

To: Brad Taylor, Medford Water

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Subject: Partner City Cost of Service Comparative Analysis

1.0 Purpose

HDR has assisted Medford Water with their rate setting process on an annual basis for over 10-years. A key stakeholder in this process is the Partner Cities, who purchase water from Medford Water. This memo is intended to provide a comparison of the Partner City cost of service results from the 2023/24 study and the current study test period of 2024/25. The comparison covers several exhibits from the cost of service analysis, including the exhibits for the Base and Extra Capacity distribution factors. Also included are cost of service summaries and a summary of rate base changes that are not directly available from the exhibits in the cost of service.

2.0 Distribution Factors

The distribution factors that pertain to the Partner Cities are specifically Base-All and Extra Capacity (Day) All. Distribution factors are a means for proportionally distributing the costs of the utility consistent with the way customers impact the system. How customers are distributed costs are impacted both directly and indirectly. The distribution factors are directly linked to the customer's usage of water and indirectly by other customer's usage of water for example. There are several other distribution factors, but most do not change materially from year to year (e.g., customer/meters). The extra capacity hour factor is not included in this review as Partner Cities are not distributed extra capacity hour costs and therefore are not included as a component of that distribution factor.

The Base-All distribution factor is the proportion of each customer's consumption compared to total system consumption. As shown below in Table 1, for the most part, the customer classes each had similar consumption levels when compared to the 2023/24 rate study. Partner Cities consumption increased slightly which was consistent with the consumption of most of the other customer classes. As shown in Table 1, the base distribution factor for Partner Cities decreased by 0.08% even though the total consumption increased slightly given the indirect impact of other customer classes increasing consumption more than the Partner Cities.

Table 1

Customer Class	2023/24		2024/25	
	Base Consumption (MGD)	% of Total - ALL	Base Consumption (MGD)	% of Total - ALL
<u>Inside City</u>				
Single-Family Residential (Inside-City) - Schedule 2R	8.95	31.80%	9.15	32.33%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	6.18	21.97%	6.14	21.70%
Irrigation (Inside-City)	1.39	4.94%	1.40	4.96%
Fire Standby Service (Inside-City) - Schedule 1	0.00	0.00%	0.00	0.00%
<u>Outside City</u>				
Single-Family Residential (Outside-City) - Schedule 4R	1.12	3.98%	1.06	3.76%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	3.10	11.00%	3.36	11.88%
Irrigation (Outside City)	0.06	0.20%	0.06	0.21%
Fire Standby Service (Outside-City) - Schedule 3	0.00	0.00%	0.00	0.00%
<u>Wholesale</u>				
District Customers - Schedule 5	0.50	1.77%	0.26	0.92%
Partner Cities - Schedule 6	6.84	24.33%	6.87	24.25%
Pumping	0.00	0.00%	0	0.00%
Total Consumption	28.14	100.00%	28.31	100.00%

The extra capacity (day) distribution factor is a measure of each customer class's peak demand on the water system. The factor compares each customer class's demand, calculated as peak use less base use, to total demand. The extra capacity peak day distribution factor for Partner Cities has increased as a proportion of the total due to their higher demand on the system compared to the other customer classes and the system peak day. This is in part due to the average of the Partner Cities peaking factor for a two-year period, and the most recent two year average being greater than the prior two-year average. Table 2 below shows the comparison of the extra capacity distribution factor from the 2023/24 study and the 2024/25 study.

Table 2

Customer Class	2023/24		2024/25	
	Extra Capacity Day (MGD)	% of Total - ALL	Extra Capacity (MGD)	% of Total - ALL
<u>Inside City</u>				
Single-Family Residential (Inside-City) - Schedule 2R	10.11	35.70%	9.79	36.17%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	3.60	12.72%	3.36	12.44%
Irrigation (Inside-City)	2.37	8.38%	2.33	8.63%
Fire Standby Service (Inside-City) - Schedule 1	0.48	1.69%	0.48	1.77%
<u>Outside City</u>				
Single-Family Residential (Outside-City) - Schedule 4R	1.23	4.33%	1.15	4.27%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	2.06	7.28%	1.94	7.16%
Irrigation (Outside City)	0.09	0.31%	0.09	0.32%
Fire Standby Service (Outside-City) - Schedule 3	0.18	0.64%	0.18	0.67%
<u>Wholesale</u>				
District Customers - Schedule 5	0.43	1.53%	0.21	0.79%
Partner Cities - Schedule 6	7.77	27.42%	7.51	27.78%
Pumping	0.00	0.00%	0.00	0.00%
Total Consumption	28.33	100.00%	27.05	100.00%

3.0 Rate Base

Rate base is the amount of asset value for which the return on investment is determined. Return on rate base is one of several components that when added together equal each customer's distributed revenue requirement. Rate base is determined through an allocation process where system plant components are determined to serve base, extra capacity and customer. Table 3 provides a comparison of the 2023/24 rate base compared to the 2024/25 rate base.

Table 3

Calculation of Rate Base			
	FY 23/24	FY 23/24	% Change
Rate Base			
Source of Supply	\$8,079,442	\$7,947,505	-1.63%
Pumping	7,165,519	7,293,239	1.78%
Treatment Facilities	43,763,499	54,132,015	23.69%
Transmission Distribution	75,990,190	80,452,837	5.87%
Reservoirs	8,527,941	8,460,603	-0.79%
General Plant	4,017,752	5,015,393	24.83%
Plant Before General	\$147,544,343	\$163,301,592	10.68%
Less Developer and SDC Funded	(\$85,684,888)	(\$86,298,026)	
Plus Inventory, Work in Progress and 45 Days O&M	\$6,903,628	\$4,745,445	
Net Plant in Service	\$68,763,083	\$81,749,011	18.89%
Allocated Rate Base (Only Base and Extra Capacity all)			
Base All	\$26,101,947	\$32,261,083	23.60%
Extra Capacity - All	16,513,838	21,089,751	27.71%
Total Allocated Rate Base (Base All & Extra Cap All)	\$42,615,785	\$53,350,834	25.19%
Distribution to Partner Cities			
Base All	24.33%	24.25%	
Extra Capacity - All	27.42%	27.78%	
Partner City Distributed Rate Base			
Base All	\$6,349,852	\$7,824,531	23.22%
Extra Capacity - All	4,527,748	5,857,903	29.38%
Distributed Rate Base	\$10,877,600	\$13,682,434	25.79%

As the table shows, the net plant in service, which is the value of the plant before being distributed to customer classes, increased by 18.89% while the amount of rate base distributed to the Partner Cities increased 25.79%. The increase in rate base is primarily the result of the distribution of rate base related to Base – All and Extra Capacity – All, which reflects the assets added to the system as “used and useful” since the prior study. This includes the water quality improvement project along with other system improvements that benefit the Partner Cities. In addition, it is important to note that the impact to rate base, and resulting return component, may continue to increase given the level of improvements being developed that provide a benefit to Partner Cities, and thus they are allocated a proportional share of those costs.

4.0 Cost of Service Analysis

Another component included in each customer's distributed revenue requirement is O&M expenses. Table 4 provides a breakdown of the Partner Cities' distributed O&M expenses by Base-All, Extra Capacity Day, Actual Customer, and Direct Assignment. In total, the amount of expenses distributed to Partner Cities increased by 5.72%, which is a result of several factors. First, the overall O&M expenditures increased system wide since the prior study. This increase in O&M expenditures increases funds allocated to Base – All and Peak Day – All, which results in an increase in the funds distributed to each customer class, including Partner Cities. One change since the prior study is the distribution of the Water Supply and Treatment Plant fund transfer. Previously all customers, including Partner Cities were allocated a share of this transfer which was shown in the "Direct Assignment" category in Table 4. However, for this cost of service study, the future Water Supply and Treatment Plant Fund transfer is only distributed to retail customers, Partner Cities are not distributed any costs related to this transfer and thus no direct assignment is included in Table 4 for FY 24/25. As a result of this change in the distribution, the revenue requirement for Partner Cities only increased 5.72%. Had the transfer been distributed to Partner Cities, the distribution of costs would have increased at levels more closely related to the other categories in Table 4. Table 4 below shows how Base – All, Peak Day – All, and Actual Customer – All, each increased as compared to the 2023/24 study for Partner Cities.

Table 4

	Partner Cities		% Change
	FY 23/24	FY 24/25	
Base Allocation			
Base - All	\$1,037,676	\$1,228,602	18.40%
Extra-Capacity - Peak-Day ALL	373,812	411,870	10.18%
Actual Customer - All	1,442	1,648	14.25%
Direct Assignment	140,397	0	-100.00%
Net Revenue Requirement	\$1,553,327	\$1,642,120	5.72%

5.0 Summary

Table 5 below provides the side-by-side comparison of the cost of service summary. Much of what was shown in the previous tables is summarized on this table, including distributed O&M expenses and rate base. Of note, is that the distribution of rate base has increased for the Partner Cities, and the rate of return increased from 5.15% to 5.40%. Overall, the calculation of rate base for Partner Cities has increased 25.79%. A significant factor in this is the approach (i.e., Utility Basis) used to establish rates. Based on this agreed upon approach, Partner Cities are not disturbed infrastructure costs (e.g., rate base) until it is placed into service. Given the substantial amount of funding by Medford Water in the prior and current year, and the assets not being in service, the Partner Cities have not been distributed costs associated with capital infrastructure funding, while Medford Water's retail customers have funded these costs. However, as noted in the comparison of rate base, as these assets are placed into service on an annual basis, it will likely impact the Partner Cities by increasing their proportional distribution

of rate base, and subsequent return component, in future years and have an impact on the resulting proposed rate levels.

As the previous tables showed, the Base – All, Peak Day – All, and Actual Customer – All distributed costs increased from the prior year. This results in an overall increase to Partner Cities cost of service of 11.4% as provided below in Table 5 below.

Table 5

	Partner Cities		% Change
	FY 23/24	FY 24/25	
Revenues at Present Rates	\$2,376,246	\$2,486,521	4.64%
Less: Allocated O&M Expenses	\$1,553,327	\$1,642,120	5.72%
Less: Allocated Ann. Depr. Expense [1]	350,794	388,207	10.67%
Total Allocated O&M & Ann. Depr. Exp.	\$1,904,121	\$2,030,327	6.63%
Net Income/(Loss)	\$472,124	\$456,194	-3.37%
Distributed Rate Base	\$10,877,600	\$13,682,434	25.79%
Present Return on Rate Base	4.34%	3.33%	
Proposed Return Component	\$560,196	\$738,851	31.89%
Proposed Rate of Return	5.15%	5.40%	
Proposed Revenue	\$2,464,318	\$2,769,179	12.37%
Required \$ Change in Rates	\$88,072	\$282,657	
Required % Change in Rates	3.7%	11.4%	
[1] Annual Depreciation is Allocated and Distributed in the same manner as Rate Base			

Another impact of building new infrastructure along with the increased rate base, is an increase of annual depreciation expense. As shown in table 5, allocation of annual depreciation expense for the Partner Cities increased by 10.67% or \$37,413 from 2023/24.

There are three revenue requirement components that impact the Partner City rates, O&M expenses, annual depreciation expense, and return on rate base. As Table 5 shows each of those components have increased over the previous year. The impact of each of the revenue requirement components has their own impact on the overall rate adjustment. Table 6 provides the relative impact of the three revenue requirement components.

Table 6 compares the FY 23/24 and FY 24/25 distributed costs to the Partner Cities as developed in the prior tables along with the change. In order to provide a relative change in the rates for each component, the far right column shows the proportion of the total increase by cost

component. These percentages are then used to determine the proportion of the overall increase by each component. A key component of this comparison is also the change in revenue for Partner Cities from the prior study to account for changes in overall revenue levels.

Table 6

Partner Cities				
	FY 23/24	FY 24/25	\$ Change	Proportion of Total Allocated costs
Revenue Requirement Components				
Allocated O&M Expenses	\$1,553,327	\$1,642,120	\$88,793	29.13%
Allocated Ann. Depr. Expense	350,794	388,207	37,413	12.27%
Proposed Return Component	560,196	738,851	178,655	58.60%
Total Allocated Costs	\$2,464,318	\$2,769,179	\$304,861	
Adjustments to Account for Changes from last Year's Study				
Less Change in Revenues at Present Rates	\$2,376,246	\$2,486,521	(\$110,276)	
Plus 2023/24 Req. Change in Rates			\$88,072	
Net Changes from 2023/24			(\$22,203)	
Required \$ Change in Rates (Alloc. Costs Less Net Change from 2023/24)			\$282,656	
	Rate Component \$ Change	Proportion of Rate Component	Prorated Change per Rate Component	Rate Adjustment % Change Distribution
Revenue Requirement Components				
Allocated O&M Expenses	\$88,793	29.13%	82,326	3.3%
Allocated Ann. Depr. Expense	\$37,413	12.27%	34,688	1.4%
Proposed Return Component	\$178,655	58.60%	165,643	6.7%
Total	304,861	100.0%	282,656	11.4%

As table 6 shows of the overall 11.4% rate adjustment for Partner Cities 3.3% is due to the increase in O&M expense, 1.4% is related to the increase in annual depreciation expense and 6.7% is related to return on rate base.