



WASHOE COUNTY

Integrity Communication Service

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STAFF REPORT

MEETING DATE: May 6, 2022

DATE: Thursday, May 05, 2022
TO: 800 MHz Users Group
FROM: Quinn Korbolic, Regional Services IT Manager, Washoe County Technology Services, 775-328-2348, qkorbolic@washoecounty.gov
THROUGH: Behzad Zamanian, Chief Information Officer, Washoe County
SUBJECT: A review, discussion, and possible action to retroactively approve expenditures of the Generator replacement at Slide Mountain that supports the Washoe County Regional Communication System (WCRCS) network.

SUMMARY

Recommendation to approve and recommend to the Joint Operating Committee approve the expenditures of a new generator for Slide Mountain for a cost of [\$24,920].

Slide Mountain is located in the Tahoe Mountains overlooking both Lake Tahoe, and the Reno Valley. It serves radio coverage along Mount Rose highway on both sides of the Mountain and can provide radio communications as the way north to the Spanish Springs area. This radio site has great radio coverage and is an integral piece of the Washoe County Regional Communication System. The communication site is ideal for Radio coverage but is in an area where there are few power customers, and during winter storms often experiences power outages. This site relies heavily on its generator for a redundant power source.

Washoe County Strategic Objective supported by this item: Long-term Sustainability and delivery of efficient regional Services.

PREVIOUS ACTION

N/A

BACKGROUND

In June of 2006, a new building and generator were installed on Slide Mountain, after the original generator and propane tank had exploded. Due to this event, it was decided to replace the propane generator with a diesel generator. Since that time the generator has lasted over 16 years and been through few repairs prior to its failure this year.

Safety is the primary reason for standby generators. Public safety lives depend on radio relies communications, and community lives depend on the ability for public safety to communicate. Power outages are happening more frequent. There are two reasons for major power outages. The first is an aging electrical grid. The American Society of Civil

Engineers rates the U.S. electrical grid a D+: Most power lines in the country were built between 1950-60, and they haven't been replaced, even though these power lines only have a lifespan of 50 years. The second reason power outages happen more often is because of increasing occurrence of severe weather. Power outages doubled between 2003 and 2014, mostly due to storms and severe weather events. The Tahoe region is no stranger to extreme weather conditions. During storms and major weather events the need for first responders to be able to communicate is very important.

FISCAL IMPACT

The Fiscal Year 2021-2022 Budget has sufficient budget authority in Washoe County Regional Communication System (210) in RCS Operations (210010), Equipment Capital (781004) in an amount of [\$24,920].

RECOMMENDATION

Retroactively approve and recommend to the Joint Operating Committee approve the expenditure for Washoe County Regional Communication System team to purchase new generator for Slide Mountain for the cost of [\$24,920].

BLUE STAR

Power Systems Inc.

Diesel Product Line

208-600 Volt

PD60-01

60 Hz / 1800 RPM

60 kWe

Standby

Ratings

| | 240V | 208V | 240V | 480V | 600V |
|------------------------|-----------------|--------------|---------------|--------------|--------------|
| Phase | 1 | 3 | 3 | 3 | 3 |
| PF | 1.0 | 0.8 | 0.8 | 0.8 | 0.8 |
| Hz | 60 | 60 | 60 | 60 | 60 |
| Generator Model | 362CSL1604 | 361CSL1602 | 361CSL1602 | 361CSL1601 | 361PSL1633 |
| Connection | 12 LEAD ZIG-ZAG | 12 LEAD WYE | 12 LEAD DELTA | 12 LEAD WYE | 4 LEAD WYE |
| kWe | 60 | 60 | 60 | 60 | 60 |
| AMPS | 250 | 208 | 181 | 90 | 72 |
| Temp Rise | 130°C / 27°C | 130°C / 27°C | 130°C / 27°C | 130°C / 27°C | 130°C / 27°C |

Standard Equipment

- | | | |
|--|--|--|
| <p>Engine</p> <ul style="list-style-type: none"> ▶ Radiator Cooled Unit Mounted (50°C) ▶ Blower Fan & Fan Drive ▶ Starter & Alternator ▶ Oil Pump & Filter ▶ Oil Drain Extension w/Valve ▶ Governor - Electronic Isochronous ▶ 12V Battery System & Cables ▶ Air Cleaner (Dry Single Stage) ▶ Flexible Fuel Connector ▶ EPA Certified Tier 3 <p>Listing Certifications</p> <ul style="list-style-type: none"> ▶ UL 2200 Listed ▶ cUL Listed ▶ CSA Certified ▶ Seismic Certified to IBC 2018 ▶ NFPA110 Compliant | <p>Generator</p> <ul style="list-style-type: none"> ▶ Brushless Single Bearing ▶ Automatic Voltage Regulator ▶ ± 1% Voltage Regulation ▶ 4 Pole, Rotating Field ▶ 130°C Standby Temperature Rise ▶ 100% of Rated Load - One Step ▶ 5% Maximum Harmonic Content ▶ NEMA MG 1, IEEE and ANSI Standards Compliance for Temperature Rise | <p>Additional</p> <ul style="list-style-type: none"> ▶ Single Source Supplier ▶ Microprocessor Based Digital Control ▶ Interface Connection Box ▶ Control Panel Mounted in NEMA 12 Enclosure ▶ Base - Formed Steel ▶ Main Line Circuit Breaker Mounted & Wired ▶ Critical Grade Silencer Mounted ▶ Battery Charger 12V 6 Amp ▶ Jacket Water Heater -20°F 1500W 120V w/Isolation Valves ▶ Vibration Isolation Mounts ▶ Radiator Duct Flange (OPU Only) ▶ 2YR / 2000HR Standby Warranty ▶ Standard Colors - White / Gray |
|--|--|--|

Application Data

| Engine | | | |
|-----------------------|-------------------|--------------------------------------|---------------------------|
| Manufacturer: | Perkins | Displacement - Cu. In. (lit): | 269 (4.40) |
| Model: | 1104D-E44TG1 | Bore - in. (cm) x Stroke - in. (cm): | 4.13 (10.5) x 5.00 (12.7) |
| Type: | 4-Cycle | Compression Ratio: | 16.7:1 |
| Aspiration: | Turbocharged | Rated RPM: | 1800 |
| Cylinder Arrangement: | 4 Cylinder Inline | Max HP Stby (kWm): | 95.7 (71.4) |

| Exhaust System | Standby |
|---|-------------|
| Gas Temp. (Stack): °F (°C) | 1,191 (644) |
| Gas Volume at Stack Temp: CFM (m³/min) | 512 (14.5) |
| Maximum Allowable Exhaust Restriction: in. H ₂ O (kPa) | 60.0 (15.0) |

| Cooling System | |
|---|--------------|
| Ambient Capacity of Radiator: °F (°C) | 122 (50.0) |
| Maximum Allowable Static Pressure on Rad. Exhaust: in. H ₂ O (kPa) | 0.50 (0.12) |
| Water Pump Flow Rate: GPM (lit/min) | 39.6 (151) |
| Heat Rejection to Coolant: BTUM (kW) | 2,691 (47.1) |
| Heat Radiated to Ambient: BTUM (kW) | 675 (11.8) |

| Air Requirements | |
|---|--|
| Aspirating: CFM (m³/min) | 218 (6.17) |
| Air Flow Required for Rad. Cooled Unit: CFM (m³/min) | 4,240 (120) |
| Air Flow Required for Heat Exchanger/Rem. Rad. CFM (m³/min) | Consult Factory For Remote Cooled Applications |

| Fuel Consumption | |
|--|-------------|
| At 100% of Power Rating: gal/hr (lit/hr) | 5.04 (19.1) |
| At 75% of Power Rating: gal/hr (lit/hr) | 4.48 (17.0) |
| At 50% of Power Rating: gal/hr (lit/hr) | 3.28 (12.4) |

| Fluids Capacity | |
|---|-------------|
| Total Oil System: gal (lit) | 2.22 (8.40) |
| Engine Jacket Water Capacity: gal (lit) | 2.05 (7.75) |
| System Coolant Capacity: gal (lit) | 4.36 (16.5) |

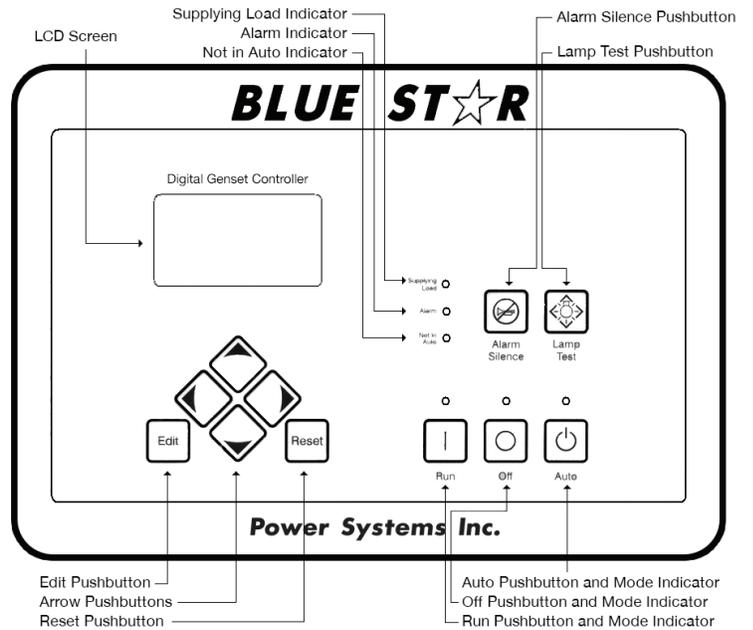
Deration Factors

Rated Power Available up to 9800ft (3000m) at ambient temperatures to 122°F (50°C).
Consult factory for site conditions above these parameters.

DGC-2020 Control Panel

Standard Features

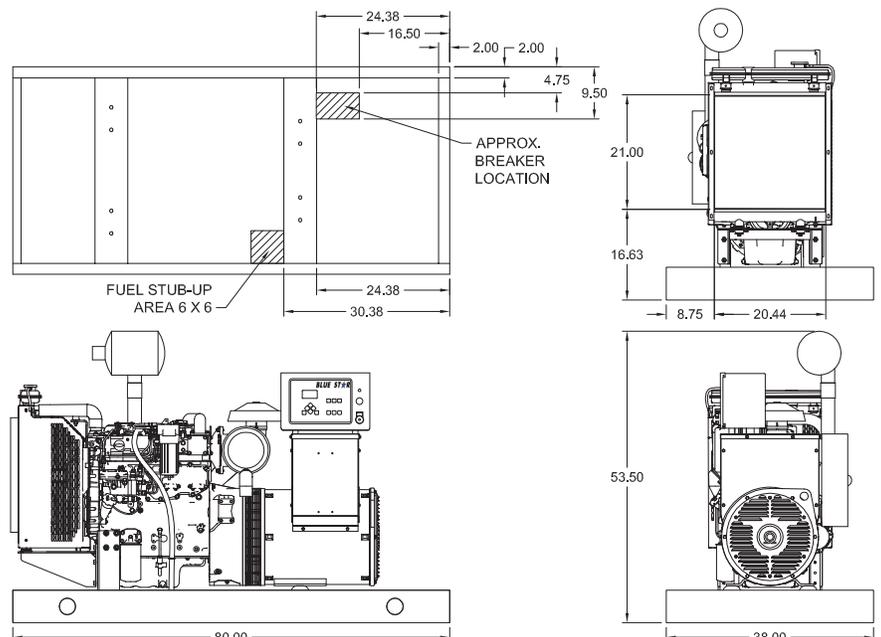
- ▶ Digital Metering
- ▶ Engine Parameters
- ▶ Generator Protection Functions
- ▶ Engine Protection
- ▶ CAN Bus (J1939) ECU Communications
- ▶ Windows-Based Software
- ▶ Multilingual Capability
- ▶ Remote Communications to RDP-110 Remote Annunciator
- ▶ 16 Programmable Contact Inputs
- ▶ 15 Contact Outputs
- ▶ RS485 Communicator Interface
- ▶ UL Recognized, CSA Certified, CE Approved
- ▶ Event Recording
- ▶ IP 54 Front Panel Rating with Integrated Gasket
- ▶ NFPA 110 Level 1 Compatible



Weights / Dimensions / Sound Data

| | L x W x H | Weight lbs |
|----------------|-------------------|------------|
| OPU | 80 x 38 x 53.5 in | 2,100 |
| Level 1 | 90 x 38 x 66 in | 2,600 |
| Level 2 | 90 x 38 x 66 in | 2,650 |
| Level 3 | 120 x 38 x 60 in | 2,750 |

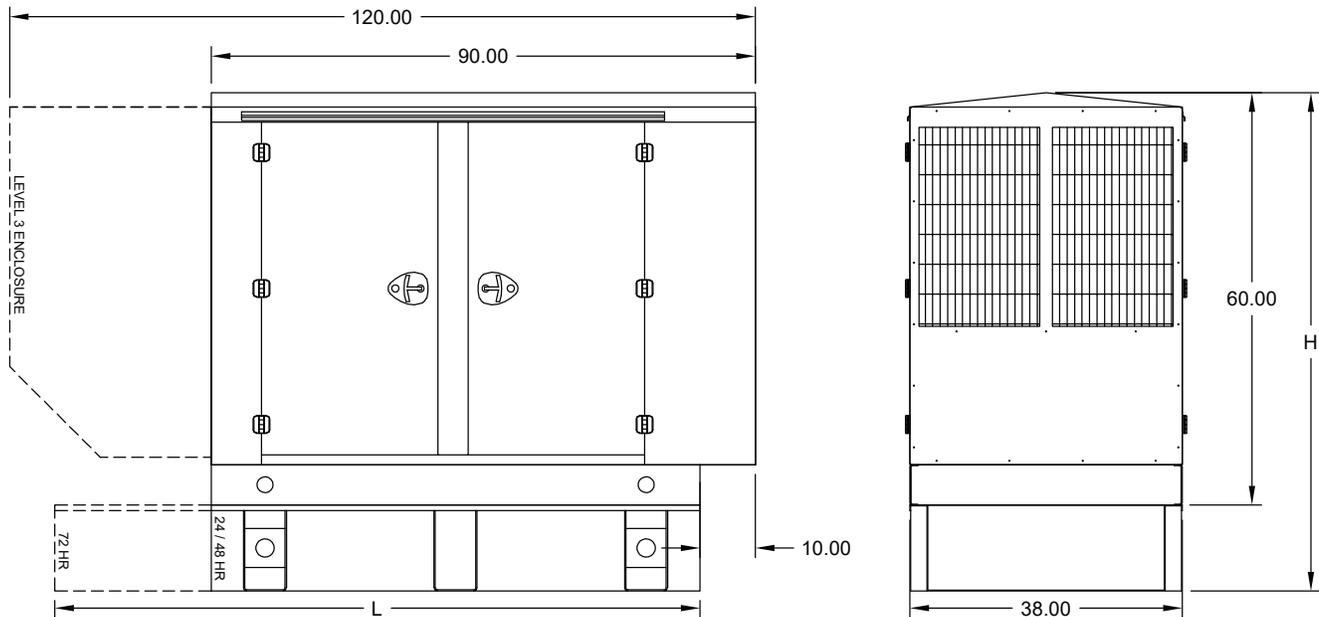
Please allow 6-12 inches for height of exhaust stack.



| | No Load | Full Load |
|----------------|---------|-----------|
| OPU | 75 dBA | 79 dBA |
| Level 1 | 72 dBA | 75 dBA |
| Level 2 | 69 dBA | 71 dBA |
| Level 3 | 65 dBA | 65 dBA |

Drawings based on standard open power 480 volt standby generator. Lengths may vary with other voltages. Subject to change without notice. Sound data as measured at 23 feet (7 meters) in accordance with ISO 8528-10 at standby rating.

Enclosures & Fuel Tanks



All enclosure models are 200 MPH wind rating certified in accordance with IBC2018 and ASCE/SEI 7-16 standards.

Level 2 & 3 enclosures include sound attenuation foam.

Level 3 enclosure includes frontal sound & exhaust hood.

*Enclosure height does not include exhaust stack.

| | 24 Hour 120 Gallon | 48 Hour 240 Gallon | 72 Hour 360 Gallon |
|----------|-----------------------|-----------------------|-----------------------|
| L | 80.00 | 80.00 | 108.00 |
| H | 80.00 | 96.00 | 96.00 |

All specification sheet dimensions are represented in inches.

All enclosures and fuel tanks are based on the standard standby unit configuration. Any deviation can change dimensions.

Materials and specifications subject to change without notice.

American Owned



American Made

Distributed By:

Blue Star Power Systems, Inc.

2250 Carlson Drive

North Mankato, Minnesota 56003

Phone + 1 507 345 1776

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**2995 Mill Street
Reno, NV 89502
775-453-1048**

PROPOSAL

Proposal Date: 02/02/2022
Job Reference: Washoe County (Slide Mt)
Notes as indicated below apply

We are pleased to submit the following proposal for:

BLUE STAR POWER SYSTEMS MODEL: PD60-01 (Qty-1)

Generator: 60 kWe, PF 0.8
Voltage: 120/208 ACV, 3-Phase, 12 Wire, 60HZ
Engine: Perkins 1104D-E44TG1, 1800 RPM
Fuel Type: Diesel
EPA: Tier 3

Features Include:

Isosynchronous Governor
2 year / 2000 hour Limited Warranty
Oil drain extension to base
Voltage Regulator

Control Panel: 2020 Expanded Version

Blue Star DGC-2020 Microprocessor Based Gen-Set Controller
Mounted Facing Left from Generator End (Unless Specified Otherwise)
Standard Features: Low Oil Pressure, High Coolant Temp, Overspeed, Overcrank
Shutdowns, Emergency Stop Pushbutton, Audible Alarm Buzzer with Silencing Switch
Optional Features Include: Generator Protection (Undervoltage, Overvoltage,
Underfrequency, Overfrequency, Overcurrent)

Enclosure: Open / None

Included Accessories:

Emergency stop button
Unit Mounted

Cooling System: Unit Mounted Radiator

Included Accessories:
50 Deg C., High Ambient

Block Heater: Standard 1500W, 120 Volt, single phase

**Wired to a terminal, installed
Isolation Valves**

Battery Charger: 12 Volt, 6 Amp

Mounted and Wired

Circuit Breaker: 200 AMPS

Mounted and Wired NEMA-1

Battery: Lead Acid

Battery rack

Fuel Tank: Not Included / None

Factory Test: Standard Commercial Testing Includes:

Verification of Alarm Shutdowns, Voltage Settings, Block Loading to Rated kWe and PF

Miscellaneous:

Paint- Powder Coat
Testing: Standard Commercial Test (PAC)
Manual – 1 (ea)
Startup and Commissioning Service

Asco Series 300 Automatic Transfer Switch:

260 Amps, 120/208 volt, Nema 3R, 3 Pole, non-SE

Proposal Price:

| | |
|-----------------------------------|--------------------|
| Generator: | \$18,900.00 |
| ASCO 300 ATS: | \$ 2,900.00 |
| Shipping and Handling | \$ 2,350.00 |
| Start-up and Commissioning | \$ 770.00 |

\$24,920.00 Plus Sales Tax (if applicable)

The current build lead time is 26 - 30 weeks. The quote does not include installation or off loading of the generator.

NOTE: This proposal consists of the terms and conditions indicated on its face and set forth below. Acceptance of this proposal shall consist of receipt by seller of buyer's written purchase order. Order shall only be accepted per the terms as outlined in this proposal.

1. This Proposal is our interpretation of your requirement and includes only those items listed. It is the buyer's responsibility to review this bill of materials for compliance with specifications and requirements.
2. Current estimated lead time is 26 - 30 weeks upon buyer initiated release to production. This is based upon the best obtainable information at the time of this proposal. We are not liable for losses or delays occasioned by circumstances that are beyond our direct control.
3. Delivery-Risk of Loss: All sales are F.O.B. Manufacturer or other point of shipment designated by the seller. Delivery to a commercial carrier at manufacturer's plant or other loading point shall constitute delivery to buyer. Any risk of loss and further cost and responsibility thereafter for claims, delivery, loss or damage including if applicable, placement and storage, shall be borne by buyer. Claims for shortages or other errors in delivery must be made in writing to seller within 10 days after buyer's receipt of shipment. Failure to give such notice shall constitute unqualified acceptance and a waiver of all such claims by buyer. Claims for loss or damage to equipment in transit by common carrier must be made to the carrier and not the seller.
4. Security Agreement: To secure payment of the purchase price and of all monies which may become due hereunder, and performance of all buyer's obligations hereunder, buyer grants to seller a purchase money security interest in all equipment sold to buyer by seller and agrees to immediately execute such other security agreements and financing statements the seller may reasonably request.
5. Storage Charges: Storage charges are applicable for equipment stored at the manufacturer's or seller's facility for a period of longer than 72 hours from the date the product is ready for delivery and / or completion date. Fees for cancelled, changed or returned items will be charged to buyer at a rate based upon seller's costs. No material may be returned without written approval of the seller. All shipping costs must be pre paid by the customer. Material returned in connection with claims shall be governed by the manufacturer's warranty statement.
6. Offloading from carrier or installation of any equipment is not included, unless specifically listed as a line item in this proposal.
7. Any extended piping, ductwork or wiring is not included, unless specifically listed as a line item in this proposal.
8. Fuel or any other consumable used for any purpose is not included, unless specifically listed as a line item in this proposal.
9. All new equipment complies with current OSHA, EPA and CARB criteria. However local regulatory agencies have final jurisdiction on approval of permits at the time of application. Any additional required equipment or control devices that are not specifically listed as a line item in this proposal are not included in the quoted price.
10. We take a general exception to competing manufacturer's proprietary components, methods of manufacture, methods of testing or methods of fabrication. This proposal is based upon providing a functional equal that is manufactured and tested to current industry standards and covered under a manufacturer's warranty.
11. As products are warranted by the manufacturer, seller neither expresses nor implies any warranty of our own. Warranties shall apply only to the original purchaser of the product. The liability of the seller shall be limited to replacement or repair of the product, at the option of the seller. Warranty does not obligate seller to bear the cost of labor or transportation charges in connection with the repair or replacement of defective product nor shall it apply to a product upon which modifications or alterations have been made by the buyer. Warranty shall apply only to equipment that has been properly installed, serviced and operated under normal conditions, in accordance with instructions of the specific unit. Seller shall not be liable for any claim greater than the purchase price of the product, in respect of which such claim is made, and in no event be liable for any special, indirect or consequential damages. There are no express warranties other than those described in the manufacturer's warranty statement. No warranties shall be implied or otherwise created

- under the Uniform Commercial Code, including, but not limited to a warranty of merchantability or a warranty of fitness for a particular purpose.
14. Quoted prices do not include any State, Federal or Local Taxes which may be applicable.
 15. Permits or licenses of any kind are not included in this proposal.
 16. Independent testing (if specified) is by others.
 17. This quotation is valid for 60 days.
 18. FOB: Factory, freight allowed to destination

Respectfully Submitted,
BY: Wyatt Morency
Wyatt@amerigenpower.com
775-762-9550

Buyer's Acceptance:

Buyer hereby accepts and agrees to the terms and conditions of this proposal as described above.

Buyers Authorized Signature _____ Date _____