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PROCUREMENT APPEAL OF DENIAL OF PROCUREMENT PROTEST

IN THE OFFICE OF PUBLIC ACCOUNTABILITY

PART I.

In the Appeal of GlidePath Marianas Operations Inc., Appellant.	**DOCKET NO. OPA-PA-19-010** **NOTICE OF APPEAL**

ORIGINAL

PART II: APPELLANT INFORMATION

Appellant's Name	GlidePath Marianas Operations Inc.
Appellant's Mailing Address	132 N. York St., Suite 3L Elmhurst, IL 60126
Appellant's Business Address	706 Dandan Road , Inarajan, Guam 96915
Appellant Representative's Direct Email Address	prood@glidepath.net

Appellant is represented by legal counsel in this appeal. For purposes of this appeal, please direct correspondence to GlidePath Marianas Operations Inc.'s counsels, Joshua D. Walsh and Joseph C. Razzano of Civille & Tang, PLLC.

Counsel's Mailing Address	330 Hernan Cortez Avenue Suite 200, Hagatna, Guam 96910
Counsel's Telephone	671-472-8868
Counsel's Facsimile	671/477-2511
Counsel's Direct Email Address	jdwalsh@civilletang.com

PART III: APPEAL INFORMATION

A. Purchasing Agency: Guam Power Authority.

B. Solicitation Number: GPA-IFB-007-18, Renewable Energy Resources Phase III.

C. The Decision being appealed was provided to the Appellant on Thursday, October 31, 2019. The Decision was made by the Head of the Purchasing Agency, Mr. John M. Benavente, P.E.

D. Appeal is made from a Decision on Protest of an Award. The Denial of Procurement Protest issued by the Agency has also revealed flaws in the method and procedures of selection for award.

E. The names of competing offerors known to Appellant are as follow:

1. AES Distributed Energy, Inc.;
2. Korea Electric Power Corporation and Hanwha Energy Corporation (consortium);
3. X-Elio Energy North America Development Holdco, LLC; and

4. ENGIE Solar.

PART IV: STATEMENT OF GROUNDS FOR APPEAL

A. THE GROUNDS FOR APPEAL

1. Relevant Procedural and Factual History

The Guam Power Authority ("GPA") is pressing forward with Phase III of its Renewable Energy Resource project. The procurement for Phase III saw GPA implement a Multi-Step Bid in an ongoing effort to comply with Public Law 29-62, which requires GPA to establish renewable energy portfolio standard goals and add additional renewable capacity. Phase III also involved a land use partnership between GPA and United States Navy, where Navy property would be leased to the Government of Guam for use in the Phase III power operation. Phase III would be built on two different sites – Navy Base Guam and South Finegayan—and bidders were invited to respond to operate solar power production at either or both of the locations.

GlidePath Marianas Operations Inc. ("GlidePath" or "Appellant"), a Guam based company that qualifies for the local procurement preference proscribed in 5 GCA §5008, submitted a bid to provide solar production at both sites. GlidePath is well experienced on Guam, is buttressed by an extensive corporate support system that is well versed in solar production, is staffed by solar industry professionals who understand competitive procurement, and currently operates the Dandan solar project, which was awarded a contract under Phase I by GPA. GlidePath submitted its bid on June 3, 2019, and was informed on August 14, 2019, that it had passed technical review and was eligible for consideration in Step 2 of the Procurement where the offerors would submit their prices.

Prices were submitted to GPA pursuant to a price submission worksheet that included explaining the cost of power to GPA's rate payers in the form of the cost of a megawatt of power

per hour (MWh). Price submissions were opened at a public venue on September 10, 2019, and ENGIE Solar ("ENGIE") had bid a price of $110.90/MWh for the Navy Base Guam location and $108.90/MWh for the South Finegayan location. As allowed by the IFB, GlidePath submitted several pricing plans for GPA's consideration, and its bid price was $149.60/MWh for both sites, as adjusted for the local procurement preference. Other offerors had submitted bids more expensive than the bid price offered by GlidePath. ENGIE had also offered a Guaranteed Net Annual Generation ("GNAG")—a number that reflects the amount of gross electricity generation a generator produces minus the electricity used to operate the power plant —that was significantly higher than any other offer, a feat that was technically impossible given the specific IFB requirements set down by GPA.[1]

Given the significant price and GNAG disparity between ENGIE and all other bidders, GlidePath submitted requests under the Guam Sunshine Act on August 22, 2019, and again on September 12, 2019, to GPA requesting, among other documents, copies of the technical proposals submitted by the other bidders so that GlidePath's engineers could review the technical details of their proposed projects. GlidePath was concerned that, given the complexity of the technical requirements and numerous amendments to the IFB, that other bidders may not have complied with the various requirements put forth by GPA in its IFB. Specifically, GlidePath was concerned about the sizing of various project components, compliance with unique requirements in the Navy lease, and detailed electrical requirements and wanted to confirm that all bidders, especially ENGIE, had properly included these requirements. GPA never substantively responded to the information requests, and withheld ENGIE's technical proposal from disclosure.

[1] As designed by the IFB, the GNAG changes from year to year during the life of the contract.

On October 4, 2019, GlidePath was notified by GPA that it was not selected for award, and instead GPA's procurement team had recommended award for both of the projects included in the IFB to ENGIE.[2] ENGIE was selected for award because it presented GPA with a price that was at least 35% lower than the next offeror. While GPA continues to withhold ENGIE's technical proposal from public scrutiny, ENGIE moved ahead and released information confirming that its bid was not compliant with the requirements of the IFB. On October 7, 2019 ENGIE issued a press release indicating that "[the] systems proposed by ENGIE integrate more than 50 MWp of solar PV with approx. 300 MWh of battery energy storage...."[3] The inclusion of more than 20.7 MWp[4] of solar generation capacity at either of the project sites is not allowed by the IFB. ENGIE's press release made it clear that ENGIE's proposed projects do not meet the technical requirements in the IFB. The ENGIE proposals should have been deemed non-compliant by GPA and should not have been awarded contracts as part of the IFB. On October 9, 2019, GlidePath submitted its Bid Protest to GPA. GPA denied the protest via correspondence received by GlidePath on October 30, 2019.[5] This appeal followed.

2. GPA is ignoring the fact that ENGIE's Proposals Do Not Comply with the IFB's Technical Requirements

ENGIE has confirmed that its Phase III solution is built upon a system that integrates "more than 50 MWp of solar PV with approx. 300 MWh of battery energy storage..."[6] The inclusion of more than 20.7 MWp of solar generation capacity at either of the project sites is prohibited by the IFB, and rendered ENGIE's proposal technically unresponsive to the IFB.

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[2] The Notice to GlidePath that it was not selected for Award is attached to this appeal as **Attachment A.**
[3] The ENGIE press release is submitted as **Attachment B.**
[4] MWp stands for Mega-Watt peak, a measure used in the solar industry to describe what the peak maximum power generation capabilities of the system are.
[5] The Denial of Procurement Protest is submitted with this appeal as **Attachment C.**
[6] The ENGIE press release is submitted as **Attachment B.**

GPA was very clear in the nature and production output of the solar systems it was seeking to procure. Offerors were provided with a specific formula within which to shape the solar systems that would be offered. These systems had to comply with specific requirements about the maximum mega-watt peak of the system (the "MWp") as well as the minimum Energy Storage System capacity of the system (the "ESS").[7] Numerous requests for information were sent by various offerors to GPA over the course of the procurement, and GPA, in response to those inquiries, issued numerous amendments to the procurement that helped confirm the outer formula contours to be applied to the systems that would be offered.

On January 25, 2019, GPA issued Amendment XIII, an amendment called the "Supplement and Update to Volume II Technical Qualification Requirements."[8] The amendment required that the **ESS shall be equal to or greater than the 145%** of the MW rating of the PV charging system. [9] This 145% requirement was coupled to GPA's other requirement that the **ESS be no larger than 30MW** at each project site.[10] Therefore, it was relatively simple to determine that **GPA wanted an ESS system that was both no larger than 30MW, but was also at least 145% greater than the mega-watt rating of the PV charging system.** This meant that the system to be procured would be limited to a peak mega-watt capacity of 20.7 MWp, since 145% of a 20.7 MWp system would be no larger than the 30MW ESS maximum demanded by GPA in its IFB.

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[7] The ESS operates like a battery that allows for solar power to be collected at peak solar energy production times, stored, then returned to the power system for use at times when the power is needed at night or when the day is darker.

[8] *See,* Attachment B to Amendment No.: XIII to Invitation for Multi-Step Bid No.: GPA-007-18 for Renewable Energy Resource Phase III issued on January 25, 2019, submitted as **Attachment D** to this appeal.

[9] *See*, Technical Requirements Supplement, Section 2, bullet point 5, which is submitted as **Attachment E** to this appeal. (emphasis added)

[10] *See*, IFB Volume I, Section 1, Bullet 6 (page 9 of 501); IFB Volume II, Section 1 Item 1; Section 2.2.5, Section 2.3.1, submitted as **Attachments F, G, H** to this appeal.

ENGIE's confession that it offered a system to GPA—a system that GPA accepted—of 50 MWp means that it is impossible for ENGIE's proposal to be mathematically compliant with the IFB. ENGIE either ignored the 145% requirement, or ignored the 30 MW maximum ESS size requirement. This means that ENGIE did not have to limit its bid to the technology that supports a 20.7 MWp system, and as such, was not faced with the same price restrictions that other bidders, including GlidePath, were meant to confront.

GPA's acceptance of ENGIE's decision to ignore the 145%/30 MW requirements of the IFB gave ENGIE an unfair price advantage, since ENGIE was no longer bound by the 20.7MWp system maximum that the 145%/30MW requirement commanded. ENGIE's completely different 50MWP system allowed it to submit pricing numbers to GPA—numbers based upon the Guaranteed Net Annual Generation ("GNAG") production quantities nearly 20% higher than the other offers— that were significantly lower than any other bidder.

3. GPA's acceptance of the ENGIE bid as responsive significantly prejudices the people of Guam, by allowing what is effectively a sole source procurement for projects worth nearly $200,000,000.[11]

GPA, by allowing ENGIE to submit a project for consideration that did not hold to the 20.7 MWp system parameters set by the IFB that all other offerors held to, did not compare equivalent projects and, therefore, their selection of ENGIE as the lowest bidder was in error because their proposal was materially different than the other bidders. This failure lays squarely at the feet of GPA, since the acceptance of ENGIE's project means that GPA either (1) accepted a non-conforming proposal from ENGIE, or (2) issued system standards that were sufficiently unclear so as to cause every other offeror—offerors that include some of the biggest and most experienced players in the world of solar power production—to be led astray. This has resulted

[11] The IFB commits GPA and its rate payers to purchasing nearly $200,000,000 worth of power from the awardee of this IFB over the 20-year lifetime of the contract.

in a competitive bid process that wasn't competitive at all, *i.e.*, the ENGIE projects have substantially more capacity than 20.7 MW per project that limited other offerors' proposals. This meant that ENGIE's proposal, as accepted by GPA, increased the projects' solar power production and allowed for the fixed project costs— the costs the form the basis of an offeror's price submission to GPA—to be distributed across more MWhs resulting in a lower net cost per month.

Most frustrating about GPA's failures in this procurement is the fact that GlidePath noted in its Technical Proposal and elsewhere in its interactions with GPA that a lower cost to the people of Guam may be possible if the limits on solar capacity were eased. Rather than violate the technical requirements of the IFB, GlidePath, like the other offerors, designed its project in compliance with the terms of the IFB. ENGIE was an outlier in submitting a non-compliant project that included more than 20.7 MWp of solar charging capacity, and GPA is rewarding that entity with a contract Award despite the fact that GPA has, simply put, based its price analysis on a comparison between apples and oranges.

B. RULING REQUESTED

GlidePath respectfully requests that the Office of Public Accountability Order the following:

(1) That GPA disqualify ENGIE from eligibility for Award under this IFB, as ENGIE's proposal did not materially comply with the technical requirements of the IFB established by GPA; and

(2) That GPA award both project sites detailed in GPA-IFB-007-18, relative to Renewable Energy Resources Phase III, to GlidePath as the next lowest price responsive bidder to the IFB

In the alternative, the Office of Public Accountability should order GPA to:

(1) Declare affirmatively to all offerors that there is no cap of 20.7 MWp of solar charging capacity required by GPA for the Renewable Energy Resources Phase III ; and

(2) Receive and review new technical and price proposals from all existing offerors in GPA-IFB-007-18 that desire to move forward with competition for award, and then award the Phase III project to the lowest responsive bidder from amongst those offerors.

C. SUPPORTING EXHIBITS, EVIDENCE OR DOCUMENTS

Submitted with this appeal are the following supporting exhibits, evidence, and documents:

(1) The Notice of Award is attached to this appeal as **Attachment A.**

(2) The ENGIE press release is submitted as **Attachment B.**

(3) The Denial of Protest is submitted with this appeal as **Attachment C.** __

(4) Attachment B to Amendment No.: XIII to Invitation for Multi-Step Bid No.: GPA-007-18 for Renewable Energy Resource Phase III issued on January 25, 2019, is submitted as **Attachment D** to this appeal.

(5) Technical Requirements Supplement, Section 2, bullet point 5, is submitted as **Attachment E** to this appeal.

(6) IFB Volume I, Section 1, Bullet 6 (page 9 of 501) is submitted as **Attachment F** to this appeal.

(7) IFB Volume II, Section 1, Item 1 is submitted as **Attachment G** to this appeal.

(8) Section 2.2.5 and Section 2.3.1 are submitted as **Attachment H** to this appeal.

As was noted in Section II(A)(1), *Supra*, GlidePath submitted to GPA requests under the Guam Sunshine Act on August 22, 2019, and again on September 12, 2019, that went largely ignored. GlidePath also anticipates providing further documentation, including independent expert engineering reports, to substantiate its claims when GPA submits the full contracting procurement record to the OPA, and allows GlidePath and its experts to finally review the procurement record in full.

Also, submitted with this appeal pursuant to 2 GAR §12104 (5), is a copy of the prior decision by GPA denying Appellant's protest and compelling this appeal. That is attached as **Attachment C** to this appeal.

PART V: DECLARATION RE COURT ACTION

Pursuant to 5 GCA Chapter 5, unless the court requests, expects, or otherwise expresses interest in a decision by the Public Auditor, the Office of Public Accountability will not take action on any appeal where action concerning the protest or appeal has commenced in any court.

The undersigned party does hereby confirm that to the best of his knowledge, no case or action concerning the subject of this Appeal has been commenced in court. All parties are required to and the undersigned party agrees to notify the Office of Public Accountability within 24 hours if court action commences regarding this Appeal or the underlying procurement action.

Respectfully Submitted this 13th day of November, 2019.

CIVILLE & TANG, PLLC

By: _____

JOSHUA D. WALSH
JOSEPH C. RAZZANO
Attorneys for Appellant
GlidePath Marianas Operations Inc.

VERIFICATION

I, Peter Rood, am a duly authorized representative of Appellant GlidePath Marianas Operations Inc., and I am authorized to make this verification. I have read the foregoing Notice of Appeal, and, based on information and belief and to the best of my knowledge, the facts stated therein are true and correct. I declare under penalty of perjury under the laws of Guam that the foregoing is true and correct. This verification was executed on the 13th day of November, 2019.

By: _____

PETER ROOD
Appellant GlidePath Marianas Operations Inc.

GUAM, U.S.A.,)
(ss.:
City of Hagåtña.)

On this 13th day of November, 2019, before me, a notary public in and for Guam, personally appeared Peter Rood, known to me to be the person whose name is subscribed to the foregoing **NOTICE OF APPEAL**, and he acknowledged to me that he executed the same.

WITNESS my hand and official seal.

) SEAL (

_____

TABITHA MADARANG GARCIA
NOTARY PUBLIC
In and for Guam, U.S.A.
My Commission Expires: **JAN. 09, 2020**
330 Hernan Cortez Avenue Ste. 200, Hagatna Guam 96910

ATTACHMENT A

GUAM POWER AUTHORITY

ATURIDÅT ILEKTRESEDÅT GUAHAN
P.O.BOX 2977 • HAGÅTÑA, GUAM U.S.A. 96932-2977

October 4, 2019

GlidePath Power Solutions LLC
On behalf of GlidePath Marianas Operations Inc.
709 Dandan Road
Inarajan, Guam 96915 USA
Tel: (651) 494-4939
Email: prood@glidepath.net

Dear Mr. Rood:

MULTI-STEP BID NVITATION: GPA-007-18 **OPENED:** September 10, 2019

DESCRIPTION: Renewable Energy Resource Phase III

The following is the result of the above-mentioned bid. Refer to items checked below.

☐ ***Cancelled (in its entirety), or partially canceled due to:***
- ( ) Insufficient funds;
- ( ) Change of specifications;
- ( ) Best interest of the Government

■ ***Not awarded due to:***
- ( ) Late submission of bid;
- ( ) No bid security or insufficient bid security amount submitted: as required by Section 11 of the General Terms and Conditions;
- ( ) Not meeting the delivery requirements as stated in the IFB;
- ( ) Non-conformance with the specifications;
- ( ) Inability to provide future maintenance and services to the equipment;
- (X) High price; Naval Base Guam Site (Basic and Alternate offers) and South Finegayan Site (Basic and Alternate offers).
- ( ) Others:

Bid is recommended for award to Engie Solar for Naval Base Guam and South Finegayan Sites.

The Guam Power Authority greatly appreciates your interest and participation in our bid.

JOHN M. BENAVENTE, P.E.
General Manager

ATTACHMENT B

PRESS RELEASE

Key milestone towards World's largest "Solar-after-Sunset" project in Guam

- 100% *"Solar-after-Sunset"* with batteries storing the entire daily solar production to supply green power in the evening to Guam Power Authority's customers
- c. 300 MWh of storage, more than twice the size of the largest lithium battery currently operating in the world, to be provided by ENGIE EPS
- estimated 1.2 million tons of CO_2 to be avoided over systems' lifetime
- 30% reduction in electricity generation cost expected against current fuel surcharge rate, mainly reliant on fossil fuels

Paris – Milan, 7 October 2019 – ENGIE EPS has been informed that the Power Authority of Guam, a U.S. territory in the Western Pacific, has selected ENGIE as successful bidder for the construction of two Solar-plus-Storage projects under a 20-year power purchase agreement, in the context of Phase III of the "*Renewable Energy Resource*" program. The Guam Power Authority (GPA) is now considering ENGIE, the lowest bidder amongst those qualified in the competitive tender process, for contract award.

The two "*Solar-after-Sunset*" systems proposed by ENGIE integrate more than 50 MWp of solar PV with approx. 300 MWh of battery energy storage to render 100% of the daily solar production available for up to 7 hours after sunset.

ENGIE EPS will supply the innovative battery storage design and act as full energy storage solution provider and system integrator, supported by its strategic partner Samsung SDI.

Carlalberto Guglielminotti, Chief Executive Officer at ENGIE EPS commented "*We are proud to contribute to Guam Power Authority's pioneering vision. This is an iconic project which sets a paradigm shift for the zero-carbon transition: ENGIE EPS's technological edge makes it now possible to provide solar power at night cheaper than conventional generation".*

The project is scheduled to be online in July 2022 to deliver over 85 GWh of clean dispatchable energy annually, in line with the island's target of sourcing over 25% of energy from renewables.

ENGIE will now work with GPA to obtain the approvals for the 20-year power purchase agreement by the Consolidated Commission on Utilities and the Guam Public Utilities Commission. Formal award is expected by GPA after this process is completed and at the end of the regulatory recourse period.

* * *

About ENGIE EPS

ENGIE EPS is part of the ENGIE group and specializes in energy storage solutions and microgrids that enable intermittent renewable sources to be transformed into a stable power source. Listed on Euronext Paris (EPS:FP), ENGIE EPS is listed in the CAC® Mid & Small and the CAC® All-Tradable indices. Its registered office is in Paris and conducts its research, development and manufacturing in Italy.

For more information : www.engie-eps.com

Contacts ENGIE EPS

Press and Media: eps@imagebuilding.it

Investor Relations: ir@engie-eps.com

follow us on Linkedin

* * *

About ENGIE

Our Group is a global reference in low-carbon energy and services. In response to the urgency of climate change, our ambition is to become the world leader in the zero-carbon transition "as a service" for our customers, in particular global companies and local authorities. We rely on our key activities (renewable energy, gas, services) to offer competitive turnkey solutions.
With our 160,000 employees, our customers, partners and stakeholders, we are a community of Imaginative Builders, committed every day to more harmonious progress.

Turnover in 2018: EUR 60.6 billion. The Group is listed on the Paris and Brussels stock exchanges (ENGI) and is represented in the main financial indices (CAC 40, DJ Euro Stoxx 50, Euronext 100, FTSE Eurotop 100, MSCI Europe) and non-financial indices (DJSI World, DJSI Europe and Euronext Vigeo Eiris - World 120, Eurozone 120, Europe 120, France 20, CAC 40 Governance).

ENGIEgroup

ATTACHMENT C

GUAM POWER AUTHORITY
ATURIDÅT ILEKTRESEDÅT GUAHAN
P.O.BOX 2977 • AGANA, GUAM U.S.A. 96932-2977

Tel: (671) 648-3225; Fax: 648-3290

DENIAL OF PROCUREMENT PROTEST

October 28, 2019

VIA E-mail: prood@glidepath.net

Mr. Peter K. Rood
Chief Development Officer
GlidePath Marianas Operations, Inc.
709 Dandan Road
Inarajan, Guam 96915

RE: Guam Power Authority's Response to GlidePath Marianas Operations, Inc.'s Protest dated September 30, 2019, for GPA-IFB-007-18, Renewable Energy Resources Phase III

Dear Mr. Rood:

I have reviewed your protest letter dated September 30, 2019, protesting the Guam Power Authority's (GPA) proposed award to ENGIE Solar ("ENGIE"). Your Protest is hereby denied for the following reasons:

1. You indicated in your letter that you believe that "ENGIE's projects have included more solar generation capacity than allowed by the technical requirement of the IFB. Based on the significantly higher Guaranteed Net Annual Generation ("GNAG") included the ENGIE Priced Proposals when compared to the proposal submitted by GlidePath and all the other bidders, GlidePath's technical experts are concerned that ENGIE may not have followed all of GPA's technical requirements." The ENGIE proposal meets the GPA bid requirement that "the MW rating of the ESS shall be equal to or great than the 145% of the MW rating of the PV charging system." GlidePath claims that GPA's technical requirements limit solar system

capacity to 20.7MW_{DC}. GPA's bid did not limit the capacity of the PV installation, but does restrict the delivery of energy at the interconnection point which is 30MW_{ac}. Volume II – Technical Qualification Proposal Requirement, Section 1 Overview (pg 52 of 501) states: "1. The bidder's renewable resource project shall have a **maximum export capacity 30MW_{ac}**; this may be the combination of several generation units at one site." Section 2.3.1. Minimum and Maximum Project Capacity (pg 56 of 501) states: "there is no minimum nameplate project capacity that a Bidder may offer, **however the maximum export capacity shall be 30MW.**"

GlidePath itself sought clarification on this issue on February 11, 2019, which was addressed in Amendment XVII (pg. 2 of 17) in which GlidePath asks "what is the maximum procurement under this bid, could GPA select two 30MW_{ac} projects at each site for a total procurement of 60MW_{ac}? The GPA response was "Yes."

GlidePath states that the GPA limit on the ESS size to 30MW at each project site together with the 145% requirement effectively caps the size of the PV system to 20.7MW_{ac}. The IFB states that the intent of the 145% requirement is to require the ESS charge and discharge be asymmetrical, with ESS discharge power required to be 30MW_{ac} at the point of connection and ESS charge power not to exceed 20.7MW. This requirement limits the maximum AC PV charging power on each site to 1/1.45 of the maximum AC export capacity. The "MW rating of the PV charging system" in ENGIE's proposal, is equal to the power rating of the DC/DC converters, and is capped at 20.7MW (i.e. 1/1.45 of 30MW AC), in full compliance with the IFB requirements. Clarifications were provided in Amendment XVII for both GlidePath and ENGIE regarding the increased delivery period. GlidePath also claims that "except for the ENGIE proposals, all bidders are, in fact, within a similar Guaranteed Net Annual Energy ("GNAG") range." For the Naval Base location, the percentage difference between ENGIE and KEPCO is 28.5%, and between KEPCO and X-Elio is 34%. For South Finegayan, the difference between ENGIE and AES is 16.5%, which is close to the gap between GlidePath and AES. There clearly

appears be significant variation between the GNAG values among the bidders. In addition, there is no direct correlation between the GNAG and tariff, i.e. a higher GNAG does not necessarily correspond to a lower tariff: X-Elio offered a 25% lower GNAG than AES, but at virtually the same tariff ($170 vs. $169).

Therefore, your protest is denied on these grounds. GPA reviewed the bid packages and provided a notice of intent to award to the lowest responsible and **responsive** bidder. A responsive bidder is a person who has submitted a bid which conforms in all material respects to the Invitation for Bids. 5 GCA §5201(g) and 2 GAR, Div. 4, Chap. 3, §3109(n)(2).

2. GPA has determined that ENGIE should be awarded the bid for Renewable Energy Resources Phase III, as they were deemed to be the lowest, responsive and responsible bidder. The ENGIE bid was responsive to the IFB and complied with the specifications set forth in the IFB. Therefore, GPA hereby finds that there is no merit to the GlidePath Marianas Operations, Inc.'s claim that their bid was the lowest **responsive** bid, and the GlidePath Marianas Operations, Inc.'s bid was properly rejected due to high price.

GlidePath Marianas Operations, Inc. is hereby ON NOTICE that this is the Guam Power Authority's final decision concerning GlidePath Marianas Operations, Inc.'s September 30, 2019, protest for the above described IFB. You are hereby advised that GlidePath Marianas Operations, Inc. has the right to seek judicial review.

Sincerely,

JOHN M. BENAVENTE, P.E.
General Manager

ATTACHMENT D

ATTACHMENT B

(Description of Options-Key Characteristics and Technical Requirements)

INVITATION FOR MULTI-STEP
BID NO.: GPA-007-18
RENEWABLE ENERGY RESOURCE
PHASE III

SUPPLEMENT & UPDATE TO VOLUME II – TECHNICAL QUALIFICATION PROPOSAL REQUIREMENTS

DESCRIPTION OF OPERATION / KEY CHARACTERISTICS
&
TECHNICAL REQUIREMENTS

DECEMBER 2018

1. Introduction

This document is an update to the "Invitation For Multi-Step Bid" ("Bid Document"), NO.: GPA-007-18, Renewable Energy Resource, Phase III. This provides additional description of operation and sets forth additional and clarified technical requirements. Bids received will be judged based on adherence to criteria and performance requirements noted in this amendment. To the degree a conflict may arise between this amendment and the Bid Document, the language in this amendment shall prevail.

The term "Point of Interconnection" (POI) is used to mean the point where a Phase III Renewable Energy Resource will interconnect with the GPA 34.5 kV system.

2. Description of Operation & Key Characteristics

Guam Power Authority (GPA) seeks to procure energy produced by photovoltaic (PV) generation on the locations provided for in the Bid Document. This PV generation shall not be connected to the AC side of the GPA system but be utilized to charge an Energy Storage System (ESS) that shall in turn be operated synchronously with the GPA grid during normal operation. GPA will not accept PV generation connected directly to the GPA 34.5 kV system. All PV generated energy shall be scheduled by GPA for delivery to the GPA system through the ESS.

The bidder should target to maximize the amount of energy that can be delivered to the GPA system given the locations where PV can be developed in the Bid Document, and in other parameters set herein. Delivery of energy from the ESS to the GPA system would normally take place during hours of the day when the PV is not generating any power. I.e., the ESS shall be capable of load shifting all of the expected energy produced by the PV generation to hours where there is less or no PV generation. It is estimated that up to 40 MW of ESS output into the GPA system can be scheduled by GPA into the GPA system. The MW output of PV used to charge the ESS should be maximized to the amount of capacity available on each site and any energy restrictions of the ESS.

<u>The capacity / discharge rate (MW) output and otherwise design of the ESS should be such that:</u>

- The majority of energy from the ESS is likely to be discharged during the GPA peak load period of 6 PM – 10 PM. During other non-charging hours, the PV may be scheduled to the maximum discharge rate allowed by the GPA system load and coordinated with the energy availability within the ESS.
- GPA may schedule energy at any time throughout the 24-hour day, if needed, and may be scheduled for delivery concurrent with the PV charging of the ESS.
- GPA may schedule the energy delivery up to the maximum capacity of the ESS during any period of the day.
- GPA will schedule energy via its AGC system on a block load basis. It is anticipated the ESS loads will be changed every 15 minutes by the AGC system to its new discharge point.
- The MW rating of the ESS shall be equal to or greater than the 145% of the MW rating of the PV charging system, up to a maximum capacity of 40 MW. For instance, for a PV installation of 27 MW, the ESS shall be rated at a minimum of 40 MW. For a PV capacity of 10 MW, the ESS rating shall be a minimum of 14.5 MW.
- The storage rating of the ESS shall be 105% of the "expected" (see Volume II, section 2.3.2 for expected energy production) daily energy production of the PV charging capability.

The bidder shall clearly state the effective energy storage capability available to the GPA system, and state the MW output capacity, and lay out all data as specified in the Qualitative Scoring Workbook, Part 2, in the Bid Document to include output at the ESS terminals and the Point of Interconnection (POI) where energy is delivered to the GPA system, in addition to data for PV production as noted in the Bid Document's Qualitative Scoring Workbook Part 2.

The ESS need not be capable of charging by drawing power from the AC side of the GPA system. If the capability is there, this shall only be utilized upon prior mutual agreement between the Seller / Bidder and GPA.

Clarification on curtailed energy:

GPA does not guarantee that it will schedule energy from the ESS to GPA during PV production hours. GPA may, depending on loads and other resources, schedule such deliveries if available and economical. Prior to the start of a new day's PV generation cycle, GPA will guarantee to have taken energy from the ESS equivalent to what could have been stored in the ESS the day prior based on the lower of: 1) The maximum effective storage (MWh) in the ESS, and 2) The actual maximum amount of energy that could have been stored in the ESS based on the previous days PV energy production. Any PV produced energy that is not scheduled for delivery because the daily PV production total exceeds the daily stored energy capability of the ESS shall not be considered curtailed energy.

3. Technical Requirements for ESS and Inverters

The system conditions present on the GPA system are unique and the inverter-based solar (if not injecting power via an ESS) and ESS projects must demonstrate that the proposed equipment can operate reliably during system conditions not normally seen in large interconnected grid systems. There are two dominant characteristics of the GPA system that contribute to the unique operating environment. First, the frequency and voltage excursions experienced during transient events are more severe than would be expected in a larger system. Second, the system short circuit MVAs at the renewable project locations are extremely low when compared to large interconnected systems. The inverters for the proposed Phase III ESS projects must operate reliably and continually in this low short circuit MVA environment.

Short Circuit MVA figures stated in the Bid Document in Volume II, Section 2.4.3 are not reflective of the expected future GPA system. The nature of this will change significantly in the future and should not be viewed as a guaranteed amount.

Error! Reference source not found. below shows updated expected minimum Short Circuit MVA (SC-MVA) numbers at the same sites as in the Bid Document. These numbers reflect the conditions for loss of the largest synchronous generator online.

Substation Name	Nom.kV	SC-MVA Ph.II System	SC-MVA Future Flex Gen
Orote	34.5	135	160
Harmon B1	34.5	175	199

Table 1: Expected Minimum Short Circuit MVA values (not guaranteed)

Note that the values in Table 1 are not guaranteed SC-MVA values. The scenario labeled "SC-MVA Ph. II System" reflects an expected typical dispatch scenario with today's thermal synchronous generation and planned Phase II PV generation additions. The "SC-MVA Future Flex Gen" scenario reflects an expected

typical dispatch scenario with new proposed flexible synchronous generation and planned Phase II PV generation additions.

The Bidders and their associated equipment providers must demonstrate the detailed performance and capability of their equipment under the extreme electrical conditions expected on Guam. This includes providing the technical limitations for the operation of the equipment for specific system conditions, as well as a description and demonstration of the various operating modes for the equipment.

Events studied for the bid shall include the following at expected minimum, Short Circuit Conditions:

- Loss of a synchronous generator
- Fault on a line to the next substation out from the POI to include:
    - Three-phase to ground fault
    - Single-line to ground fault
- Other system concerns as deemed necessary by the Bidder

The Bidder shall contact GPA as noted in the Bid Document to obtain any additional information on the GPA system that is needed for the studies to be submitted with the bid.

Additional studies necessary for demonstrating reliable performance shall be completed after award of bid as deemed necessary by GPA and the Bidder / Seller.

3.1 Voltage and Frequency Ride-through Requirements for Inverters

The Bidder must provide simulations that show the inverters meet the voltage and frequency ride-through requirements at the POI provided in Table 2. The inverters must continue conduction and not cease to convert within the settings in Table 2. The voltages and frequencies in Table 2 are fundamental, positive sequence signals. These settings are appropriate for the dynamic response of the GPA system to typical line faults, unit trips, and other similar transient events. The ride-through settings are established with a goal of maintaining system frequency and voltage stability. The voltage and frequency requirements are at the POI. Voltage at the actual inverter terminal(s) must be determined by the Bidders to ensure that the requirements of Table 2 are satisfied at the POI.

As part of the demonstration of the inverter capabilities, detailed switching simulations (using an electro-magnetic transient (EMT) simulation tool like EMTP-RV or alike) for the inverters during voltage and frequency transients must be provided with the proposal. The simulations must show the operation of the inverter equipment, including the voltage, current, and power output (both real and reactive power), plus the calculated voltage and frequency signals that are used for the protection and control logic at the voltage and frequency boundary conditions included in the table. An electro-magnetic switching type simulation tool such as EMTP-RV or equivalent must provide the detailed simulations of inverter performance during steady state and transient conditions. The transient conditions must include both balanced and unbalanced events, both for nearby faults and for remote faults. The equivalent system representation must include both normal short circuit duty conditions and low short circuit duty conditions. Following award of a project, the PSLF and EMT (such as in EMTP-RV format) models for the chosen Bid shall be provided. GPA and its consultants / contractors and subcontractors shall have the rights to utilize modeling information for its use in future system studies and analysis. Information desired on the GPA system is available upon request (ref. Bid Documents for how to contact GPA).

It is also important that the simulations clearly show the computation of positive sequence, fundamental voltage and frequency, and show and describe the actual voltage and frequency signals used for the control modes and for determining any tripping or cessation of the inverters.

The simulations must include all operating modes for the inverter controls and show events where a low voltage occurs and the controls switch into a low voltage condition. This switching must be fully described, and the simulations must show the controls transitioning both into and back out of the transient modes, with return to full scheduled output.

The maximum rate of change of fundamental frequency (df/dt) rate which the inverters must operate through without tripping or cessation is 90 Hz/second.

Table 2: Voltage and Frequency Ride-through Settings at POI

	Settings at Point of Interconnection (V is magnitude in per unit) (F is frequency in Hz) (T is time in seconds)	
	Setpoint	Trip Time
Under-voltage	V<0.88	T>2.00
Normal voltage	0.88<V<1.10	no trip allowed
Over-voltage	1.10<V<1.20	T>2.00
Over-voltage	1.20<V	T>0.16
Under-frequency	F<57.0	T>0.16
Normal frequency	57.0<F<63.0	no trip allowed
Over-frequency	63.0<F	T>0.16

3.2 Short Circuit Characteristics

It is important to reiterate the requirement that the Bidders work with the inverter manufacturers to ensure that their equipment will function properly at low short circuit current levels. The simulations must demonstrate that the full capacity of inverters with an AC side operating synchronously with the GPA system can operate in the limited short circuit conditions, not just demonstrate that a single inverter will operate properly. See section 3.0 for expected minimum short circuit MVA information.

GPA intends to develop the capability to operate small portions of the system as microgrids. The microgrids would most likely upon islanding have no synchronous source and be powered from the ESS in this project. The microgrids are expected to operate until the microgrid is reconnected to the larger, synchronous GPA grid or synchronous generation is brought on-line within the microgrid. Within such a microgrid, there will initially be no system equivalent to synchronize with, and the short circuit MVA would be zero absent the project's inverter or possibly other inverter-based equipment within the microgrid. The inverters for the ESS must be black start capable for islanding purposes.

3.3 Reactive Capability

The ESS shall be capable of at least +/-0.95 power factor (PF) performance within the range of acceptable system voltages to GPA at the POI for continuous operation and dynamic / transient performance from 0 MW output up through and including the specified maximum output (MW) at the POI. There is no allowance for a more narrow range of power factor than +/- 0.95 PF at maximum real power (MW) output. No equipment shall limit the ability to provide the specified reactive power to the POI including the

inverters, the rating of transformers, or lines. Applicable data on reactive capability, to include reactive capability curves, shall be provided.

3.4 Operating Modes

The ESS inverters will normally operate in voltage control mode to provide grid support during low voltage conditions, but should be capable of also operating in reactive power or power factor control mode. In any reactive control mode, the reference point shall be the POI. For example, the voltage shall be capable of being controlled at the POI. The switching simulations should include cases with inverters operating in different operating modes to demonstrate the capability of these modes. Each of the different operating modes for the ESS / ESS control system must be described fully, including the proposed operating mode for the inverter. This includes scenarios where the inverters may trip. When this happens, a description of what is meant by "tripped" must be provided. For example, does the inverter completely shut down or is the inverter online but just blocked from injecting current? If the inverter is tripped, does it automatically reconnect to the grid after some time and when certain conditions are met, or is a manual reset required? If an inverter automatically reconnects to the grid, in what time frame does it do so and can this be controlled via SCADA?

3.5 Limitations

It is expected that the inverters cannot operate and stay online during extreme voltage and / or frequency excursions which exceed the provided ride-through requirements. The limitations of the inverters in terms of voltage and frequency should be clearly described, for those conditions where the equipment must trip offline to protect the equipment and personnel.

This includes any conditions where the inverters go into cessation, or block the current flow from the inverters during any event. For any condition that triggers cessation, the triggering function (voltage, current, frequency, df/dt, dv/dt) must be specifically described. The description must include the ramp limit of the cessation (i.e., how fast does cessation occur), the amount of cessation if not 100%, what triggers an end to cessation, and how normal operation is resumed including how quickly.

3.6 Ramp Rate Limiting

The energy from the project shall be scheduled through the ESS. Any fluctuations or ramping that occur on the PV circuits shall not be measurable on the AC side of the ESS inverters, or at the POI.

3.7 ESS Single Point of Failure

The ESS shall be configured such that any ESS single point of failure can occur without impinging on the ability of the ESS to filter PV ramps or deviations from impacting the GPA system.

3.8 Response Times

The ESS shall have the ability to change its output power from 0% to 100% of its maximum power rating within 200 ms. This includes positive and negative real and reactive power.

3.9 SCADA / EMS / AGC

The ESS shall have the capability to interface with GPA's SCADA, EMS, Substation Automation (SA), and AGC systems over the latest stable release of serial and IP based DNP 3-Secure Authentication

communications protocol. GPA requires the project control system to report each inverter failure or cessation to the GPA SCADA system. The controller will report any alarm that can lead to a system or individual converter cessation or tripping to the GPA SCADA system. The controller will report all delivered power to GPA from the ESS system (real and reactive), ESS charging power, ESS state of charge, available PV power, curtailed PV power, and any information that can impact the ability of the ESS to deliver power to the GPA grid or impact the ability of the PV system to provide a full charge to the ESS.

The ESS shall have the ability to accept from GPA a real power delivery schedule or set point through the SCADA/AGC system. The interface shall be through a controlled set-point change from the SCADA/AGC system to the ESS for real power output. Movement between set-point changes shall be on a smooth, constant ramp at a predetermined slope that can be adjusted at each set-point change. Generally, set-point changes are anticipated every 15 minutes to correspond with system load support during non-daylight periods. The output power set point shall reflect the output power at the POI, defined as positive for flow from the ESS into the GPA system.

The ESS shall have the capability to receive reactive control set-points via the GPA AGC system. The reactive control settings will usually be in the form of a scheduled voltage at the POI, i.e. the reactive power is controlled within the reactive power capabilities of the ESS to achieve the desired voltage at the POI. The ESS should similarly have the capabilities to receive instructions and perform reactive control to a desired reactive power flow (MVAR) at the POI, or to a scheduled Power Factor at the POI.

3.10 Models

Site / installation specific models should be provided such that GPA as needed can perform assessments of the particular PV / ESS installation, as well as ongoing studies of the GPA system as needed. Such modeling information shall include:

- Steady state and dynamics modeling information in GE PSLF format compatible with GPA's latest model database. Parameters provided should be specific to the site and installation on GPA's system. Non-standard library models are permissible if absolutely necessary. Modeling information should be accompanied by documentation that will enable the user to perform all appropriate studies reflecting different operating modes, operating points, etc. The dynamic modeling should be capable of accurately functioning for system frequency variations within the confines of the equipment limits and GPA criteria.
- Switching-type EMTP (or other common mutually agreed upon format) models and associated technical documentation for the equipment shall be provided such that low level SCR conditions, particularly for faulted conditions, can be adequately studied. This shall be available and updated as appropriately on an ongoing basis to allow for continued evaluation of the GPA system as necessary.

As an ESS / PV installation is planned, proposed, modified, and upgraded, all models and associated documentation shall be updated and provided to GPA as well as with final "as built" models. All modeling information should include modeling of any collector system / transmission facilities up to the Point of Interconnection. Additionally, during commissioning, all operating modes for the equipment must be tested, and all models must be benchmarked against commissioning test results, showing correlation between models and actual signals.

3.11 Control Modes

The expected normal control mode for the ESS is described below. It is important for Bidders to describe and illustrate the controls proposed. The flexibility of the ESS controls shall be discussed and ability to change the control system shall be described.

3.11.1 Droop Control Mode

Droop control mode shall be provided and is the expected normal mode. The ESS shall provide emergency system support when frequency drops below a settable deadband on a defined droop line. The deadband for the droop control will be user configurable from 1.0-2.0 Hz in 0.1 Hz steps.

3.11.2 Basic Functionality

The droop control mode is the normal operating mode while the ESS is synchronously connected with the GPA grid. During normal operation, the system frequency is near 60 Hz and the real power output of the ESS is at its set-point. The set-point will be changed by GPA AGC.

Once the frequency deadband is exceeded, the droop line shall be made up of piecewise linear segments. Four segments shall be provided for each side of the frequency deviation spectrum (positive and negative). Each segment shall be defined by the frequency start and stop points and the droop value. During the design review phase, GPA and the Bidder will discuss the control logic and the method used to either reset the ESS schedule or return the ESS schedule back to the pre-event value. The bidder shall also provide a detailed description of the algorithm used to compute frequency for the controls, during both balanced and unbalanced system transients.

3.12 Real and Reactive Power Emergency Transient Response

During low voltage conditions, especially during faults, it may be more valuable to prioritize reactive power output for voltage support, than providing real power for frequency support, during the low voltage condition.

The ESS shall have the capability to be configured such that either real or reactive power, or a combination of both can be provided depending upon system conditions such as frequency and voltage, during a transient event. The thresholds for voltage or frequency that trigger the transient ESS response must be clearly described, and configurable within the equipment limits.

3.13 Other Modes of Operation

Other modes of operation (such as mentioned in the latest MESA-ESS specification document) are anticipated in addition to the various control modes described in this specification. These modes support the core functionality of the ESS and include the charging, maintenance, self-protection, and testing functions. Each project shall include detailed descriptions of these functions.

ATTACHMENT E

1. Introduction

This document is an update to the "Invitation For Multi-Step Bid" ("Bid Document"), NO.: GPA-007-18, Renewable Energy Resource, Phase III. This provides additional description of operation and sets forth additional and clarified technical requirements. Bids received will be judged based on adherence to criteria and performance requirements noted in this amendment. To the degree a conflict may arise between this amendment and the Bid Document, the language in this amendment shall prevail.

The term "Point of Interconnection" (POI) is used to mean the point where a Phase III Renewable Energy Resource will interconnect with the GPA 34.5 kV system.

2. Description of Operation & Key Characteristics

Guam Power Authority (GPA) seeks to procure energy produced by photovoltaic (PV) generation on the locations provided for in the Bid Document. This PV generation shall not be connected to the AC side of the GPA system but be utilized to charge an Energy Storage System (ESS) that shall in turn be operated synchronously with the GPA grid during normal operation. GPA will not accept PV generation connected directly to the GPA 34.5 kV system. All PV generated energy shall be scheduled by GPA for delivery to the GPA system through the ESS.

The bidder should target to maximize the amount of energy that can be delivered to the GPA system given the locations where PV can be developed in the Bid Document, and in other parameters set herein. Delivery of energy from the ESS to the GPA system would normally take place during hours of the day when the PV is not generating any power. I.e., the ESS shall be capable of load shifting all of the expected energy produced by the PV generation to hours where there is less or no PV generation. It is estimated that up to 40 MW of ESS output into the GPA system can be scheduled by GPA into the GPA system. The MW output of PV used to charge the ESS should be maximized to the amount of capacity available on each site and any energy restrictions of the ESS.

<u>The capacity / discharge rate (MW) output and otherwise design of the ESS should be such that:</u>

- The majority of energy from the ESS is likely to be discharged during the GPA peak load period of 6 PM – 10 PM. During other non-charging hours, the PV may be scheduled to the maximum discharge rate allowed by the GPA system load and coordinated with the energy availability within the ESS.
- GPA may schedule energy at any time throughout the 24-hour day, if needed, and may be scheduled for delivery concurrent with the PV charging of the ESS.
- GPA may schedule the energy delivery up to the maximum capacity of the ESS during any period of the day.
- GPA will schedule energy via its AGC system on a block load basis. It is anticipated the ESS loads will be changed every 15 minutes by the AGC system to its new discharge point.
- The MW rating of the ESS shall be equal to or greater than the 145% of the MW rating of the PV charging system, up to a maximum capacity of 40 MW. For instance, for a PV installation of 27 MW, the ESS shall be rated at a minimum of 40 MW. For a PV capacity of 10 MW, the ESS rating shall be a minimum of 14.5 MW.
- The storage rating of the ESS shall be 105% of the "expected" (see Volume II, section 2.3.2 for expected energy production) daily energy production of the PV charging capability.

ATTACHMENT F

1. Introduction

The Guam Power Authority (GPA) is inviting Renewable Resource Developers to participate in a Multi-Step Bid to provide renewable energy to serve the GPA power system. This Invitation for Multi-Step Bid (IFB) is an effort to comply with Public Law 29-62, which requires GPA to establish renewable portfolio standard goals and add additional renewable capacity with each construction of a conventional base load unit. GPA and United States Navy (Navy) have partnered in developing renewable energy resources that will aid both parties to achieve renewable goals. Navy has offered to lease properties to GPA to develop lands for installation of solar photovoltaic farms or facilities. The sites include one site in Northern Guam (South Finegayan) and four sites at Naval Base Guam.

This IFB is Phase III of GPA's effort to procure renewable energy resources. The Phase I solicitation resulted in two PPAs under NRG Energy, LLC for a combined output of 26MW using solar PV. The NRG facility is located in Dandan and was commissioned in October 2015. GPA is presently finalizing award for the Phase II solicitation.

In this Phase III acquisition, GPA intends to acquire up to 40 MW (AC) of renewable capacity with Energy Storage System. Proposed projects must meet the following established requirements:

- The Bidder's resource technology SHALL be a utility scale **Solar Photovoltaic system** with renewable integration energy storage system that will meet GPA's requirements as described in section 2.2.2 Acceptable ESS Technologies in "Volume II: Technical Qualification Proposal Requirements."
    - The primary purpose of the ESS shall be for energy shifting which is to deliver the solar produced energy at another time or period of the day.
    - The alternate function of the ESS shall be Renewable integration (RI-ESS). If and when required, i.e. GPA allows delivery directly to the grid, the RI-ESS must provide the following functions:
        - Significantly reduce the impact of intermittent ("non-firm") renewable energy generation power fluctuations on GPA's power system frequency and voltage at the point of interconnection
        - Achieve this by providing a supporting energy storage system to quickly respond to the variable renewable generation output and ameliorate the power imbalance within GPA's power grid or an assigned local micro grid.
        - Providing highly reliable fault recovery and optimizing power distribution
        - Provide a reactive capability requirement up to 0.95 lag to lead at the point of interconnection as required by GPA.
        - Demand Response Controls.
- The renewable resource will be available for commercial operation within 36 months from the contract execution.
- The technology proposed for the renewable resource will have at least 1 year of commercial operations history in a utility environment.
- The renewable resource will deliver energy directly to the existing GPA 34.5 KV transmission system.
- The renewable resource will provide energy for a term of 20 years with the option to extend two (2) additional five-year terms.
- The Bidder's renewable resource project will have a maximum export capacity of 30 MW (AC); this may be the combination of several systems at one site.

ATTACHMENT G

1. OVERVIEW

In this Invitation for Multi-Step Bid ("IFB"), GPA is seeking competitive bids for renewable energy resources to meet a portion of its overall resource needs. For selected Bidder(s), GPA will execute purchase power agreements for delivery of renewable to the 34.5 kV GPA transmission system. GPA intends to procure a total of 40 MW (AC) renewable capacity, based on proposed sites, in this Phase II acquisition that can meet the following established requirements:

1. The Bidder's renewable resource project shall have a maximum export capacity 30 MW (AC) at the interconnection point; this may be the combination of several generation units at one site.
2. The renewable energy project must provide a dispatchable reactive capability requirement up to 0.95 lag to lead at the point of interconnection as required by GPA Power System Operators or SCADA Control Point. For example, in the course of normal operations, the renewable energy resource may be called to provide electric power range from 28.5 MW and - 9.4 MVARS through 30 MW at Unity Power Factor to 28.5 MW and 9.4 MVARS. The project shall perform at +/- 0.95 PF dynamic range up to and including the maximum MW output, and shall not reduce reactive capability near the peak real power output.
3. The renewable generation ramp limit shall be 1% of the project nameplate capacity per minute. This shall be the net ramp rate including the benefit of an energy storage system if needed.
4. The renewable energy project shall incorporate an energy storage system (ESS) that will meet GPA's requirements as described in section 2.2.
5. The ESS must provide the following functions:
    - The primary purpose of the ESS shall be for energy shifting which is to deliver the solar produced energy at another time or period of the day.
    - The additional function of the ESS shall be Renewable integration (RI-ESS). If and when required, i.e. GPA allows delivery directly to the grid, the RI-ESS must provide the following functions:
        i. Significantly reduce the impact of intermittent ("non-firm") renewable energy generation power fluctuations on GPA's power system frequency and voltage at the point of interconnection
        ii. Achieve this by providing a supporting energy storage system to quickly respond to the variable renewable generation output and ameliorate the power imbalance within GPA's power grid or an assigned local micro grid.
        iii. Providing highly reliable fault recovery and optimizing power distribution
        iv. Provide a dispatchable reactive capability as required by GPA Power System Control Center Dispatchers.

Persons or entities responding to this IFB are referred to herein as "Bidder(s)."

2. PRODUCT DESCRIPTION

The bids for renewable resources shall be developed based on the requirements described below and outlined in the Qualitative Scoring Workbook provided with the bid documents.

2.1. Product and Term

GPA seeks to acquire energy from renewable resource projects based on an 'annual minimum quantity' of energy under the terms of the Renewable Energy Purchase Agreement (See Volume III).

ATTACHMENT H

Table 2 - GPA-Navy Leased Sites

No	Site Reference	Location	Acres	Est. MW
1	PV (Existing 250 KW PV Site)	Naval Base Guam	31	8
2	CDF		21	5
3	WWTP (Waste Water Treatment Plant)		16	4
4	Commissary		25	6
5	S. Finegayan	Rt. 3	71	18
		Total :	164	41

The draft legal descriptions and sketches which have been referenced in the GPA-Navy lease are provided in Volume III Appendix L. GPA intends to finalize these documents prior to contract award.

The use of other GPA sites or facilities (with the exception of interconnection facilities) will **NOT** be permitted in this IFB.

2.2.5. Limits on Renewable Energy Purchases

Due to the nature of the generation control system and related response characteristics of the generators on the GPA system, GPA may limit the amount of energy delivered from renewable resources to no more than 30MW (AC) at the interconnection point.

The Bidder shall complete the Energy Projection table in the Technical Bid Form providing its estimated schedule of hourly deliveries of energy for a representative period of time period sufficient for GPA to understand the variability of the expected renewable resource and the impact of total generation costs as part of the Priced Offer evaluations. These estimates must match the annual Minimum Energy Production guarantees discussed further in Section 2.3.

2.3. Project Capacity & Production

2.3.1. Minimum and Maximum Project Capacity

There is no minimum nameplate project capacity that a Bidder may offer, however the maximum export capacity shall be 30 MW. This may be the combination of several generation units at one site.

2.3.2. Annual Minimum Guaranteed Production Quantity

The Bidder will provide a guarantee for an Annual Minimum Quantity, in MWh, to be delivered to GPA's system. Subsequent failure to provide this guaranteed Annual Minimum Quantity will subject the Bidder to penalties as described in Renewable Energy Purchase Agreement. The Bidder will also provide the *expected* minimum (also in MWh) to be delivered each year of the contract period, at a 95% confidence level.