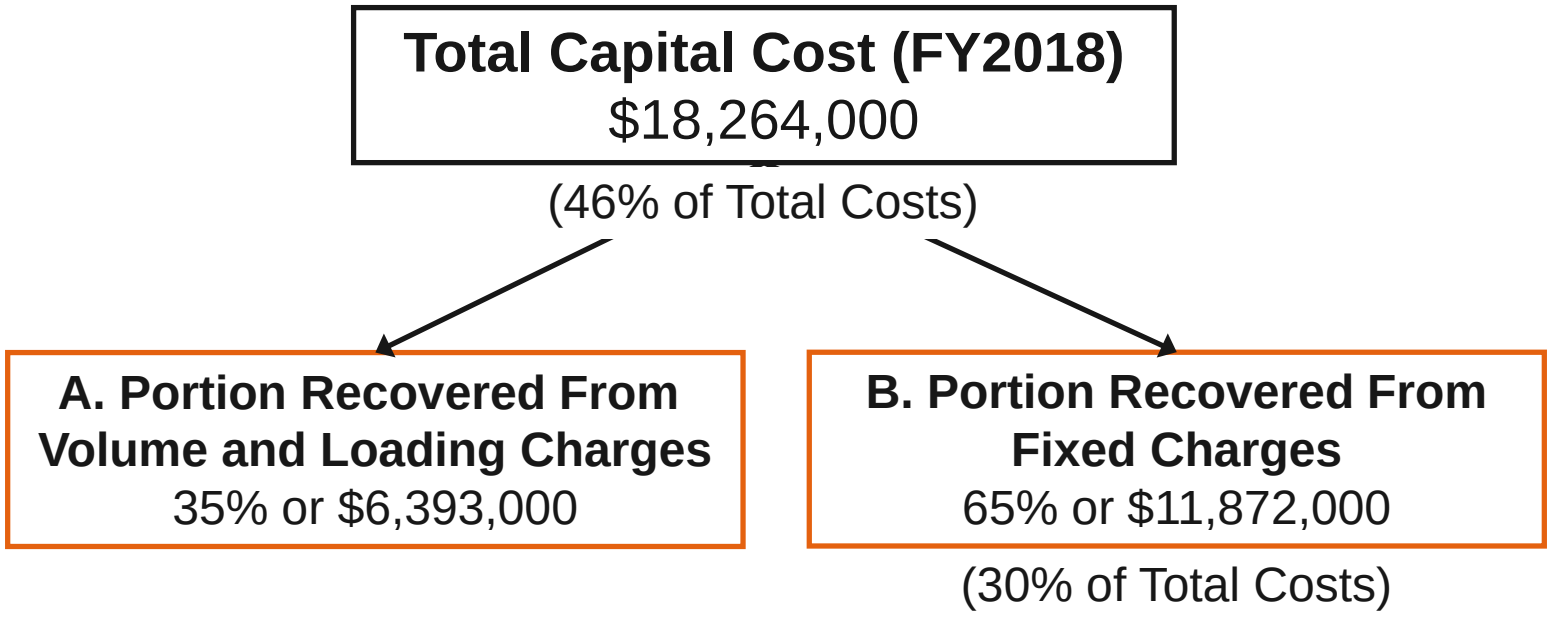
Workshop Purpose

- A portion of capital costs (currently 65%) are recovered by a fixed charge. The remaining portion is recovered through flow and strength rates.
- There is currently a difference between the allocation method used for the fixed charge portion of the capital costs and the allocation method used for the remaining portion of capital costs.
- The current fixed charge is allocated to each customer in proportion to the average of the flow and loadings from each customer.

The purpose of the workshop is to review the allocation methods, and select a method for the fixed charge going forward.

DRAFT – DATA IS ILLUSTRATIVE

Illustration of Current Methodology



DRAFT – DATA IS ILLUSTRATIVE

Illustration of Current Methodology

A. Portion From Volume & Loading Charges
35% or $6,393,000

1. Adjust for GP, Mill Charges and Other Revenues
   Remaining portion = $2,814,000

2. Allocate costs to Parameters based on Fixed Asset Allocation

Customer	Flow	BOD	TSS	Phos	TKN
ALL	16.0%	38.7%	38.4%	0.8%	6.0%
ALL	$0.45M	$1.09M	$1.08M	$0.02M	$0.17M

3. Distribute costs to Customers based on Flow / Strength Contributions

Customer	Flow	BOD	TSS	Phos	TKN
Customer X	2.7%	6.2%	3.9%	5.0%	6.5%

Customer X Portion = (2.7% x $0.45M) + (6.2% x $1.09M) + etc...

Illustration of Current Methodology

B. Portion from Fixed Charge
65% or $11,872,000

1. Distribute fixed charge to Customers based on Average of Flow / Strength Contributions

Customer	Flow	BOD	TSS	Phos	TKN
Customer X	2.7%	6.2%	3.9%	5.0%	6.5%

Average = 4.85%

Customer X Portion = 4.85% x $11,872,000

DRAFT – DATA IS ILLUSTRATIVE

Alternatives

Status Quo - No change to the current methodology

Alternative - Allocate Fixed Charge (i) first to cost parameter, and (ii) then to customer

Illustration of Alternative Methodology

B. Portion from Fixed Charge
65% or $11,872,000

*** Method results in the same customer allocation as if there was no fixed charge, and the costs were recovered through the variable rates**

1. Allocate Fixed Charge to Parameters based on Fixed Asset Allocation

Customer	Flow	BOD	TSS	Phos	TKN
ALL	16.0%	38.7%	38.4%	0.8%	6.0%
ALL	$1.90M	$4.60M	$4.56M	$0.09M	$0.72M

2. Distribute Fixed Charge to Customers based on Flow / Strength Contributions

Customer	Flow	BOD	TSS	Phos	TKN
Customer X	2.7%	6.2%	3.9%	5.0%	6.5%

Customer X Portion = (2.7% x $1.90M) + (6.2% x $4.60M) + etc...

Considerations

Description	Status Quo (Current Methodology)	Alternative Methodology
Level of Simplicity	Simple to calculate	More complex calculation
Consistency	Inconsistent with how other capital costs are recovered	Consistent with how other capital costs are recovered
Relation to Costs	Less related to how costs are incurred	More related to how costs are incurred
Customer impacts	No change	Some anticipated bill impacts to customers

Conclusions

1. Under the Alternative Methodology, most customers will receive a fixed charge that is within 8% of the fixed charge under the Current Methodology and 3% of the total bill from NEW Water.

2. In general, customers with BOD and TSS proportions higher than their simple average of all parameters will pay more under the Alternative Methodology than the Current Methodology

3. In general, customers with BOD and TSS proportions lower than their simple average of all parameters will pay less under the Alternative Methodology than the Current Methodology

Alternative Method is Consistent with Allocations if No Fixed Charge

If No Fixed Charge

1. Allocate Costs to Parameters based on Fixed Asset Allocation Percentages

Flow	BOD	TSS	Phos	TKN
16.0%	38.7%	38.4%	0.8%	6.0%
$1.90M	$4.60M	$4.56M	$0.09M	$0.72M

2. Allocate Costs to customer based on Flow / Strength Contributions

Flow	BOD	TSS	Phos	TKN
11.6%	19.9%	12.7%	6.6%	8.5%

Total = (11.6% x $1.90M) + (19.9% x $4.60M) + (12.7% x $4.56) + (6.6% x $0.09M) + (8.5% x $0.72M)

Total = $1,786,728

If Fixed Charge - Alternative Method

1. Allocate Fixed Charge Dollars to Parameters based on Fixed Asset Allocation Percentages

Flow	BOD	TSS	Phos	TKN	Total
16.0%	38.7%	38.4%	0.8%	6.0%	
$1.90M	$4.60M	$4.56M	$0.09M	$0.72M	$11.9M

2. Allocate Fixed Charge to customer based on Flow / Strength Contributions

Flow	BOD	TSS	Phos	TKN
11.6%	19.9%	12.7%	6.6%	8.5%

Fixed Charge = (11.6% x $1.90M) + (19.9% x $4.60M) + (12.7% x $4.56) + (6.6% x $0.09M) + (8.5% x $0.72M)

Fixed Charge = $1,786,728

DRAFT – DATA IS ILLUSTRATIVE

Next Steps

- Incorporate feedback.
- Second workshop.
- Model implementation.
- 2019 budget process.

RAFTELIS FINANCIAL CONSULTANTS, INC.

ARCADIS Design & Consultancy for natural and built assets

Questions?

NEW Water
The brand of the Green Bay Metropolitan Sewerage District

DRAFT – DATA IS ILLUSTRATIVE