

Metropolitan's Demand Management Program: Cost Recovery Options

Finance and Insurance Committee

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- Over 40 years utility rate and finance experience
- Former Chair American Water Works Association, Rates and Charges Committee
- 2 terms on the US EPA, Environmental Financial Advisory Board
- Advisor to some of the largest water utilities across the US, Canada and Puerto Rico
- Served as an arbiter/mediator and expert witness in numerous rate disputes

Demand Management “Assignment”

- April 2018 Board directive to determine the most appropriate method for the allocation and recovery of demand management (DM) costs
 - › Phase 1 – Prepare a recommended methodology for updating Metropolitan’s functionalization of demand management program costs – WaterDM
 - › Phase 2 – Develop demand management cost recovery mechanisms; whether through Metropolitan’s existing rate structure or alternative cost recovery mechanisms – Raftelis



Current Cost Recovery Methods

Rate Design Element	Functional Costs Recovered	Type of Charge	2019 [1]
Tier 1 Supply Rate	Supply	Volumetric (\$/af)	\$209
Tier 2 Supply Rate	Supply	Volumetric (\$/af)	\$295
System Access Rate	Conveyance/Distribution (Average Capacity)	Volumetric (\$/af)	\$326
Water Stewardship Rate	Demand Management	Volumetric (\$/af)	\$69
System Power Rate	Power	Volumetric (\$/af)	\$127
Treatment Surcharge	Treatment	Volumetric (\$/af)	\$319
Capacity Charge	Peak Distribution Capacity	Fixed (\$/cfs)	\$8,600
Readiness-to-Serve Charge	Conv./Distr./Emergency Storage & Available Capacity	Fixed (ten-year rolling average \$M)	\$133

[1] Rates and Charges effective January 1st

Demand Management Cost Recovery Options

Alt #1 – Existing COS Methodology

Alt #2 – Modified COS Methodology

Alt #3 – Demand Management Fixed Charge

**Under all options the Water Stewardship Rate
would be eliminated**



Alt #1 – Existing COS Methodology

	Cost Recovery Component	Approx. % of DM Costs (1)	Charge / Rate
Alt #1	T1 Supply	25%	\$/AF
	System Access Rate	75%	\$/AF

Demand Management Costs recovered under two volumetric rates.

(1) Using hypothetical revenue requirement share



Alt #1 – Existing COS Methodology

Functionalized DM costs recovered from only the Supply Rate and the System Access Rate

- Considerations
 - › Consistent with existing Metropolitan cost of service methodology – DM costs allocated like other fixed O&M costs and recouped through the Supply Rate and the System Access Rate
 - › Can be consistently repeated using a standardized process
 - › Minimal administrative burden
 - › Consistent with WaterDM recommendation, i.e., functionalization of DM costs
 - › DM costs are only recouped via rates associated with average system demands; not peak or standby

Alt #2 – Modified COS Methodology

	Cost Recovery Component	Approx. % of DM Costs (1)	Charge / Rate
Alt #2	T1 Supply	25%	\$/AF
	System Access Rate	50%	\$/AF
	System Power Rate	13%	\$/AF
	Readiness-to-Serve Charge	10%	\$/M
	Capacity Charge	2%	\$/cfs

Demand Management Costs recovered under variable and fixed rates and charges.

(1) Using hypothetical revenue requirement share

Alt #2 – Modified COS Methodology

Functionalized DM costs recovered from variable and fixed charges and rates

- Considerations

- › Consistent with WaterDM recommendation, i.e., functionalization of DM costs
- › DM costs are recouped via charges and rates associated with average and peak demands, and standby capacity
- › Can be consistently repeated using a standardized process
- › Minimal administrative burden
- › Change from current cost of service approach – this Alt would add DM costs to System Power Rate, Capacity Charge and Readiness-to Serve Charge
 - Unique O&M costs incurred to avoid capital costs and variable power costs



Alt #3 Demand Management Fixed Charge

	Cost Recovery Component	Approx. % of DM Costs (1)	Charge / Rate
Alt #3A	DM Charge - Functionalized	100%	Fixed \$
Alt #3B	DM Charge – Non-Functionalized	100%	Fixed \$

(1) Using hypothetical revenue requirement share



Alt #3A – Functionalized Fixed Charge

Member agencies pay an annual fixed charge based on allocated Demand Management costs

- Considerations

- › Consistent with WaterDM recommendation, i.e., functionalization of DM costs
- › Consistent with underlying WaterDM recommendation, i.e., DM expenditures avoid average, peak and standby costs
- › Demand Management costs are largely fixed in nature and this approach provides a fixed revenue source
- › Depending on the allocation approach, potential exists for member agencies to not be allocated any DM costs even though they may demand services at any time



Alt #3A – Functionalized Fixed Charge

(hypothetical)

Function	% Rev Req	Supply Portion \$M	Transportation Portion \$M	Total \$M
Supply	20%	\$20		\$20
Conveyance and Aqueduct	51%		\$51	51
Storage - Emergency	4%		4	4
Storage - Drought	7%	7		7
Storage - Regulatory	1%		1	1
Distribution	17%		17	17
Total	100%	\$27	\$73	\$100

Allocate Supply and Transportation Portion of DM costs to member agencies based on some measure of sales and all transactions

For example: historic water deliveries – over a pre-determined historic period: a long-term, multi-year, rolling average of all sales and transactions



Alt #3A – Functionalized Fixed Charge

Hypothetical Example

Member Agency A: for the historic period, had 5% of total Supply Portion and 4% of total Transportation Portion

Supply Portion of DM Costs:

$$5\% \text{ of } \$27\text{M} = \$1.35\text{M}$$

Transportation Portion of DM Costs:

$$4\% \text{ of } \$73\text{M} = \underline{\$2.92\text{M}}$$

Member Agency A – Total Demand Management

Annual Fixed Charge \$4.27M



Regional Benefits of Demand Management

- Metropolitan's annual expenditures for demand management programs are a necessary and legislated expense for the provision of water service across the region.
- For Metropolitan, Demand Management investments
 - › reduce and avoid future capital and other costs
 - › increase reliability
 - › reduce the region's reliance on imported water supplies
 - › decrease burden on infrastructure
 - › free up conveyance capacity

...to the benefit of all member agencies

Alt #3B – Non-Functionalized Fixed Charge

Member agencies pay an annual fixed charge based on allocated Demand Management costs

- Considerations

- › Functionalization of DM costs is not necessary
- › All member agencies would be subject to the DM Fixed Charge
- › Demand Management costs are largely fixed in nature and this approach provides a fixed revenue source



Alt #3B – Non-Functionalized Fixed Charge (hypothetical)

Function	% Rev Req	Total \$M
Supply		
Conveyance and Aqueduct		
Storage - Emergency		
Storage - Drought		
Storage - Regulatory		
Distribution		
Total		\$100

Allocate DM costs to member agencies based on: population, acreage, assessed value, or some combination thereof.



Alt #3B – Non-Functionalized Fixed Charge

Hypothetical Example

Member Agency A: has 5% of the selected metric, e.g., population, acreage, assessed valuation, etc.

Member Agency A – Total Demand Management
Annual Fixed Charge:

$$5\% \text{ of } \$100\text{M} = \underline{\$5.0\text{M}}$$



Demand Management Cost Recovery Alternatives

Alt	Cost Recovery Component	Approx % of DM Costs	Charge / Rate
#1	T1 Supply	25%	\$/AF
	System Access Rate	75%	\$/AF
#2	T1 Supply	25%	\$/AF
	System Access Rate	50%	\$/AF
	System Power Rate	13%	\$/AF
	Readiness-to-Serve Charge	10%	\$/M
	Capacity Charge	2%	\$/cfs
#3A	Functionalized Charge	100%	Fixed \$
#3B	Non-Functionalized Charge	100%	Fixed \$



Q&A - Discussion





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Thank you!

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