ANSWERS TO CLARIFICATION QUESTIONS

File:	ADM 1/1/4
Date:	23 July 2019
To:	Interested suppliers
Contact:	Maraea S. Pogi (maraeap@sprep.org)
Subject:	Request for tenders: **Installation of standby generator for SPREP Campus - READVERTISEMENT**

Q1. I was wondering if you had some details and photos of the installation scope to avoid a site visit, or is a site visit mandatory?

Response:

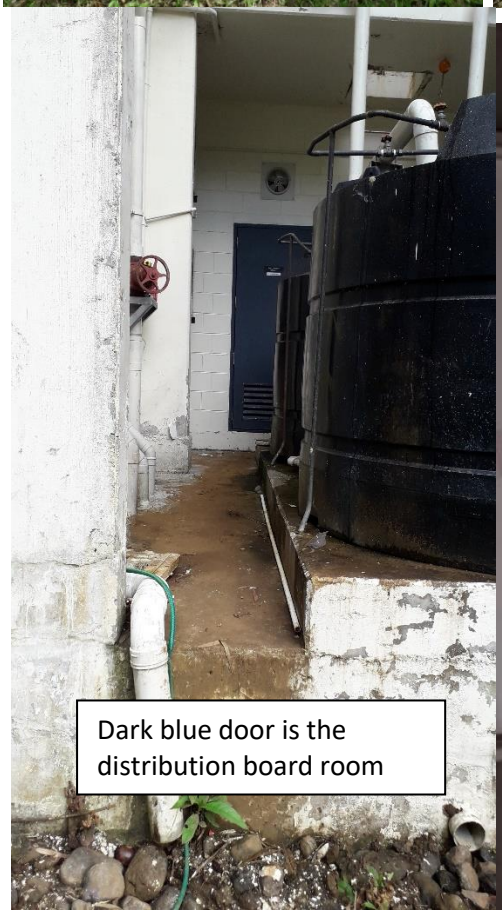
A site visit is preferred; however, we understand for overseas companies this could be difficult to arrange.

Below are some photos of where the Generator will be installed as well as the Generator specifications.

The distance of the generator from the distribution board is approximately 14 meters.

Generator site, marked in white spray paint

The distance of the generator from the distribution board is approximately 14 meters.



Dark blue door is the distribution board room

Distribution boards inside room

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ENERGY GENERATION

GBW30P (ALT. M)

Main Features		
Frequency	Hz	50
Voltage	V	400
Power factor	cos ϕ	0.8
Phase and connection		3

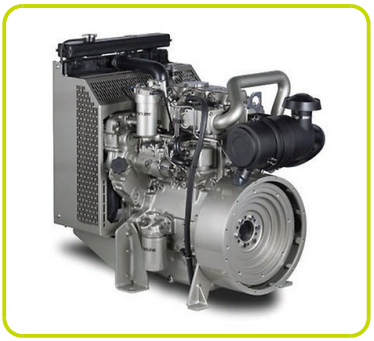
Power Rating		
Standby power LTP	kVA	32.50
Standby power LTP	kW	26.00
Prime power PRP	kVA	30.50
Prime power PRP	kW	24.40

Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:
It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:
It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Engine specifications		
Engine manufacturer		Perkins
Model		1103A-33G
[50Hz] Exhaust emission level		Non Emission Certified
Engine cooling system		Water
Nr. of cylinder and disposition		3 in line
Displacement	cm³	3300
Aspiration		Natural
Speed governor		Mechanical
Prime gross power PRP	kW	28.2
Maximum gross power LTP	kW	31
Oil capacity	l	8.3
Lube oil consumption @ PRP (max)	%	0.15
Coolant capacity	l	10.2
Fuel		Diesel
Specific fuel consumption @ 75% PRP	g/kWh	214.5
Specific fuel consumption @ PRP	g/kWh	211.5
Starting system		Electric
Starting engine capability	kW	3
Electric circuit	V	12



Engine Equipment

Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1

Fuel system

Rotary type pump

Lube oil system

Wet steel sump with filler and dipstick

Filter

- Fuel filter
- Air filter
- Oil filter

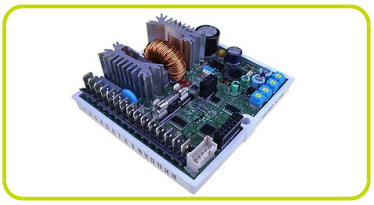
Cooling system

- Mounted radiator
- Thermostatically-controlled system with belt driven coolant pump and pusher fan

Alternator Specifications		
Brand		Mecc Alte
Model		ECP28-VL/4
Voltage	V	400
Frequency	Hz	50
Power factor	cos ϕ	0.8
Poles		4
Type		Brushless
Voltage regulation system		Electronic
Standard AVR		DSR
Voltage tolerance	%	1
Efficiency @ 75% load	%	88.5
Class		H
IP protection		23

Mechanical structure
Robust mechanical structure which permits easy access to the connections and components during routine maintenance check-ups.

Voltage regulator
Voltage regulation with DSR. The digital DSR controls the range of voltage, avoiding any possible trouble that can be made by unskilled personnel. The voltage accuracy is ±1% in static condition with any power factor and with speed variation between 5% and +30% with reference to the rated speed.



Windings / Excitation system
Generator stator is wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th …) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches. MAUX (Standard): The MAUX MeccAlte Auxiliary Winding is a separate winding within the main stators that feeds the regulator. This winding enables to take an overload of 300% forced current (short circuit maintenance) for 20 seconds. This is ideal for motor starting requirements.

Insulation / Impregnation
Insulation is of class H standard. Impregnation is made with premium tropicalised epoxy resins by dipping and dripping. High voltage parts are impregnated by vacuum, so the insulation level is always very good. In the high-power models, the stator windings undergo a second insulation process. Grey protection is applied on the main and exciter stator to give enhanced protection.

Reference standards
Alternator manufactured according to , and complies with , the most common specification such as CEI 2-3, IEC 34-1, EN 60034-1, VDE 0530, BS 4999-5000, CAN/CSA-C22.2 No14-95-No100-95.

Genset equipment

BASE FRAME MADE OF WELDER STEEL PROFILE, COMPLETE WITH:

• Anti-vibration mountings properly sized

• Visual fuel level indicator

• Integrated support legs.

PLASTIC FUEL TANK, COMPLETE WITH:

• Filler neck

• Air breather (ventilation pipe)

• External fuel refilling

OIL DRAININ PIPE WITH CAP:

• Oil draining facilities

CANOPY:

Soundproof canopy made up of modular panels
• Easy access to the genset for maintenance purposes thanks to: Wide lateral access doors fixed by stainless steel hinges and provided with plastic lockable handles and internal perforated galvanized steel-sheet; Detachable panels, with screws holes protected by rubber tap.
• Control panel protection door provided with suitable window and lockable handle.
• Lateral air inlet opening properly protected and soundproofed. Exhaust air outlet from the roof, trough wet section protected by proper grid.
• Single detachable lifting eye placed on the roof.

SOUNDPROOF:

• Noise attenuation thanks to soundproofing material and efficient residential silencer placed inside the canopy.

Dimensional data		
Length	(L) mm	2200
Width	(W) mm	1030
Height	(H) mm	1320
Dry weight	Kg	773
Fuel tank capacity	l	51

Autonomy		
Fuel consumption @ 75% PRP	l/h	5.41
Fuel consumption @ 100% PRP	l/h	7.10
Running time @ 75% PRP	h	9.43
Running time @ 100% PRP	h	7.18

Installation data		
Exhaust gas flow @ PRP	m^3/min	5.7
Exhaust gas temperature @ LTP	°C	500

Data Current		
Battery capacity	Ah	70
MAX current	A	46.91
Circuit breaker	A	50

Control panel availability	
AUTOMATIC CONTROL PANEL	ACP

ACP - Automatic control panel

Automatic control panel mounted on the genset, complete with digital control unit AC03 for monitoring, control and protection of the generating set.

INSTRUMENTATION DIGITAL (AC-03)

- Mains voltage.
- Generating set voltage (3 phases).
- Generating set frequency
- Generator set current (1 phase).
- Battery voltage
- Hours-counter.

COMMANDS AND OTHERS

- Four operation modes: OFF - Manual starting - Automatic starting - Automatic test
- Pushbutton for forcing Mains contactor or Genset contactor
- Push-buttons: start/stop, fault reset, up/down/page/enter selection
- Emergency stop button.
- Remote starting availability.
- DC system disconnection switch
- Automatic battery charger
- Settable PASSWORD for protection level

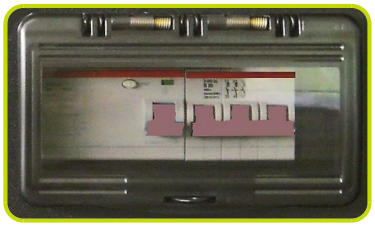
PROTECTIONS WITH ALARM

- Engine protections: low oil pressure, high engine temperature
- Genset protections: under/over voltage, overload, under/over frequency, starting failure, under/over battery voltage, battery charger failure

PROTECTIONS WITH SHUTDOWN

- Engine protections: low oil pressure, high engine temperature
- Genset protection: under/over voltage, overload, under/over battery voltage
- Circuit breaker protection: III poles
- Differential protection

OTHERS



- Cover protection Power switch

OUT PUT PANEL ACP

Plinth row for connection from ACP to LTS panel.		
3P+N+T 400V 63A	n	1
Predisposed for remote control optional:		RCG

Supplements:	
Only Available when order	:

ENGINE SUPPLEMENTS

PHS - Coolant Pre-Heating System - available for models:	ACP

Accessories

Items available as accessory equipment

LTS - LOAD TRANSFER SWITCH - Accessories ACP

Load Transfer Switch panel complete with:

• Change-over switch 4pole made by means of two switch disconnectors mechanically interlocked.

• Emergency stop button

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set.

The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.

NOMINAL CURRENT & DIMENSIONS PANEL LTS (standard*)

Nominal Current	A	45
Width	(W) mm	450
Height	(H) mm	600
Depth	(D) mm	300
Weight	Kg	27

* = Available electrical power more

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