COUNCIL WORKSHOP ITEM

ITEM: Installation of Emergency Generator at Fire Station Five
DATE: June 18, 2002
PREPARED BY: Michael Baker, Assistant to the Village Manager
Dann Fitzpatrick, Building Services Manager
PURPOSE: Award Bid for Generator Installation to Alternate Power, Inc.

BID AMOUNT: **$33,191.15** **ACCOUNT:** 220.521.0000.5430.001
BUDGET AMOUNT: **$136,100.00** (transfer $33,191.15 to Acct: 220.521.5831.705)

DISCUSSION:
In 2001, Fire Station 5 was renovated and the administrative functions were transferred into that facility. It currently houses the Fire Chief and Deputy Chiefs' offices as well as the administrative support staff. The generator currently at Station 5, however, only has the capacity to operate the overhead doors. All of the other electrically run systems, including the computers, lighting and telephones are not supported by it. With the installation of the proposed generator, the entire station would remain in operation in the event of a power failure. This would ensure that the Fire Department could continue to deliver an uninterrupted level of service and allow the leadership to effectively coordinate the duties of the department in the event of an emergency.

The following bids were received for the installation of the Station 5 generator:

	Bidder	Bid Amount
1.	Alternate Power, Inc.	$33,191.15
2.	Therm Flo Inc.	$41,780.00
3.	Pro Electric Generators	$45,299.00
4.	Fulton Contracting	$45,525.00
5.	K&B Electric	$51,730.00

Pro Electric is a Downers Grove-based company, but their bid exceeded the acceptable range for rejecting the lowest bidder in favor of a local vendor.

Funding for this project has not been budgeted in FY2002-03. $43,000 for fire station generator upgrades was budgeted and went unspent in FY2001-02, but the funds were not carried forward into the current fiscal year budget. It is proposed that funds budgeted for the Village Hall generator upgrade project be transferred in order to cover the purchase and installation of the Station 5 generator. Staff has concluded that it is more critical to provide a permanent full-service generator in the fire station administrative headquarters and recommends that the Village Hall generator project be deferred until at least next year. The Village Hall does have a series of smaller generators with the capacity to power the building's critical resources, such as computer networks and backup systems, exit and emergency lights, and outlets in the computer/GIS area. The building could be powered with a temporary generator in the event of a long-term power failure.

ATTACHMENT:
Bid documents received from Alternate Power, Inc.

RECOMMENDATION:
Staff recommends the approval of the bid submitted by Alternate power, Inc. in the amount of $33,191.15 and the transfer of that amount from account #220.521.0000.5430.001 to account #220.521.0000.5831.705.

Alternate Power, Inc.

Emergency Power Systems
Standby Generators

PROPOSAL

March 7, 2002

Dan Fitzpatrick
Facility Manager - Village of Downer's Grove
801 Burlington Avenue
Downer's Grove, IL 60516

Re: Generator for Fire Station #5

Dear Dan,

Per your request for provision of an emergency back-up generator system at 6701 Main Street in Downer's Grove, we are pleased to submit the following Bill of Materials for a 60 kW generator and 600 amp ATS, with installation, for your approval:

BILL OF MATERIALS

Generator

One (1) Cummins Onan Model 60 GGHE, Natural Gas, 60 kW, 60 Hz, 120/208 Volt, Three Phase, Standby Generator. This model features the following:

- 60 kW on Natural Gas, 60 Hz, 120/208 Volts, 3 Phase Wye
- 1800 RPM, Outdoor Installation, Standby Power
- Alternator-60 Hz, 12 Ld, Broad Rng, Full 1 Phase Output, 125c
- Set Control-Detector 12, with Meters
- Relays – One auxiliary 3pdt, 12 REMOTE ANNUNCIATOR
- Exciter/Regulator-Torque Match
- Engine Governor-Electronic Isochronous Only
- Circuit Breaker Mtg-Single Breaker, Left of Control
- Circuit Breaker-225 amp, 3 Pole, 240V, Thermomagnetic, Ul
- Weather Protective Housing w/Muffler
- Engine Cooling-Radiator, 40c Ambient
- Shutdown-Low Coolant Level
- Coolant Heater-120 Volt Ac, Single Phase
- Rack Battery
- On-Site Start-Up
- Freight to Site Location
- Product Revision-B
- 1 YEAR BASE WARRANTY

Automatic Transfer Switch

One (1) ASCO 300 Series, 600 amps, 208 V, Automatic Transfer Switch.

- 60 Hz, 208 Volt, 3 Phase, 3 Pole
- Listing-UL 1008/CSA Certification
- Mechanically Held
- Engine Exerciser-Load/No Load
- Display-Digital
- NEMA Type 1 Cabinet - Indoor Installation

Installation: This proposal is based on the installation of one (1) new Cummins Onan 60 kW, Natural Gas, Three Phase, 208V generator with one (1) ASCO 600 amp Automatic Transfer Switch.

- A rental generator will be provided to maintain power at your facility during the installation.
- Change-over to be performed during off-hours (evening/weekend) when overtime rates apply.
- Installation of 600 amp fuse disconnect as required by code
- Running high and low voltage lines from electrical panel and ATS to generator location on the side of the building, adjacent to the incoming electrical service.
- We will provide the concrete pad and place the generator with the use of heavy equipment.
- All final gas connections will be made by tapping off the line near the furnace and running the line to the generator location.
- All electrical work to be installed in conduit with copper wire.
- All work to be done according to code.
- *Any permits and/or inspection fees are the responsibility of the customer.*

Price Includes: Items per Bill of Materials, Installation, Delivery to Job Site, Battery, Start-Up, Test and Adjustment.

Price: $33,191.15

(Sales Tax Exempt)

Payment terms: 50% ($16,595.57) upon acceptance of proposal, 25% ($8,297.79) due 10 days prior to delivery of Equipment with balance 25% ($8,297.79) due upon Start-Up.

Note: This proposal may be withdrawn by us if not accepted within 30 days.

Proposal is based on information supplied by Dan Fitzpatrick and preliminary observations by Alternate Power, Inc and Metro Power, Inc. All elements of this Proposal are contingent upon strikes, accidents or delays beyond our control The estimate does not include material price increases, or additional labor and materials which may be required should unforeseen problems arise after the work has started. All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from the above specifications involving extra costs will be executed only upon a written change order. The costs will become an extra charge over and above the estimate. Owner to carry Fire and other necessary insurance.

Alternate Power, Inc.'s responsibility is limited to the installation of the generator and automatic transfer switch to the point of start-up. Start-up to be performed by authorized technician at which point the manufacturer's warranty becomes valid. It is the owner's responsibility to maintain the GenSet per manufacturer's requirements as outlined in their owner/operating manuals.

PAYMENT DUE UPON RECEIPT OF INVOICE OR AS OTHERWISE EXPRESSLY AGREED ABOVE. Should it become necessary to institute collection proceedings, Customer agrees to pay all costs incurred, including a reasonable attorney's fee, court cost and all other expenses that may be involved herein, whether or not suit is filed. In the event this amount herein is collected thru a collection agency, Customer agrees to pay all collection costs. Alternate Power, Inc. reserves the right to charge a 1.5% per month finance charge on amounts not paid upon delivery.

CANCELLATION: Customer may cancel order by written notice to Alternate Power, Inc. provided that the subject generator has not been ordered by Alternate Power, Inc. An administrative charge of $150 will be assessed for any cancellations. In the event said generator has been ordered, all monies received are non-refundable and will be applied toward the cost of the unit. The balance of the unit cost will then be due and payable, with no charge to the customer for estimated installation costs, provided that no installation work has been performed.

STORAGE: Equipment held at customer's written request, will be assessed a 2% (of net invoice) per month storage charge, starting 10 days after the scheduled ship date.

We appreciate the opportunity to offer the above equipment for your consideration and look forward to working with you on this project.

Respectfully,

Alternate Power, Inc.

Sharon C. Huber

Sharon C. Huber
President & CEO

Acceptance of this Proposal:

The above prices, specifications and conditions are satisfactory and hereby authorized. You are authorized to do the work as specified. Payment will be made as outlined above.

Accepted by: _____ Date: _____

Title: _____

Generator Set

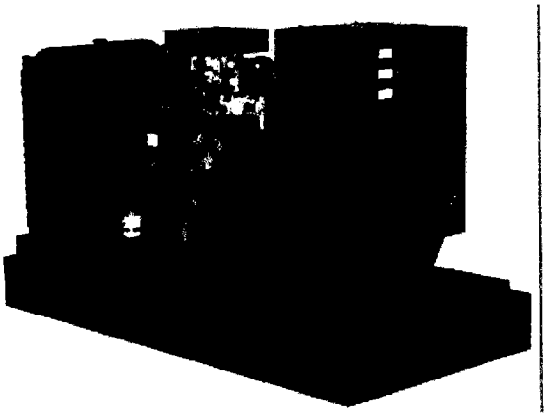
Cummins

Onan

Natural Gas - 60 kW, 75 kVA, Standby

Propane - 60 kW, 75 kVA, Standby

GGHE 60 Hz Generator Set



Optional Features Shown

Description

The Cummins® Onan® GG series spark ignited generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for standby operation in stationary applications.

A primary feature of the GG GenSet is strong motor starting capability and fast recovery from transient load changes. The torque matched system includes a heavy duty Ford 4-cycle spark ignited engine, an AC alternator with high motor starting kVA capacity, and an electronic voltage regulator for precise regulation under steady-state or transient loads. The GG GenSet accepts 100% of the nameplate standby rating in one step, in compliance with NFPA110 requirements.

A LP vapor fuel system is standard with several options for natural gas and LP liquid as well as dual fuel.

The GG GenSet offers both user- and environment- friendly operation. The Detector™ Control is standard and meets NFPA110 requirements.

A wide range of options, accessories, and services are available, allowing configuration to your specific power generation needs.

Every production unit is factory tested at rated load and power factor. This testing includes demonstration of rated power and single-step rated load pickup. Cummins Onan manufacturing facilities are registered to ISO9001 quality standards, emphasizing our commitment to high quality in the design, manufacture, and support of our products. The GenSet is CSA certified.

All Cummins Onan brand power generation systems are backed by a comprehensive warranty program and supported by a worldwide network of 170 distributors and service branches, to assist you with warranty, service, parts, and planned maintenance support.

Features

- **Ford Heavy-Duty Gas Engine** - Rugged 4-cycle industrial spark ignited engine delivers reliable power. The electronic governor provides fast response to load changes.
- **Alternator** - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads, fault clearing short-circuit capability, and class H insulation.
- **Control Systems** - The standard Detector™ Control features NFPA 110 compliance.
- **Cooling Systems** - Standard cooling package provides reliable running at up to 40°C ambient temperature. An optional 50°C cooling system is offered.
- **Integral Vibration Isolation** - Robust skid base supports the engine, alternator, and radiator on isolators, minimizing transmitted vibration.
- **E-Coat Finish** - Dual electro-deposition paint system provides high resistance to scratching, corrosion, and fading.
- **Housings** - Weather-protective and sound-attenuated housings are available.
- **Certifications** - Generator sets are designed, manufactured, tested, and certified to relevant UL, NFPA, ISO, IEC, and CSA standards.
- **Warranty and Service** - Backed by a comprehensive warranty and worldwide distributor service network.

Generator Set

The general specifications in this document provide representative configuration details, but the outline drawing must be used for installation design.

See outline drawing 500-3313 for installation design specifications.

Unit Width, in.(mm)	40.0 (1016)
Unit Height, in.(mm)	49.3 (1252)
Unit Length, in.(mm)	82.8 (2103)
Unit Dry Weight, lbs. (kgs)	2004 (909)
Unit Wet Weight, lbs. (kgs)	2088 (947)
Rated Speed, rpm	1800
Voltage Regulation, No Load to Full Load	±1.0%
Random Voltage Variation	±1.0%
Frequency Regulation	Isochronous
Random Frequency Variation	±0.6%
Radio Frequency Interference	Meets requirements of most industrial and commerical applications

	Natural Gas		Propane	
Cooling	**Standby**		**Standby**	
Fan Load, HP (kW)	9.5 (7.1)		9.5 (7.1)	
Coolant Capacity with radiator, US Gal (L)	8.5 (32.2)		8.5 (32.0)	
Coolant Flow Rate, Gal/min (L/min)	28.0 (106.0)		28.0 (106.0)	
Heat Rejection To Coolant, Btu/min (MJ/min)	2700.0 (2.9)		2700.0 (2.9)	
Heat Radiated To Room, Btu/min (MJ/min)	1350.0 (1.4)		1350.0 (1.4)	
Maximum Coolant Friction Head, psi (kPa)	2.0 (13.8)		2.0 (13.8)	
Maximum Coolant Static Head, psi (kPa)	10.0 (3.0)		10.0 (3.0)	
Air				
Combustion Air, cfm (m^3/min)	121.0 (3.4)		125.0 (3.5)	
Alternator Cooling Air, cfm (m^3/min)	1308.0 (37.0)		1308.0 (37.0)	
Radiator Cooling Air, scfm (m^3/min)	6000.0 (169.8)		6000.0 (169.8)	
Minimum Air Opening to Room, ft^2(m^2)	8.7 (0.8)		8.7 (0.8)	
Minimum Discharge Opening, ft^2(m^2)	5.9 (0.5)		5.9 (0.5)	
Max. Static Restriction, in H_2O (Pa)	0.5 (125.0)		0.5 (125.0)	

Rating Definitions

Standby Rating based on: Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally rated.

Prime (Unlimited Running Time) Rating based on: Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

Base Load (Continuous) Rating based on: Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO8528, ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

Site Derating Factors

Natural Gas

Engine power available up to 3000 ft (915 m) at ambient temperatures up to 104°F (40°C). Above 3000 ft (915 m) derate at 4% per 1000 ft (305 m), and 1% per 10°F (2% per 11°C) above 104°F (29°C).

Propane

Engine power available up to 4000 ft (1220 m) at ambient temperatures up to 104°F (40°C). Above 4000 ft (1220 m) derate at 4% per 1000 ft (305 m), and 1% per 10°F (2% per 11°C) above 104°F (29°C).