ECOWAS 10th EDF TRANSPORT FACILITATION

PROJECT II (TFP II)

TENDER DOSSIER

SUPPLY CONTRACT FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2-UNITS OF 35KWp GRID INTERACTIVE ROOFTOP SOLAR PV PLANTS AT SÈMÈ-KRAKÉ JOINT BORDER POST

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CLARIFICATIONS FROM CONTRACTING AUTHORITY

No.	QUERIES	ANSWERS
1.	The tender guaranty should use insurance Bond?	**No, insurance bond cannot be used as a tender guaranty.** A tender guaranty is a "*written document issued by the Bank at the request of the tenderer for bids of construction and procurement of project, committing that the tenderer will not withdraw or amend its bid during the validity period of the bid, and will sign the contract or submit performance guarantee within the preset time once winning the bid.*"
2.	On the Contact Notice, as found in page 9 of 87, item No. 20 state that the Tender Opening session is Wednesday, 19 December, 2020. While the timetable on page 12 of 87, item No. 2 state that Tender Opening Session is Wednesday, February 19, 2020. We humbly request clarification to the aforementioned	**The tender opening session will take place on Wednesday, February 19, 2020**.
3.	Can we have a site visit at the proposed location for this installation?	**Tenderers are encouraged to visit the site at their own costs. Tenderers willing to visit the site should contact Mr Godfrey Adebudo, tel. +2348036289891, e-mail: adegodff@gmail.com**.
4.	For the PV panel, can the bidder propose some big capacity panel, which will help to save space and optimize cost?	**Yes, a higher capacity panel can be used, but must meet the specified capacity and standard as contained in Annex ii Technical Specifications.**
5.	For the battery capacity. Is there detail battery capacity and quantity requirement: or if the "*Batteries must grant a site autonomy of 2.0 times the average back-up time consumption estimated at 420kWh/day*." Is the requirement, please give the power consumption number in the day and in the night, which will help us to calculate the battery capacity?	**The proposed plants (2x35Kw) would sufficiently serve as back-up for the identified load under the following hypothesis;** **• The current JBP minimum daily grid supply is 12-hours** **• The current JBP maximum daily grid supply is 18-hours** **• The average daily grid supply is (12+18)/2= 15-hours** **• The normal scenario with regular grid supply, the back-up will supply the identified load for (24-15) = 9-hours daily** **• The worst scenario with epileptic grid supply, the back-up system will**

		supply the load for (24-12) = 12-hours daily
6.	For the battery lifetime. No lead acid battery can comply with the RFP requirement "*A minimum battery lifetime of 10 years and 3,000 full charging cycles must be guaranteed by the battery manufacturer*", but only the lithium battery can comply with the requirement, please confirm whether bidder can propose the lithium battery?	**Batteries shall have the below listed technical characteristics:** · **Suitable for cyclic applications** · **OPzV valve regulated lead-acid (VRLA) batteries/Lithium battery** · **Electrolyte Sulfuric Acid, or immobilized as gel**
7.	Interactive inverter. Please give more description of the interactive inverter, is there a requirement to supply power to the grid side?	• **It is PV-Grid (Hybrid) inverter** • **The plant is not designed to supply power to the grid**
8.	Please clarify *"216 PV poly crystalline modules***":** for the two plants 250Wp each i.e 216 x 2=432 panels.	**216/2= 108 No. of 250watt panels for each of the two Plants**
9.	For the PCU system, can we offer an architecture of the requested unit in the way of SMA Multicluster system (SMA PV inverters, SMA MC-Box and SMA inverter charger)?	**Yes, SMA multi-cluster systems can be offered. But must meet the specified capacity and standard as contained in Annex ii Technical Specifications.**
10.	Regarding the batteries, a N.48 of batteries bank per plant with a maximum capacity 2500Ah @C10 is too small to grant a site autonomy of 2 times the consumption (420kWh/day) as mentioned in the tender document. In order to grant the requested site autonomy, we suggest a N.96 of batteries bank with a capacity of 2412Ah @C10, covering a total daily consumption of 463104kWh/day. May you please confirm if this suggestion would be acceptable?	**A bank of 48-battery per plant with a maximum capacity of 2500Ah will be sufficient under the following scenarios;** • **The normal scenario, the back-up will supply the identified load for (24-15) = 9-hours daily** • **The worst scenario, the back-up system will supply the load for (24-12) = 12-hours daily**
11.	**<u>Item number 5 (Technical Specifications)</u>** N. Electric cables and accessories for complete system Distribution Board's Low Voltage AC wiring of the identified loads (as per Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	**Refer to the Annexii.3- Plant single line diagram, in the dossier for the cabling specification**

12.	**<u>Item number 6 (Technical Specifications)</u>** Corrugated and PVC trunk: Various sizes, for -AC cables from the grid to PCU and PUC/Inverter to the Load -DC cables from the PV field to the battery Bank and from the Bank to the PCU/Inverter (as per Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	**Refer to the Annexii.3- Plant single line diagram, in the dossier for the trunking specifications**
13.	**<u>Item number 7 (Technical Specifications)</u>** N. Electric cables and accessories for complete DC wiring; Solar and battery Bank cables must have the below listed minimum technical characteristics: - Maximum continuous operating temperature: 120 °C - Rated voltage (U0/U): 0,6/1 kV AC - Maximum DC voltage ≥ 900 V DC - EPR insulated cables - UV resistant - Suitable for outdoor and underground installation AC/DC low voltage cables must have the below listed minimum technical characteristics: - Maximum continuous operating temperature: 90 °C - Rated voltage (U0/U): 450/750 V AC - EPR insulated cables - Suitable for outdoor (as per Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	**Refer to the Annex ii.3- Plant single line diagram, in the dossier for the cabling specifications**
14.	**<u>Item number 8 (Technical Specifications)</u>** N. 4 Low voltage AC main circuit breaker: two for each plant, with residual current releaser, -In=250Amp, 4 poles, Din= 10A (according to every relevant national and international standard, laws, regulations, norms, Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	**Refer to the Annexii.3- Plant single line diagram, in the dossier for the circuit breaker specifications**

15.	**<u>Item number 9 (Technical Specifications)</u>** N. 4 Electrical switchboards: one for each of the 4-wings, -100Amp TPN, for the identified load in each block to be connected to the back-up Solar PV plant. -Each Board to be connected via 100Amp Earth leakage circuit breaker and should be fully earthed (according to every relevant national and international standards, laws, regulations, norms, Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	**Refer to the Annexii.3- Plant single line diagram, in the dossier for the switch Board/Distribution Board specifications**
16.	**<u>Item number 10 (Technical Specifications)</u>** N. 2 Air conditioning systems: one for each plant; complete with internal and external units. -1-Hp split unit Air conditioner/ventilator -Batteries and converters house air conditioning system must grant a room temperature of 25°C (according to every relevant national and international standards, laws, regulations, norms, Technical Description and drawings in Annex II.1 Need further details especially the drawings and load details	**Air conditioning and ventilation system shall be installed for cooling the Battery Bank and PCU room** **The air conditioning and ventilation system shall grant the below listed characteristics:** **· maintain an indoor room temperature set-point of 25 °C;** **· minimum air exchange rate of 110 m3/h;** **· minimum net ventilation grids total area of 0,35 m2;** **· be installed at a distance greater than 0,70 m from batteries;** **· tropicalized equipment suitable to work at least up to 52 °C.** **The air conditioning system shall grant the correct working of PCU, according to their manufacturer specifications.**
17.	**<u>Item number 11 (Technical Specifications)</u>** N. 2 Earthing system: one for each plant; complete with earth rods in inspection pits, *-equi-potential earth bars and 35 mm2 bare copper conductor to be laid in trenches;* *-each metallic support structure for PV modules (with 25 mm2 minimum cross section conductors) and every single electrical mass*	**Refer to the Annexii.3- Plant single line diagram, in the dossier for the earth breaker specifications**

	(or extraneous conductive part) must be connected to the earthing system. According to every relevant national and international standards, laws, regulations, norms, Technical Description and drawings in Annex II.1) Need further details especially the drawings and load details	
18.	**<u>Item number 12 (Technical Specifications)</u>** **N. 48 Batteries bank,** type Oz, minimum capacity 1500Ah and maximum of 2500 Ah each @ C10,to be connected to at-most 360V DC bus complete with support metal racks and charging control device; ***-Batteries must grant a site autonomy of 2.0 times the average back-up time consumption estimated at 420kWh/day.*** ***-Batteries must grant a minimum expected lifetime of 10 years*.** (according to every relevant national and international standards, laws, regulations, norms, Technical Description and drawings in Annex II.1) Kindly specify if the 420kWh/day energy need is for each plant or for both plants	**A bank of 48-battery per plant with a maximum capacity of 2500Ah will be sufficient under the following scenarios;** • **The normal scenario with regular supply from the grid, the back-up will supply the identified load for (24-15) = 9-hours daily** • **The worst scenario with epileptic supply from the grid, the back-up system will supply the load for (24-12) = 12-hours daily** **420kwh/day is for each of the two plant**