



قائمة التأكيد للمواصفات الفنية

CHECK LIST TECHNICAL SPECIFICATION

عطاء رقم BID NO. NWD-TC-2025-T-50-07

Item	Qty	UOI	Description	Part No.	IF YOU APPROVE THICK HERE YES OR NO	REMARKS
1	4	ea	Caterpillar 3512B turbo charged, after cooling 912 HP each with Kato 1225 KW (1750 KVA) AC generators. Engines are equipped with heavy-duty radiators, safety shut down devices, low oil, high temperature and over speed controls 4 each Caterpillar 3512B Electronic Control Diesel Land Oilfield Generator, NEW and Built in USA open type include the following.			
1		A.	Caterpillar 3512B			
			• Power Rating: 1225 KW			
			• Power Rating 0.7 pf / 1750KVA			
			• Exciter Volts 100 V			
			• Exciter Current 8.2 Amperes			
			• 1680Amps			
			• Voltage Output: 600Vac			
			• Phase: 3 Ø (phase)			
			• Frequency / RPM: 60Hz / 1200 RPM			
			• SAE Standard Rotation			
			• Following Equipment			
			• Electrical starting System 24 Vdc			
			• (Batteries to be enclosed and secure			
			AIR INLET SYSTEM			
			• Aftercooler Core, Corrosion Resistant			
			• Service Indicators			
			• Air Cleaner- Heavy Duty, Shipped loose			
			• Caterpillar ADEM latest edition			
			• Requires 24V DC, 10Amp Continuous, 20 Amp			
			• Intermittent, Clean Electrical Power			
			• Load Sharing Control			
			• Engine Governor Control- For use with 0-200ma			
			• External speed and load sharing control			
			COOLING SYSTEM			

			• Thermostats and housing, (Dual Outlet)			
			• Jacket water pump, gear driven,			
			• Aftercooler Fresh Water Pump, SCAC, Gear Driven			
			• Coolant drains lines with valve and level sight gauge			
			• Coolant conditioner			
			• SCAC, Thermostat			
			• Radiator Group-with guard 46 CVD, S/L, Two Circuit			
			• Includes for Connections, and Fuel Cooler			
			• Blower Fan, Fan pulley for desert operation with			
			• ambient temperature to 140 Degree F /50°C			

			EXHAUST SYSTEM			
			• Exhaust Manifolds, Dry			
			• Top Mounted Turbochargers,			
			• Dual turbo chargers water cooled bearings			
			• Exhaust. stainless steel Flexible Fittings, S/L			
			• Muffler Group- Spark Arresting, 14-inch, S/L			
			• flanges, clean-out box, and spark box			
			• Elbows, flanges, expanders & Y adapters			
			• Flanged faced outlets			
			FUEL SYSTEM			
			• primary Fuel Filter, with water separator			
			• Fuel Transfer Pump			
			• Flexible Fuel Lines			
			• Fuel Priming Pump, LH			
			• Electronic Controlled Unit Injectors			
			• Fuel pressure gauge			
			LUBE SYSTEM			
			• Crankcase Breather			
			• Oil Cooler			
			• Oil Filter, LH			
			• Shallow Sump Oil Pan			
			• Oil Pump, Gear Type			
			• Fumes Disposal			
			• Oil drain extension,			
			• 2-inch NPT female connection			
			• Oil level regulator			
			• Centrifugal Oil Cleaner			
			• Caterpillar latest ADEM control system			
			INSTRUMENTATION			
			• Instrument panel			
			• Emergency stop button			
			• CAN, RS 485 MODBUS,			
			• Ethernet communications supp			

			• Remote e-stop/start/stop			
			• Electric Instrument Panel			
			• inch graphical display-5.5			

			Engine/generator monitoring and protection			
			Analog Gauges and Digital Display for:			
			Engine Oil Pressure Gauge			
			Engine Water Temperature Gauge			
			Fuel Pressure Gauge			
			System DC Voltage Gauge			
			Air Inlet Restriction Gauge			
			Exhaust Temperature Gauge			
			(Prior to Turbocharger)			
			Fuel Filter Differential Gauge			
			Oil Filter Differential Gauge			
			Service Meter (Digital Display)			
			Tachometer (Digital Display)			
			Instantaneous Fuel Consumption (Digital Display)			
			Total Fuel consumed (Digital Display)			
			Engine Start-Stop Switch (4 positions)			
			Off / Reset, Auto Start,			
			Manual Start, Cooldown Timer			
			Engine start and crank attempt counter			
			PROTECTION SYSTEM			
			. Latest ADEM ECM monitoring system Provides Engine			
			De-ration or Shutdown Strategies to Protect Against			
			Adverse Operating Conditions			
			Selected Parameters are Customer Programmable.			
			Status Available on Engine Mounted Instrument			
			Panel and can be Broadcast Through the Optional			
			Customer Communications Module or Programmable			
			Relay Control Module(s).			
			Initially Set as Follows:			
			Safety Shutoff Protection, Electrical:			
			Oil Pressure, Water Temperature, Overspeed,			
			Crankcase Pressure Aftercooler Temperature.			
			Includes Air Inlet Shutoff, Activated on Overspeed			

			• or Emergency stop			
			• ECM voltage, Oil pressure, Water Temperature			
			• (Low and High). Overspeed, Crankcase Pressure,			

			Aftercooler Temperature Low Water Level (S/L) , air			
			Inlet Restriction, Exhaust Stack Temperature, Filter			
			Differential Pressure (Oil and Fuel)			
			Derate, Electrical			
			Jacket Water Heater, 12 KW, 240-480VAC			
			Metal particle detector with annunciator			
			Explosion relief valves (3)			
			GENERATOR			
			Generator - 2 Bearing, 600V, 826 Frame, Self-Excited,			
			1200 RPM, 0.7 PF, 1900 KVA, 3 Phase, 4 Wire, Form			
			Wound, VPI, Class H Insulation, 127C Rise, Brushless			
			Excited, Drip-Proof,			
			1200-Watt Space Heater,			
			Bus Bars, 100-ohm Platinum			
			Embedded RTDs, Coupling Hub,			
			Cable Access Box, RH Extension			
			Generator Air Filter- Caterpillar Generator Only			
			Increases generator temperature rise to 90 C.			
			Includes differential pressure alarm switch, unwired			
			Voltage Regulator not included			
			ELECTRIC MODULAR CONTROL PANEL (EMCP 4.4)			
			WITH THE FOLOWING FEATURES			
			140 mm (5.5 in) Graphical Display			
			Generator AC voltage			
			phase (L-L & L-N)-3			
			accuracy 0.25% ± •			
			rpm and battery voltage			
			Generator AC current (per phase and average)			
			Generator frequency			
			Power metering (kW, kVA, kVAr, pf)			
			Hour meters (kW-hour, kVAr-hour)			
			Engine oil pressure (psi, kPa or bar)			
			Engine oil temperature (°C or °F)			

			Engine coolant temperature (°C or °F)			
			Multiple language support			
			Engine start and crank attempt counter			

			Real time clock			
			Communication			
			Accessory CAN data link			
			RS-485 annunciator data link			
			RS-485 SCADA (Modbus RTU)			
			Ethernet SCADA (Modbus TCP)			
			Controls			
			Auto/start/stop			
			Engine cool down timer			
			Emergency stop •			
			Engine cycle crank			
			Programmable cycle timer			
			Generator Set Protection			
			Over/under voltage			
			Over/under frequency			
			Generator phase sequence			
			Over current (timed and inverse)			
			Reverse kW, kVA			
			Current balance			
			Low oil pressure			
			High coolant temp			
			Low coolant level			
			Fail to start			
			Over speed			
			Outputs			
			programmable digital outputs 16			
			3 programmable (4-20mA or $\pm 10V$)			
			programmable (PWM) Inputs			
			Emergency stop			
			Remote start			
			12 programmable digital inputs			

			Oil pressure and water temperature			
			3 programmable inputs ($\pm 10V$, PWM, current,			
			or resistive)			

			Oil temperature, fuel level mounting.			
			Inner Base for Mounted Engine and Generator			
			Engine and Generator Mounting Group Coupling			
			Isolators, Three Point Mounted to Customer Supply Subbase			
			Mounting			
			Generator mounting support to install in generator house			
			Towing points for forklift pockets, skid base should			
			not be wider than Generator complete with dragging points			
			generators to be controlled by ROSSHILL			
			Other requirements			
			Paint, Engine and generator Caterpillar Yellow,			
			Except rails & radiators should be gloss black.			
			Vibration Damper and Guard, Lifting Eyes, Engine Only			
			Final testing and commissioning will be witnessed			
			By NWD personnel			
			Training with full-board accommodation is required			
			For 6 NWD personnel 3 mechanics and 3 electricians			
			24 months Warranty is required on the complete sets			
			The generators must be inspected and tested by NWD			
			Personnel before shipment.			
			3 each Manual and parts books in hard and soft copies			
			The offer must include Detailed Technical Offer,			
			Data sheet, they can make also checklist based on			
			NWD requirements for easy evaluation			
			. Complete with Test Certificate, Certificate of			
			Conformance from Caterpillar and other standard related documents			
			Are required.			
			END OF CHECK LIST TECHNICAL SPECIFICATION.			