Ministério das Finanças
e do Fomento Empresarial
Unidade de Gestão
de Projetos Especiais

UNIDADE DE GESTÃO DE PROJECTOS ESPECIAIS

CABO VERDE RENEWABLE ENERGY AND IMPROVED UTILITY PERFORMANCE PROJECT

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CLARIFICATION # 5

Country: Cabo Verde

Name of Project: Renewable Energy and Improved Utility Performance Project

Contract Title: Request for Bidding - Procurement of Plant, Design, Supply, and Installation for four (4) Energy Storage Systems in FOGO Island, SANTO ANTÃO Island, SÃO NICOLAU Island and MAIO Island, Cabo Verde.

Loan No IBRD-92980

RFB Reference No.: 016/REIUP/UGPE

Question Nº 9: *The document on the detailed description of the island's power grid infrastructure - "Erreur I Source du renvoi introuvable", is not found in the available documents. Please kindly supply.*

Answer Nº 9: Refer to the Single Line Diagram in Annex of the Employer's Requirements (drawings).

Question Nº 10: *Regarding the current status of the island's existing power supply facilities, we understand that only MAlO Island has built a Solar PV power station, the rest of the islands' Solar PV power station is to be built or under construction. As a result, it's not required for us to consider the Solar PV Plants in our proposal for other islands except for MAIO Island. Please confirm.*

Answer Nº 10: The Design, Supply, and Installation of the four (4) solar PV plants is out of scope. For Maio, the ESS will be installed inside the enclosure of the Solar PV plant to be built in the scope of another project. The ESS shall be connected directly to the thermal power plant (MV substation).

Question Nº 11: *EMS needs to be regulated by the superior dispatching agency, and the active power, charge, and discharge management functions. Please confirm.*

Answer Nº 11: Refer to the Employer's Requirements. ESS commands and communications shall be managed from/to both ELECTRA and National Dispatch Centers.

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Question Nº 12: *Please clarify that the 5ms is the within the station or in connection with the higher-level dispatching system?*

Answer Nº 12: Refer to the Employer's Requirements – Appendix 5 - 3.2.

Question Nº 13: *In the case of FOGO Island, what is the type of the thermal power plant? Diesel power plants or other types of thermal power plants? Are all four islands' power plant the same type? If not, what type of thermal power plant are they?*

Answer Nº 13: The type of thermal power plant is diesel gensets in the four islands.

Question Nº 14: *The ESS shall be designed in parallel systems, which can operate simultaneously or independently. - Does it mean that the ESS system and the thermal power (or photovoltaic) system on each island operate independently or jointly.*

When the ESS system or thermal power (or photovoltaic) system is abnormal, their system will not be affected by each other?

Answer Nº 14: The ESS facilities are independent of other generation plants. They are connected to the grid through the MV busbar of the thermal plants.

Question Nº 15: *Based on the current prevailing products and most-advanced technology in the world, Round Trip Efficiency (RTE) at 90% is too high, which is not possible at all. Please specify the measuring point during charge and discharge test, whether auxiliary power consumption is included? Based on the best practice and most advanced tech and products as of now, the proposed RTE is 83% (measuring at 20kV side of transformer, auxiliary power load included), please kindly take the above into consideration and accept the proposed RTE which is realistic in the basis of the best practice and cutting-edge technology and products.*

Answer Nº 15: Please refer to the Employer's Requirements:
The BESS shall have a DC round-trip efficiency of > 90 % when charged and discharged at 2 C.
The ESS shall have an AC round-trip efficiency of >90 % (measured at the inverter's AC terminals) when charged and discharged at 2 C.

Question Nº 16: *Please confirm the charge and discharge rate of the battery cell is 0.5C, 1C or 2C ?*

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Answer Nº 16: Please refer to the Employer's Requirements. The Bidder shall propose the best optimized technical proposal to meet all requirements.

Question Nº 17: *10% advance payment is too low to meet the mobilization. We kindly request to increase from 10% to 25% for advance payment，65% interim payment, 5% Payment for Completion Certificate, 5% Payment for Operational Acceptance Certificate.*

Answer Nº 17: Terms of payment will be discussed during the contract negotiation.

Question Nº 18: *Please clarify that For Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad, are customs and import duties, and VAT included? If includes, Please specify the tax base and tax rate.*

Answer Nº 18: The project is exempt of VAT and custom duties. However, the bidder is responsible of the payment of port fees and custom clearance. All prices shall not include VAT and custom duties.

Question Nº 19: *Please clarify that For Price Schedule No.2.Plant and Mandatory Spare Parts Supplied from Within the Employer's Country includes taxes or not. If includes, Please specify the tax base and tax rate.*

Answer Nº 19: See answer Nº 18

Question Nº 20: *Please clarify that for Price Schedule No.3.Design Service, are taxes included or not. If includes, Please specify the tax base and tax rate.*
Answer Nº 21: See answer Nº 18

Question Nº 22: *Please clarify that for Price Schedule No. 4. Installation and Other Services are taxes included or not. If includes, Please specify the tax base and tax rate.*

Answer Nº 22: See answer Nº 18

Question Nº 23: *Please clarify that the Evaluated Price includes or excludes the customs, duties and VAT and other taxes. If includes taxes, are they listed separately or not in the Price Schedule? Please confirm.*

Answer Nº 23: See answer Nº 18

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Question Nº 24: *We kindly request to modify as follows： The Defect Liability Period is postponed until seven hundred and thirty (730) days from the date of Completion of the Facilities (or any part thereof) or 540 days from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs.*

Answer Nº 24: PCC 27.10 can not be modified.

Question Nº 25: *We look for your kind consideration of an extension of one month for submission deadline to enable the bidder to prepare its bid and best offer holistically, comprehensively, and appropriately based on the site study, physical visits, and optimal production of proposal.*

Answer Nº 25: An extension of the submission deadline is not possible.

Question Nº 26: *In the document "Employer_Requirements_V1.1_Appendix_3-Power Conversion System (PCS)", Page 4:*

The PCS shall be designed to have a minimum of two fully redundant parallel systems. The configuration will be such that each parallel system can operate independently. Additional parallel systems shall be considered to maintain the short circuit level on the low voltage side of the transformer within acceptable limits.

The redundant systems shall be sized such that the short circuit current on the secondary of the transformer does not exceed 40 kA.

The PCS shall consist of multiple identical units, with the following overall guaranteed ratings as a minimum:

Parameters	Unit	Fogo	Santo Antão	São Nicolau & Maio
Continuous AC power rating (+/-)	kW	>=2 500	>=1 600	>=630
Continuous AC reactive power (+/-) at 0 kW	kVAr	>=2 500	>=1 600	>=630
Apparent Power Rating (+/-)	kVA	>=2 500	>=1 600	>=630

Please confirm if the redundant PCS is 2x100% or 2x50%. That means, for example in Fogo, it is necessary to consider 2 PCS of 2.5MW or 2 PCS of 1.25MW each.

Answer Nº 26: Please refer to the Employers Requirements: The PCS shall consist of multiple identical units, with overall guaranteed ratings.

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Question Nº 27: *In the document Employer_Requirements_V1.1_Appendix_2-Battery Energy Storage System", Page 5:*

> The BESS shall have a DC round-trip efficiency of > 90 % when charged and discharged at 2 C. The Contractor to indicate the efficiency of the system at the rated discharge and charge power levels and any degradation thereof as battery system ages.
>
> The ESS shall have an AC round-trip efficiency of >90 % (measured at the inverter's AC terminals) when charged and discharged at 2 C. The Contractor to indicate the efficiency of the system at the rated discharge and charge power levels and any degradation thereof as battery system ages.

According to BESS requirements, the optimal battery to be selected is 0.5C or 1C. If charge/discharge will be sometimes to 2C, we must consider 2C batteries for all plants. Please confirm if the RTE test will be made at plant C-rate (max 0.5C or max 1C)?

Answer Nº 27: Please refer to the Employer's Requirements. The Bidder shall propose the best optimized technical proposal to meet all requirements. The RTE test shall be made at plant C-rate.

Question Nº 28: *Regarding the same document, indicated in previous question, Please confirm if RTE>90% is required at PCS AC terminals, and if this measure point is the referred in page 4, "(…)measured at the contractual metering point at the scope of work battery limit(…)"?*

Answer Nº 28: Please refer to the Employer's Requirements : "The RTE is measured at the inverter's AC terminals.

Question Nº 29: *Please confirm how many years will be the warranty performance period, because it is not clearly defined in the documentation?*

Answer Nº 29: Please refer to the RfB Section IV (c) Functional Guarantees of the Facilities and to the Employer's Requirements : "The ESS shall have 30 minutes of usable energy storage capacity when discharged at the rated power of (P) MW at its End of Life (EOL), defined as 20 years of operation at the rated duty cycle."

Question Nº 30 :*Could you provide us all CAD drawings included in the RfB?*

Answer Nº 30 : Please see attached the available CAD drawings.

November, 17 2023