

RECORD OF ORDINANCES

Davison Legal Blank, Inc.

Form No. 30013

Ordinance No. _____ Passed _____, 20____

CITY OF BELPRE
ORDINANCE NO. 23 (2016-17)

AN ORDINANCE AUTHORIZING THE SAFETY-SERVICE DIRECTOR TO
ADVERTISE FOR BIDS AND TO ENTER INTO A CONTRACT FOR THE
PURCHASE OF A STANDBY GENERATOR FOR THE CITY OF BELPRE
WASTEWATER TREATMENT PLANT

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY
OF
BELPRE, OHIO, THAT:

SECTION I

The Safety-Service Director of the City of Belpre is hereby authorized and directed to advertise for bids and to enter into a contract for the purchase of a standby generator for the City of Belpre wastewater treatment plant.

SECTION II

Submitting to the City of the proposal shall be considered a certification that the bidder is quoting on the latest current methods and equipment.

SECTION III

Bids shall be in accordance with and subject to the contract requirements and specifications hereto attached as Exhibit A, which shall be on file with the Clerk of Council. Such contract requirements and specifications shall be incorporated in each bid.

SECTION IV

Each bid must contain the full name of every person or company interested in the same and be accompanied by a check certified in the sum of 10% of the bid price to the satisfaction of the City of Belpre, as a guarantee that if the bid is accepted, a contract will be entered into and its performance duly secured. Should any bid be rejected, such check will be forthwith returned to the bidder. Should any bid be accepted, such check will be returned upon the proper execution and securing of the contract.

SECTION V

The City of Belpre shall reserve the right to reject any and all bids.

SECTION VI

This Ordinance is hereby declared to be an emergency measure necessary for the immediate preservation of the public health, welfare and safety of the City, and for the further reason that this equipment is necessary to ensure the

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Dayton Legal Blank, Inc.

Form No. 30043

Ordinance No. _____ Passed _____, 20____

continuous operation of the City wastewater treatment plant. Wherefore, this Ordinance shall take effect and be in full force from and immediately after its passage by Council and signing by the Mayor.

PASSED: December 11, 2017

ATTEST: Kimberly Meredith

PRESENTED TO MAYOR: 12/11/17

APPROVED BY MAYOR: 12/11/17

[Signature]
PRESIDENT OF COUNCIL

[Signature]
MAYOR

CLERK'S CERTIFICATION OF PUBLICATION

The undersigned Clerk of the Council of the City of Belpre, Ohio, does hereby certify that on December 12, 2017 this Ordinance was published by posting a copy of the same at the five public places designated by the City Council in Ordinance No. 18 (2006-07).

December 12, 2017
DATE

[Signature]
CLERK

City of Belpre Waste Water Treatment Plant Standby Generator

The following information is in regard to a request to provide a quote to obtain and install a new standby generator at the City of Belpre Waste Water treatment plant. This new generator system will replace the existing unit providing additional reliability and functionality in the plant during loss of utility power situations. The following criteria has been developed to be sent out for bidding to at least three chosen vendors. The generator has been sized at 500kW to accommodate the present load of the treatment facility based on drawings, billing data, and on-site data collection. The generator will be 277/480 volt three phase and will be a complete self-contained unit including; Outdoor enclosure, Diesel motor, Generator set, Protection and control system, and double walled fuel tank to provide 24 hour operation. Significant additional items in the request for quote would include; complete testing, commissioning, on-site training, and field service by the vendor. The installation and wiring to connect the generator system to the treatment facility would be the responsibility of a separate construction contractor. Details of the equipment specification are included below for additional information.

1. ELECTRICAL DESCRIPTION

500kW standby diesel-powered generator system. Unit shall be 480/277 volt, 3-phase, 4-wire, 60 Hz, 0.80 PF.

Scope of Supply: The manufacturer's scope of supply shall include, but not be limited to the following:

- Diesel Engine
- Synchronous Generator
- Excitation System (main exciter and voltage regulator)
- Terminal Boxes, including accessories
- Electric Metering and Control Panel
- Digital Interface System
- Metering and Alarm Monitoring System (local and remote)
- Rotor Blocking Devices (for transportation)
- Generator Main Circuit Breaker (with generator protection relays)
- Battery(s) and Battery Charger
- Outdoor Enclosure

(Exhibit A)

- Sub-base Fuel Tank
- Other accessories (heaters, CTs, PTs, CPTs etc.), as specified

2. ENGINE

A. Manufacturers:

- Caterpillar
- Kohler
- Cummins-Onan

Product Description: Liquid-cooled, four-stroke cycle, compression ignition Diesel internal combustion engine compliant with applicable EPA Tier level for emergency standby electrical generation.

Rating: Sufficient to operate under 10 percent overload for one hour in ambient of 90 degrees F at project elevation.

Fuel System: Diesel

Engine speed: As Required

Safety Devices: Engine shutdown on high water temperature, low oil pressure, over speed, and engine over crank. Limits as selected by manufacturer.

Engine Starting: DC starting system with positive engagement, number and voltage of starter motors in accordance with manufacturer's instructions. Furnish remote starting control circuit, with MANUAL-OFF-REMOTE selector switch on engine-generator control panel.

Engine Jacket Heater: Thermal circulation type water heater with integral thermostatic control, sized to maintain engine jacket water at temperatures suitable for full load operation immediately upon startup.

Radiator: Radiator using glycol coolant, with blower type fan, sized to maintain safe engine temperature in all operating conditions.

Engine Accessories: Water separator fuel filter, lube oil filter, intake air filter with restriction indicator, lube oil cooler, fuel transfer pump, fuel priming pump, coolant water pump. Furnish fuel pressure gage, water temperature gage, and lube oil pressure gage on engine/generator control panel.

Mounting: Furnish unit with suitable vibration isolators and mount on structural steel base.

3. GENERATOR CONTROL

- ### A. Generator controls shall interface seamlessly with existing transfer switch. The existing transfer switch utilizes an ASCO 7000 series controller.

Communication and Instrumentation: All devices necessary for starting, operating, control, protection, and shutdown of the unit shall be included and grouped on the generator control panel(s). All signals shall be made available to the owner's PLC / SCADA control system via Ethernet connection, and Allen Bradley PLC protocol is preferred, however Modbus TCP/IP is acceptable. The Supplier shall provide the Allen Bradley compatible tag list or Modbus mapping documentation with the equipment. The following list is typical:

- Running Status
- Remote Start/Stop
- Power (kW, kVAR, kVA, PF)
- Voltage
- Voltage Adjustment
- Current
- Frequency
- Speed
- Speed Adjustment
- Exciter Field Current
- Exciter Field Voltage
- Temperature
- Oil Pressure
- Runtime Meter
- Fuel Level
- Starting Battery Condition
- Preventative Maintenance Intervals
- Alarms – Warning / Shutdown
- Remote Reset

4. FIELD QUALITY CONTROL

A. Inspect and test in accordance with NETA ATS, except Section 4.

Perform inspections and tests listed in NETA ATS, Section 7.22.

Provide full load test, utilizing portable test bank, for 4 hours minimum. During test, record the following at maximum 20 minute intervals:

- Kilowatts.
- Amperes.
- Voltage.
- Coolant temperature.
- Room temperature.
- Frequency.
- Oil pressure.

Replace oil and fuel filters with new after load test.

5. MANUFACTURER'S FIELD SERVICES

- A. Prepare and start up engine-generator assembly.

6. ADJUSTING

- A. Adjust generator output voltage and engine speed to meet specified ratings.

7. CLEANING

- A. Clean engine and generator surfaces. Replace oil and fuel filters with new.

8. DEMONSTRATION AND TRAINING

- A. Furnish 8 hours of instruction, to be conducted at project site with manufacturer's representative.

After load testing (as described under Field Quality Control), provide description of loads connected to emergency system and restrictions for future load additions.

Simulate power outage by interrupting normal source, and demonstrate system operates to provide emergency power.

9. ACCESSORIES

- A. Exhaust Silencer: Sized in accordance with engine manufacturer's instructions, sufficiently shielded and fitted with rain cap.
- As an alternate to the base bid, provide options and associated cost for added noise reduction solutions.

Batteries: Heavy duty, lead-acid storage batteries. Match battery voltage and capacity to starting system. Furnish cables and clamps.

Battery Tray: Treated for electrolyte resistance, constructed to contain spillage.

Battery Charger: Current limiting type designed to equalize each cell. Furnish overload protection, full wave rectifier, DC voltmeter and ammeter, and 120 volts AC fused input. Furnish wall mounted enclosure to meet NEMA 250, Type 1 requirements.

Space Heaters: As required, the generator shall be equipped with space heaters to keep the internal windings dry when the unit is not in use. Logic to control these heaters on & off status shall also be supplied.

Enclosure: Outdoor weatherproof enclosure.

- Non-walk-in type.
- Enclosure walls and top shall be insulated as required for site conditions, fabricated of sandwich type construction. Enclosure panels shall be treated to prevent corrosion on both inside and outside surfaces. Outside painted with a sunlight resistant, scratch resistant powder coated finish.
- Furnished complete with a prefabricated enclosure. The enclosure shall include provisions so that it may be unbolted from the generator frame and removed.
- Top/roof of enclosure shall be one-piece construction, continuously welded without joints or penetrations.
- Enclosure shall include lockable access panels.
- Intake and discharge air louvers shall seal closed and automatically open when during operation.
- Furnish snow hood over intake and discharge louvers and dampers as required to ensure an operational system.

Diesel Fuel Storage Tank: Sub-base dual wall construction.

- UL 142 listed, closed top dike construction.
- Inner tank construction shall be meet all locale requirement for structurally integrity and containment.
- Lockable fuel fill point.
- Direct reading mechanical fuel gauge.
- Appropriate venting for inner and outer tanks areas.
- Sized to accommodate 24 hours of operation at generator full load rated capacity

