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**PUBLIC SERVICE
COMMISSION**

May 5, 2016

Kentucky Public Service Commission
211 Sower Blvd.
Frankfort, Ky. 40601

RE: Case No. 2014-00342
Response to Order No. 3(b)

Dear Commission:

In accordance with the issued order in Case No. 2014-00342, Mountain Water District is submitting the following report and attachments in compliance with Order No. 3(b) of the Commission's Order in the above referenced case. Please refer to Mountain Water District's prior response to Order No. 3(a) for system description and mapping information.

QUANTIFICATION OF WATER LOSS

The Public Service Commission has ordered the Mountain Water District to quantify the water loss within its system in an effort to identify the areas that would achieve the most cost-to-benefit ratio for projects to reduce and/or aid in additional identification or quantification of water loss.

Steps Taken to Quantify Water Loss Within the Mountain Water District System:

- Selection of zones with static master meters (those under the influence of sole source/unidirectional flow). A cost analysis of these locations was performed to determine the gallons of loss within these areas and a financial value was assigned to these locations based on the source water location. See attached Analysis. (Exhibit A)
- The remaining locations that require additional sub-master meter sites for zones that are subjected to routine daily/weekly source water changes due to system hydraulic demands, were quantified at the following rate:

Equal Opportunity Provider and Employer

City of Williamson, WV = \$1.31/1,000 gallons	}	= \$3.76 / 3 = \$1.25/1,000 gallons
City of Pikeville, KY = \$1.68/1,000 gallons		
MWD Water Produced = \$.77/1,000 gallons		

This formula has been applied to the remaining gallons of water loss not under the influence of sole source/unidirectional flow. (Exhibit A)

- EXHIBIT B: System-Wide Unaccounted For Water Loss Percentage
- EXHIBIT C: System-Wide Unaccounted For Water Loss Gallons
- EXHIBIT D: System-Wide Unaccounted For Water Loss Estimated Cost
- EXHIBIT E: Water Loss Committee Meeting Summary Report – April, 2016

CONCLUSION

The Mountain Water District is pleased with the progress and results of the efforts of field personnel to achieve water loss reduction since the formation of the Water Loss Committee. The Board of Commissioners of the Mountain Water District has been proactive in the identification of water loss sources, quantification of those areas, analysis of infrastructure improvement needs, and will continue to do so for water loss reduction. The collaborative effort between the District, Utility Management Group, LLC personnel, Environmental Design Consultants, Inc., and Summit Engineering has provided the District with an informative report of where the highest rate of loss is occurring, as well as the areas where infrastructure investment is most necessary to reduce the percentage of water loss within the system. Now that sources of water loss have been and are continuing to be identified and quantified, we remain committed to the process of moving forward to prioritize projects to address water loss reduction within the next thirty (30) days for submission to the Public Service Commission and to seeking funding opportunities for much needed infrastructure repair and replacement.

EXHIBIT A - IDENTIFIED SOURCES

MASTER METER	PERCENTAGE LOSS - JULY 2015	GALLONS LOST - JULY, 2015	COST OF LOSS - JULY, 2015	MILES OF LINE
BRUSHY	38.6%	463,972	\$705.13	15.7
HOOPWOOD	0.0%	0	\$0.00	1
COON BRANCH	20.3%	15,631	\$23.71	0.7
MODERN MHP	11.8%	20,296	\$30.84	0.5
CHLOE	36.5%	771,610	\$1,172.83	8.1
CEDAR GAP	24.3%	435,456	\$661.89	12.2
JOES CREEK	12.1%	26,862	\$40.83	3.2
MARROWBONE	51.0%	4,642,530	\$3,574.75	25.8
WILLIAMSON 1	25.3%	5,164,742	\$6,766.15	74.2
SOOKEYS 2	45.7%	6,493,970	\$8,312.28	101.8
GREASY	32.0%	1,435,200	\$1,105.10	7.5

19,470,269 \$22,393.51

TOTAL GALLONS LOST FOR JULY, 2015 WAS 54,949,000. OF THAT NUMBER, 19,470,269 GALLONS HAVE BEEN IDENTIFIED DUE TO MASTER METER READINGS IN UNIDIRECTIONAL FLOW AREAS. THIS IS 35.43% OF THE TOTAL LOST FOR THE MONTH OF JULY, 2015.

BLENDED SOURCE COST

THE REMAINING 64.57% OR 35,478,731 GALLONS CAN BE QUANTIFIED AS FOLLOWS AND WILL REQUIRE ADDITIONAL SUB-METERING TO ASSIST IN DETERMINING SOURCE WATER AND ASSOCIATED COST, DUE TO HYDRALICALLY BLENDED LOCATIONS:

$$35478.731 \times \$1.25^* = \$44,348.41$$

*Average cost for blended water.

\$22,393.51	IDENTIFIED SOURCE COST
+ \$44,348.41	BLENDED SOURCE COST
<hr style="width: 100%; border: 0.5px solid black;"/>	
\$66,741.92	TOTAL WATER LOSS COST, JULY 2015

OCT, 2015

NOV, 2015

DEC, 2015

JAN, 2016

FEB, 2016

MAR, 2016

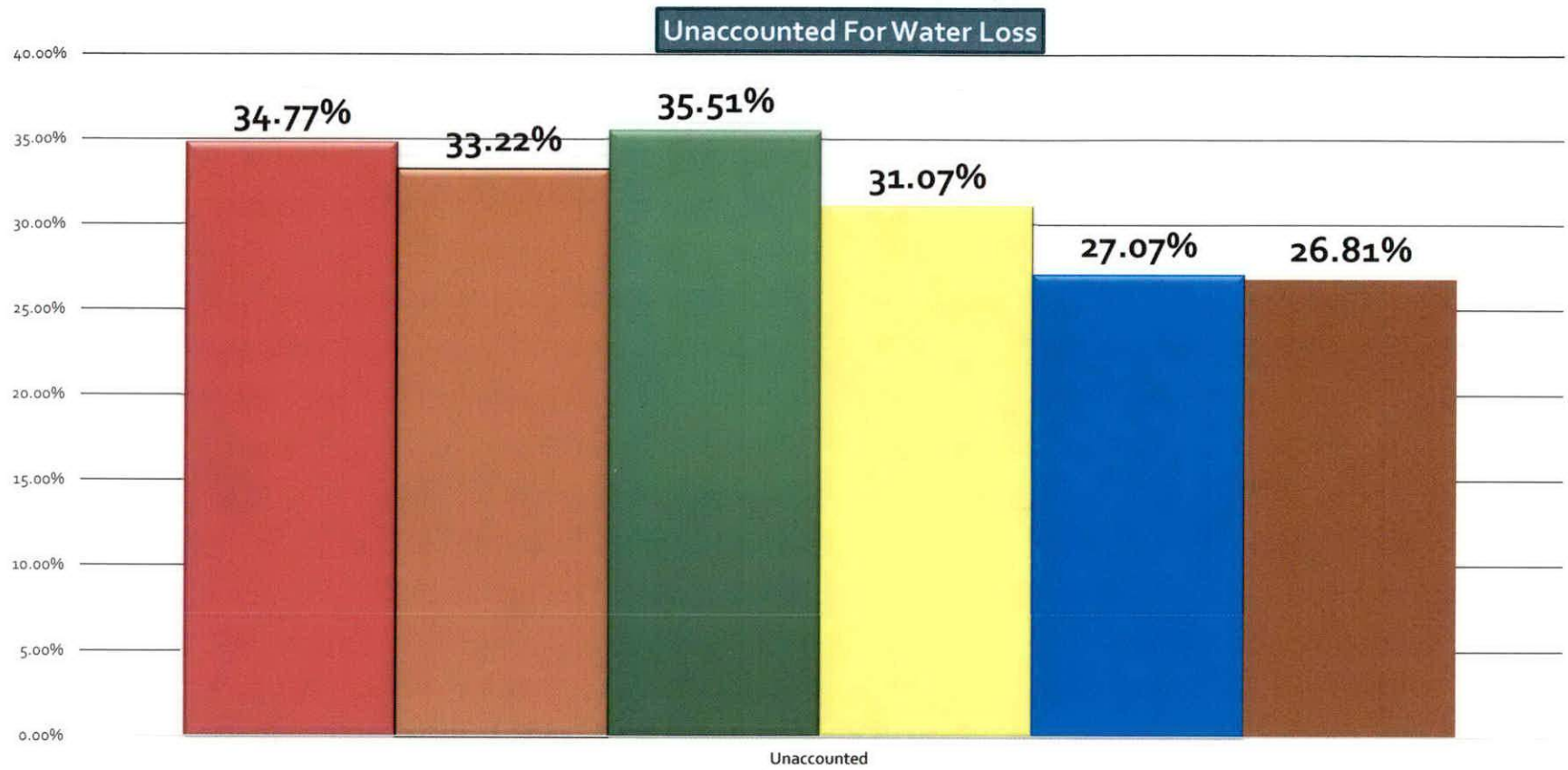


EXHIBIT B

OCT, 2015 NOV, 2015 DEC, 2015 JAN, 2016 FEB, 2016 MAR, 2016

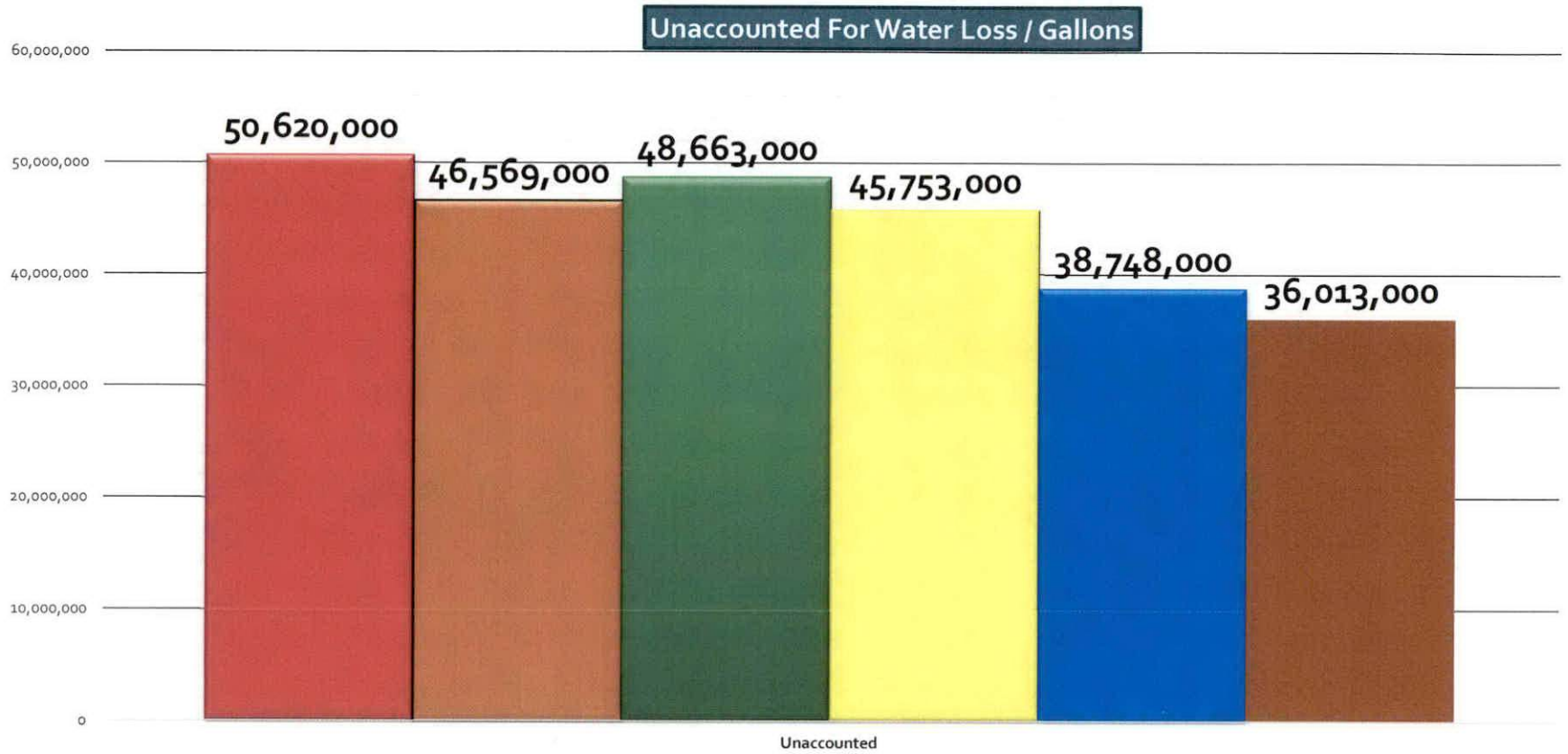
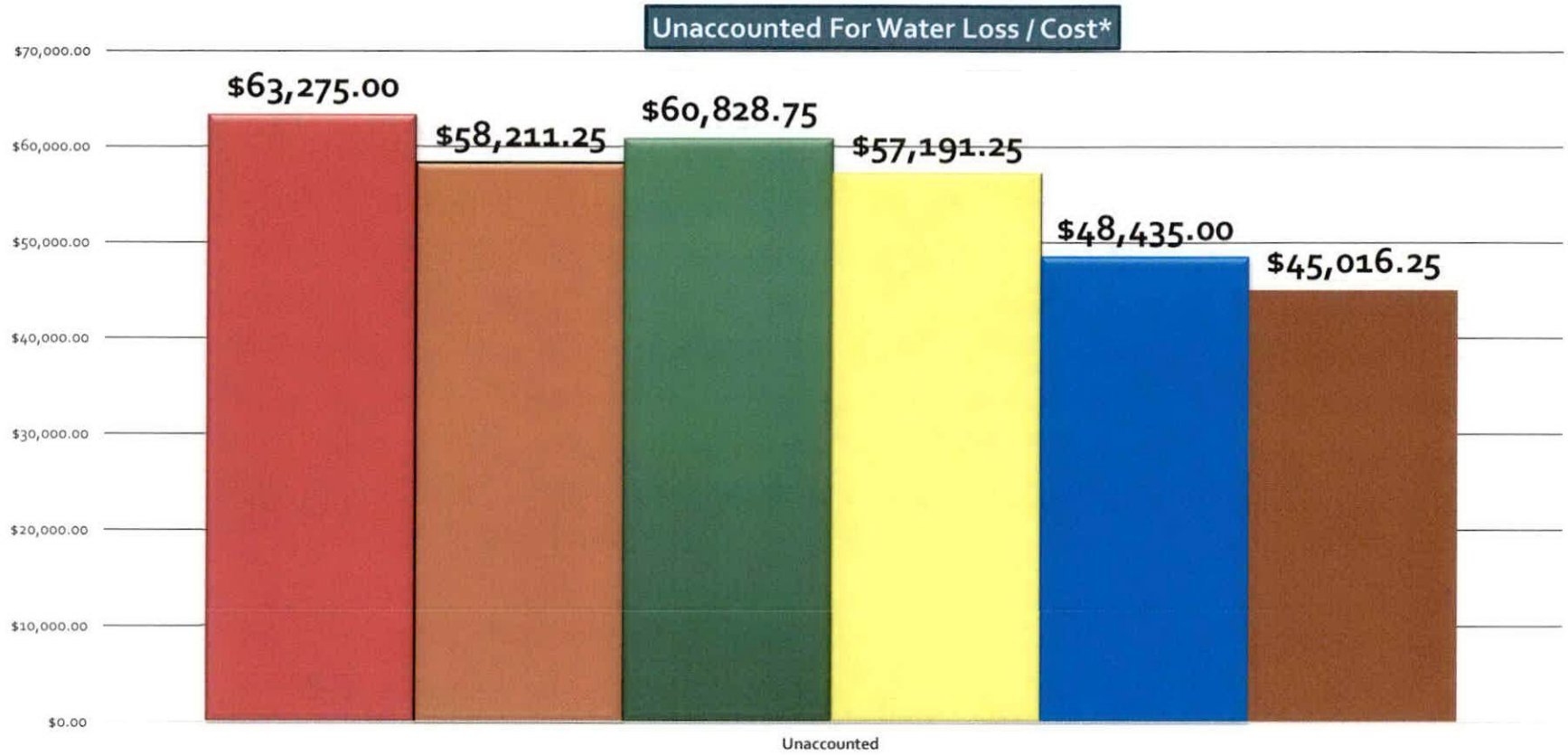


EXHIBIT C

OCT, 2015 NOV, 2015 DEC, 2015 JAN, 2016 FEB, 2016 MAR, 2016



*** BASED ON SYSTEM WIDE AVERAGE COST OF \$1.25 PER 1,000 GALLONS**

EXHIBIT D

EXHIBIT E
MOUNTAIN WATER DISTRICT
WATER LOSS COMMITTEE
SUMMARY REPORT

APRIL, 2016

Attendees:

- 1) Mike Blackburn – MWD Board Commissioner
- 2) Dan Stratton – MWD Legal Counsel
- 3) Tim Campoy – Engineer, EDC, Inc.
- 4) Jody Hunt – Engineer, Summit Engineering
- 5) Roy Sawyers – District Administrator
- 6) David Taylor – UMG/MWD Operations Manager

Current water loss report was reviewed by the Committee. It was reported that the two replacement meters have been installed and are being utilized, also, the leak detection crew has repaired several service line leaks and a discussion was held regarding illegal service connections. Legal Counsel is to review the possibility of a tariff revision to increase penalty to discourage this behavior. Zone meter replacement vaults and cost of installation was discussed and Mr. Sawyers is looking into requesting quotes for related items.

Current unaccounted for water loss ~ 26.81% (March).