

COMMISSION FILE NO: 17-031-3 **DATE INTRODUCED:** March 13, 2017

INTRODUCED BY: Executive Director (Signature on File in the Office of the Commission)

REFERRED BY COMMISSION CHAIRPERSON TO: Policy, Finance, and Personnel Committee

RELATING TO: Award of Contract M01026P01, MMSD Feasibility Study of a Combined Cooling, Heating, and Power System for Headquarters Facility Project

SUMMARY:

The Commission is requested to authorize the Executive Director to execute on behalf of the District Contract M01026P01, Engineering Services for the MMSD Feasibility Study of a Combined Cooling, Heating, and Power System for the Headquarters Facility Project, with Rock Gap Engineering in an amount not to exceed \$199,329. Rock Gap Engineering was the highest scoring proposer, based on a qualifications-based selection method, among five proposals received.

The purpose of the project is to establish the viability of installing a combined cooling, heating, and power (CCHP) system at the District headquarters facility, which includes the headquarters and laboratory buildings, that is independent of the electric grid and fossil fuel sources. The District's 2035 Vision includes goals for the District to meet a net 100% of its energy needs with renewable energy sources and to reduce its carbon footprint by 90%. The headquarters facility is currently served by public gas and electric services as well as rooftop solar panels. If feasible, CCHP can help MMSD achieve its goals.

The scope of work for this project includes a detailed engineering analysis of the economic, environmental, and technical requirements for installing a system disconnected from the public grid. The analysis includes identifying the costs for bringing a new energy source to the headquarters facility, determining the energy demands of the facility, and establishing the rate of return for the investment.

ATTACHMENTS: **BACKGROUND** ☐ **KEY ISSUES** ☐ **RESOLUTION** ☒
FISCAL NOTE ☒ **S/W/MBE** ☒ **OTHER** ☐ _____

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SUMMARY (Cont'd)

Contract M01026P01, MMSD Feasibility Study of a Combined Cooling, Heating, and Power System for the Headquarters Facility Project

CCHP, also known as trigeneration, builds from the concept of combined heat and power, which reuses waste heat from power generation for heating. CCHP also uses absorption chillers to generate chilled water for air conditioning and refrigeration. For MMSD, CCHP may offer onsite, high efficiency production of electricity and heating/cooling capability. It may also offer significant reductions in greenhouse gas emissions and particulate matter over thermal power plants.

The feasibility study for a CCHP system at the headquarters facility will include the following tasks:

- Reviewing equipment and technologies for providing CCHP, including costs, maintenance, and emissions;
- Developing a basis of design and District's current and future energy needs;
- Describing the projected electrical and thermal production of the recommended systems;
- Comparing emissions output for the selected alternatives;
- Identifying potential fuel sources; and
- Preparing a project report detailing the results of the study.

The duration for this contract is 12 months.

RESOLUTION

Contract M01026P01, MMSD Feasibility Study of a Combined Cooling, Heating, and Power System for the Headquarters Facility Project

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the Executive Director is authorized to execute Contract M01026P01, Engineering Services for the MMSD Feasibility Study of a Combined Cooling, Heating, and Power System for the Headquarters Facility Project, with Rock Gap Engineering in an amount not to exceed \$199,329.