April 12, 2019

AMENDMENT #1

FOR

GMHA IFB 012-2019

REMOVAL AND REPLACEMENT OF THE 1.6 MEGAWAT GENERATOR UNIT #2

This amendment is being issued to respond on a clarification submitted by Hawthorne & Harty Pacific.

Section 1 – Questions from Hawthorne:

1. **Question:** Please advise if an additional site visit will be allowed to further inspect the existing generator set and generator room.

   **Response:** Yes, additional scheduled site visit is allowed. Contractors are all encouraged to be present. Next site visit is scheduled for Monday, April 15, 2019 at 9:00 am, in the Materials Management Department.

2. **Question:** The lead-time for a new generator set from production to delivery to GMH is about 190 days. It will then take another 30-60 days to complete the related construction work. Please advise if the Time of Completion can be extended up to 250 days beginning from the time of award.

   **Response:** 190 days (Production to delivery) + 30 days (for removal and installation and commissioning, etc.

3. **Question:** Please advise if bid submission can be extended (current due date is April 15) so that bonding and related documentation can be completed.

   **Response:** Submission date can be extended to another 10 days bringing submission day to April 25, 2019.

4. **Question:** Please advise how this project is funded.

   **Response:** This project is federally funded by DOI.
Section II – Questions from Harty Pacific

A. **Question:** Is it possible to break the existing double wall wherein the existing generator exhaust/radiator is attached which shall be used as an access point for the removal of the existing 1.6 Megawatt Generator set?

**Response:** Yes, it is. But reconstruction and restoration needs to be inspected and certified by a licensed civil engineer.

B. **Question:** Can you provide us the existing capacity of the Generator Set in terms of weight, for us to determine the capacity of the Telehandler (Heavy Equipment) to be used in pulling out the said generator set?

**Response:** The weight is 13,235 kilos or 29,120 pounds. See attachment for further review.

C. **Question:** Are we to intercept existing generator feeders and to provide pull box or gutter box as the splicing point to fit the new Generator terminal point of connection. Or we will replace the existing generator feeders to fit the new generator terminal point of connection?

**Response:** The purpose of the site visit is to familiarize with the existing unit and its connectivity to the ATS and other salient points for a complete working emergency power source system. If the new generator does not fit the existing point of connection the contractor needs to provide a pull box as the splicing point to fit new generator terminal point of connection. Be reminded that all works needs are to be certified by a licensed Electrical Engineer or Master Electrician. The existing feeders needs to be tested for adequacy and replace as necessary.

D. **Question:** Please confirm that the following items are not included on this bid package which follows:
   1. Automation System (ATS) and Synchronization.
   2. External or Day Tank Monitoring System and/or Fuel Leak Detection.

**Response:**
1. ATS not included.
2. External or Day tank Monitoring system and/or Fuel Leak Detection is not included.
E. **Question:** Is it possible that the bid due date (April 15, 2019) will be extended into two (2) more weeks to allow us to have more time in securing our Bonding Requirement?

   **Response:** Two more weeks extension is acceptable.

F. **Question:** On item 1-25 NTP & 1-32 Time of Completion and Liquidated Damages. The project shall be completed within 180 calendar days. Can we extend this duration period of project completion to allow more time in the factory to comply per specification and the shipping and handling of the products which will take 8-10 weeks via ocean freight to arrive Guam?

   **Response:** 190 days (Production to delivery) + 30 days (for removal and installation and commissioning, etc. total 210 days.

**Section III – Extension of bid submission:**

Bid submission date as reads: 9:00 am, April 15, 2019 – Change to read as: 9:00 am, April 29, 2019

Bid opening date as reads: 9:30 am, April 15, 2019 – Change to read as: 9:30 am, April 29, 2019

**Section IV – Time of Completion 1-32**

Time of Completion as reads 180 days from time of award – Please change to read as: Time of Completion to read 210 from time of award.


Sincerely yours,

[Signature]

Dolores Pangelinan
Hospital Materials Management Administrator,

Acknowledgment of Receipt: Return acknowledgment to fax number 649-3640

____________________________
Company

____________________________
Print Name

____________________________
Signature Date
**Interoffice Memorandum**

**Facility:** ENGINE DIVISION  
**Date:** February 7, 1992  
**Plant/Office:** Lafayette  
**Department:** 3800 Product Group  
**Attention:** H. V. Whitall  
**CC:** D. C. Dowdall, P. S. & E. C. - AB6480  
**Request #:** 92023

The requested emissions data* presented below is based on tests conducted at Caterpillar Inc. using instrumentation and procedures equivalent to those outlined in FAR 177A & 215.

**Engine Model:** 3516 DITA running at 1004 load, 2307 HP at 1800 RPM, with dry manifolds.  
**Set at standard production timing.**  
**Application:** A 40Hz prime power generator set rated at 15000W.

<table>
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<tr>
<th></th>
<th>PPM</th>
<th>% BY</th>
<th>g/yr</th>
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<tbody>
<tr>
<td>CO2</td>
<td>2541.3</td>
<td>1152704</td>
<td>499.75</td>
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<td>N2</td>
<td>3710.3</td>
<td>7753359</td>
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<td>CO</td>
<td>2426.2</td>
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<tr>
<td>NO</td>
<td>9.4</td>
<td>4279</td>
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<tr>
<td>SO2</td>
<td>33.4</td>
<td>15193</td>
<td>6.59</td>
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<tr>
<td>PM</td>
<td>51.2</td>
<td>23215</td>
<td>10.06</td>
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<tr>
<td>DPM</td>
<td>1.8</td>
<td>813</td>
<td>0.35</td>
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<td>3.2</td>
<td>1644</td>
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<tr>
<td></td>
<td>0.8</td>
<td>344</td>
<td>0.15</td>
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</table>

*This data is based on steady-state engine operating conditions of 65 deg. F and 29.38 in. Hg. and No. 2 diesel fuel. This data is also subject to instrumentation measurement and engine-to-engine variations.

The NOx shown is not actually present in the exhaust. It is based on the assumption that the NO present in the exhaust is converted to NOx in the atmosphere. NO and NOx are converted to NOx in the atmosphere. NO and NOx are converted to NOx in the atmosphere. NO and NOx are converted to NOx in the atmosphere.

SO2 is proportional to a small percentage of 0.03% by weight of the fuel.

**Dry Particulate Matter** is an approximation based on a correlation to smoke density. It is not included in the total exhaust flow rate.

Oxygen is normal cubic meter values are corrected to 5% oxygen.

As noted, the best information available at this time. It should not be used as a formal measurement variance as to its validity for the current engine.
Generator Set
Diesel Powered 60 Hz
Standby Power
1400 - 2000 kW 60 Hz

FEATURES

- CAT® DIESEL GENERATOR SETS
  - Factory Designed, Certified Prototypes Tested with Torsional Analysis
  - Production Tested and delivered to you in a package that is ready to be connected to your fuel and power line. EPC Designer (Computer sizing) available. Supported 100% by your Caterpillar Dealer with Warranty. Parts and Labor. Extended Warranty available in some areas. Generator Set and Components meet or exceed the following specifications: AS1369, AG278, ABGSM-TM3, BS4896, DIN6271, DINE220, CEN180, JEC 31, ISO 3046/1, ISO DIS 8528, NEMA MG3-22.

1. RELIABLE, FULLY EFFICIENT DIESEL ENGINE
   - The combination of a four-stroke cycle diesel engine with a heavy-duty alternator produces energy efficiently. The fuel system operates on a variety of fuels. The Caterpillar 3412C engine has been designed to match the performance and output characteristics of the Caterpillar Diesel Engine that drive it.

EXCLUSIVE CAT VOLTAGE REGULATOR
   - Three phase sensing and voltage per phase regulation preserve control, excellent back-up, and constant voltage in the main.

STANDARD PACKAGE ARRANGEMENT

ENGINE

Aftercooler
Air Cleaner,
   - Regular Duty on Dual Turbo
   - Light Duty on Quad Turbo
Breather, Crankcase Cooler, Lubricating Oil Exhaust Fitting and Flange Filters, right hand Fuel, & Lubricating Oil Flywheel Housing SAE 80 Standard Rotation Governor, 2301A, Speed Control Manifold, Exhaust, Dry on Quad Turbo Oil Pan, Shallow Pump, Fuel Transfer, Lubricating Oil, gear driven Jacket Water, gear driven Radiator, Mounting Shutoff, Manual Starting, Electro, 24 volt DC Turbochargers, Dual or Quad Vibration Damper

GENERATOR

SR4 Brushless with VR3 Voltage Regulator Vibration Isolators (808 Frame)

ELECTRONIC MODULAR CONTROL PANEL (EMCP)

Mounted on generator terminal

Standard Generator Controls and Monitoring:
   - Digital Ammeter, Voltmeter and Frequency Meter
   - Ammeter/Voltmeter Phase Selector Switch
   - Voltage Adjust Rheostat
   - Automatic/Manual Start-Stop Control

Safety Shutoff Protection and LED Indicators for:
   - High Coolant Temperature
   - Low Oil Pressure
   - Overcrank
   - Overspeed
   - Emergency Stop Pushbutton
**3518 ENGINE**
- Type: Watercooled Diesel
- Displacement: 4210 cu in
- Stroke: 180 mm (7.1 in)
- Bore: 170 mm (6.7 in)
- Compression Ratio: 13.5:1
- Cycle: Four Stroke

**CATERPILLAR SR4 GENERATOR**
- Type: Brushless, Reversing Field, Solid-State Exciter
- Construction: Single Bearing, Close Coupled
- Three Phase: Wye Connected
- Insulation: Class H With Tropicalization and Antilabrasion
- Enclosure: Drip Proof IP 22
- Alignment: Pilot Shaft
- Overspeed Capability: 150%
- Wave Form: Less than 5% Deviation
- Paralleling Capability: Standard with adjustable Voltage Droop
- Voltage Regulator: 3 Phase Sensing with Volts per Hertz
- Voltage Regulation: Less than ± 0.5%
- Voltage Gain: Adjustable to compensate for engine speed droop and line loss
- TIF: Less than 50
- THP: Less than 3%

**CATERPILLAR CONTROL PANEL**
- 24 VOLT DC CONTROL
- Terminal Box Mounted
- Vibration Isolated
- NEMA 1, IP 22 Enclosure
- Dead Front
- Lockable Hinged Door
- Generator Instruments meet ANSI C-39.1

**VOLTAGES AVAILABLE — 60 Hz**
- 480, 346/600, 380, 4160
- (stable at minimum of ± 10%) (Note: Voltages available — Consult your Caterpillar Dealer)

Some voltages require neutralizing.

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**Caterpillar® EMCP**

**Electronic Modular Control Panel**

The Electronic Modular Control Panel (EMCP) is a generator-mounted control panel, available on all Caterpillar packaged generator sets. It utilizes environmentally sealed, solid-state, microprocessor-based modules for engine control and AC metering. This new application of mature, high-tech electronics to generator monitoring provides more features, accuracy and reliability than present electro-mechanical and many competitive panel systems.

The EMCP provides these standard control and monitoring features, many of which are options on other panels:
- Automatic/manual start-stop engine control with programmable safety shutdowns and associated flashing LED indicators for low oil pressure, high coolant temperature, overspeed, overcrank and emergency stop.
- Cycle cranking — adjustable 1-60 second crank/rest periods.
- Cool down timer — adjustable 0-30 minutes.
- Energized to run or shut down fuel control systems.
- LCD digital readout for: Engine Oil Pressure; Coolant Temperature; Engine RPM; System DC Volts; Engine Running Hours; Eight System Diagnostic Codes; Generator AC Volts; Generator AC Amps; and Generator Frequency.
- Engine Control Switch.
- Ammeter-Voltmeter Phase Selector Switch.
- Emergency Stop Pushbutton.
- Indicator/Display Test Switch.
- Voltage Adjust Potentiometer.
- Rugged NEMA 1/IP 22 Cabinet.
## TECHNICAL DATA

### Standby Power Generator 310T

<table>
<thead>
<tr>
<th>Description</th>
<th>KW</th>
<th>1400</th>
<th>1500</th>
<th>1750</th>
<th>2000</th>
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<td>Power Rating @ 0.8 PF with Fan</td>
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<td></td>
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<tr>
<td>Power Rating @ 0.8 PF with In</td>
<td></td>
<td></td>
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<tr>
<td>Engine hp with Fan</td>
<td></td>
<td></td>
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<tr>
<td>Aspiration</td>
<td>mm</td>
<td>5726</td>
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<td>Shipping Weight</td>
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<td>Generator Frame Size</td>
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<td>Engine Lubricating Oil Capacity</td>
<td>L</td>
<td>470</td>
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<tr>
<td>Engine Coolant Capacity with Radiator</td>
<td>qts</td>
<td>497</td>
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<td>Standard Radiator Arrangement Data:</td>
<td>gal</td>
<td>440</td>
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<td>Air Flow (Max @ Rated Speed)</td>
<td>m³/min</td>
<td>2295</td>
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<td>Air Flow Restriction (after radiator)</td>
<td>cfm</td>
<td>81,000</td>
<td>81,000</td>
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<td>Ambient Temperature Capability (TMI)</td>
<td>kPa</td>
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<td>Radiator Size</td>
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<td>System Backpressure (Max Allowable)</td>
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<td>6.7</td>
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<td>Exhaust Flange Size (Internal Diameter)</td>
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<tr>
<td>Fuel Consumption (100% load) with Fan</td>
<td>L/Hr</td>
<td>357.7</td>
<td>399.5</td>
<td>455.2</td>
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<td>Per ISO5046/1: +5%, -0% tolerance</td>
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<td>24.5</td>
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<td>Fuel Consumption (75% load) with Fan</td>
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<td>275.6</td>
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<td>Combustion Air Inlet Flow Rate</td>
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<td>Exhaust Gas Flow Rate</td>
<td>m³/min</td>
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<td>125</td>
<td>147</td>
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<td>Heat Rejection to Coolant (total)</td>
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<td>64.4</td>
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<td>Heat Rejection to Atmosphere from Engine</td>
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<td>Heat Rejection to Atmosphere from Generator</td>
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<td>Exhaust Gas Stack Temperature</td>
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<td>840</td>
<td>800</td>
<td>1375</td>
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<td>3120</td>
<td>2785</td>
<td>2625</td>
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<tr>
<td>Temperature-1.9% per 5.5 C (10 F) above</td>
<td></td>
<td>55</td>
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</tr>
</tbody>
</table>

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at sea level or per degree above standard ambient at altitude above 760 m (2500 ft).
CONDITIONS & DEFINITIONS

Standby - Output available with varying load for the duration of the interruption of the normal power source. Fuel stop power in accordance with ISO 3048/1, AS 2789, DIN 6271, and BS 5514.

Ratings are based on SAE J1349 standard conditions. Those ratings also apply at ISO 3048/1, DIN 6271 and BS 5514 standard conditions. Fuel rates are based on fuel oil of 35° API (19°C or 60°F) gravity having an LHV of 42780 kJ/kg (18,930 Btu/lb) when used at 29°C (85°F) and weighing 0.834 g/l (7.00 lbs/l. gal).

Generator set deration required below 55°C (131°F) at sea level.

Materials and specifications are subject to change without notice. The International System of Units (SI) is used in this publication.