



COMMISSION FILE NO: 16-107-9 **DATE INTRODUCED:** September 12, 2016

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

REFERRED BY COMMISSION CHAIRPERSON TO: Operations Committee

RELATING TO: Authorizing the Executive Director to Execute a Purchase Order for Material Capital Repair or Replacement No. 844, Jones Island Water Reclamation Facility Waste Heat Guillotine Damper #6 Replacement (Project J06065)

SUMMARY:

The Commission is requested to authorize the Executive Director to execute a purchase order with Veolia Water Milwaukee, LLC, (VWM) for Material Capital Repair or Replacement (MCRR) No. 844, Jones Island Water Reclamation Facility (JIWRF) Waste Heat Guillotine Damper #6 Replacement (Project J06065), in an amount not to exceed \$127,000.

At JIWRF, the District uses turbines that burn natural gas or landfill gas to create electricity for plant equipment. The waste heat (combustion exhaust) gases from the turbines are used to dry plant biosolids in 12 rotary dryers. The rotary dryers can utilize waste heat or natural gas burners or a combination of both to generate temperatures above 900°F to dry the plant biosolids in the production of Milorganite®. The exhaust gases are collected from any of four turbines and transferred through a main 132-inch diameter waste heat duct to the Drying and Dewatering building.

Turbine exhaust gases can be further directed through a 42-inch diameter duct to each rotary dryer, where wet biosolids are heat dried and Milorganite® is produced. The 42-inch diameter duct to each dryer contains a guillotine damper, which is used in the following modes of operation.

- The damper is closed to isolate the dryer from waste heat exhaust gas.
- The damper is open to allow waste heat exhaust gas to enter the dryer.
- The damper is modulated to control the flow of waste heat exhaust gas to the dryer when firing the dryer on natural gas.

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

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SUMMARY (Cont'd)

Authorizing the Executive Director to Execute a Purchase Order for Material Capital Repair or Replacement No. 844, Jones Island Water Reclamation Facility Waste Heat Guillotine Damper #6 Replacement (Project J06065)

The guillotine damper and components are original equipment installed in 1994. The waste heat guillotine damper on Dryer #6 has failed bearings, gearing, and a damper actuator that will not allow the damper to close. Worn seals and deteriorated insulation at the actuator input shaft allow fugitive heat and exhaust gases to escape creating an unsafe environment.

Since the guillotine damper is unable to close and/or modulate, Dryer #6 cannot be isolated from turbine waste heat exhaust gases, preventing use the Dryer #6 on natural gas or combined heat sources. If the turbines are out of service and/or waste heat exhaust gases are insufficiently available, it is critical to maintain biosolids drying capacity by using the dryer fired on natural gas. Given these conditions, staff recommends replacing the guillotine damper and associated components.

The guillotine damper assembly consists of the damper, actuator, seal air fan, and insulation and cladding.

The scope of this project includes:

- Disconnecting electrical components and control wiring.
- Removing waste heat guillotine damper #6, insulation, and cladding.
- Providing and installing new waste heat guillotine damper.
- Providing and installing new seal air pressure blower and motor starter.
- Providing and installing new damper actuator.
- Connecting existing ductwork, electrical power supply, and control wiring.
- Providing and installing new insulation and cladding.
- Setting open/closed limits on the new damper actuator.
- Providing a seven-day run of the new equipment.

VWM competitively bid the work, and Butters-Fetting Co. was the lowest responsible, responsive bidder with one bid received. The purchase order will be issued to VWM, which is responsible for managing and overseeing the project.

Consistent with the Agreement for Management, Operations, and Maintenance Services between the District and VWM, VWM will make a \$10,000 contribution to the District for this project.

RESOLUTION

Authorizing the Executive Director to Execute a Purchase Order for Material Capital Repair or Replacement No. 844, Jones Island Water Reclamation Facility Waste Heat Guillotine Damper #6 Replacement (Project J06065)

RESOLVED, by the Milwaukee Metropolitan Sewerage Commission, that that the Executive Director is authorized to execute a purchase order with Veolia Water Milwaukee, LLC, for Material Capital Repair or Replacement No. 844, Jones Island Water Reclamation Facility Waste Heat Guillotine Damper #6 Replacement (Project J06065), in an amount not to exceed \$127,000.