

COMMISSION FILE NO: 20-048-4 **DATE INTRODUCED:** April 15, 2020

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Award of Contract J06066C03, Protective Relay Upgrades at Jones Island Water Reclamation Facility, and Approve Changes in Total Project Costs

SUMMARY:

The Commission is requested to award and to direct the Executive Director to execute on behalf of the District Contract J06066C03, Protective Relay Upgrades at Jones Island Water Reclamation Facility (JIWRF), to Pieper Electric, Inc., in the amount of \$958,750. Pieper Electric, Inc., was the lowest responsible, responsive bidder among three bids received.

Further, the Commission is requested to increase the total project cost (TPC) for Project J06066, Power System Improvements, by \$386,890 for an amended TPC of \$2,023,630 and to make a corresponding change to the TPC for Project J99001, Allowance for Cost and Schedule Changes.

JIWRF uses multiple medium voltage (13,200- or 25,400-volt) switchgear units to distribute electric power throughout JIWRF. Each switchgear unit consists of large circuit breakers located in cubicles surrounded by a steel enclosure. All power generated onsite or purchased from the utility passes through the medium voltage circuit breakers. The reliability of the power distribution system within the facility is paramount to personnel safety and effective treatment of wastewater.

Each medium voltage circuit breaker includes relays that are configured to automatically trip (switch off) to protect generators, cables, motors, and other equipment from damage in the event of a failure or abnormality in the power distribution system. It is important that these relays provide adequate protection of the system while not tripping unnecessarily, which can lead to plant-wide power outages. Power outages hold risks of permit violations, plant upsets, and multiple safety hazards.

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

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COMMITTEE ACTION: _____ **DATE:** _____

COMMISSION ACTION: _____ **DATE:** _____

SUMMARY (Cont'd)

Award of Contract J06066C03, Protective Relay Upgrades at Jones Island Water Reclamation Facility, and Approve Changes in Total Project Costs

This contract will replace relays which are critical to ensure ongoing plant functionality; the relays are located in switchgear, which distributes power to the entire JIWRF. These relays are 30+ years old and have reached or exceeded their expected useful service lives. Due to the vintage of the relays, they do not have the capability to log event data. This creates a challenge for troubleshooting power events at JIWRF. The limited availability or lack of replacement parts puts the relays at an increased risk of failure. The purpose of this contract is to replace the obsolete relays with new equipment to reduce the risk of power outages at JIWRF and to increase the ability to determine the root cause if an event occurs.

The general scope of work for this contract will:

- Remove existing relays in switchgears located in Buildings 263, 286, and 289.
- Furnish and install:
 - 40 new relays.
 - Three real-time automation controllers.
 - Three satellite synchronized clocks.
 - Related electrical panels, controls and devices.
- Update existing JIWRF electrical system arc flash model to incorporate the new relays.

The contract duration is 380 days.

The low bid received by the District is greater than budgeted, and staff requests to increase the TPC accordingly. During the design phase, additional scope was added to the project that was not included in the 2020 Capital Budget.

RESOLUTION

Award of Contract J06066C03, Protective Relay Upgrades at Jones Island Water Reclamation Facility, and Approve Changes in Total Project Costs

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that Contract J06066C03, Protective Relay Upgrades at Jones Island Water Reclamation Facility, is awarded to Pieper Electric, Inc., in the amount of \$958,750, and that the Executive Director is directed to execute the contract on behalf of the District.

FURTHER RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that the total project cost for Project J06066, Power System Improvements, is increased by \$386,890 for an amended total project cost of \$2,023,630, and that a corresponding change is made to the total project cost for Project J99001, Allowance for Cost and Schedule Changes.