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Basis of Design shown. Contractor may substitute other made in USA generators meeting the criteria listed below, but the Contractor is responsible for having the VA's COR and HAL-PE to approve the actual model prior to acceptance of the substituted generator.

Description

Fuel Type: Natural Gas
Coolant: Radiator Cooled Engine
Accessories: Exterior Sound Enclosure, Battery Charger, Block Warmer
Voltage: 120/208V 3PH, 60Hz
Minimum Output: 45 kW/ 56 kVA Standby

Contractor to provide power for battery charger and block warmer.

Features:
- On Board Run Hour Meter
- Bypass with Automatic Transfer Switch (ATS)
- Fuel Consumption Max/Hr = 650 scf Natural Gas
- Modbus or Bacnet Output from Generator and ATS (Both to use same protocol)
- Protocol Shall Be RS485 MS/TP or TCP/IP
- Shall have same standard features as basis of design model

Basis of Design Features:
- UL 2200 Listing
- Sound Enclosure (with Enclosed Critical Silencer)
- Gas Filter
- Input/Output Module for Decision-Maker 3000 Controller
- Remote Annunciator Panel
- Run Relay
- Block Heater, 1000W, 110-120V
- Battery
- Battery Charger, Equalize/Float Type
- Line Circuit Breaker (NEMA 1 Enclosure)
- Air Cleaner Restrictor Indicator
- Engine Fluids (Oil & Coolant) Added for Startup
- Rated Power Factor Testing
- Rodent Guards
- General Maintenance Literature

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Monitored Data: (From Generator Engine and Gen Set to Controller through the Gateway Device)
- Engine Speed
- Engine Oil Pressure
- Engine Coolant Temperature
- Battery Voltage
- Fuel Used Last Run
- Lube Oil Temperature
- Generator True Total Power
- Generator Voltage AB
- Generator Voltage BC
- Generator Voltage AC
- Generator Voltage Average Line-To-Line
- Generator Voltage AN
- Generator Voltage BN
- Generator Voltage CN
- Generator Voltage Average Line-To-Neutral
- Generator Current A
- Generator Current B
- Generator Current C
- Generator Current Average
- Generator Frequency
- Engine Total Run Time
- Genset Total Energy

Monitored Data: (Interpreted Inputs From Generator Engine and Gen Set and Output Faults & Warnings to Gateway Device)

- Shutdown Low Engine Speed
- Shutdown High Engine Speed
- Warning Low Engine Oil Pressure
- Shutdown Low Engine Oil Pressure
- Warning High Engine Coolant Temperature
- Shutdown High Engine Coolant Temperature
- Warning Low Battery Voltage
- Warning High Battery Voltage
- Battery Charger Fault Warning
- Battery Fault Warning
- Emergency Stop Shutdown
- Over Crank Shutdown
- Generator Running Notice

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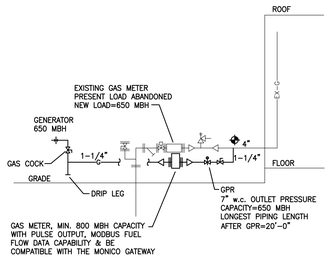
Generator Controller to Display the Following Based on Fault Condition:

• Fault—Battery Charge Fault	Display—Battery Charger Fault
• Fault—Low Cranking Voltage	Display—Low Battery Voltage
• Fault—Generator Running	Display—Generator Running
• Fault—NFPA110 Alarm Active	Display—NFPA 110 Fault
• Fault—Emergency Stop	Display—Emergency Stop
• Fault—Ground Fault Input	Display—Ground Fault

Generator Gateway Provided to Manage Electronic Control Communications:
- Basis of Design—Monico Gateway
- Required Features
  - Independent 24V DC Power Supply w/ Battery Backup, 24 Hour Storage Capacity (Basis of Design—2 ea. Dual Optica Deep Cycle Batteries)
  - Modbus and Bacnet Communication Features
  - Bacnet Output Communication Protocol Compatible with JCI Metasys
  - Bacnet Output to Metasys ADX Server
  - Software for NFPA 110 Reporting Capability

Generator to be secured to Concrete Equipment Pad (Poured-In-Place) extending 3 feet past enclosure on all sides.

Conduits to/from Building 39 shall be in a buried ductbank in accordance with VA standards.



ALL PIPING IS SIZED IN ACCORDANCE WITH NFPA 54 TABLE 6.2(a)

GAS PIPING DIAGRAM

SCALE: NONE

GAS LEGEND

—G—	LOW PRESSURE GAS PIPING (G)
	PRESSURE REDUCING VALVE (PRV)
	UNION
	GAS COCK, GAS STOP
	GAS PRESSURE REGULATOR (GPR)
	POINT OF CONNECTION

GAS SPECIFICATIONS

1 FURNISH ALL LABOR, MATERIAL AND APPURTENANCES NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM AS SHOWN OR REQUIRED.

2 ALL WORK SHALL CONFORM TO APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. EACH CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, TESTS AND INSPECTIONS AS REQUIRED BY AUTHORITIES HAVING JURISDICTION FOR HIS OWN WORK. THIS CONTRACTOR SHALL MAKE ALL ARRANGEMENTS WITH WATER WORKS FOR MAIN TAP AND SHALL PAY ALL ASSOCIATED FEES.

3 WORKMANSHIP SHALL REPRESENT THE HIGHEST STANDARD OF THE INDUSTRY. GUARANTEE ALL MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE.

4 PERFORM ALL TESTS, ADJUSTMENTS, ETC., AS REQUIRED BY EQUIPMENT MANUFACTURER OR AUTHORITIES HAVING JURISDICTION.

5 CONTRACTORS SHALL VISIT SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS AS MAY EFFECT HIS OWN WORK. NO EXTRAS WILL BE ALLOWED FOR EXISTING CONDITIONS.

6 GAS PIPING:
SCHEDULE 40 BLACK STEEL, ASTM A-106, WITH 150# MALLEABLE IRON SCREWED FITTINGS. ALL NEW PIPING AND ASSOCIATED VALVES AND REGULATORS SHALL BE SIZED, INSTALLED, INSPECTED AND TESTED IN ACCORDANCE WITH NFPA 54. ALL EXTERIOR PIPE TO BE PAINTED WITH RUST INHIBITIVE PAINT.

100% CONSTRUCTION DOCUMENTS

Revisions: | Date

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Drawing Title: GENERATOR GAS PIPING AND SPECIFICATIONS

Approved for Design Concept Only

Project Title: REPLACE EXTERIOR BUILDING LIGHTING

Project Number: 596-12-101

Building Number:

Location: LEESTOWN ROAD LEXINGTON, KENTUCKY

Date: 03-28-2013 | Checked: DRG | Drawn: LDG

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Dwg. 9 of 9

Department of Veterans Affairs

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