

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 several years. A key stakeholder in this process is the Partner Cities (Ashland, Central Point, Eagle Point, Jacksonville, Phoenix, and Talent), who purchase water from Medford Water. This memo is intended to provide comparison of the Partner City cost of service results from the 2022/23 study and the current study test period for 2023/24. The comparison covers several exhibits from the cost of service analysis, including the Distribution exhibits for the Base and Extra Capacity. 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). 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. There are several other distribution factors, but many 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 any 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 customer's consumption compared to total system consumption. As shown below in Table 1, for the most part, all customer classes increased consumption when compared to the 2022/23 rate study. Partner Cities consumption increased more than the increase in other customer classes. As a result, the base distribution factor for Partner Cities increased by 0.14%. Table 1 shows the Base-All distribution factor comparison for the 2022/23 and 2023/24 cost of service study.

Table 1

Customer Class	2022/23		2023/24	
	Base Consumption (MGD)	% of Total - ALL	Base Consumption (MGD)	% of Total - ALL
<u>Inside City</u>				
Single-Family Residential (Inside-City) - Schedule 2R	8.41	31.70%	8.95	31.80%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	5.83	21.99%	6.18	21.97%
Irrigation (Inside-City)-Schedule 9	1.23	4.64%	1.39	4.94%
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	0.97	3.64%	1.12	3.98%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	3.09	11.67%	3.10	11.00%
Irrigation (Outside City)-Schedule 10	0.06	0.22%	0.06	0.20%
Fire Standby Service (Outside-City) - Schedule 3	0.00	0.00%	0.00	0.00%
<u>Wholesale</u>				
District Customers - Schedule 5	0.52	1.95%	0.50	1.77%
Partner Cities - Schedule 6	6.41	24.19%	6.84	24.33%
Pumping	0.00	0.00%	0	0.00%
Total Consumption	26.51	100.00%	28.14	100.00%

The Extra Capacity Day distribution factor is a measure of each customer class's peak day demand on the water system. The factor compares each customer class's demand, calculated as peak day use less base use, to total demand. The Extra Capacity 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 reducing their peak day demands. This is in part due to the average of the Partner Cities peaking factor for a two-year period, and the most recent two years being greater than the prior two-year average. Table 2 below shows the comparison of the Extra Capacity Day distribution factor from the 2022/23 study and the 2023/24 study.

Table 2

Customer Class	2022/23		2023/24	
	Extra Capacity (MGD)	% of Total - ALL	Extra Capacity (MGD)	% of Total - ALL
<u>Inside City</u>				
Single-Family Residential (Inside-City) - Schedule 2R	12.91	38.22%	10.11	35.70%
Nonresidential & Multifamily (Inside-City) - Schedule 2C	5.21	15.44%	3.60	12.72%
Irrigation (Inside-City)-Schedule 9	2.69	7.97%	2.37	8.38%
Fire Standby Service (Inside-City) - Schedule 1	0.48	1.42%	0.48	1.69%
<u>Outside City</u>				
Single-Family Residential (Outside-City) - Schedule 4R	1.49	4.40%	1.23	4.33%
Nonresidential & Multifamily (Outside-City) - Schedule 4C	3.04	9.02%	2.06	7.28%
Irrigation (Outside City)-Schedule 10	0.11	0.33%	0.09	0.31%
Fire Standby Service (Outside-City) - Schedule 3	0.18	0.53%	0.18	0.64%
<u>Wholesale</u>				
District Customers - Schedule 5	0.64	1.89%	0.43	1.53%
Partner Cities - Schedule 6	7.02	20.78%	7.77	27.42%
Pumping	0.00	0.00%	0.00	0.00%
Total Consumption	33.77	100.00%	28.33	100.00%

3.0 Rate Base

Rate base is the amount of asset value for which the return on investment (rate base) 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 2022/23 rate base compared to the 2023/24 rate base.

Table 3

Calculation of Rate Base			
	FY 22/23	FY 23/24	% Change
Rate Base			
Source of Supply	\$8,318,714	\$8,079,442	-2.88%
Pumping	7,119,280	7,165,519	0.65%
Treatment Facilities	39,624,248	43,763,499	10.45%
Transmission Distribution	75,319,185	75,990,190	0.89%
Reservoirs	8,674,394	8,527,941	-1.69%
General Plant	3,934,369	4,017,752	2.12%
Plant Before General	\$142,990,190	\$147,544,343	3.18%
Less Developer and SDC Funded	(\$82,109,908)	(\$85,684,888)	
Plus Inventory, Work in Progress and 45 Days O&M	\$18,916,894	\$6,903,628	
Net Plant in Service	\$79,797,175	\$68,763,083	-13.83%
Allocated Rate Base (Only Base and Extra Capacity all)			
Base All	\$22,932,998	\$26,101,947	13.82%
Extra Capacity - All	16,934,871	16,513,838	-2.49%
Total Allocated Rate Base (Base All & Extra Cap All)	\$39,867,869	\$42,615,785	6.89%
Distribution to Partner Cities			
Base All	24.19%	24.33%	
Extra Capacity - All	20.78%	27.42%	
Partner City Distributed Rate Base			
Base All	\$5,547,077	\$6,349,852	14.47%
Extra Capacity - All	3,518,385	4,527,748	28.69%
Distributed Rate Base	\$9,065,462	\$10,877,600	19.99%

As the table shows, the net plant in service, which is the value of the plant before being distributed to customer classes, decreased by 13.83% while the amount of rate base distributed to the Partner Cities increased 19.99%. The increase in rate base is primarily the result of the distribution of rate base related to Extra Capacity – All, which has increased for Partner Cities based on their system peak demands from 20.78% to 27.42%. In addition, it is important to note that the impact to rate base, and resulting return component, may continue to increase given the significant 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 that makes up a customer's distributed revenue requirement is the distributed 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 4.10%, which is a result of several factors. Overall O&M expenditures increased system wide from approximately \$14.8 million to approximately \$15.4 million, a 3.6% increase. 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. Table 4 shows how Base – All, Peak Day – All, and Actual Customer – All, each increased as compared to the 2022/23 study. Most significantly, and as previously noted, Peak Day – All, increased. The proportionate distribution of O&M expense increased 4.10%, which is similar to the overall increase in O&M expenses.

Table 4

	Partner Cities		% Change
	FY 22/23	FY 23/24	
Base Allocation			
Base - All	\$1,023,887	\$1,037,676	1.35%
Extra-Capacity - Peak-Day ALL	322,977	373,812	15.74%
Actual Customer - All	1,138	1,442	26.78%
Direct Assignment	144,118	140,397	-2.58%
Net Revenue Requirement	\$1,492,120	\$1,553,327	4.10%

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 O&M expenses and distributed rate base. Of note, is that the distribution of rate base has increased for the Partner Cities, and the rate of return increased from 4.90% to 5.15%, resulting in a 26.11% increase in return on rate base. As a point of reference, the proposed rate adjustment for Partner Cities is less than half of the overall system rate adjustment. 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 they are 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 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 distribution factors increased for the Partner Cities and as a result, the distributed costs

increased 4.10% from the prior year. This results in an overall increase to Partner Cities cost of service of 3.7% as provided below in Table 5 below.

Table 5

	Partner Cities		% Change
	FY 22/23	FY 23/24	
Revenues at Present Rates	\$2,040,507	\$2,376,246	16.45%
Less: Allocated O&M Expenses	\$1,492,120	\$1,553,327	4.10%
Less: Allocated Ann. Depr. Expense [1]	290,983	350,794	20.55%
Total Allocated O&M & Ann. Depr. Exp.	\$1,783,103	\$1,904,121	6.79%
Net Income/(Loss)	\$257,403	\$472,124	83.42%
Distributed Rate Base	\$9,065,462	\$10,877,600	19.99%
Present Return on Rate Base	2.84%	4.34%	
Proposed Return Component	\$444,208	\$560,196	26.11%
Proposed Rate of Return	4.90%	5.15%	
Proposed Revenue	\$2,227,311	\$2,464,318	10.64%
Required \$ Change in Rates	\$186,804	\$88,072	
Required % Change in Rates	9.2%	3.7%	
[1] Annual Depreciation is Allocated and Distributed in the same manner as Rate Base			