



GUAM POWER AUTHORITY

ATURIDÁT ILEKTRESEDÁT GUÅHAN
P.O.BOX 2977 • HAGÁTÑA, GUAM U.S.A. 96932-2977

October 20, 2023

AMENDMENT NO.: XIII

TO

INVITATION FOR MULTI-STEP BID NO.: GPA-012-23

FOR

RENEWABLE ENERGY RESOURCE ACQUISITION PHASE IV

Prospective Bidders are hereby notified of the following responses to clarifications of Amendment No.: XII from Bidder No.: 1 dated October 9, 2023, Bidder No.: 6 dated October 11, 2023 and Bidder No.: 10 dated October 12, 2023:

Bidder No.: 1 dated 10/09/2023:

QUESTION:

1. **Clarification #1**

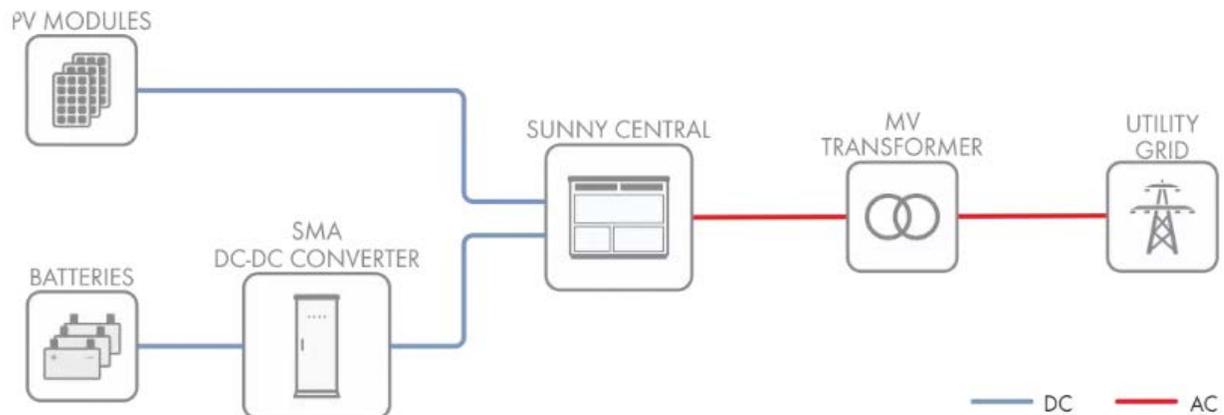
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ANSWER:

GPA has confirmed **the utility-scale DC-coupled configuration with its consultant** and is therefore upholding the requirement to DC-couple 50% of the resource to the energy storage system. However, **Bidders shall be responsible for the design of the system.**

CLARIFICATION:

In the utility environment, there are many operating cases of the utility-scale DC-coupled configuration. Typical and commercially available configuration is PV Modules and BESS Batteries with DC-DC converter connected to **PV Inverter**, PV Inverter connected to MV Transformer, then connected to Utility Grid. SMA is one of the leading manufacturers in the PV-BESS Inverter market and below is its DC-coupling system configuration. Also, other major manufacturers' DC-coupled configurations are similar. i.e. PV Inverter is used for DC-coupled configurations.



Unfortunately, we didn't see the utility-scale DC-coupled configuration which PV Modules DC-coupled to the BESS Batteries, the BESS Batteries connected to the PCS (instead of PV Inverter), and then connected to the grid. Between PV Modules and BESS Batteries, there should be specific equipment such as Charge Controller for DC-coupling and controls of PV-BESS.

1) Please provide its specification, manufacturer, and model number for Bidder's information. Bidder's concern is that specific equipment for DC-coupling may not be compatible with other PV-BESS equipment which will be provided by major manufacturers in the utility market.

2) Also, please provide referenced PV-BESS projects information which adopted and operating the utility-scale DC-coupled configuration that GPA's consultant is referring to.

3) Dully noted that Bidders shall be responsible for the design of the system. Therefore, please confirm that the Bidder will NOT be disqualified when the proposed PV-BESS system configuration is AC-coupled that the Bidder believes it will provide more Resiliency, Functionality, Versatility, and Flexibility to GPA grid system.

ANSWER:

GPA affirms its previous answer issued in Amendment XII, specifically:

"GPA has confirmed the utility-scale DC-coupled configuration with its consultant and is therefore upholding the requirement to DC-couple 50% of the resource to the energy storage system.

However, Bidders shall be responsible for the design of the system."

Bidders shall be responsible for the design of the system that meets the requirements specified in the bid. GPA cannot confirm that a Bidder's proposal will not be disqualified if the bid requirements are not met.

Bidder No.: 6 dated 10/11/2023:

QUESTION:

1. To avoid costly protests and delays, please clarify one more time the issue about bids going above the GPA threshold of \$0.179 given the scenarios below:

QUESTIONS:

- a) If one bidder bidding for 20MW bids \$0.179/KWh, and if all other bidders bidding a total of 180MW bid \$0.19/KWh or more, what will be GPA's award methodology?
- b) If a few bidders bidding a total of 150MW bid \$0.179/KWh, and if some bidders bidding 150MW bid \$0.19/KWh or more, what will be GPA's award methodology?

ANSWER:

Price proposals above \$0.179 per kWh will be removed from further consideration. This response will supersede ANSWERS provided in the previous amendments to this bid.

QUESTION:

2. On the issue of GPA's requirement that the **"The energy-shifted PV resource shall be DC-Coupled to the ESS."**

Our international consultants and worldwide manufacturers of BESS systems have indicated that there are very limited products available in the market worldwide to implement this requirement for utilities, and that it may not necessarily work properly with the system that we are considering in our proposal. They have also indicated that while DC-coupling was popular a few years ago, the industry now is favoring AC-coupled systems.

QUESTION: If bidders fail to comply with GPA's DC-Coupling requirement, will this be grounds for disqualification?

We suggest this issue of the DC-coupling requirement be tackled by our respective technical group after the PPA and project award.

ANSWER:

GPA affirms its previous answer issued in Amendment XII, specifically:
"GPA has confirmed the utility-scale DC-coupled configuration with its consultant and is therefore upholding the requirement to DC-couple 50% of the resource to the energy storage system. However, Bidders shall be responsible for the design of the system."

Bidders shall be responsible for the design of the system that meets the requirements specified in the bid. GPA cannot confirm that a Bidder's proposal will not be disqualified if the bid requirements are not met.

Bidder No.: 10 dated 10/12/2023:

QUESTION:

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GPA Answer: "The PCS connected between the battery and the grid shall be grid-forming / black-start capable."

Clarification

We consulted a world leading DC-coupled solution provider. They confirmed that utility scale DC-coupled systems do not support grid forming/black start. This is because the DC-coupled solutions are all based on PV inverters not battery inverters. Thus, note the following:

1. If grid-forming/black start is mandatory, then only AC-coupled solutions is feasible.
2. If DC-coupled solution is mandatory, then grid-forming/black start function will not be available.

We kindly seek GPA's clarification on these two conflicting requirements. If GPA confirms that DC-coupled solution can support black start, please provide reference list of utility scale projects and the OEM for such solution.

ANSWER:

GPA has confirmed with its consultant that there are utility scale DC-coupled systems available that are grid forming / black start capable.

GPA affirms its previous answer issued in Amendment XII, specifically:

"GPA has confirmed the utility-scale DC-coupled configuration with its consultant and is therefore upholding the requirement to DC-couple 50% of the resource to the energy storage system. However, Bidders shall be responsible for the design of the system."

Bidders shall be responsible for the design of the system that meets the requirements specified in the bid. GPA cannot confirm that a Bidder's proposal will not be disqualified if the bid requirements are not met.

NOTE:

Guam Power Authority will not entertain any further requests to extend the Cut-Off Date for Receipt of Proposals or requests for clarification.

All other Terms and Conditions in the bid package shall remain unchanged and in full force.


for JOHN M. BENAVENTE, P.E.
General Manager
