



Memo

TO: Mayor Manier and City Council
FROM: Ed Andrews, Public Works Director
DATE: August 17th, 2017
SUBJECT: Backup Generator for Rolling Meadows North
Sanitary Sewer Lift Station

EXECUTIVE SUMMARY:

Consideration for a permanent backup generator for the Rolling Meadows North lift station was made during this Fiscal year budgeting in an amount of approximately \$50,000.

It is recommended that the City Council authorize **\$44,624**, in the respective individual amounts for each of the supporting vendors / contractors for an amount not to exceed \$39,154 for Altorfer CAT and \$5,470 for B&L Electric for this project.

BACKGROUND NARRATIVE:

The Rolling Meadows North lift station is the City's second largest, serving all of Rolling Meadows North & South as well as the Colonial Manor subdivision. It is currently served by a portable pump which has to be transported and setup during an outage. The inclusion of a permanent gen set would allow for more timely restoration of service and reduce the potential for problems.

The City currently has CAT backup power at Sewer Treatment Plant #2, Water Treatment Plants #1 & #2, City Hall, Police Department, the Fire Department, and four of our six lift stations. The addition of backup power at Rolling Meadows North will leave only one remaining (the City's smallest lift station - 14 homes) Knollaire Lift Station without a permanent standby power, which we continue to service with a small portable generator.

The CAT gen set pricing uses the National Joint Powers Alliance nationwide purchase program, fulfilling competitive bid requirements on its consideration and providing an additional period of extended warranty. Other supporting site work for this installation will be done by in-house forces such as trenching and construction of the concrete pad. B&L Electric supports the lift stations and was requested to support this upgrade.

This matter has been placed on the City Council meeting agenda of Monday, August 21st, 2017 for review and approval.

PROPOSAL

Customer: City Of Washington

Date: 08/12/17

Attention: Kevin Schone

Project Name: Generator & Transfer Switch Proposal - NJPA

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Altorfer Power Systems appreciates your interest in Caterpillar power generation equipment and the opportunity to work with you on this project. We propose the following equipment to meet your requirement under NJPA contract #080613-CAT:

ITEM I

One (1) new Caterpillar model D125-10 diesel engine generator set rated at 125KW standby, 277/480Volt, 3-Phase, 60 Hz, 1800 RPM, with sound attenuated enclosure, 24 hour fuel tank base equipped per attached bill of materials. 4 year ESC warranty, and testing included.

TOTAL GENERATOR LIST PRICE.....	\$	47,476.00
NJPA DISCOUNT PER CONTRACT #080613-CAT.....	\$	- 16,617.00
NET ITEMS.....	\$	504.00

NJPA MEMBER PRICE.....	\$	31,363.00
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LOCAL ITEMS

One (1) new Asco 200A, 3-pole, 480V, service entrance rated open transition automatic transfer switch, NEMA 3R enclosure

Start up, freight

TOTAL LOCAL ITEMS.....	\$	7,791.00
GRAND TOTAL GENERATOR AND LOCAL ITEMS.....	\$	39,154.00

(plus sales tax)

NOTES:

1. Freight included to jobsite, curbside. No offloading included.
2. Terms are NET 10 days on approved account, Price valid for 30 days.
3. The above bill of material does not include demolition, removal, terminations, installation, labor, fuel, fuel piping, air ducting, exhaust silencer installation, exhaust piping or electrical wiring between loose items such as engine, control gear, transfer switches, day tanks, battery charger, etc.
4. The prices quoted are current and subject to change to those in effect at the time of shipment.
5. This equipment carries the manufacturer's warranty, which supersedes all other verbal or written statements of any sort whatsoever.
6. The purchaser agrees to pay any and all taxes, assessments, licenses, and governmental charges of any kind whatsoever upon said equipment which, may be imposed or assessed or resulting to the seller on account of the possession or use of said equipment by purchaser.
7. All agreements are contingent upon government restrictions, strikes, accidents, delay of carrier, and other delays unavoidable.
8. Coordination studies & relay settings are not included. Permitting not included.

BILL OF MATERIALS**AIR INLET SYSTEM**

- ✓ Air cleaner

ENGINE

- ✓ Emission control engine
- ✓ Structural steel base
- ✓ Vibration isolator pads
- ✓ Oil and fuel filter system

GENERATOR

- ✓ Caterpillar 125kW generator, standby rated, engine mounted and tested at the Caterpillar factory, Class H Insulation, optimal pitch
- ✓ Anti-condensation heater
- ✓ Generator running relay
- ✓ Voltage Regulator

ENCLOSURE

- ✓ Sound attenuated enclosure
- ✓ Critical grade exhaust silencer. Exhaust silencing system includes exhaust pipe and rain cap.
- ✓ Durable weather-resistant finish
- ✓ External emergency stop button

BASE FUEL TANK

- ✓ 24 hour rated fuel tank base, UL 142

LUBE SYSTEM

- ✓ Lubricating oil
- ✓ Oil filter
- ✓ Oil drain line with valve piped to edge of base

MOUNTING SYSTEM

- ✓ Formed steel base
- ✓ Linear vibration isolators between base and engine-generator

STARTING SYSTEM

- ✓ 24 Volt battery set
- ✓ 10 Amp battery Charger - Includes high voltage, low voltage and AC failure alarm outputs, DC Ammeter and Voltmeter, NEMA 1 enclosure.

DIGITAL CONTROL PANEL

Instrumentation

- ✓ LCD display with adjustable contrast and backlight with auto power off
- ✓ AC metering: Volts 3-phase (L-L & L-N); Amps (per phase & average); Frequency; kW (total & per phase); kVA (total & per phase); kVAR (total & per phase); Power Factor (overall & per phase); kW hours; kVAR hours

- ✓ DC metering: Battery Volts; Engine hours run; Engine Jacket Water Temperature (in °C or °F); Lube oil pressure (in psi, kPa or bar); Engine speed (rpm); Crank attempt counter; Start counter

Protection

- ✓ Fail to start shutdown
- ✓ Low oil pressure shutdown
- ✓ High engine temperature
- ✓ Approaching high coolant temperature alarm
- ✓ Approaching low oil pressure alarm
- ✓ Not in auto mode alarm
- ✓ Underspeed/Overspeed
- ✓ Loss of engine speed detection
- ✓ Low/High battery voltage
- ✓ Battery charger failure (if fitted)
- ✓ Under volts, over volts
- ✓ Under frequency, over frequency
- ✓ Overcurrent
- ✓ 4 Spare Channels
- ✓ 20 event fault log (name of event, engine hours at first occurrence of event, time stamp at first occurrence, engine hours at latest occurrence of event, time stamp at latest occurrence, number of occurrences of event)

Controls

- ✓ 2 LED status indicators (1 red shutdown, 1 amber warning)
- ✓ Run key and LED indicator
- ✓ Auto key and LED indicator
- ✓ Stop key and LED indicator
- ✓ Lamp test key
- ✓ Alarm acknowledge key
- ✓ Menu navigation keys
- ✓ Engine and AC metering shortcut keys
- ✓ All control module keys have tactile feedback
- ✓ Lock down emergency stop push button.
- ✓ Real time clock.
- ✓ Service interval counter.
- ✓ CAN 2 accessory data link – for additional modules: remote annunciator, discrete input/output module.
- ✓ Modbus communications on 2 wire half duplex RS485 connection for remote customer monitoring.

EPA EMISSIONS CERTIFIED

- ✓ Meets USA Environmental Protection Agency (EPA) and California Air Resources Board (CARB) non- road emission certifications & USA Environmental Protection Agency (EPA) emissions certification for stationary use (per EPA NSPS rule).

GOVERNING SYSTEM

- ✓ Cat Electronic Isochronous Governor. The engine governor shall be an electronic speed control with actuator. Speed droop shall be 0 (isochronous) from no load to full rated load. Steady state frequency regulation shall be +/- 0.25%. Speed shall be sensed by a magnetic pickup off the engine flywheel ring gear.

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FACTORY TESTING AT 0.8 PF

- ✓ Results at full load reported are: engine rpm, frequency, average voltage, line-to-line voltages for all three phases, average current, line currents for all three phases, and observed power--all at 0.8 power factor. Engine rpm, average voltage and line-to-line voltages for all three phases are reported at no load.

GENERAL GENERATOR SET NOTES:

- ✓ 2-Year warranty
- ✓ UL listed Circuit breaker, unit mounted
- ✓ Paint, Caterpillar Yellow
- ✓ First fill lubricating oil

EQUIPMENT STARTUP

- ✓ Includes site visits and consultation prior to delivery and prior to startup by Altorfer's project engineering team.
- ✓ One (1) day of on-site start-up testing is included for only the equipment purchased through Altorfer Power Systems.
- ✓ Time allowed for one factory certified technician will be based on accessibility, site preparation and safety concerns for both equipment and personal.
- ✓ This includes systems preparation, equipment start-up and functional operational test utilizing building load only.
- ✓ These services will be performed during normal business hours, Monday through Friday 7:30 am to 3:30 pm.
- ✓ All external mechanical and electrical connections must be made by others prior to start-up site visit by Altorfer field technician. See below if additional visit is required due to lack of readiness.
- ✓ Additional personal required or revisits are available and will require a written request for services with a change order by an authorized person and will be billed at prevailing rates.
- ✓ Operator training is included.

Thank you for the opportunity to quote this project. Please feel free to contact us if you would like any additional information or assistance.

ALTORFER POWER SYSTEMS AN EQUAL OPPORTUNITY EMPLOYER PURCHASES SUBJECT TO EXECUTIVE ORDER 11246, SEPT. 24 1965

Sincerely,

Accepted By:

Tim Scheuermann
Phone: 309-697-1234 x5109
Mobile: 309-696-8707
E-Mail: tscheuermann@altorfer.com

Print Name: _____

Date: _____



1309 Knollcrest Drive
Washington, IL. 61571
Phone (309)444-2742 Fax (309)444-9758

Quote

City of Washington
301 Walnut Street
Washington, IL. 61571

August 17, 2017

We are pleased to quote the following for electrical work to wire a new generator on the Rolling Meadows North lift station. Work to include all materials and labor for the following.

Install-Wire new 200 amp automatic transfer switch, supplied by others.

Install-Wire new generator, supplied by others.

Furnish-Install-Wire conduit and wire between existing main disconnect and transfer switch.

Furnish-Install-Wire conduit and wire between existing control panel and transfer switch.

Furnish-Install-Wire conduit and wire between transfer switch and generator.

Furnish-Install-Wire conduit and wire for controls between transfer switch and generator.

Quote for above \$4970.00

Add if necessary:

Crane rental to set generator.

Add \$500.00

Note: Generator, transfer switch, concrete base and fuel furnished by city.

Respectfully submitted;

Thomas E. Reeder