

Specification for bid proposal for Atchison County Emergency Management/EMS Generator Replacement:

Atchison County Emergency Management/EMS is accepting bids for the replacement of our current backup generator located at 10443 US HWY 59 Atchison, KS 66002. All work must satisfy local building and safety codes and approved by Atchison County for acceptance. An awarded contract shall be based on the lowest bid that meets and/or exceeds the following minimum specifications. This project must be completed by December 30, 2020.

Bidder Instructions:

This specification shall be posted at the website www.atchisoncountyks.org for a period of no less than two weeks beginning 9/8/2020 with the bid period closing by 1:00pm on 9/22/2020. Successful sealed bids shall be submitted via mail, private courier, or in person to:

Atchison County Clerk
Emergency Management Generator Bid Proposal
423 N. 5th St.
Atchison, KS 66002

The bid opening shall be 9/22/2020 at the Atchison County Commission Meeting.

The proposal shall include a firm price for all work and materials necessary for meeting this specification. The bid price shall be good for 30 days after the bid opening. The construction start date shall be included in the proposal and construction shall be completed prior to December 30, 2020. Proposals shall include specification of materials to be used. In addition to the material list, bid shall include the completed attached bid proposal sheet. This project is not exempt from building and trade permits. On site visits may be scheduled with Wesley Lanter, Director Atchison County Emergency Management, Monday through Friday 8:00am to 4:00pm at 913-804-6131. As all Atchison County facilities are adhering to COVID-19 precautions all walk through participants must wear a facemask while in county buildings. Successful bidders will adhere to COVID-19 face mask requirements while working inside county buildings.

Atchison County Emergency Management and Atchison County reserve the right to reject any and all bids.

Project:

- Furnish and install a 60RCLA-QS5 Kohler generator. 120/240-volt, single phase, 250-amp main breaker.
- Install a concrete pad for the generator.
- Furnish and install wiring from the transfer switch to the generator.
- Generator package to include a battery, block heater and 5-year basic warranty.
- Gas line installation is part of another project & will be provided to the generator.

For any questions please contact:

Wesley Lanter, Director
Atchison County Emergency Management
10443 US 59 Hwy.
Atchison, KS 66002
913-804-6131



The Kohler® Advantage

- **High Quality Power**
Kohler generators provide advanced voltage and frequency regulation along with ultra-low levels of harmonic distortion for excellent generator power quality to protect your valuable electronics.
- **Extraordinary Reliability**
Kohler is known for extraordinary reliability and performance and backs that up with a 5-year/2000-hour limited warranty.
- **Aluminum Sound Enclosure**
Aluminum sound enclosure is standard. Optional 291 kph (181 mph) wind-load-rated enclosure door kit is available for field installation.
- **Fast Response**
Kohler's Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth permanent magnet (PM)-excited alternator.
- **Quiet Operation**
Kohler home generators provide quiet, neighborhood-friendly performance.

Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The generator set accepts rated load in one step.
- A standard 5-year/2000-hour limited warranty covers all systems and components.
- Quick-ship (QS) models with selected features are available. See your Kohler distributor for details.
- RDC2 Controller
 - One digital controller manages both the generator set and transfer switch functions (with optional Model RXT ATS).
 - Designed for today's most sophisticated electronics.
 - Electronic speed control responds quickly to changing demand.
 - Digital voltage regulation protects your valuable electronics from harmonic distortion and unstable power quality.
- Engine Features
 - Powerful and reliable Kohler 6.2L liquid-cooled engine
 - Electronic engine management system.
 - Simple field conversion between natural gas and LP vapor fuels while maintaining emission certification.
- Innovative Cooling System
 - Electronically controlled fan speeds minimize generator set sound signature.
- Approved for stationary standby applications in locations served by a reliable utility source.
- Certifications
 - The 60 Hz generator set engine is certified by the Environmental Protection Agency (EPA) to conform to the New Source Performance Standard (NSPS) for stationary spark-ignited emissions.
 - UL 2200/cUL listing is available (60 Hz only).
 - CSA certification is available (60 Hz only).
 - Accepted by the Massachusetts Board of Registration of Plumbers and Gas Fitters.

Generator Set Ratings

| Alternator | Voltage | Ph | Hz | Standby Ratings | | | |
|------------|----------|----|----|-----------------|------|--------|------|
| | | | | Natural Gas | | LPG | |
| | | | | kW/kVA | Amps | kW/kVA | Amps |
| 4P10X | 120/208 | 3 | 60 | 60/75 | 209 | 60/75 | 209 |
| | 127/220 | 3 | 60 | 60/75 | 197 | 60/75 | 197 |
| | 120/240 | 3 | 60 | 60/75 | 181 | 60/75 | 181 |
| | 277/480 | 3 | 60 | 60/75 | 91 | 60/75 | 91 |
| | 220/380* | 3 | 50 | 50/62 | 95 | 50/62 | 95 |
| | 230/400 | 3 | 50 | 50/62 | 90 | 50/62 | 90 |
| 4Q10X | 240/416* | 3 | 50 | 50/62 | 87 | 50/62 | 87 |
| | 120/240 | 1 | 60 | 58/58 | 242 | 60/60 | 250 |

* 50 Hz models are factory-connected as 230/400 volts. Field-adjustable to 220/380 or 240/416 volts by an authorized service technician.

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor. Standby Ratings: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-8528-1 and ISO-3046-1. Obtain technical information bulletin TIB-101 for ratings guidelines, complete ratings definitions, and site condition derates. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Availability is subject to change without notice. Contact your local Kohler generator distributor for availability.

Alternator Specifications

| Specifications | Alternator |
|--|--|
| Manufacturer | Kohler |
| Type | 4-Pole, Rotating Field |
| Exciter type | Brushless, Rare-Earth Permanent Magnet |
| Leads: quantity, type | |
| 4P10X | 12, Reconnectable |
| 4Q10X | 4, 110-120/220-240 |
| Voltage regulator | Solid State, Volts/Hz |
| Insulation: | NEMA MG1 |
| Material | Class H |
| Temperature rise | 130°C, Standby |
| Bearing: quantity, type | 1, Sealed |
| Coupling | Flexible Disc |
| Amortisseur windings | Full |
| Voltage regulation, no-load to full-load | ± 1.0% RMS |
| Unbalanced load capability | 100% of Rated Standby Current |
| One-step load acceptance | 100% of Rating |
| Peak motor starting kVA: | (35% dip for voltages below) |
| 480 V, 400 V 4P10X (12 lead) | 275 (60 Hz), 220 (50 Hz) |
| 240 V, 220 V 4Q10X (4 lead) | 144 (60 Hz), 132 (50 Hz) |

- The unique Fast-Response® X excitation system delivers excellent voltage response and short-circuit capability using a rare-earth, permanent magnet (PM)-excited alternator.
- Brushless, rotating-field alternator.
- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and drip-proof construction.
- Windings are vacuum-impregnated with epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Total harmonic distortion (THD) from no load to full load with a linear load is less than 3.5%.

Application Data

Engine

| Engine Specifications | 60 Hz | 50 Hz |
|--|-----------------------------------|-----------|
| Manufacturer | Kohler | |
| Engine: model, type | KG6208 6.2L Natural Aspiration | |
| Cylinder arrangement | V-8 | |
| Rated rpm | 1800 | 1500 |
| Displacement, L (cu. in.) | 6.2 (378) | |
| Bore and stroke, mm (in.) | 101.6 x 95.25 (4.00 x 3.75) | |
| Compression ratio | 10.5:1 | |
| Max. power at rated rpm, kW (HP) | 77.0 (103) | 64.3 (86) |
| Cylinder head material | Cast Aluminum | |
| Piston type and material | High Silicon Aluminum | |
| Crankshaft material | Cast Iron | |
| Valve (exhaust) material | Forged Steel | |
| Governor type | Electronic | |
| Frequency regulation, no-load to full-load | Isochronous | |
| Frequency regulation, steady state | ±1.0% | |
| Frequency | Fixed | |
| Air cleaner type | Dry | |

Engine Electrical

| Engine Electrical System | |
|--|------------|
| Ignition system | Electronic |
| Battery charging alternator: | |
| Ground (negative/positive) | Negative |
| Volts (DC) | 12 |
| Ampere rating | 130 |
| Starter motor rated voltage (DC) | 12 |
| Battery, recommended cold cranking amps (CCA): | |
| Qty., rating for -18°C (0°F) | One, 630 |
| Battery voltage (DC) | 12 |
| Battery group size | 24 |

Exhaust

| Exhaust System | 60 Hz | 50 Hz |
|---|-------------|------------|
| Exhaust manifold type | Dry | |
| Exhaust flow at rated kW, m ³ /min. (cfm) | 16.4 (580) | 13.6 (480) |
| Exhaust temperature at rated kW, dry exhaust, °C (°F) | 649 (1200) | |
| Maximum allowable back pressure, kPa (in. Hg) | 10.2 (3.0) | |
| Exhaust outlet size at engine hookup, mm (in.) | 76 (3.0) OD | |

Fuel

| Fuel System | |
|---|-----------------------|
| Fuel type | LP Gas or Natural Gas |
| Fuel supply line inlet | 1 in. NPT |
| Natural gas fuel supply pressure, kPa (in. H ₂ O) | 1.74-2.74 (7-11) |
| LPG vapor withdrawal fuel supply pressure, kPa (in. H ₂ O) | 1.24-2.74 (5-11) |

| Fuel Composition Limits * | Nat. Gas | LP Gas |
|---|------------|-------------|
| Methane, % by volume | 92 min. | — |
| Ethane, % by volume | 4.5 max. | — |
| Propane, % by volume | 1.0 max. | 87 min. |
| Propene, % by volume | 0.1 max. | 5.0 max. |
| C ₄ and higher, % by volume | 0.3 max. | 2.5 max. |
| Sulfur, ppm mass | 25 max. | |
| Lower heating value, MJ/m ³ (Btu/ft ³), min. | 33.2 (890) | 84.2 (2260) |

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Lubrication

| Lubricating System | |
|---------------------------------------|---------------|
| Type | Full Pressure |
| Oil pan capacity, L (qt.) | 5.7 (6.0) |
| Oil pan capacity with filter, L (qt.) | 7.1 (7.5) |
| Oil filter: quantity, type | 1, Cartridge |

Application Data

Cooling

| Radiator System | 60 Hz | 50 Hz |
|--|---------------------|------------|
| Ambient temperature, °C (°F) | 45 (113) | |
| Radiator system capacity, including engine, L (gal.) | 21.3 (5.6) | |
| Engine jacket water flow, Lpm (gpm) | 131 (34.6) | 109 (28.8) |
| Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.) | 54 (3070) | 49 (2790) |
| Water pump type | Centrifugal | |
| Fan diameter, mm (in.) | qty. 3 @ 356 (14) | |
| Fan power requirements (powered by engine battery charging alternator) | 12VDC, 18 amps each | |

Operation Requirements

| Air Requirements | 60 Hz | 50 Hz |
|---|-------------|-------------|
| Radiator-cooled cooling air, m ³ /min. (scfm)† | 62.2 (2200) | 62.2 (2200) |
| Air over engine, m ³ /min. (cfm) | 31.1 (1100) | 31.1 (1100) |
| Combustion air, m ³ /min. (cfm) | 5.5 (195) | 4.6 (162) |

† Air density = 1.20 kg/m³ (0.075 lbf/ft³)

Fuel Consumption‡

| Natural Gas, m ³ /hr. (cfh) at % load | 60 Hz | 50 Hz |
|--|-------------|------------|
| 100% | 28.7 (1013) | 24.9 (878) |
| 75% | 21.6 (761) | 18.7 (660) |
| 50% | 14.0 (493) | 12.1 (427) |
| 25% | 7.0 (248) | 6.1 (215) |

| LP Gas, m ³ /hr. (cfh) at % load | 60 Hz | 50 Hz |
|---|------------|-----------|
| 100% | 10.1 (357) | 8.8 (309) |
| 75% | 7.2 (255) | 6.3 (221) |
| 50% | 5.4 (191) | 4.7 (166) |
| 25% | 3.2 (113) | 2.8 (98) |

‡ Nominal Fuel Rating: Natural gas, 37 MJ/m³ (1000 Btu/ft³)
LP Vapor, 93 MJ/m³ (2500 Btu/ft³)

LP vapor conversion factors:
8.58 ft.³ = 1 lb.
0.535 m³ = 1 kg.
36.39 ft.³ = 1 gal.

Sound Enclosure Features

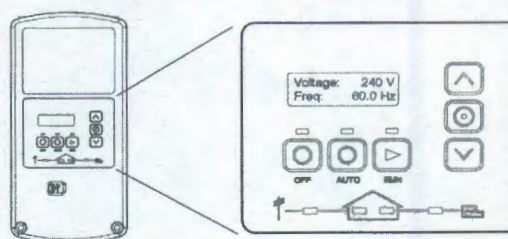
- Sound-attenuating enclosure uses acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture absorption.
- Internally mounted critical silencer.
- Skid-mounted, aluminum construction with two removable access panels.
- Scratch- and corrosion-resistant Kohler® cashmere powder-baked finish.

Sound Data

Model 60RCLA sound levels are 57 dB(A) during weekly engine exercise and 61 dB(A) during normal operation.

All sound levels are measured at a distance of 23 ft. (7 m) from the generator set. Actual sound levels may vary based on installation parameters.

RDC2 Controller



The RDC2 controller provides integrated control for the generator set, Kohler® Model RXT transfer switch, programmable interface module (PIM), and load shed kit.

The RDC2 controller's 2-line LCD screen displays status messages and system settings that are clear and easy to read, even in direct sunlight or low light.

RDC2 Controller Features

- Membrane keypad:
 - OFF, AUTO, and RUN pushbuttons
 - Select and arrow buttons for access to system configuration and adjustment menus
- LED indicators for OFF, AUTO, and RUN modes
- LED indicators for utility power and generator set source availability and ATS position (Model RXT transfer switch required)
- LCD screen:
 - Two lines x 16 characters per line
 - Backlit display with adjustable contrast for excellent visibility in all lighting conditions
- Scrolling system status display
 - Generator set status
 - Voltage and frequency
 - Engine temperature
 - Oil pressure
 - Battery voltage
 - Engine runtime hours
- Date and time displays
- Smart engine cooldown senses engine temperature
- Digital isochronous governor to maintain steady-state speed at all loads
- Digital voltage regulation: ± 1.0% RMS no-load to full-load
- Automatic start with programmed cranking cycle
- Programmable exerciser can be set to start automatically on any future day and time, and to run every week or every two weeks
- Exercise modes
 - Unloaded exercise with complete system diagnostics
 - Unloaded full-speed exercise
 - Loaded full-speed exercise (Model RXT ATS required)
- Front-access mini USB connector for SiteTech™ connection
- Integral Ethernet connector for Kohler® OnCue® Plus
- Built-in 2.5 amp battery charger
- Remote two-wire start/stop capability for optional connection of a Model RDT transfer switch

See additional controller features on the next page.

Additional RDC2 Controller Features

- Diagnostic messages
 - Displays diagnostic messages for the engine, generator, Model RXT transfer switch, programmable interface module (PIM), and load shed kit
 - Over 70 diagnostic messages can be displayed
- Maintenance reminders
- System settings
 - System voltage, frequency, and phase
 - Voltage adjustment
 - Measurement system, English or metric
- ATS status (Model RXT ATS required)
 - Source availability
 - ATS position (normal/utility or emergency/generator)
 - Source voltage and frequency
- ATS control (Model RXT ATS required)
 - Source voltage and frequency settings
 - Engine start time delay
 - Transfer time delays
 - Fixed pickup and dropout settings
 - Voltage calibration
- Programmable Interface Module (PIM) status displays
 - Input status (active/inactive)
 - Output status (active/inactive)
- Load control menus
 - Load status
 - Test function

Generator Set Standard Features

- Aluminum sound enclosure with enclosed silencer
- Battery rack and cables
- Electronic, isochronous governor
- Engine-generator set is designed and manufactured in facilities certified to ISO:9001.
- Flexible fuel line
- Gas fuel system (includes fuel mixer, electronic secondary gas regulator, two gas solenoid valves, and flexible fuel line between the engine and the skid-mounted fuel system components)
- Integral vibration isolation
- Line circuit breaker
- Oil drain extension
- OnCue® Plus Generator Management System for remote monitoring (see specification sheet G6-140)
- Operation and installation literature
- RDC2 controller with built-in battery charger
- Standard 5-year/2000-hour limited warranty

Available Options

Approvals and Listings

- UL 2200 Listing (60 Hz only)
- CSA Approval (60 Hz only)

Electrical System

- Battery
- Battery Heater

Available Options (continued)

Enclosure Option

- 291 kph (181 mph) wind load rated enclosure

Starting Aids §

- Block Heater, 120 V
- Block Heater, 240 V

§ Recommended for ambient temperatures below 0°C (32°F)

Controller Accessories

- Lockable Emergency Stop (lockout/tagout)
- Programmable Interface Module (PIM) (provides 2 digital inputs and 6 relay outputs)

Automatic Transfer Switches and Accessories

- Model RXT Automatic Transfer Switch
- Model RXT Automatic Transfer Switch with combined interface/load management board
- Model RDT Automatic Transfer Switch
- Load shed kit for RDT or RXT
- Power relay modules (use up to 4 relay modules for each load management device)
- Other Kohler® ATS

Miscellaneous

- Rated Power Factor Testing

Literature

- General Maintenance Literature Kit
- Overhaul Literature Kit
- Production Literature Kit

Warranty

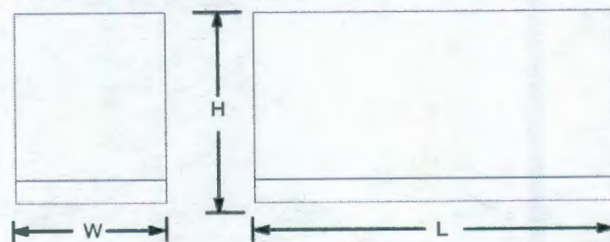
- Optional Extended 5-Year/2000 Hour Comprehensive Limited Warranty

Dimensions and Weights

Overall Size, L x W x H, mm (in.): 2280 x 836 x 1182
(89.8 x 32.9 x 46.5)

Shipping Weight, wet, kg (lb.): 859 (1894)

Weight includes generator set with engine fluids and 4Q10X alternator, sound enclosure, and silencer.



NOTE: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

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