MSD Exhibit No. MSD 3G
2019 Rate Change Proceeding
BETHANY PUGH
Direct Testimony
Metropolitan St. Louis Sewer District
March 4, 2019

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Witness Background and Experience

Q1. Please state your name, business address, email address, and telephone number.

A. Bethany Pugh, 7251 Engle Road, Suite 115, Cleveland, Ohio, 44130, (440)239-7070, pughb@pfm.com

Q2. By whom are you employed and in what capacity?

A. I am a Managing Director at PFM Financial Advisors LLC ("PFM"). PFM's Managing Directors own the firm and set the firm's strategic direction. My primary responsibilities include leading PFM's Ohio regional practice and serving as a senior financial advisor and engagement manager for PFM's clients across the Midwest.

Q3. Please describe your firm's experience in public finance?

A. PFM is the nation's leading municipal financial advisor. PFM and its affiliated businesses serve as a foremost provider of independent and fiduciary financial and investment advisory services. As of December 31, 2018, the PFM Group comprises 625 employees and 37 locations nationwide. In the Midwest, there are 9 locations including an office in St. Louis. In 2017, and for the 20th consecutive year, PFM was ranked by Thomson Reuters as the #1 financial advisor in the nation, based on par volume of transactions. In 2017, PFM advised on 996 transactions totaling over $63.4 Billion in par amount. Based on par value, PFM was also ranked as the leading advisor for transactions in the Midwest, for transactions with revenue-based credits, and transactions placed on a negotiated basis. PFM was also ranked as the leading advisor with respect to Water, Sewer and Gas related issuances, based on par value. In addition to the Metropolitan St. Louis Sewer District (MSD, or the District), PFM's utility clients include The Metropolitan Sewer District of Greater Cincinnati, District of Columbia Water and Sewer Authority, Orlando Utilities

Commission, Des Moines Metropolitan Wastewater Reclamation Authority, and Hampton Roads Sanitation District, among numerous others (a full listing is available upon request). As a financial advisor to our clients, PFM assists in the financial planning, debt transaction management and execution, and on-going debt monitoring and management for our clients across the nation.

Q4. Please describe your educational background, work experience and your personal experience advising issuers of municipal bonds?

A. I graduated from Harvard College in 1998 with a Bachelor of Arts degree in Economics. I have worked for PFM for more than 20 years. In that time I have worked with a variety of state-level, municipal and not-for-profit entities, managing publicly offered and privately placed debt transactions backed by various revenue streams including utility revenue, sales tax, non-tax revenues and other sources in addition to general obligation credits. These transactions have included fixed and variable interest rate; and short and long-term obligations. In 2018 alone, I advised on a total of 13 transactions with a principal value of over $1.3 billion. In addition I have developed several financial plans evaluating the economic, policy and risk implications of myriad financial alternatives. These plans have served as the foundation for funding various projects including, public utility facilities and infrastructure, professional and collegiate sports stadiums, museums, parking facilities, highways and other public infrastructure. I currently serve as the lead financial advisor for PFM clients including the Metropolitan St. Louis Sewer District, Saint Louis Art Museum, State of Ohio Treasurer of State, Ohio Turnpike and Infrastructure Commission and the City of Toledo Department of Public Utilities, among others.

Q5. How long has your firm been engaged with the Metropolitan St. Louis Sewer District and what is your role as Financial Advisor?

A. PFM has served as financial advisor to MSD since 2000. During this time PFM has worked with the District to develop the master indenture that defines the security provisions and flow of funds for payment of MSD's senior and subordinate lien (state revolving fund program) revenue bonds. PFM developed the initial credit rating strategy and presentation materials for introduction of the MSD'S new revenue credit in 2004. PFM also worked with District staff to develop a comprehensive debt management policy that was adopted by the District's Trustees in 2004. Subsequently, PFM has been involved advising on the financial planning, credit discussions, ratings presentations and pricing of all MSD senior lien Wastewater Revenue Bonds as well as the structuring and sale of the subordinate revenue bonds through the Missouri EIERA sewer revolving loan fund program. On an on-going basis, PFM keeps MSD informed as to current trends in the public finance marketplace, reviews investment banking proposals, and develops responses to periodic inquiries from the rating agencies.

I began working with the District in May of 2012 and have advised on every aspect of seven District senior lien revenue bond transactions, including the structuring of debt, presentations to the rating agencies and price negotiations with the District's underwriting syndicates. Most recently, PFM staff and I have worked with the District and its bond counsel to close a federal loan from the Environmental Protection Agency's Water Infrastructure Finance and Innovation Act program. In consideration of operational and capital funding needs, as well as credit rating metrics associated with maintaining credit ratings in the AA-category, PFM has recommended the amount of proposed senior lien debt issuances and mix of debt to pay-as-you-go (PAYGO) capital funding for MSD's projects through FY24.

Financial Plan Assumptions

Q6. How was the amount of CIRP to be financed as opposed to cash funded determined?

A. The District and PFM developed a financial planning model to assess the District's ability to fund the CIRP in consideration of operational obligations as well as necessary parameters relative to its financial covenants with existing and future bond holders. The model also assumed the District managed its financial obligations to maintain AA-category credit ratings. Based on these parameters, we then analyzed the District's historical ratio of debt to cash funding for CIRP (75%/25% debt to equity from FY2004-FY2018) and attempted to maintain a ratio consistent with this, in light of future CIRP funding needs and revenue increase parameters. As a result the debt to cash ratio for the rate period FY2021-FY2024 is approximately 60% debt to 40% cash. This ratio includes both revenue bonds and any state revolving fund ("SRF") obligations of the District.

Q7. How much is being assumed to be borrowed from the SRF?

A. $30 MM per year in FY21 through FY24.

Q8. What interest rates were assumed?

A. PFM assumed interest rates and yields for future District borrowings based on current market rates commensurate with an AA-rated utility revenue credit. To mitigate interest rate risk associated with future issuances, PFM added additional spreads to the yields assumed ranging from approximately 0.70% for the FY2020 issuance to 1.45% for the projected bond issuance in FY2024.

Q9. What is the debt service coverage target for senior bonds?

A. Based on the District's historical performance and expected required coverage to maintain ratings in the AA-category, senior lien bonds have a projected minimum coverage target of 2.50X while the minimum total coverage (including senior lien bonds and subordinate SRF obligations) is targeted at 1.80X.

Q10. How were the debt service coverage targets developed?

A. Projected minimum coverage targets of 2.50X (senior lien bonds) and 1.80X (inclusive of subordinate obligations) have been identified as the optimal coverage levels needed to maintain AA level bond ratings, thereby ensuring cost effective market access for the District's large capital program. The three major rating agencies that assign ratings to government issuers have communicated expectations related specifically to MSD's future financial performance regarding debt service coverage.

Moody's Investors Service has stated that "narrowed liquidity or debt service coverage" are factors that could lead to a downgrade. Source: Moody's Investors Service New Issue Report, "Metropolitan St. Louis Sewer District, MO, $261 million Wastewater System Revenue Bonds, Series 2017A," dated November 17, 2017 (Exhibit MSD 39).

From Standard & Poor's, "The stable outlook reflects S&P' Global Ratings' opinion that MSD will likely continue to adjust rates and expenses, as necessary, to maintain financial performance consistent with historical trends, particularly as it continues to fund CIRP project with additional debt and pay-as-you-go funding." While unlikely during the current two-year outlook period, we could lower the rating if MSD does not produce financial metrics we believe are consistent with the rating level, particularly since it continues to fund the large capital plan." Source: S&P Global Ratings Credit Profile Report, "Metropolitan St. Louis Sewer District, Missouri; Sewer; Water Infrastructure Finance & Innovation Act (WIFIA) Sanitary Sewerage System Revenue Loan Bonds" dated December 19, 2018 (Exhibit MSD 38).

Finally, Fitch Ratings states: "Coverage margins that are weaker than forecast levels, or a decline in liquidity below historical norms, would result in negative rating action." And, "Resulting financial metrics have been sound with senior DSC averaging 3.2x and all-in coverage averaging 2.1x since fiscal 2014. For comparison purposes, Fitch's 2018 'AA' median for all-in DSC was the same as the district's all-in coverage of 2.1x" Source: Fitch Ratings New Issue Report, Metropolitan St. Louis Sewer District, Missouri $48MM WIFIA Obligation, dated December 6, 2018 (Exhibit MSD 40).

Q11. Besides debt service coverage what other credit rating metrics impacted the proposed debt financing amount?

A. The financial planning model was also developed to ensure a minimum amount of days cash on hand of 550 days at a minimum. Days cash on hand is a liquidity metric that measures an entity's ability to meet short-term needs and contingencies. Days cash on hand is calculated by dividing cash and relatively liquid investments by operating expenses (less depreciation) and then dividing by 365 days.

Q12. Are there any examples of comparable metropolitan sewer utilities experiencing deterioration in bond ratings due to increasing CIRP regulatory requirements?

A. Unlike my testimony in 2015, there have not been significant downgrades to comparable sewer systems in the past four years per our review of Moody's Investor Service

(Moody's) downgrade listings.

Moody's published a Water and Sewer Utilities – US 2019 outlook report on December 5, 2018. The report stated the 2019 outlook is stable, "Water and sewer utilities' revenue growth will continue to strengthen debt service coverage and liquidity, helping maintain our stable outlook." The report went on to state, "With growth in net revenue outpacing debt service costs, annual coverage will continue growing and reach a median well above 2.0x debt service." As previously stated, MSD's target coverage on its bonds is 1.8x debt service. MSD also has a liquidity target of 550 days cash on hand. The Moody's report suggests that target is well above what they consider very healthy, "Liquidity will likely top a median of 450 days cash on hand in 2019, a very healthy level."

Q13. Does this conclude your testimony?

A. Yes it does.