

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

INDEPENDENT REVIEW OF RATE STRUCTURE AND CUSTOMER ASSISTANCE PROGRAMS

November 19, 2019

AGENDA

Scope of Services

Benchmarking

Review of Rates and Rate Structure

Customer Assistance Programs

Conclusions

Independence:

Independence is a key aspect of this Review.

- Arcadis has not assisted DC Water in recent years with the development of the current water and wastewater rates and charges, and customer assistance programs.
- The Review was approached with an open mind and Arcadis seeks to offer DC Water professional considerations to improve its rates and customer assistance programs.

Arcadis Expertise:

Arcadis is a leading utilities engineering and consulting firm both in the United States and across the globe.

- Our team consists of approximately 27,000 worldwide and 5,000 U.S. employees.
- Key staff disciplines include engineering, science, planning, architecture, finance, management consulting, and other areas to help our clients solve their most challenging environmental, infrastructure, and business issues.
- Arcadis' Business Advisory unit includes our Financial Advisory Services team, which focuses on water, wastewater, and stormwater industry cost of service, rates and charges, and other financial and management issues faced by utilities such as DC Water.
- Arcadis has performed financial and rate reviews for clients across the U.S., which provides us with unique perspective on industry trends and best practices in the area of rates and charges.

1

Benchmarking

- Initial Screening
- Selection of Eight Benchmark Utilities
- Focus on Rates and Customer Assistance Programs

2

Review of Rates and Rate Structure

- Customer Classes
- Clean Rivers Impervious Area Charge (CRIAC)
- Cost of Service Study Review
- Lifeline Rate Threshold
- Water System Replacement Fee
- Treatment Costs and CRIAC

3

Customer Assistance Programs (CAPs)

- Effectiveness of CAPs
- Discount Comparison
- Area Median Income as an Affordability Indicator
- CAP Thresholds
- CAP Discount Amounts

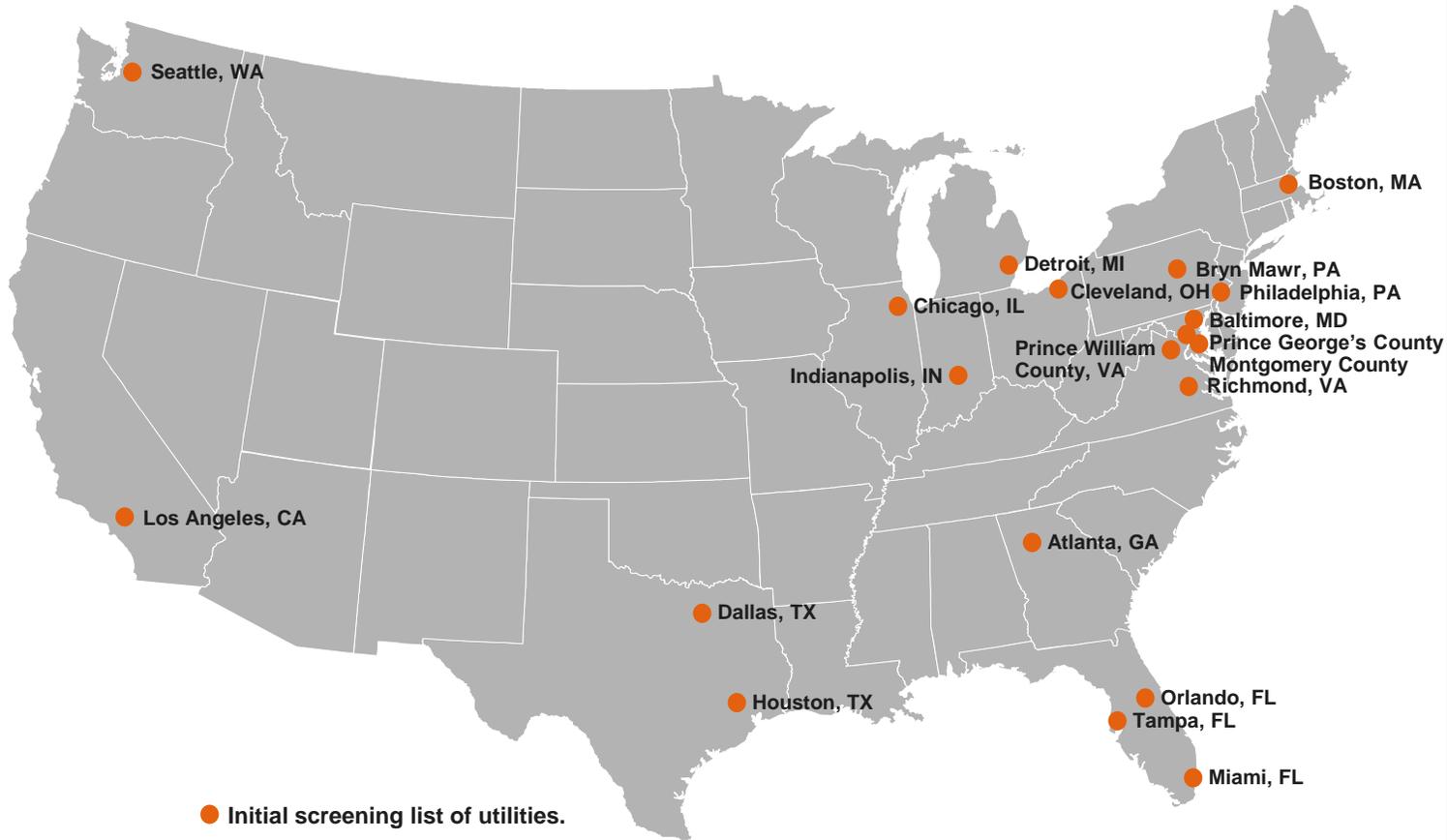
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Conclusions

- Rates and Rate Structure
- Customer Assistance Programs

Independent Review of Rates, Rate Structures, and Customer Assistance Programs.

1 Benchmarking



Screening factors included annual revenue; net O&M; bond ratings; consent decree; impervious area charge; household income and other factors

Selected Benchmark Utilities ¹	Population Served	Rate Review	CAP Review
Atlanta – City of Atlanta Department of Watershed Management	650,000	✓	✓
Baltimore – Baltimore City Department of Public Works	1,600,000	✓	✓
Cleveland – Cleveland Division of Water and North East Ohio Regional Sewer District	1,262,955	✓	✓
Dallas – Dallas Water Utility	1,253,000	✓	✓
Indianapolis – Citizens Energy Group (CEG)	872,680	✓	✓
Philadelphia – Philadelphia Water Department	1,600,000	✓	✓
Prince George's and Montgomery Counties, MD – Washington Suburban Sanitary Commission	1,800,000	✓	✓
Seattle – Seattle Public Utilities	1,400,000	✓	✓
Los Angeles – Los Angeles Department of Water and Power	3,855,879	✗	✓

1 Benchmarking

STATEMENT OF INTEREST:

4 Ccf Lifeline Rate

FINDINGS:

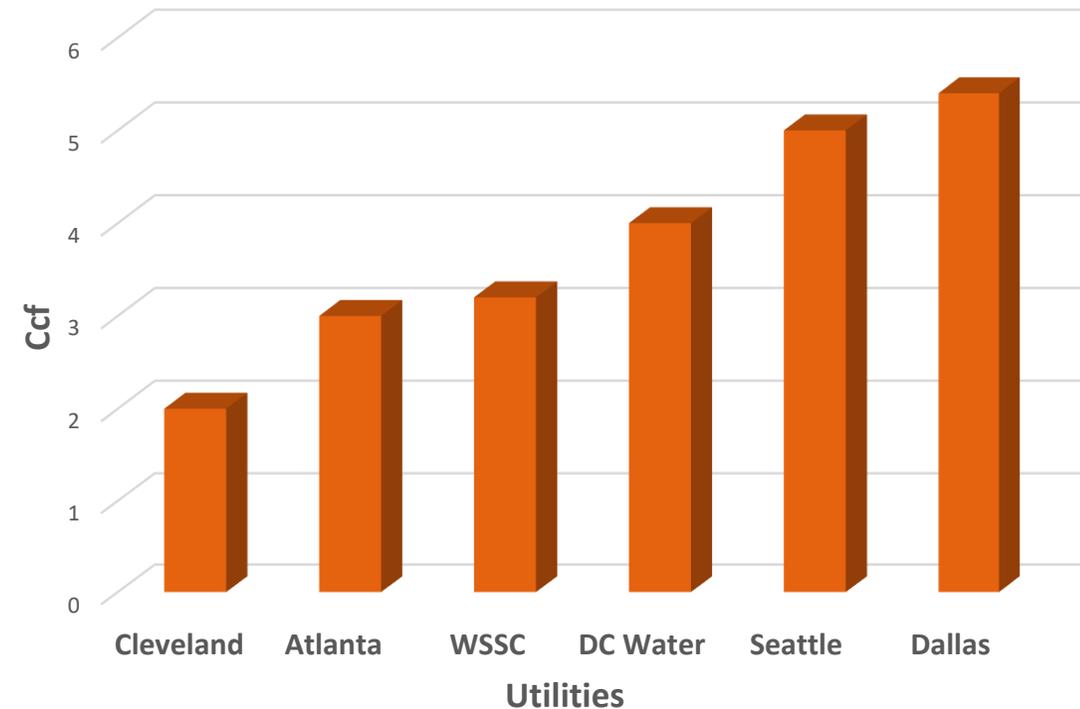
DC Water's lifeline rates include the first 4 Ccf of monthly usage.

- Three of the eight benchmark utilities do not have tier rates for water. They charge the same for all usage.
- The remaining five utilities have tiered water rates.

CONCLUSION:

DC Water's monthly first-tier water rate threshold of 4 Ccf is consistent with the benchmark utilities.

First Tier Thresholds (Ccf)



Baltimore and Indianapolis do not use tiers; Philadelphia's first tier is 20 Ccf.

STATEMENT OF INTEREST:

Customer Classes

FINDINGS:

DC Water has three customer classes; Residential, Non-Residential, and Multi-Family.

- Three benchmark utilities (Baltimore, Cleveland, WSSC) do not use separate customer classes.
- The most common customer classes are:
 - Residential
 - Non-Residential (Commercial, Industrial)
- One benchmark utility (Citizens Energy Group) includes Multi-Family.

CONCLUSION:

The Residential, Non-Residential, and Multi-Family classes are consistent with classes used by the benchmark utilities.

Utility	Customer Classes
City of Atlanta Department of Watershed Management	Domestic
	Commercial
	Industrial
Baltimore City Department of Public Works	No Classes
Cleveland Water and North East Ohio Regional Sewer District	No Classes
Dallas Water Utilities	Residential
	General Services
	Optional General Services
	Untreated
Citizens Energy Group	Residential - Single Family
	Interruptible Raw Water Service
	Commercial
	Fire Protection
	Industrial
	Irrigation
	Residential - Multi-Family
Sale for Resale	
Philadelphia Department of Water	Residential
	Non-Residential
Washington Suburban Sanitary Commission	No Classes
Seattle Public Utilities	Residential
	Public and Private Fire
	Commercial (Business and Key Accounts)

Bold = Classes common with DC Water

STATEMENT OF INTEREST:

ERU as a basis for CRIAC

FINDINGS:

DC Water uses the Equivalent Residential Unit (ERU) approach for billing the Clean Rivers Impervious Area Charge. An ERU is defined as 1,000 square feet of impervious area.

- Each benchmark utility that employs an impervious area-based charge did so on the basis of ERU.
- The ERU is typically the average or median impervious area of a single-family residential parcel.

CONCLUSION:

The use by DC Water of Equivalent Residential Unit as the basis for recovering Clean Rivers related costs is consistent with the method used by the benchmark utilities.

STATEMENT OF INTEREST:

CRIAC and Clean Rivers

FINDINGS:

DC Water uses the CRIAC to recover costs associated with its consent decree program.

- All of the benchmark utilities have a program to comply with consent decrees or consent agreements.
- Six of the eight benchmark utilities fund their program through regular rates.
- Atlanta uses a 1% sales tax to fund a portion of their program. This approach passes cost to beneficiaries of the Consent Decree that are not customers.
- Citizens Energy Group (Indianapolis) has an Environmental Compliance rate rider to adjust rates for Clean Water Act regulatory compliance costs. It has currently chosen not to utilize this rider.
- Baltimore and WSSC both have infrastructure-related fixed fees charged by meter size.

CONCLUSION:

DC Water's current method for recovering most costs related to the Clean Rivers program is appropriate.

1 Benchmarking

STATEMENT OF INTEREST:

Customer Assistance Programs and CRIAC Non-Profit Relief

FINDINGS:

DC Water has three bill discount programs (CAP, CAP2, and CAP3), a temporary assistance program (SPLASH), a lifeline water rate, offers flexible payment terms, and offers a CRIAC nonprofit relief program.

- Bill discount programs are the most common type of program offered.
- Use of a defined income level, or Federal Poverty Level, is the most common method for determining eligibility for bill discount programs.
- The second most common customer assistance program is temporary assistance.

CONCLUSION:

Bill discount and temporary assistance programs are consistent with those used by benchmark utilities.

DC Water provides assistance to higher income levels via CAP3 program.

Comparable Utilities with Customer Assistance Programs						
City or County	Name of Utility	Program Type				
		Bill Discount	Temporary Assistance	Water Efficiency	Flexible Terms	Lifeline Rates
District of Columbia	DC Water	*	*		*	*
Atlanta	City of Atlanta Department of Watershed Management	*	*	*		
Baltimore	Baltimore City	*			*	
Cleveland	Cleveland Division of Water	*				
Dallas	Dallas Water Utility		*	*		
Indianapolis	Citizens (CEG)		*		*	
Los Angeles	Los Angeles Department of Water & Power	*	*		*	*
Philadelphia	Philadelphia Water Department	*	*	*	*	
Prince George's and Montgomery Counties, MD	Washington Suburban Sanitary Commission	*	*		*	
Seattle	Seattle Public Utilities	*	*			

STATEMENT OF INTEREST:

Customer Classes

FINDINGS:

DC Water has three Customer Classes; Residential, Non-Residential, and Multi-Family.

- Institutional customers such as hospitals, schools, or non-profit businesses would tend to exhibit similar service requirements to Non-Residential customers.
- For water and wastewater rate development, customers are categorized into classes that have similar service characteristics.
- The benchmarking study did not find any specific customer class designated as “Institutional.”

CONCLUSION:

Based on Arcadis’ experience, DC Water’s customer classes are appropriate for an urban type community such as the District of Columbia.

Evaluate Institutional demand patterns and compare to other Non-Residential customer types before creating a new customer class.

STATEMENT OF INTEREST:

Review the distribution of charges for the CRIAC.

FINDINGS:

DC Water uses the CRIAC to recover costs associated with the Consent Decree program.

- Approximately 26.7% of the ERUs are Residential, 13.7% are Multi-Family (including DC Housing Authority), and 59.6% are Non-Residential
- The DC Water CRIAC model was not reviewed. This may be done in conjunction with an ERU review at a later point.
- Fly over to delineate parcels was conducted in 2014 and implemented in 2016. This did not include a re-assessment of the ERU basis of 1,000 sq. ft.

CONCLUSION:

Given redevelopment in the District, continue to conduct parcel analysis on a regular basis to maintain an up to date and accurate ERU basis.

Confirm the 1,000 sq. ft. basis for ERUs is still valid during next parcel analysis.

STATEMENT OF INTEREST:

Cost of Service Study

CONSIDERATIONS:

The following are items for DC Water's consideration in its next cost of service study:

- Fire Protection – A separate cost of service analysis has been performed for fire protection. Consider implementation of charge for private fire customers.
- Metering Fee – Allocate a portion of Administration O&M and debt service coverage revenue requirements to meter functional component
- Water System Replacement Fee (WSRF) – Set initially in 2016 for 10 years. Re-evaluate toward anniversary to understand change and potential impact to rate structure.
- Extra-Capacity Demands – Historical cost of service analysis using peak day and peak hour factors was conducted. Consider updating cost of service analysis with current peak day and hour demands per industry practice.

CONCLUSION:

DC Water's cost of service study is generally consistent with industry practice.

Consider the above items to enhance the alignment of rates and charges to cost of service.

Update Metering Fee to include a portion of Admin. O&M and debt service coverage.

STATEMENT OF INTEREST:

4 Ccf Lifeline Rate

FINDINGS:

DC Water incorporates a lifeline rate for the first 4 Ccf of monthly water usage.

- Given typical indoor water usage (50 gallons per person per day) and average household size for the District (2.18 persons), 4 Ccf of water is consistent with average indoor water use.
- Based on review of DC Water billing data, 50% of Residential customers use 4 Ccf or less a month.
- Data suggests 4 Ccf is consistent with the first tier of water usage for the benchmark utilities.
- CAP program provides the first 4 Ccf of monthly water usage at no charge.

CONCLUSION:

The use of 4 Ccf for the monthly water lifeline rate usage threshold is appropriate.

STATEMENT OF INTEREST:

Metering Fee

FINDINGS:

DC Water has a Metering Fee that recovers the costs for installing, operating, and maintaining customer meters.

- DC Water has other customer-related fixed costs for customer service, billing, or service lines.
- Including other fixed costs in a fixed meter charge is common in the industry.

CONCLUSION:

Consider recovering additional fixed cost elements via Metering Fee.

STATEMENT OF INTEREST:

Water System Replacement Fee (WSRF)

FINDINGS:

DC Water maintains a WSRF that was established to recover the cost of renewal and replacement of 1.0% of the water system annually.

- Based on study conducted in 2016.
- Graduated by meter size and associated volume by size
- Approved at current level for 10-year period.

CONCLUSION:

Other utilities employ similar fixed charges by meter size.

As anniversary of 10-year approval approaches, conduct updated cost of service analysis to understand any change to WSRF and potential impact on water rate structure.

STATEMENT OF INTEREST:

CRIAC

FINDINGS:

The CRIAC recovers capital related costs associated with the Clean Rivers project.

- Clean Rivers project tunnels are designed to handle wet weather flows when it is determined that peak flows will exceed the treatment capacity of the Blue Plains treatment plant.
- The primary wastewater system assets and associated costs related to wet weather runoff from impervious areas are from the wastewater system tunnels, and not the treatment plant.

All wastewater systems recover costs related to collecting, conveying and treating I/I regardless of whether from combined or separate sanitary sewers.

CONCLUSION:

Continue to utilize the CRIAC to recover Clean Rivers project capital costs as is current practice.

It is common practice in the industry to recover system costs, including I/I costs, via wastewater rates and charges as is DC Water's current practice.

STATEMENT OF INTEREST:

Clean Rivers

FINDINGS:

DC Water currently allocates 7.1% of combined sewer overflow capital costs to suburban customers.

- The 7.1% suburban share was jointly developed between DC Water and suburban customers.
- The allocation is based on the difference in annual volume exceeding treatment capacity in an average year of rainfall with and without suburban customers as part of the system.

CONCLUSION:

The current approach used for the allocation provides an appropriate technical basis for the allocation.

Consider performing a system-wide wastewater cost of service assessment using WEF guidelines to better understand cost recovery between District and suburban customers.

STATEMENT OF INTEREST:

CAP Effectiveness

FINDINGS:

DC Water has three customer assistance programs that provide bill discounts (CAP, CAP2, and CAP3).

- The water industry generally uses a threshold that combined water, sewer, and stormwater bills over 4.5% of Median Household Income (MHI) are unaffordable.
- DC Water uses State Median Income and Area Median Income (AMI), both similar to MHI, to identify eligibility in CAP programs.
- For customers eligible for participation in the CAPs, the resulting average bill amount, after program discounts, are less than 4.5% of income.

CONCLUSION:

DC Water's CAP programs are effective in providing affordable bills to average water use residential customers.

STATEMENT OF INTEREST:

CAP Programs

FINDINGS:

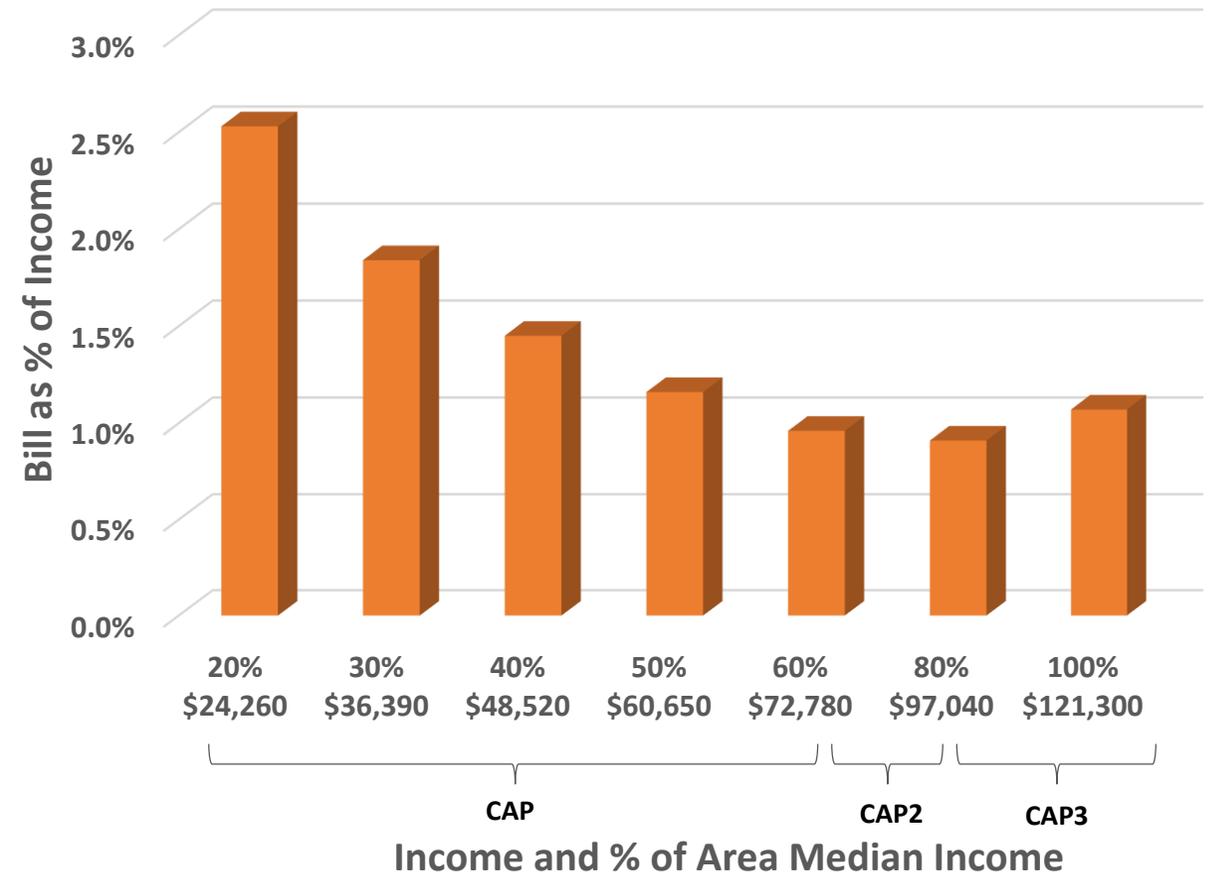
DC Water's three customer assistance programs offer increasing discounts to customers as income declines.

- Discounted bills are generally consistent between CAP2 and CAP3.
- Lower-income customers eligible for CAP do have the highest bills as a percentage of income, after discounts, compared to other customers.

CONCLUSION:

Consider modifications to the CAP program to provide greater discounts to customers with income in the Lowest Quintile.

Annual Bill as a % of Income
(with CAP Discount)



STATEMENT OF INTEREST:

AMI for CAP2 and CAP3

FINDINGS:

DC Water's three customer assistance programs offer discounts to customers with income up to 100% of AMI (\$121,300).

- Several water industry associations have established criteria providing thresholds for “low-income.” Using these criteria, income levels associated with CAP3 would not qualify as low-income.
- Only 27 customers have participated in the CAP3 program.
- Lower-income customers eligible for CAP do have the highest bills as a percentage of income, after discounts, when compared to customers at higher income levels.

CONCLUSION:

Consider eliminating the CAP3 program and enhancing the CAP program for the Lowest Quintile income customers.

STATEMENT OF INTEREST:

CAP Income Thresholds

FINDINGS:

DC Water uses SMI as the eligibility threshold to determine participation in CAP and AMI as the eligibility threshold to determine participation in CAP2 and CAP3.

- Use of AMI is a generally accepted approach; however, industry opponents of AMI argue that the metric has little relationship to poverty or other measures of economic need within a community.
- SMI is used by the Department of Energy and Environment's as criteria for participation in the Low Income Home Energy Assistance Program
- AMI is the basis used in District of Columbia Municipal Regulations to define Low Income customers.

CONCLUSION:

Using a percentage of SMI and AMI as the basis to determine CAP eligibility is a reasonable method for determining participation in customer assistance programs.

STATEMENT OF INTEREST:

CAP Discounts

FINDINGS:

DC Water has three customer assistance programs that provide Bill Discounts (CAP, CAP2, and CAP3).

- The CAP program offers a 100% discount on the first 4 Ccf of water and sewer service, the PILOT and ROW fees, 100% of the WSRF, and 50% of the CRIAC.
- The CAP2 offers program offers a 100% discount on the first 3 Ccf of water and sewer service and 50% of the CRIAC.
- The CAP3 offers program offers a 75% discount of the CRIAC.
- The benchmark utilities determine discount amounts in a variety of ways, including bill percentage discount, flat monthly dollar discount, and discounts based on a percentage of a customer's income.

CONCLUSION:

Consider alternative methods to determining the bill discount amounts. The alternatives could provide a simplified approach to customer discount amounts.

Rates and Rate Structure

- The current customer classes are appropriate and consistently seen in the industry.
- The 4 Ccf monthly water lifeline threshold is appropriate and consistent with benchmarked utilities.
- The cost of service study is generally consistent with industry standards for rate making. Consider identified items to enhance alignment between rates and cost of service.
- The current Metering Fee could be expanded to recover a greater amount of fixed operating and capital costs.
- As 10-year anniversary approaches, update WSRF cost of service to understand change and potential impact to water rate structure.
- Use of the CRIAC to recover consent decree-related capital costs is appropriate.
- Use of ERU as the basis for recovering the CRIAC is appropriate.
- Given redevelopment in the District, continue to conduct parcel analysis on a regular basis. The analysis should include an evaluation of the appropriateness of 1,000 sq. ft. as the basis for the ERU for residential parcels.
- The current cost elements recovered via the CRIAC are appropriate and should not include wastewater treatment costs.
- Recover system costs, including I/I costs, via wastewater rates and charges as is DC Water's current practice.
- The approach used to determine the suburban cost allocation for Clean Rivers (7.1%) provides a technical basis for allocating these costs.

Customer Assistance Programs

- DC Water's customer assistance programs are effective in providing affordable bills to average water use customers.
- Due to limited participation and a higher income level associated with the CAP3 program, consideration could be given to eliminating this program.
- Customers at the lowest quintile of income (lowest 20%) accrue bills at a higher proportion of their income. Consider CAP program adjustments to provide a higher discount to these customers.
- Use of State Median Income and Area Median Income to establish CAP eligibility is appropriate.
- The three CAP programs provide bill discounts by reducing different elements of the bill. Alternative methods to determine CAP reductions, such as flat bill discounts or percent of bill discounts, could be considered.
- The lifeline rate provides a discount for the first 4 Ccf of water use. The CAP program provides a 100% discount for this same level of water use. As such, the need for the lifeline rate could be reevaluated.

Questions and Discussion

