

SECTION 26 32 13 - ENGINE GENERATORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. **KROGER DIRECT BUY PROGRAM:** Owner supplied/Contractor installed.
 - a. The Kroger Company will supply the following items:
 - 1) Packaged engine generator set including the following:
 - a) Charger.
 - b) Transfer switches.
 - c) Enclosure.
 - b. Comply with requirements in Division 00 Section "General Conditions."
2. Contractor supplied items:
 - a. Accessories and other items not provided by Owner necessary for a complete installation.
 - b. Remote emergency power off switch.
3. Contractor installed items:
 - a. Packaged engine generator set.
 - b. Remote emergency power off switch.

1.2 SUBMITTALS

- ##### A. The Owner will provide the following submittals for the Contractor's review. The Contractor shall review and return submittals as specified in Division 00 Section "General Conditions."
1. Product Data: For each type of packaged engine generator and accessory indicated.
 2. Shop Drawings: Detailing equipment assemblies and indicating dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 3. Manufacturer Seismic Qualification Certification: Certification that engine-generator set, batteries, battery racks, accessories, and components will withstand seismic forces as defined in Division 20 Section "Vibration and Seismic Control for Facility Services."

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Electrical Components, Devices, and Accessories: The Owner will provide equipment listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use. And complying with the following:
 - 1. ASME B15.1.
 - 2. NFPA 37.
 - 3. NFPA 70.
 - 4. NFPA 99.
 - 5. NFPA 110 requirements for Level [1] [2] emergency power supply system.
 - 6. UL 2200.
- C. Engine Exhaust Emissions: The Owner provided equipment will comply with applicable state and local government requirements.
- D. Noise Emission: The Owner provided equipment will comply with applicable state and local government requirements for maximum noise level at adjacent property boundaries due to sound emitted by generator set including engine, engine exhaust, engine cooling-air intake and discharge, and other components of installation.

PART 2 - PRODUCTS

2.1 EQUIPMENT

- A. Refer to Division 01 Section "Vendor Contact List" for information on packaged engine generator set.
- B. Provide the following equipment for Generators larger than 100 HP:
 - 1. Remote Emergency Power Off Switch: Spring operated, mushroom style switch, closed when depressed and spring operated to open.

PART 3 - EXECUTION

3.1 GENERATOR UNIT INSTALLATION:

- A. Install standby emergency generator set with accessories and automatic transfer switches, as required. Refer to Drawings for size and location.
- B. Install equipment where shown, complete, in accordance with equipment manufacturer's written instructions, and with recognized industry practices, to ensure equipment complies with requirements.

- C. Coordinate with other work, including piping and automatic transfer switch, as necessary to interface installation of standby generator system with other work.
- D. Refer to installation instructions provided with generator.
- E. Refer to Drawings for additional installation information.
- F. Complete pre start-up check list (included at the end of this Section) before testing.
- G. Install emergency power off switch at **6.5 feet (2 m)** above finish floor at remote location in an area for ease of operation by appropriate safety personnel. Verify with local authority having jurisdiction. Label switch as follows:
 - 1. Line 1, "Generator"
 - 2. Line 2, "Emergency Off"

3.2 GROUNDING:

- A. Refer to Drawings for equipment grounding requirements.

3.3 ADJUSTING

- A. Adjust controls to enable unit to start up and transfer load in less than 10 seconds.

3.4 TESTING:

- A. Upon completion of installation of emergency unit, energize circuit at rated voltage and frequency from normal power source and test, including, but not limited to, audible sound levels, to demonstrate capability and compliance with requirements. Where possible, correct malfunctioning units at the site, then retest to demonstrate compliance; otherwise, remove and replace with new units and proceed with testing. Generator to be tested with building load connected.
 - 1. Gas supply pipe fittings inside unit may become loose during shipment. Test gas supply system fittings inside and outside the unit before startup with a noncorrosive leak-detecting fluid such as a soap solution.
- B. Final testing shall be witnessed by Owner's Representative. Provide 48-hour notice to Owner prior to final test.

3.5 PRESTARTUP CHECKLIST

(See following pages for Prestart Checklist)

Generator System Pre-Startup Checklist

This generator Pre-Startup Checklist must be completed and e-mailed to peter.smith@generac.com and michael.sykes@generac.com within 2 weeks of the requested schedule date. Generac will then have the local service dealer coordinate the startup date/time with the contact listed below within 2 business days.

Contact Information

Generac Contact

Global Enterprise Solutions
1-800-851-8972



Objective of Form

This form was designed as a process improvement to aid the installing contractor in being prepared for the generator system start-up. The contractor is responsible to ensure that all installation work is completed prior to scheduling a technician to perform the system start-up, on-site testing, and basic operator instruction. **In the event that the start-up cannot be completed or requires additional work on the scheduled date due to inadequate site readiness, all costs associated with any return visits to complete such work will be charged to the contractor.**

Site Information

Site Name and #	<hr/>		
Site Contact	<hr/>	Generator Serial #	<hr/>
Site Address	<hr/>		
City, St., Zip	<hr/>	Transfer Switch Serial # (s)	<hr/>
Mobile Phone #	<hr/>		<hr/>

Initial Applicable Boxes

YES	NO	N/A	GENERAL
			Is the unit secured to the pad and grounded as required by NEC Article 250?
			Is there a minimum of 3 feet of clearance on all sides of the unit to allow for ease of maintenance and proper ventilation?
			Is the starting battery located in the battery tray (battery supplied with the generator set)?
			Are there any visible oil or coolant leaks?
			Is there any visible damage to the products?
			Is the Utility Power available? A start-up cannot be performed without the Utility Power present and will be reclassified as a prime power unit for warranty purposes.
			Will a transfer test be allowed at time of the initial start up? Start up cannot be completed without a transfer test. NOTE: In order to properly test generator, all facility load possible must be available.

YES	NO	N/A	ELECTRICAL
			Load conductors between generator output breakers and transfer switch(es) are installed and terminated?
			Have the remote start leads/two wire starts been run between the ATS's and the generator controller?
			Are the generator load conductors, remote emergency stop leads, A.C. leads to the battery charger and block heater run in separate conduits? The A.C. and D.C. leads must be separated.
			Is normal power available and connected at the automatic transfer switches?
			Is the building load connected to automatic transfer switch(es)?
			Is 120vac, 15amp power supply is provided for the coolant heaters and battery charger?
			Has the GFI plug been wired? This supplies power to the pre-mounted battery chargers. NOTE: Do not connect batteries until the tech has approved as the battery will discharge if connected prior to approval.
			Are the transfer switch A.C. conductors terminated correctly? NOTE: The utility power source must be connected to N1, N2 & N3; emergency power source - E1, E2 & E3 and the load center - L1, L2 & L3.

Initial Applicable Boxes

YES	NO	N/A	FUEL SYSTEMS
			Diesel Units - Has fuel been delivered and put into the sub-base or day tank?
			Gaseous Units - Natural gas and/or LPG fuel supply is connected and turned on?
			Gaseous Units - Fuel piping is the appropriate size based on full-load CFH demand (see specification sheet).
			Gaseous Units - Primary regulator(s) and flexible fuel line(s) are installed?
			Gaseous Units - Manual shut-off valve and any applicable safety valves are installed per local codes and standards (supplied and installed by contractor)?
			Gaseous Units - Fuel pressure is available and adequate at the generator set service regulator (see specification sheet)?
			Gaseous Units - Service regulator is adjusted correctly and sized to meet CFH of Generator Set?

YES	NO	N/A	INDOOR INSTALL
			Has the exhaust flex connector been properly sized to prevent high engine back-pressure?
			Is the exhaust pipe installed with a downward slope to prevent water or condensation from entering the exhaust manifold or head?
			If the exhaust pipe is installed with hinges or mounts, are they tight and of correct size and grade through a wall or partition?
			Is an NFPA approved wall thimble installed around the exhaust pipe at any point it passes through a wall or partition (supplied and installed by contractor)?
			Is the exhaust system outlet located in place where it would prevent entry of exhaust gas or fumes into nearby buildings or structures?
			Has proper inlet & outlet air vents been installed. NOTE: Radiators must be ducted to outside of room.

NOTES AND COMMENTS

Signature of Contractor

Date

Signature of Dealer

Date

END OF SECTION 26 32 13

ENGINE GENERATORS

263213_EngineGenerators_05-17-17.doc

26 32 13 - 6