



**CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE**  
**UNIVERSITY OF THE PHILIPPINES MANILA**  
*The Health Sciences Center*  
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**PROJECT TITLE : CONSTRUCTION OF POWER HOUSE, AND SUPPLY & INSTALLATION OF GENERATOR SET**  
**School of Health Sciences**  
 Extension Campus in South Cotabato  
 University of the Philippines Manila

## ANNEX A

### Scope of Services:

1. Supply, delivery and installation	a. Mobilization of manpower and equipment/tools at the project site b. 625KVA, Three Phase, 80% PF, 1800RPM, 230Vac, Diesel Engine Generating Unit, Enclosed Type c. Appropriate length of wire per line, size of wire mm <sup>2</sup> THHN and conduit mm dia. d. Installation, testing and commissioning e. Cleaning up works & demobilization
2. Installation Schedule	Any day and time or per coordination with end-user(s)
3. Installation	Upon receipt of Notice to Proceed (NTP) or availability of project site whichever is applicable.
4. Documentary Requirements	

### Qualification and Documentary Requirements:

Qualification Requirement	Documentary Requirement
1. The engine of the quoted brand/model of prospective Genset contractor shall be manufactured from any member countries of Organization for Economic Cooperation and Development (OECD)	Submission of related document indicating the origin of the engine of quoted/model of Genset.
2. The quoted brand / model of prospective Genset Contractor shall be in the Philippine Market for a minimum of two (2) years	Submission of related document (e.g. previous Purchase Orders, Contracts or Certificate)
3. The Genset contractor shall provide Satisfactory Service to its customers	Satisfactory rating issued by at least three (3) previous clients of the prospective Genset Contractor
4. The Genset contractor shall have the following mandatory requirement: a. In-house Professional Mechanical or Electrical Engineer and of regular employment status. b. In-house electrical & mechanical shop c. In-house load bank d. Parts inventory or warehouse for	Certification that the prospective Genset contractor has the said requirement with the following details: a. Employment Certificate of PME/PEE b. Photo of Electrical & Mechanical Shop c. Photo of Load Bank d. Inventory /Warehouse

consumables & emergency repair/major overhauling e. 24 hours service crew for emergency repair		
5. The Genset contractor shall have highly trained technicians/engineers who are its regular employee(s)	List of at least 3 highly trained technicians or engineers with their respective biodata.	
6. Warranty Certificate with inclusive date (Upon Completion)	Warranty Certificate	
7. The supplier/contractor shall be the one to secure the Mechanical Permit. (Upon Completion)	Mechanical Permit	
8. Photocopy of the duly accomplished form and OR as submitted to the Energy Regulatory Commission (ERC) as proof that the supplier has a filed the said COC as required by the ERC, secure certificate/clearance from EMB as deem required before the installation. (Upon Completion)	Photocopy of Certificate of Compliance (COC) and Official Receipt (OR)	
9. Operation and Preventive Maintenance Manual. (Upon Completion)	Manuals	
10. Conduct familiarization seminar/training to orient the end-user on the basic concept, functions and operation of the equipment installed.	Training	
11. One (1) year warranty against factory/manufacturing defects on equipment, components and parts supplied and against faulty workmanship to commence upon receipt of final turn-over and acceptance documents. All equipment, parts and components found defective during and within the warranty period shall be immediately replaced without additional cost to UPManila.	Warranty	
12. At least twice a year within the warranty period, the Genset contractor shall provide the standard warranty servicing for the installed equipment and its components (check-up and general cleaning of Genset which includes change oil, filters, other consumables, etc. incl. the unit's mechanical/electrical components as recommended by the genset manufacturer)	Maintenance	



13. List of quoted brand/model shall have authorized service center or branch of the Genset contractor in Davao or near the project site	List at least one (1) service center or branch within or near the project site
14. The Genset Contractor must be a legitimate and authorized distributor of the quoted generator set and is capable of handling after sales services i.e. maintenance, repair, diagnosing etc.	Submission of related document such as: <ul style="list-style-type: none"> <li>a. Certificate of Distributorship from the Genset supplier indicating authority to sell and conduct maintenance/repair</li> <li>b. Certificate from the engine manufacturer that the prospective bidder is authorized to sell and conduct maintenance /repair of the engine of the offered generator set.</li> <li>c. Existing maintenance contract with at least three (3) previous and existing clients.</li> </ul>
15. The offered product must have brochures showing the product complete specifications.	Submission of official brochure
16. The Genset contractor must be certified by any approving /governing body	Submission of updated ISO 9001:2015 Registration Certificate
17. The Generator set being offered by the supplier contractor should be Original Design Manufacturer or Corporate Set	Certification from the principal confirming that the offered genset is an Original Design Manufacturer (ODM) to be submitted by the prospective bidder/contractor.
18. The Generator Set being offered should have local representative with certified technician and spare parts available for the next five (5) years.	Certification from the principal or Agreement between the principal and prospective bidder/contractor must be submitted.
19. The Generator contractor should have a complete and special tools to configure and repair the offered Generator Set.	Certification from the prospective bidder/contractor that special tools for the repair and configure the engine/genset are available in their workshop
20. The Generator Contractor must be a PCAB License Holder	At least Category B with classifications on Mechanical Works, Electrical Works and General Building, and Registration Particulars of at least Small B with focus on Mechanical Work or Electrical Work.
21. The Generator Contractor must conduct site inspection prior to submission of bid.	Submission of Certificate of Site Inspection issued by the authorized representative of UP Manila and shall form part of the technical bid.

**Technical and Other Requirements:****GENERATOR SET SPECIFICATIONS:**

Rating	Standby
Voltage	230 V
Power Factor	0.8
Frequency	60 Hz
Power Rating in kW	500 kW
Power Rating in kVA	625 kVA
Current	1504 Amps
One Step Loading	As per NFPA 110
Load Factor / Permissible Power (24 hours)	85%

**ENGINE SPECIFICATIONS:**

Engine Type	4-Cycle
Engine Displacement	17.5 L or 1068 Cu. Inches
Engine Arrangement	V-Type (10 cylinder)
Bore & Stroke	12.2 cm (4.8 in.) / 15 cm (5.91 in.) – equivalent or better
Compression Ratio	17.5:1 – equivalent or better
Rated RPM	1800
Engine Governor	Electronic Isochronous
Max. Power (Mechanical)	561kWm or 752 bhp – equivalent or better
Engine Fuel Injection System	Common Rail Fuel Injection
Air Cleaner	Dry type

**LIQUID CAPACITY:**

Total Oil System	61 Liters – equivalent or better
Engine Jacket Water Capacity	60 Liters – equivalent or better
Coolant Capacity	99.3 Liters – equivalent or better

**ELECTRICAL:**

Electric DC Voltage	24 Vdc
Cold Cranking Ampere Rating	1050 Amps

**FUEL CONSUMPTION:**

Fuel Consumption at 100% power rating	125 L/Hr – equivalent or better
Fuel Consumption at 75% power rating	97 L/Hr – equivalent or better
Fuel Consumption at 50% power rating	74 L/Hr – equivalent or better

**COOLING-RADIATOR SYSTEM:**

Ambient Radiator Capacity	50 degC - equivalent or better
Fan Power	17.9 kW or 24 Hp – equivalent or better



**AIR REQUIREMENTS:**

Aspiration	35 cub. mtr/min – equivalent or better
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**EXHAUST SYSTEM:**

Stack Gas Temperature	461 degC – equivalent or better
Gas Volume at Stack Temperature	103 cu mtr/min – equivalent or better
Maximum Back Pressure	15 kPa – equivalent or better

**ALTERNATOR:**

Exciter Type	Brushless Self Excited
Power Factor	0.8
No. of Pole	4 poles
Standby Temperature Rise	130 deg C maximum
Voltage Regulation	+/- 0.25% - equivalent or better
Drip Proof	IP23 – equivalent or better
Insulation Type	H – equivalent or better
Winding Pitch	2/3
Number of bearing	1 bearing sealed
Total Harmonic Distortion	5% Max.

**OTHERS:**

ENCLOSURE TYPE	Soundproof & weather proof
	Sound absorbing, heat retardant rebounded foam
	Finished in green and yellow baked power coat
	No accessible metering outside except for the
	Emergency button (engine stop)
CONTROL PANEL TYPE	With Auto Mains (Utility) Failure Control module
	Monitoring speed, frequency, current, voltage,
	With display warnings, shutdown and engine
	status information on the back lit LCD screen and
	illuminate LED
DIMENSIONS	3416 x 1873 x 2032 mm – equivalent or better
WIEGHT	4552 Kg – equivalent or better
TANK CAPACITY	8 hours
AUTOMATIC TRANSFER SWITCH (ATS)	Known Brand
	MCCB Breaker Type 1600AT/1600AF 65Kaic, 3P
	With engine cool off and engine start
	With Over/Under Voltage Protection
	Battery & Battery Charger
	Control Components & consumables
	in NEMA 1 enclosure
	Complete with Terminal Lugs