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**MARYLAND ENVIRONMENTAL SERVICE  
FISCAL YEAR 2024 CAPITAL BUDGET HEARING  
RESPONSE TO DEPARTMENT OF LEGISLATIVE SERVICES ANALYSIS**

**Senate Budget & Taxation Committee  
Capital Budget Subcommittee  
The Honorable Craig Zucker, Chair  
February 28, 2023**

**House Appropriations Committee  
House Capital Budget Subcommittee  
Delegate Mark S. Chang  
March 1, 2023**

We first would like to thank Ms. Carrie Cook and the entire DLS team for their thorough work on the MES Operating and Capital Budget. Ms. Cook is top-notch, and we greatly appreciate her professionalism and attention to detail throughout the budget development process.

DLS requested that MES provide a response to three items:

***The agency should comment on the projected need for the \$2 million in unallocated funds, given that contingency percentages have already been increased in fiscal 2024 to account for current market and inflationary conditions.***

At the time of budget development, the economic climate was as follows: inflation was at a 41-year record of 9.1%, wholesale pricing was at 11.3%, the U.S. Federal Reserve was on a significant monetary tightening path, and we were experiencing continued supply chain issues. Because of all this, A/E firms increased their contingencies. This has not changed, and we do not expect a dramatic departure from this economic climate in the near term. Currently, inflation numbers have eased somewhat, but an argument can be made that inflation will be volatile at best and could surge again at worst. Additionally, the bids MES had received at the time of budget development had been consistently over the engineering estimates. The same is true today, so these conditions have not changed over the last six to nine months. Our A/E's have been using at least 30% contingency due to COVID price impacts and economic uncertainty. Lastly, as American Rescue Plan Act and Bipartisan Infrastructure Law funds are implemented, the demand for A&E firms, equipment, and construction contractors is contributing to increases in pricing. For all these reasons, we believe these higher contingencies are prudent as we move forward in these still very unpredictable financial times and the issues that we have been experiencing on recent projects.

***The Department of Legislative Services (DLS) recommends submittal of the Conowingo Dam dredging project capital program to the budget committees upon DBM approval.***

Yes, of course, we will comply with this request.

***MES should comment on the inaccuracy of the \$4.2 million original project cost estimate and how the agency is taking steps to ensure that future projects have cost estimates that are as accurate as possible to promote accurate budgeting and avoid significant deficiency appropriations.***

The original project budget estimate of \$4.2M was developed by an engineering consultant in 2019 in preparation for a capital program request shortly after MES entered into a contract with Chesapeake Utilities to deliver natural gas to the Eastern Correctional Institution (ECI) and the University of Maryland, Eastern Shore (UMES) by September 2021. Given the urgency to secure funding by the next available funding cycle to meet the September 2021 target date, the estimate was prepared based on limited information including a site visit and discussions with plant staff and original equipment manufacturers (OEM). The limited level of project definition used to develop the cost estimate necessitated a fairly wide accuracy range. At this level, engineering is typically between 1% to 15% complete with an expected accuracy range from -30% to +50%, depending on the technological complexity of the project (Association for the Advancement of Cost Engineering, 2005).

There are a multitude of factors that contributed to the cost issues associated with this project. First, the cost estimate was developed without the benefit of a full design. In addition, changes to regulatory codes since the original equipment was installed, technical challenges associated with converting a 30-year-old facility and changing input from the OEM increased the complexity of the final design. Third, there was an interpretation by the regulators regarding code compliance that required significant changes. COVID-19 put considerable strain on the supply chain which contributed to project costs that were significantly higher than the estimate. Lastly, inflationary pressures cannot be ignored. MES has projects across the organization that have suffered because of this.

In terms of the capital project development process: Once a need for a capital improvement project for a facility is recognized, MES begins its planning process. This typically involves assessment of facility performance by reviewing all available documents such as discharge permit violations, operating and maintenance records/frequency of equipment and process failures, repairs, constraints inherent in as-built conditions of the facility, etc. Depending on the urgency of the improvement needs, and with scoping similarities to completed past projects where updated pricing is available, MES generally prepares capital improvement programs (CIP) and develops a capital budget for the project. With increased project complexity or limited available documentation, MES may elect to hire a professional entity to conduct a facility

condition assessment and develop a preliminary engineering report (PER) for the subject facility.

Condition assessments and PERs are useful in assessing the condition of a facility or a system, understanding deficiencies, prioritizing infrastructure upgrades, evaluating needs and alternatives, developing preliminary drawings of recommended actions and engineering cost estimates. Once the professional services of a firm have been contracted, this task may take anywhere from 90 to 180 days or more to complete depending on the scope. MES would then take this information to prepare a capital improvement program and a budget request during the ensuing years.