



UNIDADE DE GESTÃO DE PROJECTOS ESPECIAIS

CABO VERDE RENEWABLE ENERGY AND IMPROVED UTILITY PERFORMANCE PROJECT

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CLARIFICATION # 7

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 Five (5) Energy Storage Systems in FOGO Island, SANTO ANTÃO Island, SÃO NICOLAU Island, MAIO Island and BRAVA Island Cabo Verde

Loan No IBRD-92980

RFB Reference No.: 016/REIUP/UGPE_2

QUESTION 43: [Question about setup transformer](#)

We noticed that in the transformer part of bidders' datasheet for all five islands ("drive-download-20240402T023224Z-001Appendix 10A-E Bidders Datasheet.xlsx\transformer"), employers required the Lower Voltage part of transformers should be 400V AC.

Would that be possible for us to provide technical proposals that have different lower voltage, for example, 630V AC? In other words, would that be possible for the PCS AC side output be 630 V (in that condition, the setup transformer should be 20KV/0.63KV)? (for auxiliary equipment of course the low voltage side is 400V, which complies with local AC busbar).

| | | | | |
|----|--|---|-----------|-----------------------|
| 31 | C7 | Ground fault current limited to | A | N/A |
| 32 | C8 | Maximum Short Circuit Capacity | kA (sym.) | Vendor to provide |
| 33 | C9 | LV Side | | |
| 34 | C10 | System Voltage | V rms | 400 |
| 35 | C11 | Maximum continuous operating voltage | V rms | 630 |
| 36 | C12 | Number of Phases/Wires | No. | 3/3 |
| 37 | C13 | Frequency | Hz | 50 |
| 38 | C14 | System Neutral Grounding | Test | Delta ungrounded |
| 39 | C15 | Ground fault current limited to | A | N/A |
| 40 | C16 | Maximum Short Circuit Capacity | kA (sym.) | Vendor to provide |
| 41 | C17 | Available Auxiliary Supply Voltage (AC) | VAC | Vendor to provide |
| 42 | C18 | Available Auxiliary Supply Voltage (DC) | VDC | Vendor to provide |
| 43 | | | | |
| 44 | SECTION D - TECHNICAL REQUIREMENTS | | | |
| 45 | D1 | Application | Test | Step-down Transformer |
| 46 | D2 | Power | MVA | 2 |
| 47 | Cover Company Profile Subcontractors BESS Power Conversion System Switchgear Transformer Energy Managem... | | | |

ANSWER N°43: The bidder shall design the ESS facilities in accordance with Employer's Requirements and ITB. Note that the Output Voltage (Busbar side) is 20 kV. The PCS Output Voltage must be defined by the bidder (refer to the Appendices 10 - Sheet PCS).

The LV is 400 V for the auxiliary circuits.



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QUESTION 44: Questions about exact boundary of each island.

Can you please provide more information about the length/specifications/ redline boundary line of fencing at each island?

ANSWER N°44: The bidder shall design the ESS facilities in accordance with Employer's Requirements and ITB. The platform dimensions will depend on the battery facility layout in Fogo and Sao Nicolau. The bidder shall define the boundary of the platform. In the three other site, just consider a 50x50m platform.

QUESTION 45: Question about requirements of lengths of MV cables

Can you please provide the information about the distance from the step-up transformers to the interconnection points at each island, which is required for the construction of MV cables works from BESS station to existing power plant.

ANSWER N°45: The distances are given only for information : site of Maio, around 400 m, other sites, around 50 m. Please refer to the Appendix Scope of Works for the civil works to be done. The bidder shall visit the site if he requires more accurate information.

QUESTION 46: Question about the metering point for the capacity of BESS

As "appendix2-Battery Energy Storage System" shows, the guaranteed capacity should be measured at the scope of work battery limit. Would mind confirm for us that the fourth MV cabinet circled by blue box is the estimated metering point? In that case, we need to consider about the depth of discharge of battery and all components' efficiency when we design the system.

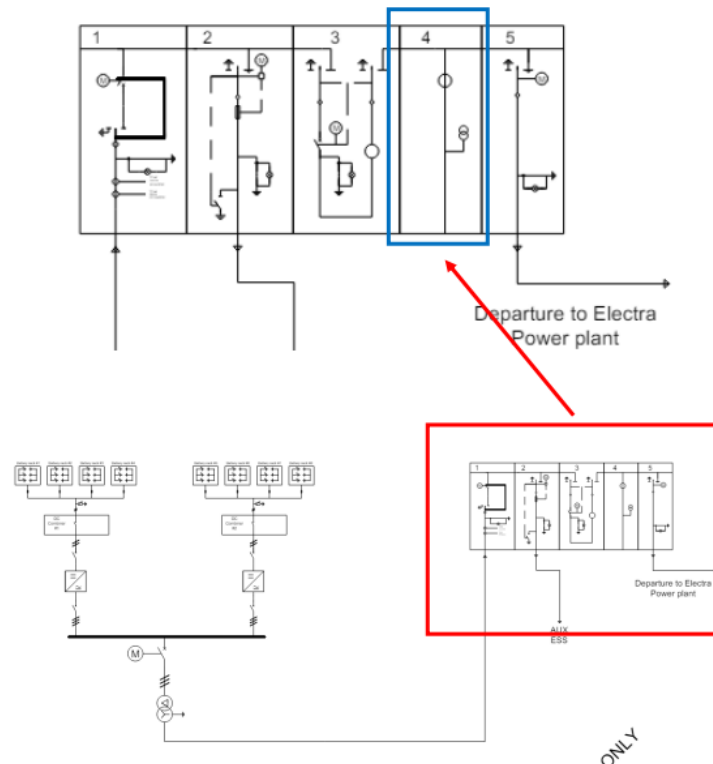


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ANSWER N°46: Please refer to the Employer's requirements. The Contractor shall account for losses in the PCS and the step-up transformer components and auxiliary loads in rating the BESS discharge power and energy capacity. Note that drawings are given only for information..

QUESTION 47: Reclarification about battery capacity for Brava Island.

We noticed that you explained how to calculate the available BESS energy by the 20 years lifetime. Does that mean the Brava Island should remain 94% of "the Guaranteed capacity at the beginning of life" at 20th year. We are so confused cause for the other four islands "the usable energy at the end of life" is around 65.7% of "the Guaranteed capacity at the beginning of life" but for Brava Island these two values are almost the same. It is a very important value when we design the system, so we want to check again.



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| | Nominal Power (MW) | Max Reactive power (MVAR) | Useable energy at end of life (MWh) | Cycling requirements (number/ day) | Guaranteed capacity at beginning of life (MWh) | Round Trip Efficiency (%) | Latency (ms) | Availability (%) |
|-------------|--------------------|---------------------------|-------------------------------------|------------------------------------|--|---------------------------|--------------|------------------|
| Maio | 0.5 | 0.5 | 0.657 | ← | 1 | | | |
| Fogo | 2.08 | 2.08 | 1.37 | ← | 2.08 | | | |
| Santo Antão | 1.4 | 1.4 | 1.31 | ← | 2 | 90 | ≤ 10 ms | 97 |
| São Nicolau | 0.5 | 0.5 | 0.657 | ← | 1 | | | |
| Brava | 1.1 | 1.1 | 6.6 | ← | 6.6 | | | |

1- The available BESS charge and discharge energy shall always be maintained equal or above 94 % of contracted value, by the 20 years lifetime. The maximum allowed energy capacity degradation by end of year-5 after acceptance is 0,5 %, and after that up to end of year-10 is 1 %, and after that up to end of year-15 is 2 %. (total of 0.5 % + 1 % + 1,75 % + 2,5 % = 6 % in 20 years).

2 - The available BESS charge and discharge power shall always be maintained equal or above 99 % of contracted value, throughout the 20 years lifetime.

ANSWER N°47: Please refer to the previous clarifications. We confirm the 94% for Brava ESS facility

QUESTION 48: According to page 91 of the tender document, "The Bidder shall copy in the left column of the table below, the identification of each functional guarantee required in the Specification and stated by the Employer in para. 1.2 (c) of Section III, Evaluation and Qualification Criteria", we couldn't find the "1.2 (c) of Section III". Is it "Functional Guarantees of the Facilities" on page 69 of the tender document? ? could you pls double check that?

ANSWER N°48: The Functional Guarantees are specified in the Section IV 3 (c) and Section X, Appendix 8.

QUESTION 49: NO.6 Annex 1, which clearly lists the standards to be followed, does not indicate that equivalent, equivalent or other country-specific standards may be used, as is the case with other international standards? Is it possible for us to use equivalent, equivalent or other country-specific standards?

ANSWER N°49: Refer to the Clarification #6 - Answer 41

QUESTION 50: The project has been clearly exempted from VAT or free, how about the custom duty? Is the customs duty on imports also exempted or free?



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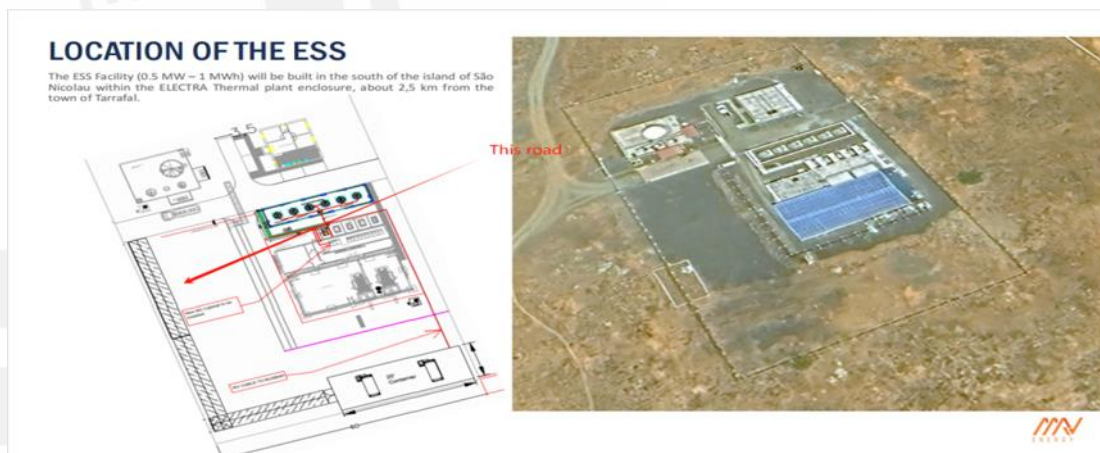
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ANSWER N°50: The Project is exempt from both VAT and Custom Duties, as per the Declaration n°11/2022 issued by the Minister of Finance . For VAT the respective Declaration has been issued by fiscal authorities since Project commencement and for Custom Duties an additional declaration is promptly issued by the UGPE upon each import when it occurs. Service and costs with import subject to be paid by the supplier are all port fees including customs clearance fees, storage costs (if applicable) and transportation.

QUESTION 51: *Is the road in San NICOLAU Island, shown here, within the contractor's range?*



ANSWER N°51: Yes, it is.

QUESTION 52: *Does the reserved area marked in the FOGO Island energy storage area require concrete hardening?*

ANSWER N°52: Please refer to the Employer' s Requirements. The Bidder shall propose the best technical solution to meet the requirements.

May 02, 2024