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10 **BEFORE THE GUAM PUBLIC UTILITIES COMMISSION**

11 **IN THE MATTER OF:**

) **GPA DOCKET NO. 25-15**

12 **ENERGY STORAGE SYSTEM (ESS)**
13 **PHASE II PROJECT**

)
) **PETITION OF THE GUAM POWER**
) **AUTHORITY TO APPROVE ITS**
) **PROCUREMENT OF ENERGY**
) **STORAGE SYSTEM ENERGY-**
) **SHIFTING AND GRID SERVICES**

14)
15)
16)
17)
18)
19 The Guam Power Authority (GPA) hereby petitions the Guam Public Utilities
20 Commission (PUC) to approve its procurement of energy storage system energy-shifting and
21 grid services under the Energy Storage System (ESS) Phase II project.

22 **I. Background**

23
24 GPA has committed to providing 50 percent of Guam's energy needs from clean
25 energy and renewables by 2030, and 100 percent by 2040. This accelerates the timetable set by
26 Public Law 35-46, which mandates 50 percent by 2035 and 100 percent by 2045.

27
28 GPA's 2022 solicitation for Phase IV Renewable Energy Resource Acquisition entailed
29 a system impact study. As a result of the study, GPA has concluded that stand-alone batteries,
30 along with transmission infrastructure upgrades, will best mitigate stability limit violations
31 when the Phase IV projects tie into the grid. The ESS Phase II project will seek qualified
32

1 vendors to provide a battery energy storage system (BESS) with an autonomous grid controller
2 capable of monitoring, coordinating and controlling the ESS from existing, new and future
3 BESS using artificial intelligence technology.
4

5 The Consolidated Commission on Utilities (CCU) approved a resolution authorizing
6 GPA to procure energy storage system energy-shifting and grid services. *See* Ex. A (GPA
7 Resolution No. FY2025-19 (May 27, 2025)). GPA's multi-step IFB seeks 90 MW of energy
8 shifting services at 360 MWh that charge primarily during the day and discharge primarily at
9 night; fast grid services that can charge and discharge at any time of the day under the control
10 of GPA's SCADA or a grid controller; and interconnection at 115 kV GPA transmission
11 system level at approved connection points. GPA anticipates a 25-year contract with the option
12 for one 5-year extension. The project has an expected commissioning date 30 months after
13 award. *See* Ex. B (draft MS-IFB).
14
15
16

17 **II. Request for Approval**

18

19 The PUC's contract review protocol for GPA requires PUC authorization for all
20 contracts in excess of \$1.5 million. The ESS Phase II project has an estimated contract cost in
21 excess of \$1.5 million over 25 years, triggering contract review.
22

23 The project is necessary because BESS energy shifting and grid services maintain a
24 stable and reliable electrical grid by ensuring consistent voltage and frequency regulation.
25 They also response to sudden disturbances to the grid and can optimize energy resources to
26 alleviate peak demand.
27

28 The project is reasonable because it responds to the island's needs. BESS energy
29 shifting will allow GPA to shift and dispatch energy at any time of day or night to support the
30 grid. The project also has reasonable terms. The project is structured to have a fixed price to
31 cover all costs, with a 1 percent annual escalation over the 25 years of the contract term.
32

1
2 The project is prudent because the BESS will be sourced from friendly countries only
3 and there is a requirement that the BESS be able to withstand cyber attacks. In addition, the
4 long-term contract will ensure the recovery of resource capital investment. Placing
5 construction and operations risk on the vendor protects ratepayers from construction cost
6 overruns.
7
8

9 **III. Conclusion**

10 Based on the foregoing, GPA requests that the PUC approve GPA's request to procure
11 energy storage system energy-shifting and grid services under the Energy Storage System
12 (ESS) Phase II project because the project in this petition is reasonable, necessary, and prudent.
13
14

15 Respectfully submitted this 6th day of June, 2025.

16 *Attorney for Guam Power Authority*

17 
18 By: _____
19 MARIANNE WOŁOSCHUK
20 GPA Legal Counsel
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CONSOLIDATED COMMISSION ON UTILITIES

Guam Power Authority | Guam Waterworks Authority
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GPA RESOLUTION NO. 2025-19

RELATIVE TO AUTHORIZING THE GUAM POWER AUTHORITY (GPA) TO PROCURE ENERGY STORAGE SYSTEM ENERGY-SHIFTING AND GRID SERVICES

WHEREAS, Guam Public Law 35-46 established Guam's Renewable Portfolio Standard (RPS) with the ultimate RPS goal of 50% of GPA's net sales to come from renewable energy by 2035 and 100% by 2045; and

WHEREAS, Guam Power Authority (GPA) has committed to providing 50% of the island's electric power from renewable or non-greenhouse gas emissions sources by 2030 and 100% by 2040; and

WHEREAS, GPA announced the Phase IV Renewable Energy Resource Acquisition Multi-Step Bid GPA-012-23 for 300,000 MWh to 530,000 MWh of renewable energy in December 2022; and

WHEREAS, at the completion of the Priced Proposals evaluation of the Multi-Step Bid GPA-012-23, GPA undertook a System Impact Study to determine the impacts and upgrade requirements for integration of the selected project(s) into the system; and

WHEREAS, the System Impact Study recommended to install Stand-Alone Batteries, in addition to transmission infrastructure upgrades, to mitigate stability limit violations resulting from the integration of the Phase IV renewable energy projects into the GPA grid; and

WHEREAS, the Stand-Alone Batteries project as described in the System Impact Study, now known as the Energy Storage System (ESS) Phase II project, will invite qualified firms to participate in a Multi-Step Bid to provide services from a Battery Energy Storage System

1 (BESS) with an Autonomous Grid Controller capable of monitoring, coordinating and
2 controlling the ESS services from existing, new and future BESS using Artificial Intelligence
3 (AI) technology; and
4

5 **WHEREAS**, the Multi-Step Bid documents require the following as the basis of
6 services to be procured for energy capacity delivered and/or absorbed, scheduled, required or
7 as dispatched:

- 8 • Energy-Shifting Services BESS rated at 90 MW / 360 MWh which primarily charges
9 during the day and fully discharges primarily at night,
- 10 • Fast Grid Services BESS rated at 180 MW / 90 MWh which charges and discharges at
11 any time of the day based on the control function of the Grid Controller or by GPA
12 SCADA,
- 13 • The BESS will be interconnected at the 115 kV GPA transmission system level at
14 approved connection points,
- 15 • The ESS Services contract term is for 25-years with a one 5-year extension option,
- 16 • Commercial Operation Date (COD) after 30 months from the time of contract award;
17 and
18

19
20 **WHEREAS**, BESS Energy-Shifting Service shall allow GPA to shift and dispatched
21 energy to support to the grid at any time of the day or night; and
22

23 **WHEREAS**, BESS Grid Services shall include Fast Frequency Regulation for rapid
24 injection and absorption of power in response to changes in frequency, Rapid Reserve for
25 standby reserve, Reactive Power Support to control power quality, Black Start to form and
26 supply micro-grids post-natural disaster, Time Correction for steady state and dynamic
27 management and optimization of Power System Voltages, and Micro-grid/Islanding Formation
28 Control for operations separate from the rest of the grid; and
29

30 **WHEREAS**, BESS Energy-Shifting and Grid Services are critical for maintaining a
31 stable and reliable electrical grid, by ensuring consistent voltage and frequency regulation, and
32 responding to sudden major and minor disturbances to the grid, as well optimizing energy
resources to alleviate peak demand; and

1
2 **WHEREAS**, GPA believes these bid documents form the best procurement option by:

- 3 • Ensuring resource capital investment is recoverable through a minimum contract period
4 that extends over a longer period of time; and
5 • Placing the construction and operations risk on the bidder which protects ratepayers
6 against construction cost overruns; and
7 • The contract terms for services rendered will be of a Fixed-Price structure to cover all
8 costs, including energy, interconnection, commissioning, O&M, and the cost of
9 investment, with a 1% annual escalation over the 25-year contract period; and
10

11 **WHEREAS**, the total contract costs over the 25-year term will exceed \$1,500,000; and
12

13 **WHEREAS**, the BESS systems procured must be cyber-attacks resilient from China,
14 North Korea and other unfriendly countries posing to negatively impact energy delivery
15 services to Guam; and
16

17 **WHEREAS**, under the Contract Review Protocol of the Public Utilities Commission
18 (PUC) GPA must obtain prior approval by the PUC before beginning the procurement process
19 of new contracts funded by GPA exceeding \$1,500,000.
20

21 **NOW, THEREFORE BE IT RESOLVED**, by the Consolidated Commission on
22 Utilities, the governing body of the Guam Power Authority and subject to the review and
23 approval of the Public Utilities Commission as follows;
24

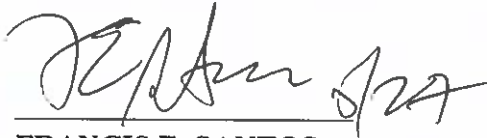
- 25 1. Upon careful review of the attached documents, the Consolidated Commission on
26 Utilities authorizes the GPA General Manager to procure the services under the ESS
27 Services Phase II project.
28 2. The BESS project must be cyber-attack proof and not include equipment from China,
29 North Korea or other unfriendly nations posing to negatively impact energy service
30 delivery to Guam.
31 3. The GPA General Manager is authorized to petition the Guam PUC for the review and
32 approval of the bid documents for the Energy Storage System Phase II project

1 **RESOLVED**, that the Chairman certifies and the Board Secretary attests the adoption of
2 this Resolution.
3

4 **DULY AND REGULARLY ADOPTED**, this 27th day of May, 2025.
5
6

7 Certified by:

Attested by:

8
9
10 

11 **FRANCIS E. SANTOS**
12 Chairperson



13 **MELVIN F. DUENAS**
14 Secretary

15 I, **Melvin F. Duenas**, Secretary of the Consolidated Commission on Utilities (CCU) as
16 evidenced by my signature above do hereby certify as follows:
17

18 The foregoing is a full, true and accurate copy of the resolution duly adopted at a regular
19 meeting by the members of the Guam Consolidated Commission on Utilities, duly and legally
20 held at a place properly noticed and advertised at which meeting a quorum was present and
21 the members who were present voted as follows:
22

23 AYES:

5

24 NAYS:

0

25 ABSTAIN:

0

26 ABSENT:

0



**INVITATION FOR MULTI-STEP BID
No. GPA-0XX-25**

ENERGY STORAGE SYSTEM

PHASE II



Draft

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**INVITATION FOR MULTI-STEP BID
No. GPA-0XX-25**

**ENERGY STORAGE SYSTEM
PHASE II**



Draft

Volume I

Commercial Terms and Conditions

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Draft

1. Introduction

The Guam Power Authority is inviting qualified firms to participate in a Multi-Step Bid for the Energy Storage System (ESS) Phase II project.

This Invitation for Multi-Step Bid (IFB) is part of an effort to mitigate impacts to the GPA Island Wide Power System associated with ongoing renewable projects which are intended to comply with Public Law 29-62. Guam Power Authority (GPA) is committed to 50% energy production from renewable energy sources by 2030, and 100% from renewable energy and non-GHG emissions generation by 2040. GPA is executing the ESS Phase II multi-step bid to provide energy-shifting and grid services necessary to integrate high amounts of inverter-based resources (IBRs) into the GPA grid, improving grid stability, resiliency, reliability, and affordability.

In this Phase II acquisition, GPA intends to acquire the following from one, or more energy storage system sites:

- A total of 90 MW / 360 MWh of energy storage capacity for energy-shifting
- A total of 180 MW / 90 MWh of energy storage capacity for grid services
- A grid controller

The proposed projects must meet the requirements in “Volume II: Technical Qualification Proposal Requirements.”

This bid shall be a Two Step process. Step One will establish a Qualified Bidders List (QBL) based on acceptable submitted non-price Bid information (or Technical Qualification Proposals). Step One is the period from IFB announcement through Notification of Qualified Bidders. Step Two will evaluate the Priced Proposals from the vendors identified on the QBL and which, if any, Qualified Bidder(s) will be awarded a contract(s). Step Two is the period after completion of the Technical Proposal Evaluation and notification of the QBL to the contract award date.

GPA will qualify the Bidders based on their Technical Qualification Proposals and the Qualitative Scoring Workbook. GPA will notify the Bidders selected for the QBL and will proceed with the second step of the bid process to open the sealed bid Priced Proposals of the qualified bidders. GPA will perform a comprehensive evaluation of each bid and select the Bidder(s) with the best bids based on the submitted purchase power price, minimum guarantees, and required technical data.

After the selection of the winning Bidders(s), GPA will conduct system integration studies, at the selected Bidders' expense, to determine system upgrades or improvements required and the associated cost necessary for the selected renewable resource's integration into the GPA transmission system.

If the selected Bidder(s) cannot proceed with the contract, GPA may elect to

- 1) go to the next best Bidder; or
- 2) cancel the bid.

Table 1: Bid Milestones indicate the anticipated milestones in the Bid Process.

GPA reserves the right to change the Bid Milestones at its sole discretion. Bidders are encouraged to confirm with GPA any of the scheduled milestones via an official letter to GPA.

Table 1: Bid Milestones

Bid Milestones		From Date	To Date
Bid Announcement		TBD	TBD
Submit Questions		TBD	TBD
Cut-Off Date for Receipt of Questions		TBD	
GPA Review and Answer Questions		TBD	TBD
Bidders Prepare Technical Proposals (Unpriced)		TBD	TBD
Cut-Off Date for Receipt of Technical Proposals (Unpriced)		TBD	
EVALUATION Step One:	Technical Proposal Evaluation	TBD	TBD
	Notification of Qualified Bidders	TBD	TBD
EVALUATION Step Two:	Cut-Off Date for Receipt of Price Proposals	TBD	
	Opening of Price Proposals (Public Opening)	TBD	
	Evaluation of Price Proposal	TBD	TBD
	Notification of Successful Bidder(s)	TBD	TBD
System Integration Study		TBD	TBD
Contract Finalization		TBD	TBD

Contract Approval & Recommendation to Award	TBD	TBD
Public Utilities Commission Review	TBD	TBD
Contract Signing	TBD	TBD

1.1. Invitation for Bid (IFB) Document Organization

Invitation for Bid (IFB) documents are organized into six separate volumes, as follows:

Volume I	—	Commercial Terms and Conditions
Volume II	—	Technical Qualification Requirements
Volume III	—	Draft Renewable Energy Purchase Agreement
Volume IV	—	Bid Scoring Mechanism
Volume V	—	Appendices

In addition, the IFB documents include two (2) sets of electronic spreadsheets (MS Excel Workbooks):

- Qualitative Proposal Scoring.xls
- Price Proposal Evaluation.xls

GPA reminds Bidders to submit the Priced Proposal in a separate sealed envelope clearly marked “Priced Proposal” for Step Two of the bid process.

1.2. GPA Overview

GPA is a public utility corporation that provides electric power service throughout the entire island of Guam. GPA, in conjunction with Private Partners, operates and maintains 17 power plants, with a total rated capacity of 464 MW. The authority also has installed and maintains an estimated combined total of 1839 miles of 115 kV and 34.5 kV transmission lines and primary distribution lines, and 29 substations.

In addition, the authority operates and maintains a total capacity of 18 MW for emergency generators to support 128 Guam Waterworks Authority water and sewage pump stations and sewage treatment facilities situated at various locations throughout the island and 10 portable units.

GPA is comprised of several departments or divisions, which include Executive/Administrative, Finance, Computer Services, Engineering, Planning & Regulatory (Environmental), Safety, Human Resources,

Customer Service, Facilities, Strategic Planning and Operations Research, Generation, Transmission & Distribution (T&D), and Transportation. Majority of the departments are located in the Gloria B. Nelson Public Service Building (GPA Main Office) located in Mangilao. However, T&D, Generation, and Transportation Offices and buildings are located throughout the island.

1.2.1. Generation Overview

An overview of GPA's generation resources and transmission systems is provided in GPA's 2022 Integrated Resource Plan, which can be downloaded at the following webpage:

https://admin.guampowerauthority.com/uploads/GPA_2022_Integrated_Resource_Plan_b16ef41f9e.pdf?updated_at=2022-09-20T07:24:07.680Z

1.2.2. Electrical System Overview

Guam Power Authority has approximately 198 miles of 115 kV and 34.5 kV transmission lines. There are 7 ea. 115 kV and 41 ea. 34.5 kV lines connecting 29 substations throughout the island. These Substations have 63 ea. 13.8KV distribution feeders with approximately 731 miles of lines. The Guam Power Authority follows National Electrical Manufacturers Association (NEMA) ANSI C84 for delivery of power and imbalance. The GPA Islandwide System Transmission Single Line Diagram can be found in Appendix K of Volume V.

1.2.3. Guam Weather

Guam's climate is pleasantly warm year-round. The mean annual temperature is 81 degrees; generally, the range is from the low 70s to the middle 80s. The coolest and least humid months, marked by prevailing westerly trade winds, are in December through February. Although the warmest months are from March through August, the refreshing trade winds blow steadily. The annual rainfall totals 80 to 110 inches. There are two seasons, the dry and the rainy. The dry season begins in December through June. The rainy season falls within the remaining months.

Weather	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg Fahrenheit	76	77	78	79	79	80	80	80	79	80	80	79
Avg Centigrade	24	25	26	26	26	27	27	27	26	27	27	26

rainfall inches	5.16	4.26	2.97	4.03	4.49	5.19	9.59	12.16	14.08	14.40	8.51	5.85
rel humidity %	77	76	75	74	73	76	76	81	81	80	80	78
sunshine hrs/day	11.15	11.30	11.51	12.16	12.40	12.58	13.00	12.47	12.24	12.00	11.35	11.18

1.3. IFB Document Media

The five-volume set of IFB documents and all Amendments to this IFB may be made available to Bidders in electronic filing format including:

- Downloadable files posted on the internet (webpage or FTP site); or
- Transmittal through email

2. Instructions to Bidders

This is a multi-step bid procurement consisting of two steps. **The Technical Qualification Proposal and the Priced Proposal shall both be submitted on or before the Cut-off Date of Receipt of Proposals indicated in Table 1: Bid Milestones.**

In Step One, only the submitted Technical Qualification Proposals will be evaluated and determined whether Acceptable or Unacceptable. After the Cut-Off Date for Receipt of Proposals, Bidders may be requested to schedule a presentation and discussion session with GPA on Guam or virtually. GPA may issue a final Amendment after these presentations and discussions prior to receiving the priced proposals. GPA will select a short-list of qualified bidders who will be eligible to submit their priced proposals. Only the BIDDERS whose Technical Qualification Proposals are determined to be Acceptable shall qualify for Step Two. BIDDERS whose Technical Proposals are Unacceptable shall be notified.

In Step Two, the Price Proposals based upon Technical Qualification Proposals will be considered for award. Only the Technical Qualification Proposals that are deemed acceptable, either initially or as a result of further discussions with prospective Bidders, will be considered for award during Step Two.

2.1. Language and Correspondence

2.1.1. Language

The official language of Guam is English. The bid and all accompanying documents shall be in English. Any bids not submitted in English will be designated as “Unacceptable” and will not qualify for Step Two.

2.1.2. Commercial and Technical Correspondence

Any prospective BIDDER desiring an explanation or interpretation of the solicitation, commercial terms, Technical Specifications, etc., must make a request in writing to GPA at the address listed below, referencing the Invitation for Bid No. Multi-Step GPA-XXX-25:

ATTENTION: JOHN M. BENAVENTE
GENERAL MANAGER
GUAM POWER AUTHORITY – PROCUREMENT OFFICE
1ST FLOOR, ROOM 101
GLORIA B. NELSON PUBLIC SERVICE BUILDING
688 ROUTE 15
MANGILAO, GUAM 96913
Attention: Jamie Lynn C. Pangelinan
Supply Management Administrator

PHONE: 1 (671) 646-3054 /3055
FAX: 1 (671) 648-3165

In addition, Bidders may also make this request by writing to the GPA PMC Procurement Officer at:

jpangelinan@gpagwa.com

The written request may also be sent via-email by sending an electronic copy of the written request to the Procurement Officer handling the IFB. All inquiries must be received by Procurement no later than the deadline for inquiries specified in Table 1: Bid Milestones. Any information given to a prospective BIDDER concerning a solicitation will be furnished promptly to all parties recorded by Procurement as having received the Invitation for Bid as an amendment to the solicitation if that information is necessary in submitting bids or if the lack of it would be prejudicial to other prospective BIDDERS. Any oral explanations or instructions given by GPA to prospective Bidders will not be binding.

2.2. Technical and Functional Requirements Examination

Before submitting their proposal, BIDDERS must familiarize themselves with the nature and extent of the work, duly noting any local conditions that may affect the work to be done and the labor, materials, and

equipment required. BIDDERS are also required to carefully examine all tender documents inclusive of all technical and functional requirements and to inform themselves of all conditions and requirements for the execution of the proposed work in accordance with the laws and regulations of the Territory of Guam. Ignorance on the part of BIDDERS of any part of the tender documents will in no way relieve them of the obligations and responsibilities assumed under the contract.

2.3. Solicitation Amendment

Any amendment, modification or addendum issued by the Guam Power Authority, prior to the opening of the proposals, for the purpose of changing the intent of the Technical and Functional Requirements, clarifying the meaning or changing any of the provisions of this Invitation for Bid, shall be binding to the same extent as if written in the tender documents. Any addendum issued will be made available to all BIDDERS via mail, fax, e-mail or posting to the ftp site. Announcements regarding any Amendment shall also be posted at the GPA Website at:

<https://go.opengovguam.com/bids/available/gpa>

The BIDDERS shall acknowledge receipt of the amendment by a signature on one copy, which is to be returned to the GPA Supply Management Administrator. Acknowledgement may also be made by fax or e-mail.

2.4. Familiarity With Laws

The BIDDER shall be familiar with all Federal (U.S.) and local laws, ordinances, rules and regulations of Guam that in any manner affect the work. Ignorance of law on the part of the BIDDER will not relieve the BIDDER from responsibility.

2.5. Cost of Bidding

BIDDERS shall bear all costs associated with the preparation and submission of its proposal. GPA will not be responsible or liable for those costs, regardless of the outcome of the IFB process.

2.6. Priced Proposals Furnished Separately without Technical Qualification Proposals

Bidders are required to submit their Priced Proposals as found in the MS EXCEL Workbook, Priced Proposal Workbook.xls separately from their Technical Qualification Proposals and completed Qualitative Scoring Workbook.xls by the Cut-Off Date for Receipt of Priced Proposals. Bidders must package Priced Proposals

in a separate sealed envelope marked “Priced Proposal” and indicating the date and time of bid package submittal.

As part of the data requirements for Priced Proposals, Bidders must furnish a price for energy delivered for each year of the contract. These pricing requirements are described in more detail in Volume II: Technical Requirements.

2.7. Price/Cost Data

BIDDERS shall provide prices/costs in U.S. Dollars.

2.8. Documents Executed Outside of Guam

The Power of Attorney, performance bond guarantee, and documents defining the constitution of the joint venture, consortium, company or firm, if executed outside Guam, whether required to be submitted with the proposals or after the award of the contract, must be authenticated by a Notary Public or other official authorized to witness sworn statements.

2.9. Step One Procedures

The following outlines the requirements for technical (non-price) bid submittals.

2.9.1. Submission of Bids

2.9.1.1. Bid Contents

Each bid shall contain a complete and clear description of the proposed renewable resource technology, energy storage, construction timelines and permitting experience, anticipated location, proposed interconnection with GPA system, operation and maintenance experience with proposed technology (as more fully discussed in Volume II: Technical Requirements).

Each bid shall include the following:

- Cover and bid checklist forms defined in Appendix A;

- Responses and supporting information to the questions raised in the Qualitative Scoring Workbook;
- Completed electronic copy of the **Technical Bid Form Workbook**; and,
- Supplementary information described below.

Each bid shall be submitted in the format and quantities discussed in **Section 2.9.2 Bid Submittal**.

2.9.1.2. Responses and Supporting Information to Qualitative Questions

As part of their bid package, Bidders shall provide written responses and supporting information to answer each of the questions raised in the Qualitative Scoring Workbook on the tab marked Part 1- Qual Support References. The Bidders will then reference in the Qualitative Scoring Workbook, using the appropriate Section and/or page numbers, precisely where in their bid packages answers to each of the questions listed may be found.

2.9.1.3. Electronic Copies of the Bid Scoring Workbook

Bidders shall complete both the Qualitative Scoring Workbook and the Priced Proposal Workbook, **and must submit electronic copies of these two Workbooks separately from each other in clearly marked envelopes. Electronic copies should be provided on USB device. Files shall not be additionally electronically secured. Any security changes may delay evaluation.**

2.9.1.4. Supplementary Information

Bidders shall submit all the supplementary information required by the IFB documents. The supplementary information must be provided in sufficient detail and clarity to permit a complete comparison of the bids with the Technical Specifications. Volume II provides more detail on information required for the Technical Qualification Proposals and Priced Proposals. The supplementary information included with each bid shall include the following:

1. Information requested in the Qualitative Scoring Workbook and in Volume II: Technical Qualification Requirements.

Submittal of the following supplementary information is mandatory and must be provided by the Bid Submittal Closing Date. **GPA shall automatically disqualify any bid submitted without the supplementary information listed below:**

2. A copy of the Bidder's Articles of Incorporation or other applicable forms concerning business organization (i.e. partnership, sole proprietorship, etc.) and By-Laws;
3. Affidavit of Ownership & Interest Disclosure (Appendix C);
4. Audited financial information for the last five years on Bidder's firm and all subcontractors that will be used in this contract. If they have one, Bidders must include their Dunn and Bradstreet Number or Other Major Credit Rating Agency rating, or comparable, independent verification of their credit standing.
5. Certificate of Good Standing to conduct business from the jurisdiction of their company's residence;
6. Non-collusion Affidavit (Appendix D);
7. Information regarding outstanding claims against the Bidder, if any;
8. Bid Bond (Appendix B);
9. A current Guam Business License is not required in order to provide a Bid for this engagement, but is a pre-condition for entering into a contract with the Authority. ***NOTE: The successful bidder must furnish a current Guam Business License prior to contract execution;***
10. No Gratuities or Kickbacks Affidavit (Appendix G);
11. Ethical Standards Affidavit (Appendix H);
12. Declaration Re Compliance with U.S. DOL Wage Determination (Appendix I);
13. Restriction Against Sex Offenders Employed by Service Providers to Government of Guam from Working on Government of Guam Property (Appendix J);
14. Contingent Fees Affidavit (Appendix R);

2.9.2. Bid Submittal

2.9.2.1. Manual Options for Bid Submittal

Bidders may submit their bids via mail services (such as U.S. Postal Service, Federal Express or DHL) to the address provided in **Section 2.1.2 Commercial and Technical Correspondence**. Bidders may also deliver bids at the GPA Procurement Office located at:

Guam Power Authority - Procurement Office
1st Floor, Room 101
Gloria B. Nelson Public Service Building
688 Route 15
Mangilao, Guam 96913

2.9.2.2. Non-repudiation Issues

GPA has structured its Manual IFB submittal procedures to ensure non-repudiation of the submitted bids. In this IFB, “non-repudiation” means strong and substantial evidence of the identity of the sender and owner of the bid and of bid’s integrity in so far as it being unaltered from its original sent state, sufficient to prevent a party from successfully denying the origin, submission or delivery of the bid and the integrity of its contents. Non-repudiation applies to both parties to this IFB transaction. It binds the sender as well as precludes the recipient from denying the exchange of information and material upon the receipt of secure acknowledgement from the recipient.

GPA and the Bidder shall manage the Manual IFB Submittal Process to address non-repudiation, security and confidentiality inclusive but not limited to the following:

- Manually executed signatures and printed media documents;
- Chain of custody receipts;
- Manual time-stamps for receipt of IFB materials;
- Machine generated Fax confirmation reports;
- Secure notification e-mail;
- Electronic Postings on the guampowerauthority.com domain;
- Physical delivery of printed material bids;
- Physically secured area storage of IFB materials.

2.9.2.3. Signature of Bidder

A duly authorized person must sign the Bidder's bids. All names shall be typed or printed below the signature. A bid submitted by a corporation must bear the seal of the corporation, be attested to by its Secretary, and be accompanied by necessary Power-of-Attorney documentation. Associated companies or joint ventures shall jointly designate one Power-of-Attorney person authorized to obligate all the companies of the association or joint venture. A bid submitted by a joint venture must be accompanied by the document of formation of the joint venture, duly registered and authenticated by a Notary Public, in which is defined precisely the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it, the participation of the several firms forming the joint venture, the principal member of the joint venture, and address for correspondence for the joint venture. Bidders are advised that the joint venture agreement must include a clause stating that the members of the joint venture are severally and jointly bound.

All required bid documents must be submitted and received by the Procurement Office by the Bid Submittal Closing deadline.

2.9.2.4. Manual Bid Submittal Package Format and Handling

This section describes the bid package format and content required by GPA that is specific to manual submittal of bids. The Manual IFB Bid Submittal Process is characterized by a preponderance of the submitted material in tangible printed media form that is hand-delivered by an authorized agent of the Bidder to the Procurement Officer of the Guam Power Authority. Both the Bidders' agents and the GPA Procurement Officer are live human beings. In addition, both parties perform non-repudiation of the bid through the execution of manually executed signatures, seals and time stamps.

Bidders are required to submit one original and six (6) bound copies of their bid including one completed electronic copy on one disk of the Qualitative Scoring Workbook and one completed electronic copy on another disk of the Priced Proposal Workbook.

Bidders are advised to keep a copy of the completed Workbooks and test the electronic copies on disks prior to submitting them to GPA.

2.9.2.5. Marking and Packaging of Bids

As a general rule, the manually submitted Bids shall be packaged in separate sealed boxes with the following information clearly marked on the outside of the two largest sides:

- 1) “TECHNICAL QUALIFICATION PROPOSAL” OR “PRICED PROPOSAL”
- 2) "ENERGY STORAGE SYSTEM – PHASE II”;
- 3) BIDDER’S NAME;
- 4) INVITATION FOR BID NUMBER;
- 5) CLOSING DATE and TIME (Guam Standard Time).
- 6) Addressed As follows:

ATTENTION: JOHN M. BENAVENTE
GENERAL MANAGER
GUAM POWER AUTHORITY – PROCUREMENT OFFICE
1st FLOOR, ROOM 101
GLORIA B. NELSON PUBLIC SERVICE BUILDING
688 ROUTE 15
MANGILAO, GUAM 96913

If the Bidder’s submittal cannot fit within one box or if the Bidder chooses to submit more than one box, each box must be labeled as described above and with the following additional information:

- 7) Box Number Within the Set of Submitted Boxes
- 8) The Total Number of Boxes Submitted.

2.9.2.6. Receipt and Handling of Manually Submitted Bids

Upon receipt, each Bid submittal package will be time-stamped. The only acceptable evidence to establish the date and time of receipt at the GPA is the date/time stamp of the Guam Power Authority's procurement office on the wrapper or other documentary evidence of receipt maintained by GPA. Bids will be stored in a secure place until the date and time set for proposal opening.

GPA procurement personnel will stamp the outside of each package using the GPA Procurement time stamp and will officially log the date and time that each Bidder’s sealed bid package is received.

2.9.3. Submittal Closing Date

The Technical Qualification Proposal Submittal Closing Date is **[TBD], 2:00 P.M., Chamorro Standard Time; (CHST)**. Submitted proposals, excluding the Priced Proposals, will be opened at this time which will initiate the proposal evaluation process. No proposals shall be accepted after the Bid Submittal Closing Date and Time.

2.9.4. Bid Changes During Bid Process

Changes may be made to the Technical Qualification Proposals(s) prior to the Bid Submittal Closing Date.

2.9.5. Evaluation of Technical Qualification Proposals

After the Bid Submittal Closing Date, GPA will evaluate the Technical Qualification Proposals and develop the QBL.

GPA will use the score from the Qualitative Scoring Workbook to evaluate the contents of bids and categorize each of the bids using one of the following designations:

- a. Acceptable—the Bidder will qualify for the QBL and its Priced Proposal may be considered
- b. Potentially Acceptable—the Bidder’s submittal has a reasonable possibility of being made acceptable; or
- c. Unacceptable—the Bidder’s submittal does not meet the requirements and will not be considered further.

The Procurement Officer shall record in writing the basis for finding an offer unacceptable and make it part of the procurement file.

The Procurement Officer may initiate Step Two if there are sufficient acceptable Technical Qualification Proposals to assure effective price competition in the second step without technical discussions.

If the Procurement Officer finds that such is not the case, the Procurement Officer shall issue an amendment to this IFB or engage in technical discussions with Bidders as set forth below.

1. The Procurement Officer may conduct discussions with any Bidder who submits an acceptable or potentially acceptable technical Offer.
2. During the course of such discussions, the Procurement officer shall not disclose any information derived from the Technical Qualification Proposals to any other Bidder.
3. Once discussions are begun, any Bidder, who has not been notified that its Technical Qualification Proposal has been finally found acceptable, may submit supplemental information amending its Technical Qualification Proposal at any time. Such submission may be made at the request of the Procurement Officer or upon the Bidder’s own initiative.

2.9.5.1. Notice of Unacceptable Bid

A notice of unacceptability will be forwarded to the Bidder upon completion of the Technical Qualification Proposal evaluation and final determination of unacceptability. When the Procurement Officer determines a Bidder's Technical Qualification Proposal to be unacceptable, such Bidder shall not be afforded an additional opportunity to supplement its offer.

2.10. Step Two Procedures

Upon completion of Step One and the selection of qualified bidders, qualified bidders must submit their priced proposals. GPA will proceed with Step Two of the multi-step bid, which includes evaluation of the Priced Proposals and award of the contract(s).

2.10.1. Request for Priced Proposals and Performance Guarantees

Each Bidder from the QBL will be notified and GPA will open their Priced Proposals, which were submitted on compact disk in the MS EXCEL workbook titled Priced Proposal Workbook.xls.

GPA will select a winning Bidder based on a comprehensive evaluation of the Priced Proposals, guarantees, and the resulting net present value of utility cost integrating each bid's Priced Proposal and generation profile as described in Volume IV: Bid Scoring Mechanism.

2.10.1.1. Bid Changes During Bid Process

Changes may be made to the Priced Proposals only prior to the Bid Submittal Closing Date.

2.10.1.2. Bid Validity

All price/cost data submitted with the Bidders' bids shall remain firm and open for acceptance for a period of **not less than eight (8) months after the Bid Submittal Closing Date**; thereafter, the Priced Proposal shall be subject to renewal by mutual agreement between the Bidder and GPA.

The Bidder shall state the actual date of expiration in their Priced Proposal with their bid submittal.

2.10.2. Preliminary Examination of Priced Proposal

GPA will examine the Priced Proposal on the opening date to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Priced Proposals are generally in order.

Arithmetical errors will be rectified on the following basis. If there is discrepancy between the unit price and the total price, including any discounts, that is obtained by multiplying the unit priced and quantity, the unit price shall prevail and the total price shall be corrected. If the Bidder does not accept the correction of the error, its bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.

2.10.3. Evaluation Criteria and Comparison of Priced Proposals

GPA will only evaluate and compare the Priced Proposals for Bidder's whose Technical Qualification Proposals were determined to be responsive to the IFB document requirements during Step One.

GPA's evaluation of Priced Proposals shall compare the \$ per MWh Priced Proposals (as they apply to the expected energy production levels and Annual Minimum Quantity described in the Volume II: Technical Requirement) to GPA's cost to produce the same energy from its existing non-energy storage resources.

This evaluation method is explained in more detail in Volume IV: Bid Scoring Mechanism.

2.11. General Bid Guidelines and Requirements

2.11.1. Amendments to the IFB Document

GPA may elect to change the IFB documents in whole or in part. GPA shall send all Amendments to the IFB document recipients via fax and/or e-mail. In addition, GPA will make all Amendments available on the GPA Procurement Available Bids and RFPs website at:

<https://go.opengovguam.com/bids/available/gpa>

2.11.2. Proprietary Data

For the purposes of this IFB and submitted bids, the laws, rules and regulations of Territory of Guam concerning confidentiality shall govern. Bidders may designate those portions of the Bid that contain trade secrets or other proprietary data that are to remain confidential.

The Procurement Officer shall examine the bids to determine the validity of any request for nondisclosure of trade secrets and other proprietary data identified in writing. If the Bidder and GPA do not agree as to the disclosure of data, the Procurement Officer shall inform the Bidder in writing and in e-mail within five working days of the closing date for Bid submittal what portions of the Bid will be disclosed and that, unless the Bidder protests under the Conditions of Contract Disputes clause the information will be so disclosed. The bid shall be opened to public inspection subject to any continuing prohibition of the disclosure of confidential data.

2.11.3. Acceptance of Bids

GPA reserves the right to reject any or all bids and to waive minor errors, informalities, and discrepancies made by the Bidders if it appears in GPA's best interest to do so.

Any effort by a Bidder to influence GPA in the bid evaluation, bid comparison or contract award decisions may result in the rejection of the bid. Once GPA has arrived at a decision regarding the award of the contract, it will notify promptly the winning Bidder in writing.

2.11.4. IFB Cancellation or Delay

The Guam Power Authority reserves the right to delay award or to cancel the IFB, or to reject all bids or any individual bid in whole or in part, at any time prior to the final award. When the IFB is canceled or rejected prior to final award, notice of cancellation or rejection shall be sent to all Bidders and all bid materials will be promptly returned. The reasons for cancellation or rejection shall be made a part of the procurement file that is available for public inspection. After the Bid Submittal Closing Date, but prior to award, all bids may be rejected in whole or in part when the Procurement Officer determines that such action is in the Territory's best interest for reasons including but not limited to:

- a) The supplies and services being provided are no longer required;
- b) The IFB did not provide consideration of other factors of significance to the Territory;
- c) All otherwise acceptable bids received have clearly unreasonable price/cost data;
- d) There is reason to believe that the bids may not have been independently arrived at in open competition, may have been collusive and may have been submitted in bad faith;

Again, any individual bid may be rejected in whole or in part when in the best interest of the Territory.

2.11.5. Disqualification of Bidder

When, for any reason, collusion or other anticompetitive practices are suspected among Bidders or offerors, a notice of the relevant facts shall be transmitted to the Guam Attorney General. Bidders suspected of collusion or other anticompetitive practices may be suspended or debarred from participating in future procurement opportunities for a specified period.

2.11.6. False Statements In Bid

Bidders must provide full, accurate, and complete information as required by this IFB and its attachments. The penalty for making false statements in any bid or bid is prescribed in 18 U.S.C. 1001 and Title 9, Guam Code Annotated. Note, by use of a digital signature to sign the bid, the Bidder agrees that this act legally binds the Bidder to his bid.

2.11.7. Prohibition Against Gratuities, Kickbacks, and Favors to the Territory

Pursuant to GCA 5 Section 5630 (c), this clause is conspicuously set forth to alert all parties in this procurement that *Guam Public Law Title 5 § 5630. Gratuities and Kickbacks* prohibits against gratuities, kickbacks and favors to the Territory.

2.11.8. Restriction against CONTRACTORS Employing Convicted Sex Offenders from Working at Government of Guam Venues

GCA 5 §5253(b) restricts the PROPONENT against employing convicted sex offenders from working at Government of Guam venues. It states:

- (a) No person convicted of a sex offense under the provisions of Chapter 25 of Title 9 Guam Code Annotated, or an offense as defined in Article 2 of Chapter 28, Title 9 GCA in Guam, or an offense in any jurisdiction which includes, at a minimum, all of the elements of said offenses, or who is listed on the Sex Offender Registry, and who is employed by a business contracted to perform services for an agency or instrumentality of the government of Guam, shall work for his employer on the property of the Government of Guam other than public highway.

- (b) All contracts for services to agencies listed herein shall include the following provisions: (1) warranties that no person providing services on behalf of the contractor has been convicted of a sex offense under the provisions of Chapter 25 of Title 9 GCA or an offense as defined in Article 2 of Chapter 28, Title 9 GCA, or an offense in another jurisdiction with, at a minimum, the same elements as such offenses, or who is listed on the Sex Offender Registry; and (2) that if any person providing services on behalf of the contractor is convicted of a sex offense under the provisions of Chapter 25 of Title 9 GCA or an offense as defined in Article 2 of Chapter 28, Title 9 GCA or an offense in another jurisdiction with, at a minimum, the same elements as such offenses, or who is listed on the Sex Offender Registry, that such person will be immediately removed from working at said agency and that the administrator of said agency be informed of such within twenty-four (24) hours of such conviction.
- (c) Duties of the General Services Agency or Procurement Administrators. All contracts, bids, or Requests for Proposals shall state all the conditions in § 5253(b).
- (d) Any contractor found in violation of § 5253(b), after notice from the contracting authority of such violation, shall, within twenty-four (24) hours, take corrective action and shall report such action to the contracting authority. Failure to take corrective action within the stipulated period may result in the temporary suspension of the contract at the discretion of the contracting authority.

2.12. Award of Contract

The contract will be awarded to the Bidder evaluated as being qualified and with the best-priced bid.

The successful Bidder will be notified in writing (letter or e-mail or fax) of the intent to award the contract, and will be required to send to GPA's offices, within ten (10) days of the date of receipt of such notice, a representative or representatives with proper Power-of-Attorney for the purpose of executing a contract with such alterations or additions thereto as may be required to adopt such contract to the circumstances of the bid.

The successful Bidder shall provide the required Development Security within **ten (10) Business Days** from the date when a binding credit agreement is executed.

Failure on the part of the successful Bidder to provide a Development Security and/or to enter into a contract with GPA shall be sufficient grounds for the annulment of the award. The negotiations may then be resumed with the next most qualified Bidder.

2.13. Bid and Performance Bond Requirements

2.13.1. Bid Bond Form and Amount

A bid bond for an amount of \$ 150,000.00 (USD) for each submitted proposal is required and may be in the following form:

- a. Cash, Bank Draft or Certified Check made payable to the Guam Power Authority;
- b. By wire transfer to Guam Power Authority, Account No. 0601-024961, Routing No. 121405115, Bank of Guam, P. O. Box BW, Hagatna, Guam 96910
- c. Letter of Credit;
- d. Surety Bond – valid if accompanied by:
 - (1) Current Certificate of Authority to do business on Guam issued by the Department of Revenue and Taxation;
 - (2) Power of Attorney issued by the Surety to the Resident General Agent
 - (3) Power of Attorney issued by two (2) major officers of the Surety to whoever is signing on their behalf.

Bid Bonds, submitted as Bid Guarantee, without signatures and supporting documents are invalid and associated bids will be rejected.

If a Bidder desires to submit a bid bond with an acceptable bonding company, the Bidder must submit original copies of Appendix B.

For those Bidders not selected for award of contract, bid bonds will be refunded.

For those Bidders selected for award of contract, bid bonds will be refunded once GPA has received their performance bond (see next **Section 2.13.2 Performance Bond Form, Amount, and Duration**). Any Bidder who is selected for award of contract but who is unable to fulfill the obligations of its respective bid(s) will permanently forfeit its bond(s) to GPA.

2.13.2. Performance Bond Form, Amount, and Duration

A performance bond shall be required from winning Bidders in the form as prescribed in Appendix F. For the period during construction and prior to the Commercial Operation Date of the project, the selected Bidder(s) shall provide a Development Security Bond which shall be in effect upon contract execution and until the Commercial Operation Date of the project and submission of the Contract Performance Bond. The amount of the Development security bond shall be 50% of the total projected payment for the 1st contract year based on the contractor's 1st Contract Year energy rate and the guaranteed energy production and shall be posted as a Letter of Credit or Cash.

At the beginning of the contract term, after the Commercial Operation Date, and at the beginning of each GPA Fiscal Year during which the contract is in effect, the Bidder shall provide and maintain a Contract Performance Bond performance bond in the amount equal to Cost for Minimum Annual Energy as described in the Draft ESS Energy Purchase Agreement for that full or partial fiscal year within the term of the contract.

Upon submission of the Contract Performance Bond, the Development Security Bond can be returned. The selected bidder(s) may forfeit a portion or all of its Development Security if the selected bidder(s) fails to meet requirements as described in the Draft ESS Energy Purchase Agreement (see Volume III).

If the Bidder is declared by GPA to be in default under the CONTRACT, GPA may exercise any or all rights and remedies it possesses under the provisions of the performance bond.

The GPA Fiscal Year begins on October 1 and ends on September 30 of the following calendar year.

2.13.3. Requirement for Performance Bond Execution by a Guam Licensed Surety Company

The Bidder shall provide a Performance Bond executed by a surety company licensed to do business on Guam.

3. Required Forms and Supplemental Information

GPA shall automatically disqualify any proposal submitted without the supplementary information and required forms listed below:

- Documents required as part of Qualitative Proposal Requirements;
- A copy of the BIDDER's Articles of Incorporation or other applicable forms concerning business organization (i.e. partnership, sole proprietorship, etc.) and By-Laws;
- Audited financial information on BIDDER's firm and all subcontractors that will be used in the performance management of this contract. BIDDERS must include their Dunn and Bradstreet Number or Other Major Credit Rating Agency rating.
- Certificate of Good Standing to conduct business in jurisdiction of residence;
- Information regarding outstanding claims against the BIDDER, if any;

- Required affidavits (Major Shareholders Disclosure; Non-Collusion; Declaration Regarding Compliance with DOL Wage Determination; No Gratuities or Kickbacks; Ethical Standards Affidavit, Restriction Against Sex Offenders)
- Proposal Checklist
- Bid Bond
- A current Guam Business License. Although it is not required in order to provide a Bid for this engagement, obtaining a Guam Business License is a pre-condition for entering into a contract with the Authority.

The following forms and MS EXCEL Workbooks must be completed:

- Appendix A: Bid Checklists
- Appendix B: Bid Bond Form and Instructions
- Appendix C: Ownership & Interest Disclosure Affidavit
- Appendix D: Non-collusion Affidavit
- Appendix E: Local Procurement Preference Application
- Appendix F: Performance Bond
- Appendix G: No Gratuities or Kickbacks
- Appendix H: Ethical Standards Affidavit
- Appendix I: Declaration Re Compliance with U.S. DOL Wage Determination
- Appendix J: Restriction against Sex Offenders Employed by Service Providers to Government of Guam from Working on Government of Guam Property
- Appendix R: Contingent Fees Affidavit
- Qualitative Proposal Worksheet.xls
- Price Proposal.xls

3.1. Technical Proposal Forms

The following referenced forms shall be completed and submitted with the Proposal.

3.1.1. Bid Checklists

The BIDDER shall complete Form A-1 by acknowledging the receipt of the Invitation For Bid Documents received from Guam Power Authority, including the latest IFB Amendments received. Acknowledgement of

receipt shall be given by signing or putting an initial beside each line item received. This Form is an acknowledgement of receipt, review and understanding of the IFB documents.

During the submission of the Proposals, the BIDDER shall complete Form A-2. This Form provides an inventory of documents submitted by the BIDDER in response to the Proposal requirements.

3.1.2. Ownership & Interest Disclosure Affidavit

The BIDDER shall fill out the Ownership & Interest Disclosure Affidavit form in Appendix C and submit it with its Proposal.

3.1.3. Non-collusion Affidavit

The BIDDER shall fill out the Non-collusion Affidavit form in Appendix D and submit it with its Proposal.

3.1.4. No Gratuities or Kickbacks Affidavit

The BIDDER shall fill out the No Gratuities or Kickbacks Affidavit Form in Appendix G and submit it with its Proposal.

3.1.5. Ethical Standards Affidavit

The BIDDER shall fill out the Ethical Standards Affidavit Form in Appendix H and submit it with its Proposal.

3.1.6. Compliance with US DOL Wage Determination

The BIDDER shall fill out and sign *Appendix I – Declaration of Compliance with US DOL Wage Determination* and submit it with the Technical Proposal.

3.1.7. Bid Bond Form

As stated in **Section 2.13 Bid and Performance Bond Requirements**, if a BIDDER desires to submit a bid bond with an acceptable bonding company, the BIDDER must submit original copies of Appendix B.

3.1.8. Local Procurement Preference Application

The BIDDER shall fill out and sign the Local Procurement Preference Application in Appendix E and submit it with the Technical Proposal.

3.1.9. Restriction Against Sex Offenders

The BIDDER shall complete the form, *Restriction against Sex Offenders Employed by Service Providers to Government of Guam from Working on Government of Guam Property* (Appendix J) and submit it as part of the Technical Proposal.

3.1.10 Contingent Fee Affidavit

The BIDDER shall fill out and sign the Contingent Fee Affidavit Form in Appendix R and submit it with the Technical Proposal.

3.2. Qualitative Proposal Workbook

The BIDDER shall complete the Qualitative Proposal Workbook in accordance with the instructions given in the workbook's Instructions tab. The workbook shall be submitted as part of the Qualitative Proposal.

3.3. Price Proposal Workbook

The BIDDER shall complete the Priced Proposal worksheet contained in the MS Excel Workbook Priced Proposal Workbook.xls and submit it in a sealed envelope which will only be opened when the bidder has been deemed qualified through Step One of the multi-step bid process. This workbook outlines the Bidder's rate for energy delivered and the proposed plant's operating characteristics which will be used to determine total system costs.

4. Conditions of Contract

4.1. Definitions

Wherever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

4.1.1. Approved

The word "Approved," when applied by ENGINEER to CONTRACTOR's drawings or documents, shall mean that the drawings or documents are satisfactory from the standpoint of interfacing with GPA- furnished

components, and/or that ENGINEER has not observed any statement or feature that appears to deviate from the Specification requirements.

4.1.2. Approved As Revised

The words "Approved As Revised," when applied by ENGINEER to CONTRACTOR's drawings or documents shall mean that the drawings or documents are approved as defined above, except that the corrections shown are required for the proper interfacing with GPA-furnished components or are necessary to be in conformance with the Specification's requirements.

4.1.3. Change Order

A written instrument to CONTRACTOR signed by GPA authorizing an addition, deletion, or revision in the goods or special services, or an adjustment in the purchase order price or the delivery time, issued after the effective date of the Contract Agreement(Agreement).

4.1.4. Seller

The CONTRACTOR.

4.1.5. Day

A calendar day of twenty-four (24) hours measured from midnight to the next midnight

4.1.6. Delivery Time

The total number of days or the dates stated in the Agreement for furnishing the Goods and/or Special Services

4.1.7. Defective

An adjective which when modifying the words Goods or Special Services refers to Goods or Special Services which are unsatisfactory, faulty, deficient, do not conform to the Contract Documents, or do not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents.

4.1.8. Drawings

Drawings are all official drawings approved by the ENGINEER and showing the character and scope of the Goods to be furnished.

4.1.9. Effective Date of the Contract Agreement

The date indicated in the Purchase Agreement on which it becomes effective, or if no such date is indicated, the date by which the Purchase Contract is signed by both parties.

4.1.10. ENGINEER

Wherever the words "ENGINEER" or "ENGINEERS" appear in the CONTRACT Documents, it shall mean GPA's engineer duly appointed as "ENGINEER". GPA shall assign several ENGINEERS as required to cover specialized areas of expertise.

4.1.11. ENGINEER's Instructions

Written instructions issued by ENGINEER which clarify or interpret the CONTRACT Documents or order minor changes or alterations in the Goods or Special Services to be furnished but which do not involve a change in the Purchase Price or the Delivery Time.

4.1.12. General Manager

The General Manager is the Chief Executive Officer of the Guam Power Authority. The office and title of General Manager shall apply to any person acting in a regular or in an acting capacity as the Chief Executive Officer of the Guam Power Authority.

4.1.13. Goods

Shall refer to all energy production to be furnished by CONTRACTOR under the procurement documents.

4.1.14. Modification

A written amendment of the Purchase Agreement signed by both parties, or Change Order, or ENGINEER's Instructions.

4.1.15. OWNER

The Guam Power Authority (An autonomous instrumentality of the Government of Guam).

4.1.16. Point of Delivery

The place at which property in the goods shall pass to GPA.

4.1.17. Project

The plant, or facilities, that will generate energy required in contract

4.1.18. PURCHASER

The Guam Power Authority with whom CONTRACTOR has entered into the Contract Agreement.

4.1.19. Contract Agreement(Agreement)

The written agreement between GPA and CONTRACTOR covering the furnishing of the Goods, Special Services, and other services in connection therewith evidencing what is contemplated and agreed to between the parties including any other Contract Documents either attached to the Agreement or made a part thereof by reference therein.

4.1.20. Contract Documents

The Contract Agreement, Bonds (where required), these General Conditions, any Supplementary Conditions, the Specifications, the Drawings and any other documents specifically identified in the Contract Agreement, together with all Modifications issued after execution of the Contract Agreement.

4.1.21. Procurement Officer

The General Manager of the Guam Power Authority or the General Manager's designee.

4.1.22. CONTRACTOR

The Bidder with whom GPA has entered into the Contract Agreement.

4.1.23. SITE or Site

The SITE is the area where the Project is to be constructed or executed.

4.1.24. Territory

The Territory of Guam.

4.1.25. Engineer of Record

Wherever the words "Engineer of Record" appear in the CONTRACT Documents, it shall mean CONTRACTOR's Professional Engineer who designed and approved the drawings, specifications, reports and other documents for the project.

4.2. Agreement

Prior to entering into a formal agreement, GPA and CONTRACTOR shall resolve and document any differences between the CONTRACTOR's bid and the IFB documents. The Agreement between GPA and CONTRACTOR shall consist of the IFB documents, as resolved by the CONTRACTOR's final negotiated Bid and by GPA amendments, and the CONTRACTOR's bid, as adjusted by a prioritized list of documents generated during the evaluation and negotiation processes and agreed to and acknowledged in writing by both parties. These documents may consist of, but are not limited to, written answers to questions, letters, and written clarifications to the bid.

Any formal contract document shall reference GPA IFB documents and the CONTRACTOR's bid. No oral understanding or statement shall modify the Agreement. Changes to the above documents can only be made in accordance with the procedure for modifications as defined in **Section 4.14 Changes.**

The resolved IFB documents shall take priority over and shall govern in all cases of conflict with the adjusted bid. The CONTRACTOR's contractual obligation shall be to fulfill all requirements of the IFB documents, as resolved, and to provide all features of the CONTRACTOR's bid, as adjusted.

The IFB documents are intended to be complementary, what is called for by one shall be as binding as if called for by all. If not otherwise specified in the IFB documents, these General Conditions shall apply. If, during performance of the Agreement CONTRACTOR detects a discrepancy in the IFB documents, CONTRACTOR shall so report to ENGINEER in writing at once and shall obtain a written interpretation or clarification from ENGINEER before proceeding further; however, CONTRACTOR shall not be liable to GPA for failure to report any conflict, error, or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

All materials, equipment, and services that may reasonably be inferred from the IFB documents, as being required to produce the intended result will be supplied whether or not specifically called for. When words that have a well-known technical or trade meaning are used to describe materials, equipment, or services, such words will be interpreted in accordance with such meaning. Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the code of any Governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, or code in effect on the effective date of the Agreement except as may be otherwise specifically stated in the Specification or Agreement. ENGINEER as provided in Section 4.1.11 ENGINEER's Instructions shall issue clarifications and interpretations of the IFB documents.

4.3. Indemnity

CONTRACTOR shall indemnify and hold GPA and ENGINEER harmless from any claim, liability or product liability, loss, damage, demand, cause of action or suit, expense, or fee of legal counsel arising out of or in connection with the Goods or Special Services provided by the CONTRACTOR.

4.4. Shipment, Delivery, and Acceptance of Goods

Shipment and delivery of the Goods shall be in accordance with this Paragraph except as otherwise provided or specified in the CONTRACT Documents.

All goods will be delivered at the point of delivery set forth in the Purchase Contract. CONTRACTOR shall select the means and methods of transportation. All charges necessary to effect shipment to the point of delivery, including but not limited to export packing, switching, trucking, lighter age, and special handling will be paid by CONTRACTOR.

GPA and/or ENGINEER reserve the right to inspect the Goods upon delivery for the purpose of identifying the Goods and general verification of quantities.

Unless the Contract Agreement specifies otherwise, the CONTRACTOR represents that the Goods and components are new. If the CONTRACTOR believes that furnishing used or reconditioned Goods or components will be in GPA's interest, the CONTRACTOR shall so notify GPA in writing. The CONTRACTOR's notice shall include the reasons for the request along with a proposal for any consideration to GPA if GPA authorizes the use of used or reconditioned Goods or components.

All materials shall conform to federal and local codes and standards applicable to this type of work i.e. NEMA, ANSI, IEEE, ASTM etc. All necessary items and accessories not specified herein, but which are required to fully carryout the specified intent of the work, shall be furnished by the CONTRACTOR at no cost to the owner.

4.5. Accounting

For accounting purposes and for use in establishing property records, GPA may require CONTRACTOR to provide a reasonable price breakdown of the total price into separate prices applying to the individual items supplied under the Agreement.

Where the Agreement covers the reimbursement of the traveling or living expenses of the CONTRACTOR's employees or agents, the CONTRACTOR agrees to furnish complete itemization and breakdowns of such expenses when requested by GPA.

In the event of any changes to or termination of the Agreement, or the furnishing of goods or services on a labor hour or a cost reimbursable basis, CONTRACTOR shall supply information in such detail as may be reasonably required by GPA to support all applicable charges. GPA, or an independent auditor designated by GPA, shall have the right to audit, during normal working hours, CONTRACTOR's accounts and records relating to such charges. The expense of such audit will be borne by GPA.

4.6. Waiver of Claims

The making and acceptance of final payment will constitute:

A waiver of all claims by GPA against CONTRACTOR, except claims arising from unsettled liens, claims relative to defective Goods appearing after final payment, or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; nor will final payment constitute a waiver by GPA of any rights in respect of CONTRACTOR's continuing obligations 'under the Procurement Documents; and

A waiver of all claims by CONTRACTOR against GPA other than those previously made in writing and still unsettled.

4.7. Supervision and Coordination by CONTRACTOR

CONTRACTOR shall competently and efficiently manage, supervise, and direct production of the Goods and furnishing of Special Services and coordinate all operations required to deliver the Goods and furnish any required Special Services.

CONTRACTOR shall designate, in writing to GPA, a person with authority to act on behalf of CONTRACTOR with respect to CONTRACTOR's obligations under the CONTRACT Documents, and all communications given to or received from that person will be binding on CONTRACTOR.

CONTRACTOR shall perform all such activities as an independent contractor and not as an agent of GPA. When others furnish materials and equipment for assembly by the CONTRACTOR, CONTRACTOR shall receive, unload, store, and handle it and become responsible therefore as though CONTRACTOR was furnishing such materials and/or equipment under the Agreement.

4.8. Substitutions

If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof certifying that the proposed substitute will perform adequately the function as called for by the general design, be similar and of equal substance to that specified, and be suited to the same use and capable of performing the same function as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice the CONTRACTOR's warranty or timely delivery of the Goods, whether or not acceptance of the substitute will require a change in any of the Contract Documents to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the production of the Goods is subject to payment of any license fee or royalty.

All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair, and replacement service will be indicated. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR's expense such additional data about the proposed substitute as is required by ENGINEER. GPA may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.

4.9. Documentation and Drawings

The Agreement will not be deemed satisfactorily completed until all requirements have been complied with including, but not limited to, proper material documentation, final drawings and reproductions, and other requirements stated in the Contract Documents. GPA may withhold final payment hereunder, pending completion of all such requirements by the CONTRACTOR.

At the time of each submission, CONTRACTOR shall in writing call ENGINEER's attention to any deviations that the drawings or documents may have from the requirements of the Specification or Contract Documents. CONTRACTOR shall also direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals. CONTRACTOR's submission of any drawing or document bearing CONTRACTOR's approval shall constitute a representation to GPA and ENGINEER that CONTRACTOR assumes full responsibility for having determined and verified the design criteria, quantities, dimensions, installation requirements, materials, catalog numbers, and similar data and that CONTRACTOR has reviewed or coordinated each drawing or document with the requirements of the Contract Documents.

ENGINEER's review and approval of CONTRACTOR's drawings or documents will be only for conformance with the design concept of the Goods and for compliance with the information given in the Contract Documents. Such review and approval will not extend to design data reflected in drawings or documents that is peculiarly within the special expertise of CONTRACTOR or any party dealing directly with CONTRACTOR. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER when drawings or documents are marked "Approved As Revised" and shall return the required number of corrected copies.

GPA and/or ENGINEER shall have the right to reproduce any and all drawing, prints, or other data or documents received from CONTRACTOR that are considered necessary for engineering, construction, or

other purposes, despite any notice to the contrary appearing on the item. When a drawing or document approval is required by the Specifications, CONTRACTOR shall not commence production of any part of the Goods affected thereby until such drawing or document has been reviewed and approved by ENGINEER.

ENGINEER's review and approval of CONTRACTOR's drawings or documents will not relieve CONTRACTOR from responsibility for any deviations from the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to such deviation at the time of submission and ENGINEER has given written concurrence and approval to the specific deviation, nor will any concurrence or approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the drawings or documents submitted.

The Contractor shall submit for the approval of the Contracting Officer, shop and setting drawings and schedules required by the specifications or that may be requested by the Contracting Officer and no work shall be fabricated by the Contractor, save at his own risk, until such approval has been given. The drawings submitted shall be marked with the name of the project, numbered consecutively and bear the stamp of approval of the Contractor as evidence that the drawings have been checked by the Contractor. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for re-submission. If the shop drawings show variations from the requirements of the contract because of standard shop practice or other reasons, the Contractor shall make specific mention of such variation in his letter of transmittal so that if any variations are acceptable, suitable action may be taken for proper adjustment; otherwise, the Contractor will not be relieved of the responsibility for executing the work in accordance with the contract even though such shop drawings have been approved. If a drawing as submitted indicates a departure from the contract requirements which the Contracting Officer finds to be in the interest of the Owner and to be so minor as not to involve a change in the contract price or time for performance, he may approve the drawing.

4.10. Continuing Performance

CONTRACTOR shall continue its performance under the Agreement during all claims, disputes, or disagreements with GPA. Production of Goods will not be delayed or the timely delivery of Goods or furnishing of Special Services be prejudiced, delayed, or postponed pending resolution of any claims, disputes, or disagreements, except as CONTRACTOR and GPA may otherwise agree in writing.

4.11. Expediting

CONTRACTOR shall expedite delivery of the Goods and any related work of subcontractors. When requested or required by the Contract Documents, CONTRACTOR shall also provide GPA with an itemized schedule for engineering, outsourcing, fabrication, and shipping, which shall be followed by expediting reports including status of deliveries of materials and/or equipment purchased from subcontractors, if any, each month during its performance under the Agreement. If CONTRACTOR encounters delay in obtaining materials, or foresees any delay in its own manufacturing works, CONTRACTOR shall immediately inform GPA of such situation.

GPA and/or its designee shall be allowed reasonable access to CONTRACTOR's and its subcontractor's works for the purpose of expediting project progress. Any expediting done by GPA shall not relieve CONTRACTOR from its obligations as to the Delivery Time specified in the Agreement.

4.12. Compliance with Law

CONTRACTOR shall comply, and secure compliance by its subcontractors, with all applicable laws or regulations in connection with the Goods and services furnished hereunder. This includes the securing of any business or other licensing, certifications, or permits required.

If CONTRACTOR discovers any variance between the provisions of applicable laws and regulations and the drawings, Specifications, and other technical data furnished by the GPA, CONTRACTOR shall promptly notify GPA in writing thereof and obtain necessary changes from GPA before proceeding with the work affected thereby.

4.13. Price Adjustment

4.13.1. Price Adjustment Methods

Any adjustment in contract price within the parameters of this contract shall be made in one or more of the following ways:

- a) By agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
- b) By unit prices specified in the contract or subsequently agreed upon;
- c) By the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as specified in the contract or subsequently agreed upon;
- d) In such other manner as the parties may mutually agree; or

- e) In the absence of agreement between the parties, by a unilateral determination by the Procurement Officer of the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the Procurement

4.13.2. Submission of Cost or Pricing Data

The CONTRACTOR shall provide cost or pricing data for any price adjustments subject to the provisions of §3118 (Cost or Pricing Data) of the Guam Procurement Regulations in Appendix M.

4.14. Changes

4.14.1. Change Order

By a written order, at any time, and without notice to surety, the Procurement Officer may, subject to all appropriate adjustments, make changes within the general scope of this contract in any one or more of the following:

- a) Drawings, designs, or Specifications, if the supplies to be furnished are to be specially manufactured for the Territory in accordance therewith;
- b) Method of shipment or packing; or
- c) Place of delivery.

4.14.2. Time Period for Claim

Within 30 days after receipt of a written change order under Paragraph 5.14.1 Change Order, unless the Procurement Officer extends such period in writing or e-mail, The CONTRACTOR shall file notice of intent to assert a claim for an adjustment. Later notification shall not bar the CONTRACTOR's claim unless the Territory is prejudiced by the delay in notification.

4.14.3. Claims Barred After Final Payment

No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if notice is not given prior to final payment under this contract.

4.14.4. Other Claims Not Barred

In the absence of such a change order, nothing in this clause shall be deemed to restrict the CONTRACTOR's right to pursue a claim arising under the contract if pursued in accordance with the clause entitled, "Claims Based on the General Officer's Actions or Omissions, - Notice of Claim", or for breach of contract.

4.15. Contract Price

The Contract Price constitutes the total consideration to be paid by GPA to the CONTRACTOR for the complete delivery of the Goods, Special Services, and for performing other services in connection therewith in accordance with the Contract Documents as amended by the parties pursuant to the Agreement. Unless expressly provided otherwise in the Contract Documents, the Contract Price is not subject to escalation in respect of materials and/or labor cost or any other factor or variation in rates of exchange, and all duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR shall be at its expense without change in the Contract Price. Charges, fees, CONTRACTOR's profit, and all other expense shall be deemed to be included in the Contract Price.

4.16. Payment Milestones and Schedule

Payment milestones have been selected to clearly identify the actual status of the portion of the Work completed rather than anticipated project progress schedules. Payments will be based on actual completion of each milestone event, where applicable, and not on the scheduled completion date. When a change in the Agreement is approved, the total contract price will be altered to the new total, and the remaining milestone payments will be adjusted.

Milestones shall not be scheduled more frequently than once every month. GPA will not approve a milestone payment until all preceding milestones have been approved. GPA will make payments within thirty days from receipt and approval of the invoice for the completed milestone.

The payment milestones for monies due to the CONTRACTOR from GPA are as follows:

- Monthly invoice for Energy delivered at the contract price

The payment milestones for monies due to GPA from the CONTRACTOR are as follows:

- Penalty Payments due to liquidated damages from CONTRACTOR's failure to meet its original Commission Date.
- Penalty Payments due to CONTRACTOR's failure to meet its Guaranteed Minimum Annual Energy Production.

4.17. Force Majeure

Force Majeure referred to herein shall mean an occurrence beyond the control and without the fault or negligence of the party affected including, but not limited to, acts of God or the public enemy, expropriation or confiscation; changes in law procedures, war, rebellion, or riots; floods, unusually severe weather that could not reasonably have been anticipated; fires, explosions, epidemics, catastrophes, or other similar occurrences which are not within the control of the party affected. However, the following shall not be considered as Force Majeure:

- a) Delay caused by lack or inability to obtain raw materials, congestion at CONTRACTOR's or its subcontractor's facilities, or elsewhere; market shortages, or similar occurrences, or
- b) Delay, either on the part of the CONTRACTOR or its subcontractors, caused by shortages of supervisors or labor, inefficiency, or similar occurrences, or
- c) Sabotage, strikes, or any other concerted acts of workmen, which occur only in the facilities of the CONTRACTOR or its subcontractors.

Should the circumstances of Force Majeure continue over a period of ninety (90) days, GPA has the right, if no other understanding is reached, to terminate the whole Agreement or any part thereof in accordance with Paragraph 4.21. Any delay or failure in performing the obligations under the Contract Documents of the parties hereto shall not constitute default under the Purchase Contract or give rise to any claim for damages or loss or anticipated profits if, and to the extent, such delay or failure is caused by Force Majeure, and if a claim is made therefore.

4.17.1. Invocation of Force Majeure

The party invoking Force Majeure shall perform the following:

- a) Notify the other party as soon as reasonably possible by facsimile, e-mail, telex, cable or Messenger/courier of the nature of Force Majeure, anticipated exposure time under Force Majeure, and the extent to which the Force Majeure suspends the affected party's obligations under the CONTRACT;
- b) Consult with the other party and take all reasonable, prudent steps to minimize the losses of either party resulting from the Force Majeure;
- c) Resume the performance of its obligations as soon as possible after the Force Majeure condition ceases.

4.17.2. Delivery Time and Force Majeure

Only a Change Order may change contractual Delivery Times. The CONTRACTOR as provided in Paragraph 5.14 Changes and its sub-paragraphs shall file all claims for an extension in the Delivery Time.

The Delivery Time will be extended in an amount equal to time lost due to delays caused by Force Majeure if a claim is made therefore as provided in this Paragraph. No amendment to the Contract Price, however, shall be allowable because of Force Majeure occurrences.

Notwithstanding the foregoing, all time limits stated in the Purchase Order documents are of the essence in the agreement. The provisions of this Paragraph shall not exclude recovery for damages (including compensation for additional professional services) for delays not caused by Force Majeure.

4.18. Warranty

The CONTRACTOR'S obligation to furnish the Goods and Special Services and to perform other services in connection therewith in accordance with the Agreement is absolute, and the CONTRACTOR warrants and guarantees to GPA that all Goods will be in accordance with the Contract Documents and will be new, fit for the purpose for which they are intended, and free from any defects, including faulty design, materials, or workmanship.

The CONTRACTOR shall provide GPA with all warranties and guarantees in writing. GPA and the Bidder shall negotiate the manner in which claims against these warranties are addressed including any remedies for non-responsiveness. This may include retention of contract amounts, performance bonds, etc.

The CONTRACTOR shall be responsible for remedying all defects, without limitation, in design, materials, workmanship, operating characteristics, or performance of the Goods developing within twelve (12) months from the date on which GPA has placed the Goods in continuous service, or within twenty- four (24) months from the date of final payment, whichever date shall first occur, or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee or by any specific provisions of the Contract Documents.

Any part(s) supplied in replacement of the defective part(s) of the Goods or any Goods repaired pursuant to the provisions of this Paragraph shall be supplied or repaired on the same terms and conditions as provided for herein for the supply of the Goods and in particular a new warranty period shall apply. Such new warranty

period shall expire on the date twelve (12) months from the date of such replacement or repair or on the expiration date of the warranty for the original Goods that were replaced or repaired, whichever is later.

If within any warranty period, repairs or changes are required in connection with guaranteed work which, in the opinion of GPA, is rendered necessary as the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the contract, the CONTRACTOR shall promptly upon receipt of notice from GPA and without expense to GPA:

- a) Place in satisfactory condition in every particular all of such guaranteed work and correct all defects therein; and
- b) Make good all damages to the building or site or equipment or contents thereof which, in the opinion of GPA, are the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the contract.

In any case wherein fulfilling the requirements of the contract or of any guarantee embraced in or required thereby the CONTRACTOR disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to GPA and guarantee such restored work to the same extent as it was guaranteed under such other contract.

If the CONTRACTOR, after notice, fails to proceed promptly to comply with the terms of the guarantee, GPA may have the defects corrected and the CONTRACTOR and his surety shall be liable for all expense incurred.

All special guarantees applicable to definite parts of the work shall be stipulated in the specifications or other papers forming a part of the contract and shall be subject to the terms of this paragraph during the first year of the life of such special guarantee.

In the event the CONTRACTOR furnishes special services for installation and startup, such services shall be rendered in a competent and diligent manner and in accordance with the Contract Documents, accepted industry practice and any applicable professional standards.

4.19. Tests and Inspections

GPA or its designee shall have the right to inspect or observe the production, inspection, or testing of the Goods at any time and place including the CONTRACTOR's facilities and those of its subcontractors where the Goods are being produced.

Authorized GPA representatives shall have access at all times to the work for inspection whatever it is in preparation or progress and the CONTRACTOR shall provide proper facilities for such access and inspection.

Inspectors may be placed by GPA to supervise each and every subdivision of the work or any parts or process thereof. The authorized inspectors shall have free access to all parts of the work at all times and shall be given every facility, information and means of thoroughly inspecting the work done and the materials used or to be used. The inspectors shall at all times be free to perform their duties and any intimidation of any inspector by the CONTRACTOR or the employees thereof shall be sufficient reason, if GPA shall so decide, to annul the contract.

The CONTRACTOR shall conduct, at its responsibility and expense, all tests and inspections called for by the Contract Documents. In the event that witness inspection by GPA is required under the Contract Documents, the costs and expense arising therefrom shall be borne by the CONTRACTOR, including inspector's fees, transportation, hotel, and general flying expenses. In the event that CONTRACTOR's inspection is required at the site, CONTRACTOR's transportation, hotel, and general living expenses shall be borne by The CONTRACTOR.

Any inspection made by the inspector of GPA and/or its designee will be final. Such inspections or the witnessing of CONTRACTOR's test and inspection by GPA and/or its designee shall not relieve The CONTRACTOR of any of its responsibilities or liabilities under the Contract Documents, nor be interpreted in any way as implying acceptance of the Goods.

In the event of a dispute, an independent inspector shall be appointed, mutually acceptable to both parties, whose decision as to the quality and/or necessity of the work shall be final and binding on both parties. The independent inspector(s)' fees and charges shall be shared equally by both parties. Payments of any and all invoices of any major repairs or replacements shall be made based on mutually acceptable terms pre-approved by the CONTRACTOR and GPA.

The CONTRACTOR shall repair and replace, without cost or delay, anything found defective by tests and inspections, and also to bear all costs of re-inspection.

If the CONTRACTOR fails to proceed at once with the replacement of rejected materials and/or the correction of defective workmanship, the OWNER may, by contract or otherwise, replace such materials and/or correct such workmanship and charge the cost to the CONTRACTOR, or may terminate the right of the CONTRACTOR to proceed. The CONTRACTOR and surety shall be liable for any damage to the same extent for termination thereunder.

The CONTRACTOR must carry out at its authority and expense any inspection required by statutory Authority, governmental regulation, or other similar Authority on the codes or standards.

The CONTRACTOR shall furnish promptly, without additional charge, all reasonable facilities, labor and materials necessary for the safe and convenient inspection and tests that may be required by the Contracting Officer. All inspections and tests shall be performed in such manner as not to unnecessarily delay the work. Special, full-size and performance tests shall be as described in the specifications. The CONTRACTOR shall be charged with any cost of inspection when material and workmanship are not ready at the time inspection is requested by the CONTRACTOR.

Should it be considered necessary or advisable by the Contracting Officer at any time before final acceptance of the entire work to make an examination of work already completed by removing or tearing out same, the CONTRACTOR shall on request promptly furnish all necessary facilities, labor and materials. If such work is found to be defective in any material respect due to the fault of the CONTRACTOR or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements involved in the examination and replacement, the cost of conducting the test plus fifteen percent (15%) shall be allowed the CONTRACTOR and he shall in addition, if completion of the work has been delayed thereby, be granted a suitable extension of time on account of the additional work involved.

Additional inspection requirements are further described in **Section 4.56 Quality Control**

4.20. Stop Work Order

4.20.1. Order to Stop Work

The Procurement Officer may, by written order to the CONTRACTOR, at any time, and without notice to any surety, require the CONTRACTOR to stop all or any part of the work called for by this contract. This

order shall be for a specified period not exceeding ninety-days (90-days) after the order is delivered to the CONTRACTOR, unless the parties agree to any further period. Any such order shall be identified specifically as a stop work order issued pursuant to this clause. Upon receipt of such an order, the CONTRACTOR shall forthwith comply with its terms and take all reasonable steps to minimize the occurrence of costs allocable to the work covered by the order during the period of work stoppage. Before the stop work order expires, or within any further period to which the parties shall have agreed, the Procurement Officer shall either:

- a) Cancel the stop work order; or
- b) Terminate the work covered by such order, as provided in the 'Termination for Default Clause' or the 'Termination for Convenience Clause' of this contract.

4.20.2. Cancellation or Expiration of the Order

If a stop work order issued under this clause is canceled at any time during the period specified in the order, or if the period of the order or any extension thereof expires, the CONTRACTOR shall have the right to resume work. An appropriate adjustment shall be made in the delivery schedule or contract price shall be modified in writing accordingly, if:

- a) The stop work order results in an increase in the time required for, or in the CONTRACTOR's cost properly allocable to, the performance of any part of this contract; and
- b) The CONTRACTOR asserts a claim for such an adjustment within thirty (30) days after the end of the period of work stoppage; provided that, if the Procurement Officer decides that the facts justify such action, any such claim asserted may be received and acted upon at any time prior to final payment under this contract.

4.20.3. Termination of Stopped Work

If a stop work order is not canceled and the work covered by such order is terminated for default or Convenience, the reasonable costs resulting from the stop work order shall be allowed by adjustment or otherwise.

4.21. Termination for Convenience

4.21.1. Termination

The Procurement Officer may, when the interest of GPA or the Territory so require, terminate this contract in whole or in part, for the Convenience of the Territory. The Procurement Officer shall give written notice

of the termination to the CONTRACTOR specifying the part of the contract terminated and when termination becomes effective. [2GAR-Administration; Div. 4 – Procurement Regulations §6101 (10)] Please see APPENDIX M for a copy of 2GAR – Administration; Div. 4 – Procurement Regulations §6101 (10).

4.21.2. CONTRACTOR's Obligations

The CONTRACTOR shall incur no further obligations in connection with the terminated work and on the date set in the notice of termination the CONTRACTOR will stop work to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated work. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated work. The Procurement Officer may direct the CONTRACTOR to assign the CONTRACTOR's right, title, and interest under terminated orders or subcontracts to the GPA. The CONTRACTOR must still complete the work not terminated by the notice of termination and may incur obligations as are necessary to do so.

4.21.3. Right to Supplies

The Procurement Officer may require the CONTRACTOR to transfer title and deliver to GPA in the manner and to the extent directed by the Procurement Officer:

- a) Training material;
- b) Any completed supplies; and,
- c) Such partially completed supplies and materials, parts, tools, dies, jigs, fixtures, plans, drawings, information and contract rights (hereinafter called "manufacturing material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this contract.

The CONTRACTOR shall, upon direction of the Procurement Officer, protect and preserve property in the possession of the CONTRACTOR in which the Territory has an interest. If the Procurement Officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such supplies and manufacturing materials in accordance with the standards of Uniform Commercial Code of Guam (UCCG), Section 2706. Utilization of this Section in no way implies that the Territory has breached the contract by exercise of the Termination for Convenience Clause.

Title to any of the hardware, firmware, and software, management practices, training and other documents and/or processes required by GPA to continue the improved management, operations and maintenance of the

project will pass to GPA upon placement of the equipment within GPA's premises prior to commencement of its installation, subject to GPA's inspection thereof. The CONTRACTOR shall retain title and be responsible for movement of the equipment from the delivery carrier onto the premises and the subsequent unpacking of the equipment. If, for any reason, the Work is terminated prior to its completion, the title to all the Work performed to that time including all hardware, firmware, software, management practices, training and other documents and/or processes required by GPA to continue the improved management, operations and maintenance of the project, whether in the CONTRACTOR's facility, in transit, or on GPA's premises, shall immediately pass to GPA.

4.21.4. Compensation Under Termination for Convenience

The CONTRACTOR shall perform the following for compensation under termination for convenience.

- a) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for Convenience together with cost or pricing data to the extent required by §3118 (Cost or Pricing Data) of the Guam Procurement Regulations bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Procurement Officer may pay the CONTRACTOR, if at all, an amount set in accordance with subparagraph (c) of this Paragraph. Please see APPENDIX M for a copy of §3118 (Cost or Pricing Data) of the Guam Procurement Regulations.
- b) The Procurement Officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data to the extent required by Section 3-403 (Cost or Pricing Data) of the Guam Procurement Regulations and that the settlement does not exceed the total contract price plus settlement costs reduced by payments previously made by GPA, the proceeds of any sales of supplies and manufacturing materials, and the contract price of the work not terminated.
- c) Absent complete agreement under Subparagraph (b) of this Paragraph, the Procurement Officer shall pay the CONTRACTOR the following amounts, provided payments agreed to under Subparagraph (b) shall not duplicate payments under this subparagraph:
 - i. Contract prices for supplies or services accepted under the contract;
 - ii. Costs incurred in preparing to perform and performing the terminated portion of the work plus a fair and reasonable profit on such portion of the work (such profit shall not include anticipatory profit or consequential damages) less amounts paid or to be paid for accepted supplies or services; provided, however, that if it appears that the

CONTRACTOR would have sustained a loss if the entire contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

- iii. Costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph 5.21.2 Contractor's Obligations of this clause. These costs must not include costs paid in accordance with other subparagraphs of this Paragraph;
 - iv. The reasonable settlement costs of the CONTRACTOR including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the contract for the termination and settlement of subcontracts there under, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this contract. The total sum to be paid to the CONTRACTOR under this Subparagraph shall not exceed the total contract price plus the reasonable settlement costs of the CONTRACTOR reduced by the amount of payments otherwise made, the proceeds of any sales of supplies and manufacturing materials under subparagraph (b) of this Paragraph, and the contract price of work not terminated.
- d) Cost claimed, agreed to, or established under subparagraph (b) and (c) of this Paragraph shall be in accordance with Chapter 7 (Cost Principles) of the Guam Procurement Regulations. 13 GCA 2796 (UCCG) states:

2706. SELLER's Resale Including contract for Resale

- (1) Under the conditions stated in Section 2703 on CONTRACTOR's remedies, the CONTRACTOR may resell the goods concerned or the undelivered balance thereof. Where the resale is made in good faith and in a commercially reasonable manner the CONTRACTOR may recover the difference between the resale price and the contract price together with an incidental damage allowed under the provisions of this division (Section 2710), but less expenses saved in consequence of the buyer's breach.
- (2) Except as otherwise provided in Subsection (3) or unless otherwise agreed resale may be at public or private sale including sale by way of one or more contracts to sell or of identification to an existing contract of the CONTRACTOR. Sale may be as a unit or in parcels and at any time and place and on any terms, but every aspect of the sale including the method, manner, time, place and terms must be commercially reasonable. The resale must be reasonably

identified as referring to the broken contract, but it is not necessary that the goods be in existence or that any or all of them have been identified to the contract before the breach.

- (3) Where the resale is at private sale the CONTRACTOR must give the buyer [i.e., GPA] reasonable notification of his intention to resell.
- (4) Where the resale is at public sale:
 - (1) Only identified goods can be sold except where there is a recognized market for a public sale of futures in goods of the kind; and
 - (2) It must be made at a usual place or market for public sale if one is reasonably available and except in the case of goods which are perishable or threaten to decline in value speedily the CONTRACTOR must give the buyer [i.e., GPA] reasonable notice of the time and place of the resale; and,
 - (3) If the goods are not to be within the view of those attending the sale, the notification of sale must state the place where the goods are located and provide for their reasonable inspection by prospective Bidders; and
 - (4) The CONTRACTOR may buy.
- (5) A purchaser who buys in good faith at a resale takes the goods free of any rights of the original buyer [i.e., GPA] even though the CONTRACTOR fails to comply with one or more of this section's requirements.
- (6) The CONTRACTOR is not accountable to the buyer [i.e., GPA] for any profit made on any resale. A person in the position of a CONTRACTOR (Section 2707) or a buyer who has rightfully rejected or justifiably revoked acceptance must account for any excess over the amount of his security interest, as hereinafter defined (Subsection 3) of Section 2711."

4.22. Termination for Defaults

4.22.1. Default

If the CONTRACTOR refuses or fails to perform any of the provisions of this contract with such diligence as will ensure its completion within the time specified in this contract, or any extension thereof, otherwise fails to timely satisfy the contract provisions, or commits any other substantial breach of this contract, the Procurement Officer may notify the CONTRACTOR in writing of the delay or non- performance and if not corrected in ten days or any longer time specified in writing by the Procurement Officer, such officer may terminate the CONTRACTOR's right to proceed with the contract or such part of the contract as to which there has been delay or a failure to properly perform. In the event of termination in whole or in part the Procurement Officer may procure similar supplies or services in a manner and upon terms deemed

appropriate by the Procurement Officer. The CONTRACTOR shall continue performance of the contract to the extent it is not terminated and shall be liable for excess cost incurred on procuring similar goods or services.

4.22.2. CONTRACTOR's Duties

Notwithstanding termination of the contract and subject to any directions from the Procurement Officer, the CONTRACTOR shall take timely, reasonable, and necessary action to protect and preserve property in the possession of the CONTRACTOR in which GPA has an interest.

4.22.3. Compensation

Payment for completed supplies delivered and accepted by the GPA shall be at the contract price. Payment for the protection and preservation of property shall be in an amount agreed upon by the CONTRACTOR and the Procurement Officer; if the parties fail to agree, the Procurement Officer shall set an amount subject to the CONTRACTOR's rights under Chapter 9 (Legal and Contractual Remedies) of the Guam Procurement Regulations. The GPA may withhold from amounts due the CONTRACTOR such sums as the Procurement Officer deems to be necessary to protect the GPA against loss because of outstanding liens or claims of former lien holders and to reimburse the PURCHASER for the excess costs incurred in procuring similar goods and services.

4.22.4. Excuse for Nonperformance or Delayed Performance

Except with respect to defaults of subcontractors, the CONTRACTOR shall not be in default by reason of any failure in performance of this contract in accordance with its terms (including any failure by the CONTRACTOR to make progress in the prosecution of the work hereunder which endangers such performance) if the CONTRACTOR has notified the Procurement Officer within fifteen (15) days after the cause of the delay and the failure arises out of causes such as: acts of God; acts of the public enemy; act of the Territory and any other governmental entity in its sovereign restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. If the failure to perform is caused by the failure of a subcontractor to perform or to make progress, and if such failure arises out of causes similar to those set forth above, the CONTRACTOR shall not be deemed to be in default, unless the supplies or services to be furnished by the subcontractor were reasonably obtainable from other sources in sufficient time to permit the CONTRACTOR to meet the contract requirements. Upon request of the CONTRACTOR, the Procurement Officer shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to

perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the CONTRACTOR's progress and performance would have met the terms of the contract, the delivery schedule shall be revised accordingly, subject to the rights of the GPA under the clause entitled "Termination For Convenience", Paragraph 5.21. (As used in the Paragraph of this clause the term "subcontractor" means subcontractor at any tier.)

4.22.5. Erroneous Termination for Default

If, after notice of termination of the CONTRACTOR's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of Paragraph 5.22.4(Excuse for Nonperformance or Delayed Performance) of this clause, the rights and obligations of the parties shall, if the contract contains a clause providing for termination for Convenience of GPA, be the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this contract does not contain a clause providing for termination for Convenience of GPA, the contract shall be adjusted to compensate for such termination and the contract modified accordingly subject to the CONTRACTOR's rights under Chapter 9 (Legal and Contractual Remedies) of the Guam Procurement Regulations.

4.22.6. Additional Rights and Remedies

The rights and remedies provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

4.23. Disputes

All controversies between GPA and the CONTRACTOR, which arise under, or are by virtue of, this contract and which are not resolved by mutual agreement, shall be resolved under Guam Procurement Law and the Government Claims Act.

4.24. Consequential Damages

Unless expressly provided for otherwise in this Agreement, neither party, including their agents and employees, shall be liable to the other party for consequential damages, including, but not limited to, loss of use, loss of profit and interest due to breach of contract, breach of warranty, negligence, or any other cause whatsoever, provided nothing herein shall relieve CONTRACTOR from its liability for injury to persons or

property, including property of GPA, whether such liability arises in contract, including breach of warranty, or tort, including negligence.

4.25. Notices

Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

4.26. Computation of Time

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the time computation.

4.27. Language and Trade Terms

All communications, documents, and execution of services hereunder, unless otherwise designated, shall be in the English language. INCOTERMS (International Rules for the Interpretation of Trade Terms) published by the International Chamber of Commerce in 1980 and any subsequent revisions thereto shall govern interpretation of trade terms in the Contract Documents

4.28. Governing Law

The laws of Guam shall govern the validity and interpretation of these conditions, the Agreement and legal relations of the parties.

CONTRACTOR shall not transfer or assign without the prior written consent of GPA. The Draft Power Purchase Agreement in Volume III of this bid, Article Eleven, outlines requirements for assignment.

CONTRACTOR shall not sublet the Agreement in whole or in part without the prior written consent of GPA. Written consent of GPA for subletting shall not relieve CONTRACTOR of any of his obligations under the Agreement.

4.29. Non-waiver

GPA shall not consider any provisions of this Agreement waived unless GPA gives notice of such waiver in writing. Even if such notice has been given, such waiver shall not be construed as being a waiver of any other past or future right of GPA under the provisions of this Agreement, unless otherwise expressly stipulated therein. Failure of GPA to insist upon strict performance of any of the terms and conditions hereof, or failure or delay of GPA to insist upon strict performance of any of the terms and conditions hereof, or failure or delay of GPA to exercise any acts, rights, or remedies provided herein or by law shall not relieve CONTRACTOR of liability under any guarantees or of obligations under the Agreement and shall not be deemed a waiver of any right of GPA to insist upon strict fulfillment of the Agreement or of any of GPA's rights or remedies as to the Goods furnished.

4.30. Severability

If any work, phrase, clause, article, or other provision of this Agreement is or is deemed or adjudicated or otherwise found to be against public policy, void, or otherwise unenforceable, then said work, phrase, clause, article, or other provision shall be deleted or modified, in keeping with the express intent of the parties hereto as necessary to render all the remainder of this Agreement valid and enforceable. All such deletions or modifications shall be the minimum necessary to effect the foregoing.

4.31. Rights and Remedies

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, will be in addition to, and shall not be construed in any way as a limitation of any rights and remedies available to any or all of them which are otherwise imposed or available by law or contract, by special warranty or guarantee, or by other provisions of the Contract Documents, and the provisions of this paragraph shall be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply. All representations, warranties, and guarantees made in the Contract Documents will survive final payment and termination or completion of this Agreement.

4.31.1. Remediating Defective Parts

If at any time GPA determines that the replacement parts are defective, the CONTRACTOR shall, upon written notice from GPA, do all things necessary, at its expense, to make good the defects as soon as

possible after being notified to do so by GPA. The CONTRACTOR warrants that the CONTRACTOR, unless otherwise agreed, shall remedy any defects. It is understood, that if so instructed by GPA, the CONTRACTOR shall make shipment by the fastest available method.

In the event that the CONTRACTOR does not take prompt action to fulfill its obligations hereunder as required by GPA and to the satisfaction of GPA, GPA may, after ten (10) days written notice to the CONTRACTOR, and without prejudice to any of its rights under the Contract Agreement, accept the defective Goods and carry out the remedial work itself instead of requiring correction or removal and replacement, and charge the CONTRACTOR for the costs of the work. In an emergency where delay would cause serious risk of loss or damage, GPA may take such action without prior notice to or waiting for action by the CONTRACTOR.

4.31.2. Remedying Defective Special Services

If at any time GPA notifies the CONTRACTOR in writing that any of the Special Services are defective, the CONTRACTOR shall promptly provide acceptable services. If the CONTRACTOR fails to do so, GPA may obtain the Special Services elsewhere.

4.31.3. Cost of Remedying Defects

All direct, indirect, and other costs of correcting, removing, and replacing defective Parts or of obtaining Special Services elsewhere and of exercising GPA's rights and remedies under Paragraph 4.39, and other sections as they apply, will be charged against the CONTRACTOR and, if incurred prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Purchase Price, or if incurred after final payment, an appropriate amount will be paid by the CONTRACTOR to GPA. Such direct, indirect, and other costs will include, in particular but without limitation, compensation for additional professional services required and all costs of repair and replacement of property of GPA or others destroyed or damaged by correction, removal, or replacement of defective Goods. The CONTRACTOR shall not be allowed an extension of the Delivery Time because of any delay in performance attributable to the exercise by GPA of GPA's rights and remedies under this Paragraph.

4.32. Claims based on the General Manager's Action or Omissions

If any action or omission on the part of the General Manager, or his/her designee, requiring performance changes within the scope of the contract constitutes the basis for a claim by the CONTRACTOR for additional compensation, damages, or an extension of time for completion, the CONTRACTOR shall continue with performance of the contract in compliance with the directions or orders of such officials, but by so doing, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

- (1) The CONTRACTOR shall have given written notice to the General Manager, or his/her designee:
 - i. Prior to the commencement of the work involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;
 - ii. Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the work; or
 - iii. Within such further time as may be allowed by the Procurement Officer in writing. This notice shall state that the CONTRACTOR regards the act or omission as a reason that may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Procurement Officer or designee of such officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Procurement Officer or designee of such officer.
- (2) The notice required by subparagraph (1) of this Paragraph describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and
- (3) The CONTRACTOR maintains and, upon request, makes available to the Procurement Officer within a reasonable time, detailed records to the extent practicable, of the claimed additional costs or basis for an extension of time in connection with such changes.

4.32.1. Limitations of Clause

Nothing herein contained shall excuse the CONTRACTOR from compliance with any rules of law precluding GPA and its officers and any CONTRACTORS from acting in collusion or bad faith in issuing or performing change orders that are clearly not within the scope of the contract.

4.33. Standard Work Schedule

Work scheduled and performed by the CONTRACTOR on GPA's premises shall conform to published GPA working hours and shall account for GPA's observed holidays.

4.34. Interference with Operation

Interference with normal operation of GPA's facilities or equipment, or that of any CONTRACTORs or subcontractors on GPA's premises, shall be avoided. The GPA's representative will determine in advance whether such interference is unavoidable and will establish the necessary procedures under which the interferences will be allowed.

4.35. Release of Information

The CONTRACTOR shall not release any information, including the contract price concerning this project or any part thereof in any form, including advertising, news releases, or professional articles, without written permission of GPA.

4.36. Liens

In the event that a lien of any nature shall at any time be filed against the hardware, firmware, or software or the CONTRACTOR's facility by any person, firm, or corporation which has supplied material or services at the request of the CONTRACTOR, and for the cost of which the CONTRACTOR is liable under the terms of the Agreement, the CONTRACTOR agrees, promptly on demand of GPA and at the CONTRACTOR's expense, to take any and all action necessary to cause any such lien to be released or discharged therefrom. The CONTRACTOR agrees to hold GPA harmless from all liens, claims, or demands in connection with the Work.

4.37. Insurance

Contractor shall not commence work under this contract until he has obtained all insurance required under this section and GPA has approved such insurance, nor shall the Contractor allow any Subcontractor to commence work on this subcontract until all similar insurance required of the Subcontractor has been so obtained and approved. He shall maintain all insurance required during the course of the work.

4.38. Contractors and Subcontractors Insurance

Prior to commencing the work, which includes construction and operation activities, contractor shall obtain and thereafter maintain during the course of the work Insurance with companies acceptable to GPA. The contractor shall not allow any subcontractor to commence work on his subcontract until all similar insurance required of the subcontractor has been so obtained and approved. The limits of insurance shall be as follows unless a higher limit is required by statute:

1. General Liability including products, completed operations and contractual coverage for this Agreement in the amount of \$1,000,000 combined limit. Owner shall be an additional insured. Grant Waiver of Subrogation in favor of GPA.
2. Auto Liability covering bodily injury and property damage in the amount of \$1,000,000 combined single limit. Owner shall be an additional insured. Grant Waiver of Subrogation in favor of GPA.
3. Excess Liability with limits of \$5,000,000 or higher. Owner shall be an additional insured. Grant Waiver of Subrogation in favor of GPA.
4. Worker's Compensation and Employer's Liability – Statutory limits. Add Waiver of Subrogation endorsement in favor of GPA
5. Builder's Risk or Installation Floater, when applicable, is to be furnished by Contractor.
6. Pollution Liability, when applicable, with limits of \$5,000,000. GPA is to be an additional insured. Grant Waiver of Subrogation in favor of GPA.
7. Property insurance with replacement cost limits for the premises, property, improvements, structures, and machinery and equipment on the Premises
8. Business Income and Extra Expense with a \$3,000,000 limit or whatever is deemed appropriate by GPA upon award.

At all times after achieving COD, Seller may discontinue or otherwise cancel each of the aforementioned policies, except the following insurance policies, which shall be maintained with the limits set forth below:

1. General Liability with limits of \$1,000,000.00 including products, completed operations, and contractual for this Agreement. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
2. Excess Liability with limits of \$5,000,000.00. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
3. Worker's Compensation and Employer's Liability – Statutory limits. Add Waiver of Subrogation endorsement in favor of GPA

4.38.1. Indemnification

The Contractor shall indemnify, defend and hold harmless GPA against all loss, damage, or expense (including reasonable attorney's fees incurred by GPA) arising out of the performance of the work, including injury or death to any person or persons resulting from the acts or omission of the Contractor or the Contractor's employees, servants, agents or subcontractors and from mechanics and materialism liens.

4.38.2. Certificate of Insurance

Contractor shall furnish certificates of insurance and waiver of subrogation endorsement to GPA prior to commencement of work showing evidence of such coverage, including the statement to the effect that cancellation or termination of the insurance shall not be effective until at least (30) days after receipt of written notice to GPA. At all times Contractor's insurance shall be primary to any other insurance that may be carried by GPA. The statement of limits of insurance coverage shall be construed as in any way limiting the Contractor's liability under this agreement. GPA shall be an additional insured on all liability coverage and certificates of insurance shall clearly indicate such.

4.38.3. Insurance Company and Agent

All insurance policies herein required of the Contractor shall be written by a company duly authorized and licensed to do business in the State or Territory where work under this contract is being performed and be executed by some agent thereof duly licensed as an agent in said State or Territory.

4.38.4. Waiver of Subrogation

Contractor hereby releases GPA and their respective officers, employees, and agents from all loss or damage to the Premises and to the fixtures, personal property, equipment and improvements of Contractor in or on the Premises, notwithstanding that any such loss or damage may be due to or result from the negligence of GPA or their respective officers, employees or agents.

4.39. CONTRACTOR Use of Site and Removal of Debris

The CONTRACTOR expressly agrees to undertake the following at his own expense:

- a) To confine all operations to within the vicinity of the site limits and arrange work so that all materials and equipment are placed in such manner and location that there may be a minimum of

interference or inconvenience inflicted upon other contractors, employees, equipment of GPA and the public

- b) To take every precaution against injuries to persons or damages to property
- c) To comply with the regulations governing the operation of premises which are occupied and to perform his contract in such a manner as not to interrupt or interfere with the operation of other facilities
- d) To perform any work necessary to be performed after regular working hours or on Saturdays, Sundays or legal holidays without additional expense to GPA
- e) To store his apparatus, materials, supplies, and equipment in such orderly fashion at the site of the work as will not unduly interfere with the progress of his work or the work of any other contractors
- f) To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work
- g) To frequently clean up all refuse, rubbish, scrap materials, and debris caused by his operation so that at all times the site of the work shall present a neat, orderly and workmanlike appearance
- h) To affect all cutting, fitting, or patching of his work required to make the same conform to the plans and specifications, and except with the consent of GPA, not to cut or otherwise alter the work of any contractor
- i) Before final payment to remove all surplus materials, false work, temporary structures, including foundations thereof, plant of any description and debris of every nature resulting from his operations, to put the site in a neat, orderly condition and to thoroughly clean and leave reasonably dust free all finished surfaces

4.40. Restoration of Property

Any property damages to private and public properties, buildings, equipment, or utilities during the course of the work shall be restored to its original condition at no expense to GPA.

4.41. Barricades

The CONTRACTOR shall erect, install and maintain all temporary public walks, warning signs, barricades or other protective means in and around the site as deemed necessary or as may be ordered by the Contracting Officer for the effective protection of the public from injury and shall be held strictly liable for their safety.

4.42. Time Restrictions for Performing Work

No work shall be carried out on site outside of the specified working hours or on Saturdays, Sundays, or legal holidays without the Engineer's written consent unless the work is unavoidable, absolutely necessary to save life or property, or necessary for the safety of the work, in which case the CONTRACTOR shall immediately advise the Engineer. Engineer shall not unreasonably withhold any such consent save in exceptional circumstances, nor do so if work outside of the specified working hours or on Saturdays, Sundays, or legal holidays is considered by CONTRACTOR to be necessary to meet the Contract Time. The services of the Inspector and Engineer will be charged to the CONTRACTOR.

4.43. Safety and Health Requirements

4.43.1. Compliance with Federal and Local Safety Regulations

The CONTRACTOR shall comply with Safety and Health Regulations for Construction, promulgated by the Secretary of Labor under Section 107 of the Contract Work Hours and Safety Standards Act, as set forth in Title 29, C.F.R. Copies of these regulations may be obtained from Labor Building, 14th and Constitution Avenue, NW, Washington, DC 20013. The CONTRACTOR shall comply with the provisions of the Federal Occupational Safety and Health Act, as amended.

4.43.2. Accident Prevention

Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment and all hazards shall be guarded or eliminated in accordance with the safety provisions of the latest edition of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America to the extent that such provisions are not in contravention of applicable laws.

Should typhoon warnings be issued, the CONTRACTOR shall take every practicable precaution to minimize damage and/or danger to persons, to the work, and to adjacent property. These precautions shall include closing all openings, removing all loose materials, tools and/or equipment from exposed locations, and removing or securing scaffolding and all other temporary work. The CONTRACTOR shall undertake these precautions at his own expense.

4.43.3. Responsibility of CONTRACTOR to Act in Emergency

In case of an emergency which threatens loss or injury of property and/or safety or life, the CONTRACTOR shall act, without previous instructions from the OWNER, as the situation may warrant.

4.44. Electrical Energy

The CONTRACTOR shall make all necessary applications, pay all fees and charges, obtain necessary permits and provide and maintain his own electrical power and light as required and necessary in the progress of any branch of the work. He shall provide all temporary wiring necessary.

4.45. Water

The CONTRACTOR shall make all necessary applications, pay all fees and charges, obtain necessary permits for construction of temporary water required for use on this project. The nearest available source of water tap shall be verified by the CONTRACTOR. The CONTRACTOR shall be responsible for all expenses required for conveying water to the site from the available nearest source.

4.46. Signs

The CONTRACTOR shall erect a sign at the project site at his own expense and shall submit a shop drawing for the approval of the Contracting Officer prior to fabrication. The location of sign shall be as directed by the Contracting Officer. Size of sign, lettering, and other pertinent data that should appear on the sign will be furnished by the Contracting Officer to the CONTRACTOR.

4.47. Standards

- a) Any material specified by reference to the number, symbol or title of a specific standard, such as a commercial standard, a Federal specification, a trade association standard or other similar standard,

shall comply with the requirements in the latest revision thereto in effect on the date of Invitation for Bids, except as limited to type, class or grade or modified in such reference.

- b) The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in the specifications. These standards are not furnished to bidders for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements. The Contracting Officer will furnish, upon request, information as to how copies of such standards may be obtained.
- c) Reference in the specifications to any article, device, product, material, fixture, form, or type of construction by name, make or catalog number shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and the CONTRACTOR, in such cases, may at his option use any article, device, product, material, fixture, form of type of construction which in the judgment of the Contracting Officer expressed in writing is equal to that specified.
- d) All materials and construction work must comply with applicable GPA standards and specifications. The CONTRACTOR shall be responsible for obtaining all applicable GPA standards and specifications from GPA.

4.48. Samples

- a) The CONTRACTOR shall furnish for the approval of the Contracting Officer any samples required by the specifications or that may be required by the Contracting Officer of any and all materials or equipment he proposes to use and shall prepay all shipping charges on the samples.
- b) No samples are to be submitted with bids.
- c) No materials or equipment of which samples are required to be submitted for approval shall be used on the work until such approval has been given by the Contracting Officer, save only at the CONTRACTOR's risk and expense.
- d) Each sample shall have a label indicating the material represented, its place of origin and the names of the producer, the CONTRACTOR and the building or work for which the material is intended. Samples of finished materials shall be so marked as to indicate where the materials represented are required by the drawings or specifications.

- e) A letter in duplicate submitting each shipment of samples shall be mailed under separate cover by the Contractor and contain a list of the samples, the name of the building or work for which the materials are intended, and the brands of the materials and names of the manufacturers.
- f) The approval of any sample shall be only for characteristics or for the named in such approval and no other. No approval of a sample shall be taken in itself to change or modify any contract requirement. When a material has been approved, no additional sample of that material will be considered and no change in brand or make will be permitted. Approval of samples of hardware in good condition may be suitably marked for identification and used in the work.
- g) Failure of any material to pass the specified tests will be sufficient cause for refusal to consider under this contract any further samples of the same brand or make of that material.
- h) Test samples as the Contracting Officer may deem necessary will be procured from the various materials or equipment delivered by the CONTRACTOR for use in the work. If any of these test samples fail to meet the specifications requirement, any previous approvals will be withdrawn and such materials or equipment shall be subject to removal and replacement by the CONTRACTOR with materials or equipment meeting the specification requirements, or at the discretion of the OWNER, the defective materials and equipment may be permitted to remain in place subject to a proper adjustment of the contract price. The cost of the tests will be borne by the OWNER except where laboratory tests as hereinafter specified are required by the specifications.

4.49. Laboratory Tests

Any specified laboratory tests of materials and finished articles to be incorporated in the work shall be made by bureaus, laboratories or agencies approved by the Contracting Officer, and the reports of such tests shall be submitted to the Contracting Officer. The cost of the testing shall be paid for by the CONTRACTOR.

4.50. Methods

The CONTRACTOR shall use proper and efficient methods and appliances for the performance of all the operations connected with work embraced under these specifications, drawings and contract to secure a rate of progress which will secure completion of the work within the time specified. If, at any time before commencement of work, or during the progress thereof, such methods, equipment or appliances are

inefficient or inappropriate for securing said quality of work or said rate of progress, the Contracting Officer may order the CONTRACTOR to increase their efficiency or to improve their character, and the CONTRACTOR must conform to such order. The failure of the Contracting Officer to demand such increases of efficiency or improvement shall not relieve the CONTRACTOR or his sureties from the obligations to secure such quality of work and said rate of progress and the completion of the work as required herein.

4.51. Labor and Materials

The CONTRACTOR shall furnish all labor, materials and equipment for the execution of the work according to the drawings, specifications and contract, and where no specifications are contained therein for whatever may be necessary, shall do all that may be termed ordinary, customary or essential to a job to be well and reliably completed. This includes concealment of all pipes and other rough items of installation if not clearly so shown on the drawings in a manner acceptable to the Contracting Officer. Structural safety shall not be impaired by such concealment. Work not particularly detailed, marked or specified shall be of equal quality as similar parts that are detailed, marked or specified. All material finished for and used in the job shall be of kind and grade specified and where not specifically called for at least of customary standard grade. All work shall be executed in accordance with their trades. Full structural safety is essential and the CONTRACTOR guarantees to accomplish same for the entire work.

4.52. Submittals

Specific items requiring submittals are specified in the Contract Documents or may be requested as needed by the Contracting Officer. Shop Drawings shall be submitted and approved before procurement, fabrication or delivery. Partial submittals are not acceptable.

4.52.1. Submittal Procedures

- a) Transmit each submittal with a transmittal letter.
- b) Sequentially number the transmittal forms. Resubmittals shall have original number with an alphabetic suffix.
- c) Identify Project, Contractor, Subcontractor, or Supplier; pertinent drawing sheet and detail number, and GPA specification number as appropriate.

- d) Schedule submittals to expedite the Project and deliver to GPA. Coordinate submission of related items.
- e) Identify variations from Contract Documents and GPA specifications which may be detrimental to successful performance of the completed Work.
- f) Revise and resubmit submittals as required. Identify all changes made since previous submittal.
- g) Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.
- h) GPA shall be allowed four (4) weeks to review and approve submittals without affecting the Contract completion date. However, GPA shall be allowed more than four (4) weeks to review bulk submittals. Delays in delivery due to submittals that are disapproved during this review period are the responsibility of the Contractor.
- i) Submittals returned to the Contractor as approved shall be considered authorization to proceed with the work. The approval of GPA shall in no way abrogate the requirements of GPA specifications. Review of drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide, shall not relieve the Contractor of its responsibility for errors therein and shall not be regarded as an assumption of risks or liability by GPA or by any officer, employee, or subcontractor thereof, and the Contractor shall have no claim under the contract on account of the failure, or partial failure, of the method of work, material, or equipment so reviewed. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that GPA has no objection to the Contractor, upon its own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.
- j) If a submittal indicates a departure from the contract requirements which the GPA Project Engineer finds to be in the interest of GPA and to be so minor as not to involve a change in the contract price or time for performance, he may approve the submittal. Any such submittal shall be clearly indicated in the transmittal form as deviating from the contract requirements.

4.52.2. Manufacturer's Data

Submittals for each manufactured item shall include manufacturer's descriptive literature, equipment drawings, diagrams, performance and characteristic curves, and catalog cuts. Each submittal shall be approved by the Engineer of Record and include the manufacturer's name, trade name, catalog model or number, nameplate data, size, layout dimensions, capacity, specification reference, applicable Federal, Military and Industry specification references, and all other information necessary to establish contract compliance.

4.53. As-Built Drawings and As-Built Record of Materials

A contract set of drawings shall be maintained at the site with all changes or deviations from the original drawings neatly marked thereon in brightly contrasting color. This shall be a separate set of drawings not used for construction purposes which shall be kept up to date as the job progresses and shall be made available for inspection by the Contracting Officer at all times. Upon completion of the contract this set of drawings and a copy in AutoCAD format shall be delivered to the Contracting Officer.

A record of materials used shall also be provided that indicates the material description, manufacturer, model number, quantity, specification and installed location.

4.54. Meetings

4.54.1. Pre-Construction Conference

The Pre-Construction Conference shall be scheduled after the Notice of Award to designate the personnel representing the parties in Contract. Procedures and processing of submittals, substitutions, applications for payment, proposal requests, change orders, field decisions and Contract close-out procedures may also be discussed.

4.54.2. Progress Meetings

Weekly progress meetings shall be held throughout the duration of the project. GPA may request additional meetings if deemed necessary. Such meetings shall be attended by the CONTRACTOR either via phone or in person, by all active subcontractors and by GPA. The purpose of the meetings will be to discuss current work progress, design or construction issues, interface issues, and potential changes to the schedule. The CONTRACTOR shall make arrangements for meetings, prepare agenda with copies for participants, preside

at meetings, record minutes, and distribute copies within two days to GPA, participants, and those affected by decisions made.

The CONTRACTOR shall submit to GPA monthly reports on actual work progress. Such reports shall be submitted to GPA prior to the scheduled work progress meetings. The narrative shall contain a description of current and anticipated delaying factors, if any, impact of possible delaying factors, and proposed corrective actions. The reports shall be submitted as supporting documents for progress payments.

4.55. Contract Closeout

4.55.1. Substantial Completion Date

- a) When the Contractor considers the entire work ready for its intended use, the Contractor shall, in writing to the Engineer, certify that the entire work is substantially complete and request that the Engineer concur and establish a date of substantial completion.
- b) Within 5 days the Contractor and the Engineer shall complete an inspection of the work to determine the status of the completion. If the Engineer does not consider the work substantially complete, the Engineer will notify the Contractor in writing giving the Engineer's reasons therefore. The Contractor may appeal this decision.
- c) If the Engineer considers the work substantially complete, the Engineer will concur in writing to the Contractor that the work is substantially complete and shall therein fix the date of substantial completion. In addition, a list of any deficiencies requiring completion or correction before final inspection will be attached to the Certificate of Substantial Completion. This list of deficiencies (punch list) shall be completed by the Contractor within 10 days after receipt of the Certificate of Substantial Completion and list of deficiencies. The Engineer will not make the final inspection until all work, including the correction of such deficiencies, final clean-up, and such extra work as may be ordered by the Engineer, has been completed by the Contractor and all sub- contractors.
- d) Definition of Substantial Completion: The date of substantial completion of a project or specified area of the project is the date when construction is sufficiently completed and in accordance with the contract documents, as modified by any change orders agreed to by the parties, to permit the Guam Power Authority to occupy the project or specified area of the project for the use for which intended.

4.55.2. Final Inspection Date

- a) When the Contractor has completed work listed on the punch list or when the 10-day punch list period expires, whichever comes first, the Engineer will set a definite date for final inspection. The Engineer and Contractor will then make a final inspection of the project, again noting any deficiencies that remain. The Engineer will again notify the Contractor in writing of all particulars in which this inspection reveals that the work is incomplete or defective. The Contractor shall remedy such deficiencies within 5 days of written notice.
- b) If such deficiencies are not corrected within 5 days after receipt of the written notice listing deficiencies, the Owner may, without further notice to the Contractor, take whatever steps it deems necessary to correct those deficiencies. Such steps may include, but are not limited to, the correction of defects by Owner provided forces or by others. Thereafter, all direct and indirect costs of the Owner in exercising such rights will be charged against the Contractor and a unilateral change order issued incorporating the necessary revisions in the contract documents and ordering that such costs be deducted from monies due or becoming due the Contractor. Such indirect or direct costs shall include in particular, but without limitation to, compensation for additional professional services required, and all cost of repair and replacement of the work of others destroyed or damaged by correction, removal, or replacement of the Contractor's deficient work.
- c) The Contractor will not be allowed an extension of contract time because of any delay in performance of the work attributable to the exercise of the Owner's rights hereunder.
- d) Upon correction of all deficiencies, the Engineer will notify the Contractor and Owner in writing of the date upon which the work was considered complete.

4.55.3. Final Acceptance

- a) A Certificate of Completion for the project, submitted by the Engineer and approved by the Owner, shall constitute final acceptance of the work.
- b) Final acceptance shall not constitute acceptance of any unauthorized or defective work or material, nor shall progress estimates be construed as acceptance of any work under this contract. The Owner

shall not be barred from requiring the Contractor to remove, replace, repair, or dispose of any unauthorized or defective work or from recovering damages for any such work or material.

- c) Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

4.55.4. Final Cleaning

- a) Execute final cleaning prior to final inspection.
- b) Clean equipment and fixtures to a sanitary condition.
- c) Clean filters of operating equipment.
- d) Clean debris from roofs, downpours, and drainage systems.
- e) Clean site; sweep paved areas, rake clean landscaped surfaces.
- f) Remove waste and surplus materials, rubbish, and construction facilities from the site.

4.55.5. Correction Period

- a) If within a year after the date of Final Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the Owner and in accordance with the Owner's written instructions: (i) correct such defective work, or, if it has been rejected by the Owner, remove it from the site and replace it with work that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other worker the work of others resulting therefrom. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, the Owner may have the defective work corrected or the rejected work remove and replaced, and all claims, costs, losses and damages caused by resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by the Contractor.

- b) Where defective work (and damage to other work resulting therefrom) has been corrected, removed or replaced under this paragraph 4.62.5, the correction period hereunder with respect to such work will be extended for an additional period of two years after such correction or removal and replacement has been satisfactorily completed.
- c) Contractor shall furnish a warranty period performance bond. The bond shall be for an amount equal to 15% of the Contract Price and shall remain in effect for the entire warranty period. Receipt by the Owner of the warranty period bond shall be a prerequisite for release of the construction period performance bond.

4.55.6. Final Report

Two (2) hard copies and one (1) electronic copy of final reports shall be submitted to GPA after testing and commissioning are completed. The report shall include but not limited to:

- a) Summary of Work Performed
- e) Inspection and Test Criteria
- f) All test results
- g) List of materials used
- h) As-built drawings
- i) Commissioning Reports
- j) Recommendations

4.56. Quality Control

4.56.1. Quality Control Requirements

All testing shall be divided into three (3) categories as follows:

- a) Field tests made at, or in the vicinity of, the jobsite in connection with the actual work, including but not limited to concrete batch plants, asphalt batch plants, and similar establishments directly involved in the work.
- b) Factory tests at the point of manufacture of various products which are shipped to the jobsite as a unit, including by not limited to, such items as electrical equipment, as required by the Engineer.

- c) Certified tests made by approved testing agencies on material and/or equipment, which is to be incorporated into structures under the contract. These tests are those such as are performed by Factory Mutual, Underwriters' Laboratories, Inc., and others.
- i. Field Tests by the Contractor: The Contractor shall perform all field testing specifically required by the "Applicable Publications" referenced in the contract specification. Cost of testing shall be borne by the Contractor. He shall furnish all equipment, instruments, qualified personnel and facilities necessary to perform all tests required by the contract documents. Testing services shall be performed by the Contractor or acquired by the Contractor through a qualified commercial testing laboratory. If a commercial testing laboratory is retained to perform tests under this contract, all test reports shall be performed by the Contractor or acquired by the Contractor through a qualified commercial testing laboratory. If a commercial testing laboratory is retained to perform tests under this contract, all tests reports shall be certified by a representative of the testing laboratory, who is authorized to sign certified test reports for the laboratory. Test reports shall include the acceptable value for each specification item, the actual test results obtained, the methods used, and a statement that the product conforms (or does not conform to the specification requirements).
- ii. Factory Tests: The Engineer will arrange for factory tests when they are required.
- iii. Manufacturer's Certified Tests: Certified tests on materials to be incorporated into the work will be acceptable, provided they are performed by the manufacturer or by Government approved agencies or laboratories, show that the material conform to the specification, and that the tests and certification meet the requirements of the paragraph entitled "Certificates and Certifications" below.
- iv. Government Approval of Laboratories: All laboratory work performed under this contract shall be done by a laboratory approved by the Government, whether the laboratory is employed by the Contractor or by others, or is owned and operated by the Contractor. The basis of approval includes the following:

1. Laboratories performing work in connection with concrete, steel and bituminous material must conform to American Society for Testing and Materials (ASTM) designation E632-77.

2. Laboratories performing work not in connection with concrete, steel or bituminous material must conform to Sections 3 and 4 of ASTM designation E329-77.

4.56.2. Inspection

All inspections shall be divided into two (2) categories as follows:

- a) Field inspection is that inspection in the vicinity of the jobsite which when performed properly, will result in the complete compliance of all work-in-place with the contract drawings and specifications.
- b) Factory inspection is that inspection of the point of manufacture of the various products which are shipped to the jobsite, including but not limited to, such items as electrical equipment.

4.56.3. Contractor Field Inspections

The Contractor's Engineer of Record shall inspect all work under this contract. Documentation of the inspection approval by the Engineer of Record shall be submitted to GPA for review.

4.56.4. Factory Inspection

The Contracting Officer will arrange for factory inspection when it is required.

4.56.5. Shop Drawings and Catalog Cuts

All shop drawings, and catalog cuts required by the technical sections of the contract specifications shall be approved by the Engineer.

4.56.6. Identification

Each item which is to be incorporated into the contract shall be clearly marked and identified in the catalog cut submittals, and shall be cross-referenced to the contract drawings and specifications so as to identify clearly the use for which it is intended.

4.56.7. Samples

Samples of materials shall be prepared and submitted as required. The Contractor shall check and approve all samples of materials and/or equipment proposed for incorporation into the project. The samples shall be identified as to their intended use, and shall be accompanied by a letter of certification from the Contractor stating that the samples comply with the contract drawings and specifications.

4.56.8. Certificates and Certifications

Manufacturer's certification may be furnished by the Contractor, on items of materials and equipment incorporated into the work, only when this method will assure full compliance with the provisions of the contract, as determined by the Government. Pre-printed certifications will not be acceptable. All certifications shall be in the original. The original of all manufacturer's certifications shall name the appropriate item of equipment or material, specification, standard or other document specified as controlling the quality of that item and shall have attached thereto certified copies of the test reports upon which the certifications are based.

4.56.9. Record of Inspections

The Contractor shall maintain, on a day-to-day basis, a record of all inspections and field test performed with a certification from the Engineer of Record that all work is in conformance with the design drawings, specifications and contract requirements.

4.56.10. Recalibration of Equipment

Equipment requiring recalibration shall be subject to recalibration at the request of the Engineer. Such recalibration shall be performed by the Contractor at his expense.

4.57. Safety Requirements

4.57.1. References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

a) AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.14 (1991) Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use

ANSI Z359.1 (1992) Safety Requirements for Personal Fall Arrest Systems

b) CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910.120 Hazardous Waste Operations and Emergency Response

c) CORPS OF ENGINEERS (COE)

COE EM-385-1-1 (1996) Safety and Health Requirements Manual

d) NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (1996) National Electrical Code

NFPA 241 (1996) Safeguarding Construction, Alteration, and Demolition Operations

4.57.2. Definitions

- a) Certified Industrial Hygienist. An industrial hygienist is an individual who is certified by the American Board of Industrial Hygiene.
- b) Certified Safety Professional. A safety manager, safety specialist, or safety engineer that has passed the CSP exam administered by the Board of Certified Safety Professionals.
- c) Confined Space. A space which by design has limited openings for entry and exit, unfavorable natural ventilation which could contain or produce dangerous air contaminants, and which is not

intended for continuous employee occupancy, engulfment or any other recognized safety or health hazard. Confined spaces include, but are not limited to storage tanks, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines.

- d) Multi-employer work site (MEWS). The prime contractor is the "controlling authority" for all work site safety and health of the subcontractors.
- e) Recordable Occupational Injuries or Illness. An occupational injury or illnesses which result in serious injuries, lost workday cases, non-fatal cases or significant mishaps.
- f) Serious Injuries & Fatalities. Regardless of the time between the injury and death or the length of the illness; hospitalization of three or more employees; or property damage in excess of \$200,000.
- g) Lost Workday Cases. Injuries, other than fatalities, that results in lost workdays.
- h) Non-Fatal Cases. Cases without lost workdays which result in transfer to another job or termination of employment, or require medical treatment (other than first aid) or involve property damage in excess of \$10,000 but less than \$200,000 or involve: loss of consciousness or restriction of work or motion. This category also includes any diagnosed occupational illnesses which are reported to the employer but are not classified as fatalities or lost workday cases.
- i) Health and Safety Plan (HASP). The HASP is the Navy equivalent Army term of SHP or SSHP used in COE EM-385-1-1. "USACE" property and equipment specified in COE EM-385-1-1 should be interpreted as Government property and equipment.
- j) Safety Officer. The superintendent or other qualified or competent person who is responsible for the on-site safety required for the project. The contractor quality control person cannot be the safety officer, even though the QC has safety inspection responsibilities as part of the QC duties.
- k) Significant Contractor Mishap. A contractor mishap which involves falls of 4 feet or more, electrical mishaps, confined space mishaps, diving mishaps, equipment mishaps, and fire mishaps which result in a lost time injury, or property damage of \$10,000 or more, but less than \$200,000; or when fire department or emergency medical treatment (EMT) assistance is required.

- l) Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment provided by physician or registered personnel.
- m) First Aid. A one-time treatment, and follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care, even though provided by a physician or registered professional personnel.
- n) Lost Workdays. The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or part of his normal assignment during all or any part of the workday or shift; because of the occupational injury or illness.

4.57.3. Submittals

Submit the following in accordance with the submittal procedures:

- a) Accident Prevention Plan (APP)

Submit at least 15 calendar days prior to start of work at the job site, make APP site specific, Notice to Proceed will be given after Government finds the APP acceptable.

- b) Activity Hazard Analysis (AHA)

Submit the AHA for the preparatory phase as a part of the APP. Submit subsequent AHA for each major phase of work at least 15 calendar days prior to the start of that phase. Format subsequent AHA as amendments to the APP.

- c) Health and Safety Plan (HASP)

Allow 30 calendar days for review by GPA construction safety manager.

- d) Records

Reports. Submit reports as their incidence occurs, in accordance with the requirements of the paragraph entitled, "Reports."

4.57.4. Quality Assurance

a) Qualifications

i. Qualifications of Safety Officer:

1. Ability to manage the on-site contractor safety program through appropriate management controls,
2. Ability to identify hazards and have the capability to expend resources necessary to abate the hazards.
3. Must have worked on similar types of projects that are equal to or exceed the scope of the project assigned with the same responsibilities.

ii. Qualifications of Qualified Person, Confined Space Entry:

The qualified person shall be capable by education and specialized training of anticipating, recognizing, and evaluating employee exposure to hazardous substances or other unsafe conditions in a confined space. This person shall be capable of specifying necessary control and protective action to ensure worker safety.

b) Meetings

i. Preconstruction Conference

The safety officer shall attend the preconstruction conference.

ii. Meeting on Work Procedures

Meet with Contracting Officer to discuss work procedures and safety precautions required by the HASP. Ensure the participation of the Contractor's superintendent, the Quality Control, and the CSP or CIH.

iii. Weekly Safety Meetings

Hold weekly. Attach minutes showing contract title, signatures of attendees and a list of topics discussed to the QC Contractor Quality Control daily report.

c) Crane Safety Requirements

The contractor shall comply with specific activity regulations pertaining to crane safety and operation, and shall notify the contracting officer, in advance of any cranes entering the activity. The contractor shall comply with ASME B30.5 for mobile cranes, and ASME B30.22 for articulating boom cranes.

i. Crane Certificate of Compliance

Prior to cranes entering federal activities, a certificate of compliance from the contractor shall be completed and submitted to the contracting officer. The certificate of compliance shall certify that the crane and rigging gear meets applicable OSHA regulations. The specific OSHA regulation applying to the crane shall be cited on the certification. The contractor shall also certify that all of its crane operators working on federal activity have been trained not to bypass safety devices during lifting operations. A copy of the certification submitted to the contracting officer shall be posted in the crane. Attached at the end of this specification section is a certification form to be used for this purpose.

ii. Crane Weight Handling Equipment Accident Report

The contractor shall provide the contracting officer within 30 days of any accident a Weight Handling Equipment Accident Report using the form provided at the end of this specification section. The contractor shall notify the contracting officer as soon as practical, but not later than four hours, after an accident involving a fatality, in-patient hospitalization, overturned crane, collapsed boom, or any other major damage to the crane or adjacent property. The contractor shall secure the accident site and protect evidence unit

released by the contracting officer. The contractor shall conduct an accident investigation to establish the root cause(s) of the accident. Crane operations shall not proceed until cause is determined and corrective actions have been implemented to the satisfaction of the contracting officer. These notifications and reporting requirements are in addition to those required under other parts of this project specification and the provisions of the “Accident Prevention” clause of the contract.

4.57.5. Accident Prevention Plan (APP)

Prepare the APP in accordance with the required and advisory provisions of COE EM-385-1-1 including Appendix A, "Minimum Basic Outline for Preparation of Accident Prevention Plan," and as modified herein. Include the associated AHA and other specific plans, programs and procedures listed on Pages A-3 and A-4 of COE EM-385-1-1, some of which are called out below.

- a) Contents of the Accident Prevention Plan
- i. Name and safety related qualifications of safety officer (including training and any certifications).
 - ii. Qualifications of competent and of qualified persons.
 - iii. Identify of the individual who will complete exposure data (hours worked); accident investigations, reports and logs; and immediate notification of accidents to include subcontractors.
 - iv. Emergency response plan. Conform to COE EM-385-1-1, paragraph 01.E and include a map denoting the route to the nearest emergency care facility with emergency phone numbers. Contractor may be required to demonstrate emergency response.
 - v. Confined Space Entry Plan. Identify the qualified person's name and qualifications, training, and experience. Delineate the qualified person's authority to direct work stoppage in the event of hazardous conditions. Include procedure for rescue by contractor personnel and the coordination with emergency responders. (If there is no confined space work, include a statement that no confined space work exists and none will be created.)

- vi. Hazardous Material Use. Provisions to deal with hazardous materials, pursuant to the Contract Clause "FAR 52.223-3, Hazardous Material Identification and Material Safety Data." And the following:
 - 1. Inventory of hazardous materials to be introduced to the site with estimated quantities.
 - 2. Plan for protecting personnel and property during the transport, storage and use of the materials
 - 3. Emergency procedures for spill response and disposal, including a site map with approximate quantities on site at any given time. The site map will be attached to the inventory, showing where the hazardous substances are stored
 - 4. Material Safety Data Sheets for inventoried materials not required in other section of this specification.
 - 5. Labeling system to identify contents on all containers on-site.
 - 6. Plan for communicating high health hazards to employees and adjacent occupants.
- vii. Hazardous Energy Control Plan. For hazardous energy sources, comply with COE EM-385-1-1, paragraph 12.A.07.
- viii. Critical Lift Procedures. Weight handling critical lift plans will be prepared and signed in accordance with COE EM-385-1-1, paragraph 16.c.18.
- ix. Alcohol and Drug Abuse Plan
 - 1. Describe plan for random checks and testing with pre-employment screening in accordance with the DFAR Clause subpart 252.223-7004, "Drug Free Work Force."
 - 2. Description of the on-site prevention program
- x. Fall Protection Plan. The plan shall be site specific and protect all workers at elevations above 6 feet.

- xi. Site Demolition Plan. The safety and health aspects prepared in accordance with Section 02220, "Site Demolition"

4.57.6. Activity Hazard Analysis (AHA)

Prepare for each phase of the work. As a minimum, define activity being performed, sequence of work, specific hazards anticipated, control measures to eliminate or reduce each hazard to acceptable levels, training requirements for all involved, and the competent person in charge of that phase of work. For work with fall hazards, including fall hazards associated with scaffold erection and removal, identify the appropriate fall arrest systems. For work with materials handling equipment, address safeguarding measures related to materials handling equipment. For work requiring excavations, include excavation safe guarding requirements. The appropriate AHA shall be reviewed and attendance documented by Contractor at the preparatory, initial, and follow-up phases of Quality Control inspection.

4.57.7. Health and Safety Plan (HASP)

Prepare as required by 29 CFR 1910.120 and COE EM-385-1-1.

a) Qualified Personnel

Retain a Certified Industrial Hygienist (CIH) or a Certified Safety Professional (CSP) to prepare the HASP, conduct activity hazard analyses, and prepare detailed plan for demolition, removal, and disposal of materials. Retain the CIH or CSP for duration of contract.

b) Contents

In addition to the requirements of COE EM-385-1-1, Table 28-1, the HASP must include:

- i. Interface of trades involved in the construction.
- ii. Sequencing of work.
- iii. Disposal plan.

iv. Protective equipment.

v. Pollution control.

4.57.8. Drug Prevention Program

Conduct a proactive drug and alcohol use prevention program for all workers, prime and subcontractor, on the site. Ensure that no employees either use illegal drugs or consume alcohol during work hours. Ensure no employees under the influence of drugs or alcohol during work hours. After accidents, collect blood, urine or saliva specimens and test injured employee influence. A copy of the test shall be made available to the Contracting Officer upon request.

4.57.9. Fall Hazard Prevention Program

a) Scaffolds

Delineate the fall protection requirements necessary during the erection and dismantling operation of scaffolds used on the project in the fall protection plan and activity hazard analysis for the phase of work.

b) Training

Institute a fall protection program. As part of the Fall Protection Program, contractor shall provide training for each employee who might be exposed to fall hazards.

4.57.10. Duties of the Safety Officer

a) Ensure construction hazards are identified and corrected.

b) Maintain applicable safety reference material on the job site.

c) Maintain a log of safety inspections performed.

4.57.11. Display of Safety Information

Display the following information in clear view of the on-site construction personnel:

- a) Map denoting the route to the nearest emergency care facility with emergency phone numbers.
- b) AHA
- c) Sign with number of hours worked since last lost workday accident.

4.57.12. Site Safety Reference Materials

Maintain safety-related references applicable to the project, including those listed in the article "References."
Maintain applicable equipment manufacturers' manuals.

4.57.13. Emergency Medical Treatment

Contractors will arrange for their own emergency medical treatment. Government has no responsibility to provide.

4.57.14. Reports

- a) Reporting Reports

For OSHA recordable accidents, the prime contractor will conduct a suitable investigation and provide to the Contracting Officer within 5 calendar days of the accident.

- b) Notification

Notify Contracting Officer, within 4 hours, of any accident meeting the definition of OSHA recordable occupational injury or illness. Information shall include Contractor name; contract title; type of contract; name of activity, installation or location where mishap occurred; date and time of mishap; names of personnel injured; extent of property damage, if any; and brief description of mishap (to include type of construction equipment used, PPE used, etc.). In addition to OSHA reporting requirements, initial notification shall be made of any accident involving significant mishaps.

c) Monthly Exposure Report

Monthly exposure reporting, to the Contracting Officer is required to be attached to the monthly billing request. This report is a compilation of employee-hours worked each month for all site workers, both prime and subcontractor.

d) OSHA Citations and Violations

Provide the Contracting Officer with a copy of each OSHA citation, OSHA report and Contractor response. Correct violations and citations promptly and provide written corrective actions to the Contracting Officer.

4.57.15. Fall Protection Anchorage

Fall protection anchorages, used by contractors to protect their people, will be left in place and so identified for continued customer use.

4.57.16. Construction

Comply with COE EM-385-1-1, NFPA 241, the accident prevention plan, the activity hazard analysis and other related submittals and activity fire and safety regulations.

a) Hazardous Material Exclusions

Notwithstanding any other hazardous material used in this contract, radioactive materials or instruments capable of producing ionizing/non-ionizing radiation as well as materials which contain asbestos, mercury or polychlorinated biphenyls, di-isocyanates, lead-based paint are prohibited. Exceptions to the use of any of the above excluded materials may be considered by Contracting Officer upon written request by Contractor.

b) Unforeseen Hazardous Material

If additional material, not indicated, that may be hazardous to human health upon disturbance during construction operations is encountered, stop that portion of work and notify the Contracting Officer immediately. Within 14 calendar days the Government will determine if the material is hazardous.

If material is not hazardous or poses no danger, the Government will direct the Contractor to proceed without change. If material is hazardous and handling of the material is necessary to accomplish the work, the Government will issue a modification pursuant to "FAR 52.243-4, Changes" and "FAR 52.236-2, Differing Site Conditions."

4.57.17. Pre-Outage Coordination Meeting

Contractors are required to apply for utility outages a minimum of 15 days in advance. As a minimum, the request should include the location of the outage, utilities being affected, duration of outage and any necessary sketches.

4.57.18. Personnel Protection

a) Hazardous Noise

Provide hazardous noise signs, and hearing protection, where ever equipment and work procedures produce sound-pressure levels greater than 85 dBA steady state or 140 dBA impulses, regardless of the duration of the exposure.

b) Fall Protection

Enforce use of the fall protection device named for each activity in the AHA all times when an employee is on a surface 6 feet or more above lower levels. Personal fall arrest systems are required when working from an articulating or extendible boom, scissor lifts, swing stages, or suspended platform. Fall protection must comply with ANSI A10.14.

c) Personal Fall Arrest Device

Equipment, subsystems, and components shall meet ANSI Z359.1, Personal Fall Arrest Systems. Only a full-body harness with a shock absorbing lanyard is an acceptable personal fall arrest device. Body belts may only be used as positioning devices only such as for steel reinforcing assembly. Body belts are not authorized as a personal fall arrest device. Harnesses must have upper middle back "D" rings for proper body suspension during a fall. Lanyard must be fitted with a double locking snap hook attachment. Webbing, straps, and ropes must be of synthetic fiber or wire rope.

d) Scaffolding

Employees shall be provided with a safe means of access to the work area on the scaffold. Climbing of any scaffold braces or supports not specifically designed for access is prohibited. Contractor shall ensure that scaffold erection is performed by employees that are qualified. Do not use scaffold without the capability of supporting at least four times the maximum intended load or without appropriate fall protection as delineated in the accepted fall protection plan. Minimum platform size shall be based on the platform not being greater in height than four times the dimension of the smallest width dimension for rolling scaffold. Some Baker type scaffolding has been found not to meet these requirements. Stationary scaffolds must be attached to structural building components to safeguard against tipping forward or backward. The first tie-in shall be at the height equal to 4 times the width of the scaffold base.

e) Use of Material Handling Equipment

- i. Material handling equipment such as forklifts shall not be modified with work platform attachments for supporting employees unless specifically delineated in the manufactures printed operating instructions. Crane supported work platforms shall only be used in extreme conditions if the Contractor proves that using any other access to the work location would provide a greater hazard to the workers.
- ii. Cranes must be equipped with Load Indicating Devices, anti-two blocks devices, load, boom angle moment indicating indicators.
- iii. Christmas-tree lifting (multiple rigged materials) is not allowed.

f) Excavations

The competent person for excavation shall be on site when work is being performed in excavation, and shall inspect excavations prior to entry by workers. Individual must evaluate for all hazards, including atmospheric, that may be associated with the work, and shall have the resources necessary to correct hazards promptly.

g) Conduct of Electrical Work

Underground electrical spaces must be certified safe for entry before entering to conduct work. Cable intended to be cut must be positively identified and de-energized prior to performing each cut. Perform all high voltage cutting remotely. When racking in or live switching of circuit breakers, no additional person other than the switch operator will be allowed in the space during the actual operation. Plan so that work near energized parts is minimized to the fullest extent possible. Use of electrical outages clear of any energized electrical sources is the preferred method. When working in energized substations, only qualified electrical workers shall be permitted to enter. When work requires Contractor to work near energized circuits as defined by the NFPA 70, high voltage personnel must use personnel protective equipment that includes, as a minimum, electrical hard hat, safety shoes, insulating gloves with leather protective sleeves, fire retarding shirts, coveralls, face shields, and safety glasses. Insulating blankets, hearing protection, and switching suits may be required, depending on the specific job and as delineated in the Contractor AHA.

4.57.19. Accident Scene Preservation

For serious accidents, ensure the accident site is secured and evidence is protected remaining undisturbed until released by the Contracting Officer.

4.57.20. Field Quality Control

a) Inspections

Include safety inspection as a part of the daily Quality Control inspections required in Section 01400, "Quality Control."

4.57.21. Traffic Work

All work around/involving roadways, to include roadway excavations and utility crossings, will be conducted in accordance with Manual of Uniform Traffic Control Devices. Contractors shall provide and ensure appropriate road closure and detour signs are established as necessary for motor traffic management. All road closures shall be coordinated with the Contracting Officer in advance. Self-illuminated (lighted) barricades shall be provided during hours of darkness. Brightly-colored (orange) vests are required for all personnel working in roadways. Road closures shall require a road closure plan showing the location of signage.

4.57.22. Station Regulations

Contractor is responsible to adhere to all station regulations and obtain all necessary permits and outage approvals prior to commencement of that work activity.

4.57.23. Station Permits

Permits are required for, but not necessarily limited to, welding, digging, and burning. Allow 7 calendar days for processing of the application.

4.57.24. Temporary Barricades

Contractor shall provide for barricading around all work areas to prevent public access.

4.57.25. Fencing

Fencing shall be provided along the construction site at all open excavations and tunnels to control access by unauthorized people. Fencing must be installed to be able to restrain a force of at least 200 pounds against it.

4.57.26. Signs

Place warning signs at the construction area perimeter designating the presence of construction hazards requiring unauthorized persons to keep out. Signs must be placed on all sides of the project, with at least one sign every 300 feet. All points of entry shall have signs designating the construction site as a hard hat area.

4.58. Environmental Protection

4.58.1. Definitions of Contaminants

- a) Sediment: Soil and other debris that has been eroded and transported by runoff water.
- b) Solid Waste: Rubbish, debris, garbage, and other discarded materials resulting from industrial, commercial, and agricultural operations, and from community activities' such material having insufficient liquid content to be free flowing.

- c) Rubbish: A variety of combustible and noncombustible wastes such as ashes, waste materials that result from construction or maintenance and repair work, leaves and tree trimmings.
- d) Chemical Wastes: Includes salts, acids, alkalies, herbicides, pesticides, petroleum-derived products and organic chemicals.
- e) Sewage: Water-carried waste products from residences, public buildings, institutions or other buildings, including excrementitious or other discharge from the bodies of human beings or animals, together with such ground water infiltration and surface water as may be present.
- f) Garbage: Refuse and scraps resulting from preparation, cooling, dispensing, and consumption of food.
- g) Asbestos and Asbestos Materials: Asbestos means actinolite, amosite, anthophyllite, chrysotile, crocidolite, and tremolite. Asbestos materials means asbestos or any material containing asbestos such as asbestos waste, scrap, debris, bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal. Friable asbestos material requires a Waste Disposal Permit. Submit one (1) copy of Guam Environmental Protection Agency (GEPA) permit or license which reflects such agency's approval of the disposal plan as being in compliance with their waste disposal regulations.

4.58.2. Environmental Protection Requirements

- a) Provide and maintain during the life of the contract, environmental protection as defined herein. Provide environmental protective measures as required to control pollution that develops during normal construction practice.
- b) Provide also environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with all federal and local statutes and regulations pertaining to environmental protection.

4.58.3. Submittals

- a) Environmental protection Plan: Submit two (2) copies of the proposed Environmental Protection Plan (EPP) to the Guam Environmental Protection Agency (GEPA) and 2 copies to the Contracting

Officer for review and approval no later than 10 calendar days after receipt of the Notice to Proceed (NTP) with work under this project. Review of the plan by the Contracting Officer and GEPA will be accomplished simultaneously.

The Contractor shall not undertake any clearing, grubbing, earthwork, and excavations until the EPP has been approved by the GEPA and the Contracting Officer.

- b) Solid waste Disposal Permit: Submit one (1) copy of local permit or license which reflects Guam Environmental Protection Agency's (GEPA) approval of the disposal plan as being in compliance with their solid waste disposal regulations.
- c) The Contractor must submit an approved Erosion Control Plan (ECP) to Guam EPA to be implemented and maintained throughout the duration of the project.

4.58.4. Protection of Natural Resources

The natural resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their existing condition or restored to an equivalent or improved condition upon completion of the work. Confine construction activities to areas defined by the work schedule, drawings, and specifications.

- a) Land Resources: Except in areas indicated to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without special permission from the Contracting Officer.

Protection: Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. Protect monuments, markers, and works of art.

- b) Repair or Restoration: Repair or restore to their original condition all trees or other landscape features scarred or damaged by the equipment or operations. Obtain approval of the repair or restoration from the Contracting Officer prior to its initiation.
- c) Temporary Construction: At the conclusion of the project, obliterate all signs of temporary construction facilities such as work areas, stockpiles of excess or waste materials, and all other vestiges of construction.

- d) Water Resources: Perform all work in such a manner that any adverse environmental impact on water resources is reduced to a level acceptable to the Contracting Officer.
- e) Oily and Other Hazardous Substances: Take special measures to prevent oily or other hazardous substances from entering the ground, drainage areas, or local bodies of water.

4.58.5. Control and Disposal of Solid, Chemical and Sanitary Wastes

Pick up solid waste and place in containers which are emptied on a regular schedule. The preparation, cooking, and disposing of food are strictly prohibited on the project site. Conduct handling and disposal of waste to prevent contamination of the site and other areas. On completion, leave areas clean and natural looking. Remove signs of temporary construction and activities incidental to construction of the permanent work in place.

- a) Disposal of Rubbish and Debris: Dispose of rubbish and debris in accordance with the requirements specified herein.

Remove rubbish and debris from the project site and dispose of it in compliance with federal and local requirements.

- b) Garbage Disposal: Place garbage in appropriate containers and transport such refuse to an approved landfill for disposal at least once per week. As an alternative, the Contractor may arrange for weekly pickup and disposal service either with the Government of Guam or a privately-owned garbage collection service. The Contractor shall pay all fees associated with obtaining and maintaining garbage collection and disposal services.
- c) Sewage, Odor, and Pest Control: Dispose of sewage through connection to the public sewage system. Where such system is not available, use chemical toilets or comparably effective units and periodically empty waste into the public sanitary sewage system. Include provisions for pest control and elimination of odors.
- d) Chemical Waste: Store chemical waste in corrosion resistant containers labeled to identify type of waste and date filled. Remove containers from the project site, and dispose of chemical waste in accordance with federal, state, and local regulations. For oil and hazardous material spills which

may be large enough to violate federal and local regulations, notify the Contracting Officer immediately and take measures as instructed by the Contracting Officer, at no additional costs.

- e) Petroleum Products: Conduct fueling and lubricating of equipment and motor vehicles in a manner that affords the maximum protection against spills and evaporation. Dispose of lubricants to be discarded and excess oil in accordance with approved procedures meeting federal and local regulations.

4.58.6. Dust Control

Keep dust down at all times, including non-working hours, weekends, and holidays. Sprinkle or treat, with dust suppressors, the soil at the site, haul roads, and other areas disturbed by operations. No dry brooming is permitted. Instead use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing is permitted only for cleaning non-particulate debris, such as steel reinforcing bars. No sandblasting is permitted unless dust therefrom is confined. Only wet cutting of concrete blocks, concrete, and asphalt is permitted. No unnecessary shaking of bags is permitted where bagged cement, concrete mortar, and plaster is used.

4.58.7. Noise

When available, make the maximum use of "low-noise emission products" as certified by Guam Environmental Protection Agency.

INVITATION FOR MULTI-STEP BID

No. GPA-0XX-25

ENERGY STORAGE SYSTEMS

PHASE II


Draft

Volume II

Technical Proposal Qualification Requirements

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1. OVERVIEW

The Guam Power Authority (GPA) is inviting qualified firms to participate in a Multi-Step Bid (MSB) for the Energy Storage System (ESS) Phase II project. In this Invitation for Multi-Step Bid (“IFB”), GPA is seeking competitive bids for energy storage services and a grid controller from qualified developers. The ESS Phase II project is a multi-phased approach to support power system stability and renewable energy integration.

GPA will execute power purchase agreements for selected Bidder(s) for the services of firm, non-intermittent power from one, or more, energy storage systems that meet GPA requirements as specified in **Sections 2.2. Grid Services Technology, 2.3. Autonomous Artificial Intelligence Based Grid Controller, and 2.4. Energy Storage System Components and Technology.**

In this ESS Services project, GPA intends to acquire the services from a 270 MW ESS that can meet the following established requirements:

- Grid energy (AC) delivery to perform Energy Shifting Services rated at 90 MW with a 360 MWh energy capacity at the interconnection point, with primary day time charge period and night time discharge;
- Grid energy (AC) delivery to perform indicated Grid Services rated at 180 MW with a 90 MWh capacity at the interconnection point, with any time charge and discharge periods dependent on controller and SCADA operations;
- The Grid Controller shall be capable of autonomously monitoring and controlling all existing, new and near-future ESS and their energy delivery and service modes when not operated by way of the GPA SCADA system;
- The ESS interconnection point shall be made at the GPA 115 kV transmission level;
- Commercial Operation Date (COD) shall be within 30 months from the award of the contract,
- The ESS technology proposed shall have at least 1 year of commercial operations history in a utility environment and meet GPA requirements,

GPA’s 2018 Renewable Integration Study recommends that all utility scale BESS, new synchronous generation, utility scale renewable energy generation, and synchronous condensers should be interconnected at 115 KV for improved reactive power flow.

Reactive power is used to generate the electromagnetic fields necessary for the operation of inductive loads: i.e., motors, transformers, and transmission lines. Reactive power provides the voltage regulation function for transmission lines ensuring a smooth supply of real power. Power system voltage control is performed through

the management of reactive power. Without sufficient reactive power, the risk for voltage collapse and the overheating of generators, motors, and transformers increases,¹ especially under fault conditions.

ENERGY STORAGE SYSTEM TECHNOLOGY: The Bidder’s technology shall use grid-forming inverters / black-start capable and meet the description of “grid services” as those modes listed in **Section 2.2 Grid Services Technology** and “energy storage system” as described in **Section 2.4.1 Acceptable ESS Technologies**. “Grid-forming inverters for utility-scale batteries are available today from Tesla, GPTECH, SMA, GE Vernova, EPC Power, Dynapower, Hitachi, Enphase, [and] CE+T.”² Proponents must provide detailed inverter models for use in GPA analysis of system impact and efficacy.

- **ENERGY AND CAPACITY:** The energy storage system shall be capable of delivering the export capacity of 90MW (AC) / 360MWh for Energy-Shifting Services and 180MW (AC) / 90MWh for Grid Services, as specified in this Bid, daily and on demand at the interconnection point; this may be of energy storage systems at one or more sites. Site location(s) and capacity will be subject to GPA system conditions and a System Integration Study. The System Integration Study will be completed within 120 days after evaluation of the Price Proposal(s) and initial notification of the most qualified Bidders. The Energy Storage Systems shall have a minimum Capacity of 100%, minimum Availability of 98%, and a minimum Efficiency of 85% roundtrip.
- **GRID SERVICES:** The ESS sites, individually and collectively, must provide the following grid services modes:
 - **ENERGY-SHIFTING MODE:** The primary purpose of the ESS Services project shall be for energy-shifting, which is to deliver energy produced at another time or period of the day.
 - **FAST FREQUENCY REGULATION:** The ESS function using high speed response to rapidly inject or absorb power for the quick recovery to frequency deviations.
 - **RAPID RESERVE MODE:** The additional function of the ESS is to provide rapid reserve in response to under-frequency events. The total energy exported for these events shall be included in the annual minimum energy requirement.
 - **RAPID RESERVE AND HOLD:** The function to provide rapid reserve and hold through major weather intermittency caused by large drops in renewable production.

¹¹ Admin. (2021). Why are Reactive Power and Power Factor Correction are so Important? URL: <https://www.powermatrix.in/why-reactive-power-and-power-factor-correction-are-so-important/#:~:text=Reactive%20Power%20and%20its%20importance%3A&text=It%20is%20used%20to%20generate,smooth%20supply%20of%20real%20power>. (Last Accessed February 28, 2025)

²²² Benjamin Kroposki & Andy Hoke. (2024). A Path to 100% Renewable Energy: Grid-Forming Inverters Will Give Us the Grid We Need Now. NREL Library. Downloaded on October 22, 2024 at 17:12:09 UTC from IEEE Xplore.

- o **REACTIVE POWER SUPPORT:** The function of the ESS to provide support by utilizing inverters to dynamically inject or absorb reactive power into or from the grid, helps to maintain grid voltage, and improves grid stability.
- o **BLACK START:** The capability to form and supply microgrids post-natural disaster.
- o **TIME-CORRECTION:** See 2.2.1 Time-Correction
- o **MICROGRID/ISLANDING FORMATION, CONTROL:** The function to operate separately from the rest of the grid.

The suite of control modes must be administered under GPA Grid Controller.

- **DISPATCHABLE ACTIVE POWER CAPABILITY:** The active, or real, power of the energy storage system resource shall be dispatchable at the point of interconnection, at all hours, as required by the GPA Grid Controller, GPA Power System Control Center operators, or a SCADA control point. The total capacity and energy available for dispatching shall be provided to the GPA Power System Control Center through a SCADA point every second.
- **DISPATCHABLE REACTIVE POWER CAPABILITY:** The Energy Storage Systems must provide a dispatchable reactive capability requirement up to 0.80 lag to lead at the point of interconnection as required by the GPA Grid Controller, GPA Power System Control Center operators, or a SCADA control point. The project shall perform at +/- 0.80 PF Dynamic Range up to and including the maximum MW output and shall not reduce reactive capability near the peak real power output.
- **INTERCONNECTION:** The Energy Storage Systems shall deliver energy directly to the existing GPA 115 kV transmission system, subject to the result of a System Integration Study to be completed after Step 2 of the proposal evaluation. Interconnection shall be made to the 115kV transmission system of the northern part of the island.
- **COMMERCIAL OPERATION HISTORY:** The technology proposed for energy storage system shall have at least one (1)-year of commercial operations history in a utility environment.
- **COMMERCIAL OPERATION COMMENCEMENT:** The ESS site shall be available for commercial operation within thirty (30) months from the contract execution.
- **CONTRACT TERM:** The ESS energy resource shall provide energy for a term of 25 years, with the option to extend for one additional five-year term, for a maximum term of thirty years.

2. DESCRIPTION

The bids for energy storage system services 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 Storage System Services from this project based on a flat rate for the available energy capacity to be dispatched as required under the terms of the **ESS Services Purchase Agreement** (See Volume III). ESS Services from the selected bidders are to be available with the ESS facilities interconnected, operational and capable of delivering energy on or before 30 months from the contract award date. The term of the ESS Services Purchase Agreement will be 25 years. Prior to the expiration of the twenty-five-year contract period, GPA may extend the contract for one (1) additional five-year term.

2.2. Grid Services Technology

Grid Service Mode Requirements

The ESS shall provide the following grid services functions for GPA:

1. Energy Shifting;
2. Fast Frequency Regulation/ Response;
3. Rapid Reserve;
4. Rapid Reserve and Hold;
5. Reactive Power Support;
6. Black Start;
7. Fast Ramping (Duck Curve afternoon ramping);
8. Time Correction;
9. Microgrid/Islanding Formation, Control.

ESS shall be able to provide grid services separately or in an integrated fashion. ESS control must be provided to SCADA and the Grid Controller. ISO SB4GS must integrate existing ESS into its suite of grid controls and services.

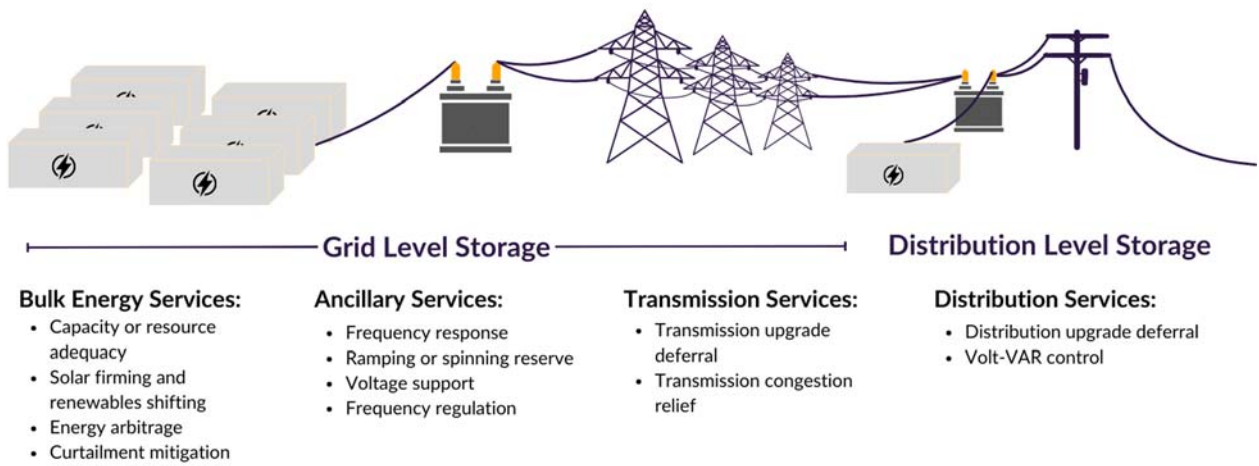


Figure 2-1. Grid Services from ISO SB4GS with Grid Forming Inverters

Draft



GPA Islandwide Power System

2028 GUAM'S ENERGY FUTURE

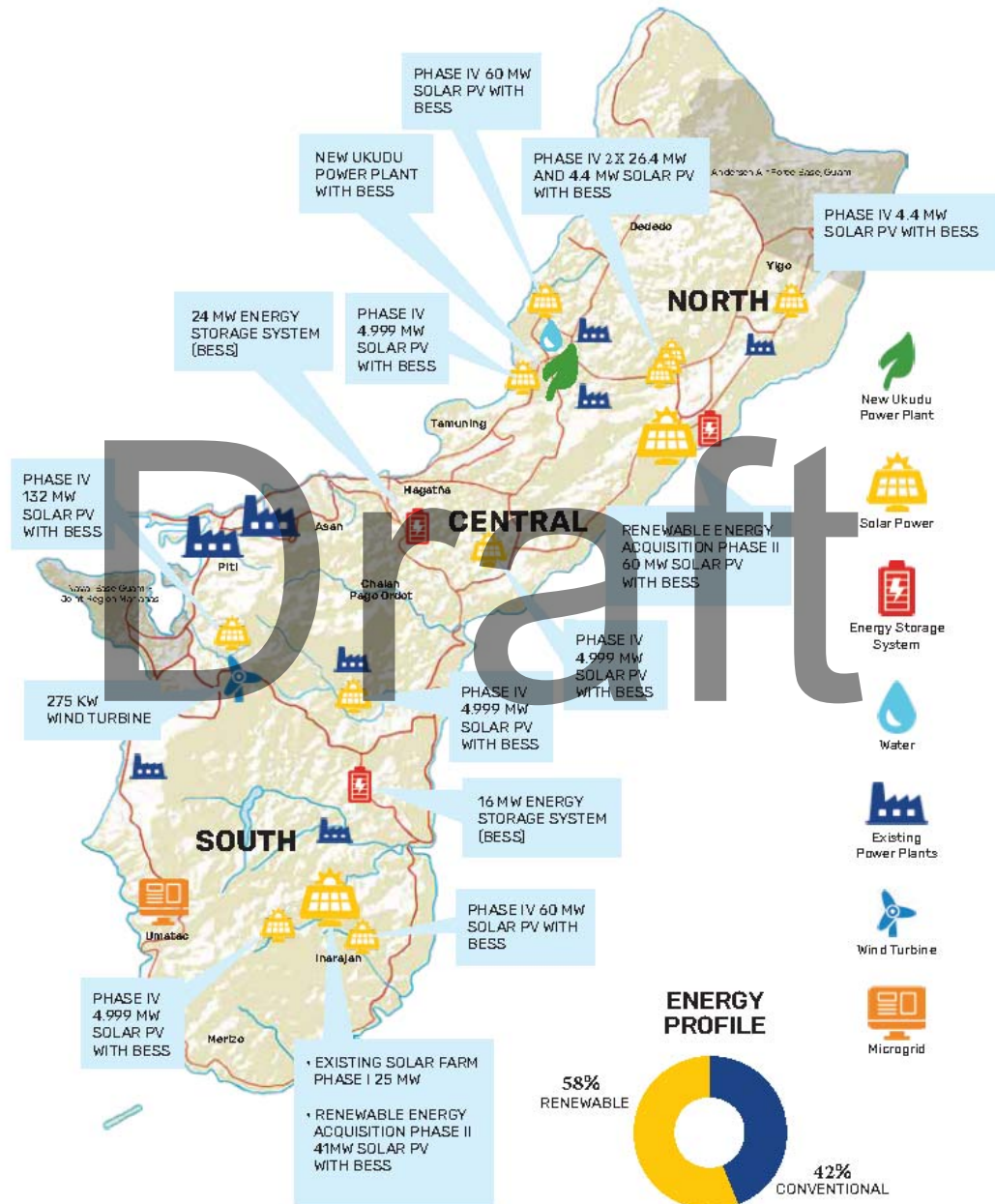


Figure 2-2. GPA Power System Generation and BESS Resources

2.2.1 Energy Shifting

When not providing grid services preserving the stability of the GPA grid, the primary role of the ESS is energy shifting. The ESS shall charge from the grid primarily during the daylight solar PV production hours. GPA reserves the right to have the system recharge outside of daylight hours.

GPA will dispatch the ESS stored energy normally during the non-daylight hours. GPA reserves the right to dispatch ESS energy during the daylight hours in emergency situations. Standalone ESS must be integrated to provide power to the grid with:

- 100 ms response time;
- Load-following mode;
- Block set-point mode.

Fast Ramping (Duck Curve afternoon ramping)

The Energy Shifting ESS shall be scheduled by the GPA System Dispatcher to load follow at the end of daylight hours in response to late afternoon Duck Curve Ramping.

2.2.2 Fast Frequency Regulation

ESS systems shall be able to participate in fast frequency regulation to keep power system frequency within 0.05 Hertz (configurable) on a continuous basis.

2.2.3 Rapid Reserve

ESS systems shall be able to provide and share in rapid reserve services to arrest frequency decay due to the trip of generation. The objective of this is to reduce the instances of under-frequency load shedding and the power quality issues associated with rapidly decaying system frequency. The Rapid Reserve grid service function shall keep power system frequency within the fast frequency regulation requirements, nominally 60 Hz +/- 0.05 Hertz (configurable) throughout the event.

2.2.4 Rapid Reserve and Hold

Large cloud and rain systems can cause large drops in solar PV power production. GPA has observed up to a 90% drop in production of solar PV plants. The ISO SB4GS shall develop a grid services mode to ameliorate all solar PV power production drop outs due to weather leading to solar PV production declines up to 90% of solar PV production.

GPA has observed that unlike system events of instantaneous loss of synchronous generation, Solar PV production drop offs due to weather do not have an instantaneous drop in output to zero. The event begins with a relatively slow roll off in power as the solar PV is shaded by the leading edge of

the cloud/rain system(s). This roll off duration is over several minutes not seconds. Power production at affected solar PV power plants, then experience a quick drop off in power production depending on the cloud/rain system size and opacity. The solar PV system output has not yet been observed to drop to zero so there is still residual power production injected into the grid. Eventually, solar PV power production recovers beginning as a slow roll up in production as the trailing edge of the cloud/rain system passes away from the solar PV facility. Production recovery may be quicker than the decline. The Rapid Reserve and Hold function must smoothly transition grid operations from solar PV production roll off to production recovery keeping power system frequency within the fast frequency regulation requirements, nominally 60 Hz +/- 0.05 Hertz (configurable). Please see Appendix V for an example Tesla diagrams for PV drop.

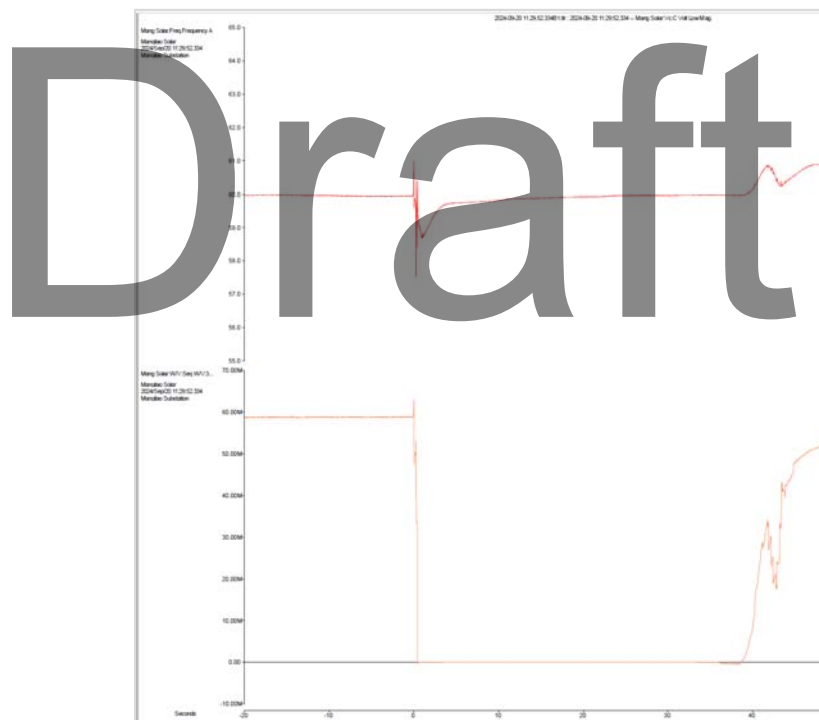
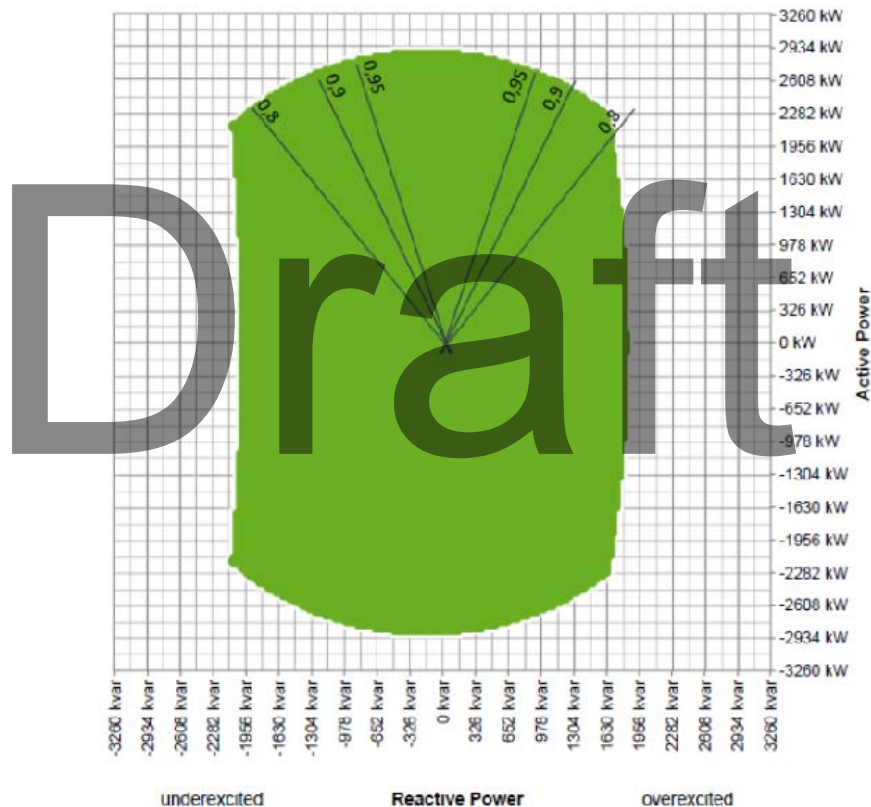


Figure 2.3 Tesla Diagram Example of PV Drop

2.2.5 Reactive Power Support

BESS shall provide reactive power support for voltage control to GPA’s Bulk Power System (BPS) autonomously, as commanded by the Grid Controller or SCADA. Figure 4.5-1 shows an example of a 2.7 MVA BESS Capability Curve. This section reflects the recommendations of the North American Electric Reliability Corporation (NERC) Reliability Guidelines for Performance, Modeling, and Simulations of BPS-Connected Battery Energy Storage Systems and Hybrid Power Plants⁴ This section and subsections quotes liberally from the aforementioned guideline without further citation.



Source: NERC⁵ and SMA America

Figure 2.5. Example of 2.7 MVA BESS Capability Curve

⁴ NERC. (2023). Performance, Modeling, and Simulations of BPS-Connected Battery Energy Storage Systems and Hybrid Power Plants. URL: https://www.nerc.com/comm/RSTC_Reliability_Guidelines/Reliability_Guideline_BESS_Hybrid_Performance_Modeling_Studies.pdf

⁵ Ibid

Reactive Power Voltage Control Under Normal Conditions and Small Disturbances

BESS shall have the capability to provide reactive power-voltage control in both charging and discharging modes and when active power is zero.

BESS Discharging Operation Mode

Under BESS Discharging Operation Mode, there are no significant differences between BESS during discharge operation and other BPS-connected inverter-based generators with respect to reactive power-voltage control. BESS shall have the ability to support BPS voltage control by controlling their Point of Measurement (POM) or equivalently Point of Interconnection (POI) voltage within a reasonable range during normal and abnormal grid conditions.

BESS Charging Operation Mode

Under BESS Charging Operation mode, BESS shall have the capability to control POM/POI voltage during normal operation and abnormal small disturbances on the BPS while operating in charging mode. The ability for resources consuming power to support BPS voltage control adds significant reliability benefits to the BPS and is required by GPA as part of their interconnection requirements.

Continuity of Reactive Power Support and Bulk Power System (BPS) Voltage Control

As the resource transitions from charging to discharging modes of operation (or vice versa) or operates at zero active power output while connected to the BPS, the BESS shall have the capability and operational functionality enabled to continuously control BPS voltage.

Fault Induced Delayed Voltage Recovery (FIDVR)

GPA feeder loads are typically 40% to 60% motor loads. GPA system is subject to Fault Induced Delayed Voltage Recovery (FIDVR) as part of three-phase fault behavior. FIDVR may lead to wide area blackouts if sufficient excitation energy (reactive power) is not available. Unlike real power, reactive power is not transportable across wide areas. This is why GPA requires that the standalone BESS, large synchronous generation, synchronous generation, and large Solar PV and Wind resources be interconnected at the 115 KV transmission level. Standalone BESS shall maximize its reactive power support.

2.2.6. Black Start

BESS must provide Blackstart Capability for System Restoration. In the event of a large-scale outage caused by system instability, uncontrolled separation, or cascading, GPA system operators are tasked with executing blackstart plans to re-energize the BPS and return electric service to all customers.

After a system wide outage, GPA carefully resynchronizes regions or portions of the BPS.

Throughout this entire process, grid operators are closely balancing generation and demand as well as managing BPS voltages within operating limits. In order to actively participate in blackstart and system restoration, a BESS will need to perform the following:

- Generate its own voltage and seamlessly synchronize to other portions of the BPS;
- Reliably operate during large frequency, voltage, and power swings, and in low short-circuit strength networks (detailed EMT studies should be conducted to demonstrate the ability to operate under these conditions);
- Provide sufficient inrush current to energize transformers and transmission lines and start electric motors, coordinating with the blackstart load (note that BESS, like other inverter-based resources, have limited ability to provide high levels of inrush current relative to their nominal current rating, but they can be designed for higher current capabilities.);
- Assure BESS availability as a blackstart resource immediately after a large-scale outage requiring system restoration activities;
- Have sufficient energy to remain on-line and operational for the time required to ensure blackstart plans can be successfully executed;
- BESS energy ratings should be designed to achieve the required periods and their states of charge should be maintained above a limit to ensure enough energy is available for blackstart purposes;
- Be able to quickly respond to and control fluctuations in system voltage and frequency;
- Be able to start rapidly to minimize system restoration times;
- Have redundancy to self-start in the event of any failures within the facility;
- Make all control design, settings, configurable parameters, and accurate models available to GPA in order to ensure proper integration into the overall system blackstart scheme and coordination between resources via appropriate engineering studies;
- Have remote startup and operational control capabilities to avoid requiring dispatch of personnel to the field.

2.2.7. Time Correction

BESS shall provide computation of time deviation throughout a 24-hour period. With all other synchronous generation and non-participatory BESS on block load, the BESS shall operate the system with a frequency bias to correct the accrued time deviation.

2.2.8. Microgrid/Islanding Formation, Control

Each Standalone BESS shall be able to form sustainable microgrids upon:

- Manual control by GPA Power System Operators via SCADA;
- Manual control onsite via site Distributed Control System (DCS);
- Automatic control via relays;
- Automatic control via the AI Based Autonomous Grid Controller.

2.2.9. BESS Grid Services Reserve

The Rapid Reserve, Rapid Reserve and Hold Functions shall be supported by a BESS system reserve power and energy capacity of 180 MW/180 MWh each morning at 6:00 am. The value of the reserve State of Charge, maximum active power (charging and discharging), total available energy (charge and discharge MWh), and number of inverters online shall be telemetered to the GPA SCADA and Grid Controller in ten second scans.

2.2.10. Integration and Control with Existing BESS

ISO SB4GS must integrate existing BESS into its suite of grid controls and services including at the following locations:

- KEPCO Mangilao Solar Power Plant;
- KEPCO Yona Solar Power Plant;
- Ukudu Power Plant;
- Hagatna Substation;
- Talofofo Substation;
- Mojave Solar Power Plant;
- CoreTech Dededo Solar Power Plant;

Owner	Capacity (MW _{ac})	Interconnection Voltage (kV)	Minimum Annual Production MWh _{ac} @ 95 % Confidence	Half Average Daily MWh _{ac}	BESS Output		
					Capacity (MW _{ac})	Duration (hours)	MWh _{ac}
Mojave Marianas LLC	60.000	34.50	113,641.00	155.67	30.00	4.05	121.41
PEC and LMS	4.999	13.80	8,342.21	11.43	2.75	6.00	16.51
PEC and LMS	4.999	13.80	8,411.42	11.52	2.75	6.00	16.51
PEC and LMS	4.999	13.80	7,658.52	10.49	2.75	6.00	16.51
PEC and LMS	4.999	13.80	8,420.02	11.53	2.75	6.00	16.51
CoreTech International	60.000	34.50	114,545.00	156.91	30.00	4.00	120.00
KEPCO, EWP, and Samsung	132.000	115.00	216,055.00	295.97	67.00	3.88	260.00
Power Solutions and SK	26.400	34.50	58,105.00	79.60	15.00	5.87	88.06
Power Solutions and SK	26.400	34.50	58,093.00	79.58	15.00	5.87	88.06
Power Solutions and SK	4.400	13.80	9,655.00	13.23	2.75	6.00	16.51
Power Solutions and SK	4.400	13.80	9,367.00	12.83	2.75	6.00	16.51
Hagatna BESS (GPA)		115.00			24.00	0.25	6.00
Talofofo BESS (GPA)		34.50			16.00	1.00	16.00
Ukudu Power Plant BESS		115.00			25.00	1.00	25.00
Total	333.596		612,293.17	838.76	238.50	61.92	823.61

Table 2.5. Existing BESS to be Integrated into Grid Controller

2.2.11 Grid Services Control

Grid Service Modes shall be placed under one or more of the following:

- Autonomous Automatic Control;
- Grid Controller
- SCADA.

Table 2.6 shows the Grid Service Mode and the control assignments.

Grid Service Mode	Autonomous (Always On))	Grid Controller	SCADA
Energy Shifting		X	X
Fast Frequency Regulation	X	X	
Rapid Reserve	X	X	
Rapid Reserve and Hold	X	X	
Reactive Power Support	X	X	
Black Start			X
Fast Ramping (Duck Curve afternoon ramping)	X	X	
Time Correction	X	X	
Microgrid/Islanding Formation, Control.		X	X

Table 2.6 Grid Service Mode Control Mapping

Fast Frequency Regulation, Rapid Reserve, Rapid Reserve and Hold, Reactive Power Support, Fast Ramping, and Time Correction Grid Service modes shall normally operate autonomously and automatically. The Grid Controller can override and reconfigure these modes whenever the Grid Controller as necessary to keep the GPA power system stable.

Energy Shifting and Microgrid/Islanding Formation and Control are primarily under the control of the Grid Controller. Control transfers to SCADA whenever GPA initiates system restoration from a blackout.

Black Start Mode is under the control of SCADA and used whenever GPA initiates system recovery from a blackout.

2.3. Autonomous Artificial Intelligence (AI) Based Grid Controller

Proponents shall propose for an Autonomous AI-based Grid Controller as part of their bids. As the inverter based resources (IBR) replace synchronous generators on GPA's grid, the GPA power grid becomes more unstable. The instability manifests itself in faster rates of change of frequency (ROCOF) and voltage (ROCOV) in response to system events. The need for an autonomous AI-based Grid Controller stems from the much faster ROCOF and ROCOV requiring situational awareness of the power system, real-time identification of impending instability, and the need to ameliorate these threats in short timeframes beyond human capability to respond. The Grid Controller shall provide the System Operators and Operations Planning Engineers with a real-time situational analysis of power system stability. The Grid Controller shall perform analyses and rankings of Action Plans to ameliorate any stability risks. If necessary, the Grid Controller will take appropriate action to mitigate the stability risk(s).

The Autonomous AI Based Grid Controller:

- Captures real-time power system data from various sources;
- Displays and Trends Key Operational Information;
- Analyzes the data to determine if a risk to system stability exists or is developing;
- Ranks these Risks;
- Assesses Action Plans to mitigate these risks;
- Ranks these Action Plans according to calculated efficacy;
- Assesses the time required to ameliorate these risk(s);
- Informs System Operators and Operations Planning Engineers about the risks and proposed Action Plan sets;

- If the time required to act is less than a threshold set up by the Operations Planning Engineers, the Grid Controller will autonomously execute the “best” Action Plan.
- If the time required to act is greater than a threshold set up by the Operations Planning Engineers, the Grid Controller will inform the System Operator of the risks and display the Action Plan (AP) in order of ranking for the System Operator to choose which AP to execute.
- Upon the Display of the information and request for System Operator action, the Grid Controller will begin a timer for System Operator Action.
- On the expiration of this timer, the Grid Controller will execute the “best” Action Plan”.
- If the System Operator chooses an Action Plan prior to the timer expiration, the Grid Controller will execute the chosen Action Plan.

Digital Twins

The Grid Controller shall develop and use Artificial Intelligence Based Digital Twins to analyze grid instabilities and Action Plans necessary to mitigate or remove unstable grid conditions. The Grid Controller shall develop Digital Twins for both Transmission and Distribution Systems.

Grid Controller Services

In addition to the assigned Grid Service Modes (Table 2.6), the Grid Controller shall provide the following services:

- Automatic Generation Control
- Demand Response Program Control
- Security Constrained Economic Dispatch
- Real Time Contingency Analysis
- EMT based Power Flow and Dynamic Simulation (Digital Twin)
- Grid Monitoring Analysis System (Grid Oscillations)
- State
- Real-Time Autonomous Artificial Intelligence (AI) based Grid Control.

Open Standard Requirements

The Grid Controller will incorporate the Pacific Northwest National Laboratory Grid Optics Software System (GOSS) bus as a universal service bus (USB). The Grid Controller and other applications will use the GOSS bus to obtain the data they require.

The GOSS bus shall use the IEEE 2664 Streaming Telemetry Transport Protocol (STTP) to send and receive data. The GOSS bus shall update data such as PMU data at 60 Hz. The GOSS Bus shall use Common CIM (Common Information Model) format names.

The Grid Controller shall use the OSIsoft/Aveva PI system historian. The PI system shall serve as data diodes to critical OT systems such as SCADA.

BESS Telemetry and Control

BESS systems shall provide GPA SCADA and Grid Controller controls and telemetry. BESS shall be able to provide grid services separately or in an integrated fashion. BESS control must be provided to SCADA and the Grid Controller.

- BESS State of Charge
- BESS Real and Reactive Power Output

2.4. Energy Storage System Components and Technology

2.4.1. Acceptable ESS Technologies

The U.S. Energy Information Administration (EIA) describes an energy storage system for electricity generation as a system that uses electricity or some other energy source to charge and energy storage system, which is discharged to supply electricity when needed at desired levels and quality. While there are several types of energy storage systems available for commercial use, Battery Energy Storage System (BESS) will be the only accepted technology for the IFB, with at least one year of commercial operation history in a utility environment.

2.4.2. Model Battery Energy Storage Systems (BESS) for Energy Storage Power Purchase Agreement (ES PPA)

Contracts for standalone battery energy storage systems (BESS) for grid services (BESS4GS) projects selected through this IFB shall use the BESS4GS, as described in Volume III. Under the BESS4GS, Guam Power Authority holds exclusive rights to fully direct the charging and discharging of the Facilities. Additionally, due to the critical nature and usage of this to support the grid, the ability to control and tune the facility's response to certain grid events and conditions is an important aspect that will be required of these facilities, both prior to COD and throughout the life of the Contract.

2.4.3. Real Power and Energy Requirements.

The fully functional operating range of the ESS, with respect to energy, is defined in this specification as 0-100% State of Charge (SOC). This means that if the Bidder's proposed system is recommended or required to operate within the ESS manufacturer's stated specifications with a minimum SOC greater than 0% or a maximum charge less than 100%, then the Bidder must adjust the manufacturer's stated specifications to the fully functioning operating range of the ESS. For instance, if the manufacturer's specifications recommend operating the ESS within the range of 10-90% SOC, the total amount of available energy must be reduced by 20% to correspond to the 0-100% SOC range as defined for this IFB.

2.4.4. Reactive Power Requirements

The ESS shall have the capability to output up to the nominal real power capacity magnitude on a continuous basis. The real power order of the ESS shall take priority over the reactive power order. If the nominal real power capacity rating cannot be met, Bidders are encouraged to describe the reactive power capabilities of their proposed system and provide a reactive power capability curve. The RI-ESS must provide a dispatchable reactive capability as required by GPA Power System Control Center Dispatchers. The Reactive and Real Power Capability must be communicated to the GPA SCADA Master every two (2) seconds.

2.4.5. Response Times

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

2.4.6. Ride-through and Synchronization Capabilities

The ESS shall have the ability to remain online and functional during severe disturbances. The ESS shall not lose synchronism or trip offline for disturbances that the ESS is intended to mitigate. This includes the requirement to ride through rapid rate of change of frequency events and to ride through zero or near zero voltage events with recovery as the voltage recovers. All limitations related to the ride-through and synchronism capabilities of the ESS shall be stated. The ESS must continue to conduct, and not cease to conduct for any reason when the system is operating within the ride-through settings.

Preliminary frequency and control requirements are illustrated in Table 1 below. The provided ride-through requirements are preliminary in nature. The ESS voltage and frequency trip settings should have configurable settings. If ESS is capable of riding through system disturbances beyond the

limits specified in the voltage and frequency ride-through requirements, please provide an explanation of the ride-through capabilities of the ESS.

Table 1 – Voltage Ride-through Settings

Applicable voltage (p.u.) at the POI	Settings at Point of Interconnection	
	Response	Minimum ride-through time (s)
$V > 1.20$	May ride through or may trip	N/A
$V > 1.10$	Mandatory operation	1.0
$V > 1.05$	Continuous operation	1800
$V < 0.90$	Mandatory operation	6.00
$V < 0.7$	Mandatory operation	3.00
$V < 0.50$	Mandatory operation	1.20
$V < 0.25$	Mandatory operation	0.32
$V < 0.10$	Permissive operation	0.32

Table 2 - Frequency Ride-through Settings

Frequency Range (Hz)	Operating Mode	Minimum Ride-through time design criteria (s)
$f > 65.0$	No ride-through requirements	N/A
$63.0 < f < 65.0$	Mandatory Operation	299
$57.0 < f < 63.0$	Continuous Operation	Infinte (no trip allowed)
$50.0 < f < 57.0$	Mandatory Operation	299
$f < 50.0$	No rid-through requirements	N/A

2.4.7. Control Functions

It is important for Bidders to describe and illustrate the control modes and methods of operation proposed. The flexibility of the ESS controls shall also be discussed and provide indication of the ease of control system changes such as adding new control modes and methods of operation.

2.4.8. System Roundtrip Efficiency

The Battery Energy Storage System (BESS) shall maintain a minimum AC-to-AC roundtrip efficiency of 85%. GPA will evaluate system roundtrip efficiency as part of the priced bid evaluation.

2.4.9. Control Functions

It is important for Bidders to describe and illustrate the control modes and methods of operation proposed. The flexibility of the ESS controls shall also be discussed and provide indication of the ease of control system changes such as adding new control modes and methods of operation.

2.4.10. SCADA/EMS/SA/AGC Communications Protocol

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 PV system, curtailed power from the PV system, ESS charging power, ESS power, (real and reactive) delivered to GPA, ESS state charge.

2.4.11. Proven Technology

The proposed energy storage system resource technology and key components must have a minimum of one (1) year of operating experience in commercial utility application.

If the proposed technology is a "scale up" of an existing facility, the operational performance data for the smaller plant must be at least 1/10 the proposed plant size or larger.

2.4.12. Use of GPA Facilities

The use of GPA sites or facilities (with the exception of interconnection facilities identified in Proposed Sites) will NOT be permitted in this RFP.

2.5. Project Capacity & Production

The capacity of the y shall be 90 MW / 360 MWh for Energy Shifting and 180 MW / 90 MWh Grid Services for each project site.

2.6. Project Independence

Bidders shall propose a Project that is capable of meeting the requirements of the bid without having to rely on the completion or implementation of any other project, Proposals submitted must represent a project that is capable of meeting the requirements of this MSB without having to rely on a proposed change in law, rule, or regulation.

2.7. Risk Assessment of Project Commercial Operating Date

As part of the MSB Qualification Phase, GPA, its technical partners (National Laboratories), and its Owner's Engineers will evaluate the submitted proposal risks to determine if significant risk exists for not meeting the Project's Guaranteed Commercial Operations Date (GCOD). GPA will not qualify Projects with unresolved significant risks for the Price Proposal Bid Phase.

2.8. Cost Responsibility Throughout Contract Term

Selected Contractor(s) will be responsible for all costs throughout the term of the PPA, including but not limited to Project development, completion of a System Impact Study (SIS), permitting, financing, construction of the Facility and all Interconnection Facilities, and operations and maintenance (O&M).

2.9. Decommissioning Responsibility

Selected Contractor(s) will be solely responsible for the decommissioning of the Project and the restoration of the Site upon Contract expiration.

2.10. Project Funding Via Federal Tax Credits, International Renewable Energy Credits, and Grants

Selected Bidder(s) shall pursue all available applicable federal tax credits, international renewable energy credits, and grants to assist funding the Project. Proposal pricing must be set to incorporate the benefit of such available funding sources. Bidders shall provide a detailed analysis and presentation of how these sources of funding will be used to reduce the final price during the qualifications phase. The analysis and presentation must not reveal the final.

2.11. Delivery

2.11.1. Interconnection

The Bidder will deliver stored energy to a GPA-determined interconnection point on GPA's 115 kV transmission system. GPA will determine the exact location after completion of a detailed interconnection study. The GPA transmission system and primary delivery points are identified in the attached map (See Appendix K and O). GPA requests that the Bidders identify potential interconnection sites within their submittal.

GPA requires the following interconnection requirements. The final interconnection agreement will be based on the System Integration Study recommendations.

1. An overhead transmission line connecting directly to the nearest existing GPA transmission line or GPA substation at transmission level (115kV) from a new substation at the ESS facility. The connected GPA substation may require upgrades including a new breaker, control and protection devices, and additional bus structure, etc. Taps to an existing transmission line may also require upgrades, to be determined upon completion of the System Integration Study.
2. A SCADA system with Remote Terminal Unit to link the new substation to GPA's Control Center.
3. A Fiber Optic communication line and associated network communications infrastructure between the ESS facility, the new substation and the connected GPA substations and network.
4. A communication-assisted protection scheme with primary and backup protection devices via a dedicated fiber optic line for the transmission line protection between the renewable generation facility and the connected GPA substations. Current differential protection is recommended..

The cost of facilities to bring the Bidder's energy to GPA's point of interconnection is the responsibility of the Bidder. Bidders shall be responsible for the design, engineering and construction cost as well as construction and commissioning. All design shall require GPA review and approval and construction shall be coordinated with GPA for inspections during construction.

Bidders must include the cost for interconnection in their priced proposals as this may be negotiated with GPA during contract negotiations. Total cost, however, must still fall below GPA's avoided cost: the marginal utility cost as determined by GPA's resource planning software.

The cost estimates in the table below are for evaluation purposes:

Table X: GPA's Estimated Transmission Costs, \$/mile

115 kV Overhead (Poles, Hardware, #927 Al Primary Lines)	\$7.82 Million
--	----------------

Bidder shall provide bidder's methodology of how to measure the power and energy output at the point of interconnection including output of ESS facility. This is for GPA to inspect and verify bidder's energy storage system performance.

The final interconnection agreement will be based on the recommendations from the System Integration Study to be completed for selected proposed project(s).

2.11.2. GPA Interconnection Standard Specifications

GPA maintains standard specifications for interconnection equipment and communication protocols.

2.11.2.1. Transmission Line

Interconnection shall be to the 115 kV transmission. The following are specifications for transmission lines:

Table X: Transmission Line Specifications

ITEM	SPECIFICATIONS
Overhead Lines	927 kcmil AAAC bare aluminum conductor

2.11.2.2. Substation Hardware

The following are specifications for breaker, switchgear, relays, instruments and controls, PT & CT, instrument and cable:

Table X: Substation Hardware Specifications

ITEM	SPECIFICATIONS
Breakers	Outdoor: SF6 breakers.
	Indoor: Matching existing GPA breakers.
Relays	SEL relays and meters.

PT	Dual ratio
CT	Class 400, multi-ratio.
Cable	#10 AWG for CT connection, #12 AWG for control and power, #18 AWG for SCADA communication

2.11.2.3. Substation Buildings

All new substations shall be concrete structures which meet Guam building codes.

2.11.2.4. Communication Protocol

Standard Communication Protocol with the existing and future SCADA/EMS is DNP3/DNPI. DNP3-SA version 5 serial and over TCP/IP or latest stable release implemented in concordance with the technical bulletins from www.dnp.org.

2.11.3. Substation Short Circuit Capacity Values

The following are the existing short circuit currents (base and maximum) for Orote and Harmon Substations: Data for other substations will be provided upon request.

Substation:	Base Generation				Max Generation			
	3Ph Fault		LG Fault		3Ph Fault		LG Fault	
	SC MVA	X/R Ratio	SC MVA	X/R Ratio	SC MVA	X/R Ratio	SC MVA	X/R Ratio
OROTE	470.7	7.70494	460.3	8.3632	568.6	6.38708	514.7	7.42385
HARMON	681.5	11.1796	868.7	9.44163	934.4	9.58519	1130.9	8.03686

2.11.4. System Integration Study

At the completion of the Priced Proposals evaluation and subject to the size and location of a Bidder(s) project, GPA will undertake a “System Integration Study”. The purpose of this study is to determine the system impacts and upgrade requirements for integration of the selected project or projects into the GPA system. The Bidder or Bidder(s), in the event GPA selects more than one bid, will be responsible for the cost of such study. Presently the estimated cost for a single project evaluation is about \$60,000 to \$80,000. If additional modeling is required for evaluating multiple projects concurrently, additional costs may be imposed per model.

The Bidder(s) will be responsible for the costs of system upgrades, if any. If required, a separate System Integration Cost Agreement will be executed by the parties. Selected Bidders will have the opportunity to withdraw their bids upon review integration costs resulting from the GPA study.

Upon request the selected bidders will provide the following information for the study:

1. Size and scope of the various types of energy storage projects. This should also include any additional details that may be known about individual proposed projects, including the electrical model for the proposed interconnection, such as the transmission line description and impedances at the point of the interconnection.
2. If applicable, solar irradiance data in 2-second intervals for each solar project – time synchronized if possible.
3. Expected control characteristics of the projects – It will be critical that each project must be capable of being controlled in real time. Voltage control characteristics and frequency characteristics must be provided.
4. The developer must supply PSLF modeling information, and EMT modeling information (such as in EMTP-RV or PSCAD format) to allow for further detailed study work for the project itself, and for use on an ongoing basis for GPA system studies for other purposes. Modeling data should also include relevant data for inverters and collector system/transformers between the inverter terminals and the Point of Interconnection.

2.12. Pricing

2.12.1. Fixed Pricing for Guaranteed Energy and Energy Storage Services

Bidders are required to submit fixed pricing for the guaranteed stored energy services and energy delivered for the first contract year.

2.12.2. Bid Expiration

All Bid term, conditions, and pricing are binding for 8 months following the due date of the IFB.

2.13. Project Siting

The Guam Power Authority prefers sites located in the Northern sector of the island, on or near the following installations:

- 115kV transmission system associated with Harmon and Tamuning Substations

The following site(s) is (are) available Guam Power Authority property for the construction of the ESS facilities:

- GPA Ukudu Property Adjacent to the Ukudu Power Plant;

Details of proposed sites can be found in Appendix O.

2.14. Environmental Conditions

1. Regulated Substances and Waste Management. (For all sites)

Upgrades to GPA's infrastructure, including the addition of BESS facilities, may involve the use of regulated substances, including petroleum fluids such as oils, lubricants, and fuels for heavy equipment. The use of regulated substances during construction raises concerns regarding potential spills and contamination, proper handling and waste management practices are essential to protect soil and water quality.

Implement BMPs for regulated substances material handling, storage, and disposal to prevent spills and contamination.

2. Ecological and Community Impacts (For all sites)

The construction and operation of BESS facilities may affect local ecosystems and communities. Potential impacts include habitat disruption, noise, and air quality concerns. BESS construction activities can generate noise, which GPA needs to address through public outreach to communicate these concerns to nearby residents.

3. In Guam, Best Management Practices (BMPs) for Stormwater Pollution Prevention Plans (SWPPPs) must be implemented at construction sites in accordance with the Guam Environmental Protection Agency (GEPA) and U.S. Environmental Protection Agency (EPA) regulations, particularly under the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Construction Activities. (For all sites)

- A SWPPP must be developed and BMPs implemented before any land clearing, grading, or excavation begins on construction sites that disturb 1 acre or more (or are part of a common development plan disturbing 1 acre or more).
- BMPs must be maintained throughout the construction period to control erosion, manage sediment, and prevent pollutants from leaving the site in stormwater runoff.

4. Impact on Cabras and Tank Farm NPDES

The proposed BESS facility is planned for construction on the site of the soon to be decommissioned Cabras Power Plant and adjacent to the Piti Tank Farm, which is a designated wetland. These must be carefully designed and implemented in strict compliance with all applicable environmental regulations, particularly those governing NPDES discharge permits. Due to the site's proximity to navigable waters and environmentally sensitive areas, it is essential to prevent any stormwater runoff from discharging into the outfall and the existing Cabras ponding basin.

Additionally, although there are no current regulations in regards to BESS, the potential for leaking or exploding batteries due to potential overcharging, physical damage, manufacturing defects, extreme temperature, or thermal runaway, GPA may consider installing secondary containment structures to contain potential electrolyte leakage for all BESS storage facilities or fire suppression systems as a proactive approach for these systems.

Furthermore, all battery storage systems and regulated substances must be securely stored in fully contained systems to eliminate the risk of leaks or contamination that could adversely impact water quality and surrounding marine ecosystems.

2.15. CYBERSECURITY

GPA falls under Critical Infrastructure Protection (CIP) with our largest customer being the United States Department of Defense. US Secretary of Defense Peter Hegseth, during his confirmation hearing, replied that the most strategic military base in the Pacific for the United States is Guam.⁹⁹ State-sponsored threats have intensified in the last 5 years because of Guam's close proximity to Asia and with Guam's position as the "tip of the spear" requires that GPA adheres to comprehensive cybersecurity and physical security guidelines and policies.

Proponent shall be guided by the below Policy Directive(s) on Cybersecurity:

- 7.0 System & Service Acquisition Policy Directive (Appendix S)
- 8.0 Access Control Policy Directive (Appendix T)

2.15.1. Guam Power Authority Supply Chain Risk Management

The Guam Power Authority is "under systematic assault by Foreign Intelligence Entities (FIEs) who have augmented traditional intelligence operations with nontraditional methods, including economic espionage, supply chain exploitation," and the use of various external and internal agents, "to collect both classified and unclassified information" for the purpose of disrupting the bulk power supply to the United States Department

⁹⁹ Nick Delgado. (2025). Defense secretary nominee: Guam is strategically significant base in Pacific. URL: <https://www.kuam.com/story/52184824/defense-secretary-nominee-guam-is-strategically-significant-base-in-pacific>

of Defense on Guam.¹¹ The scale of this effort has put critical infrastructure industries at risk: electric power, water and wastewater, telecommunications, air and sea ports, fuel supply infrastructure, and command and control systems.

In response to these threats, GPA must exhibit excellent governance over cybersecurity and physical security risks including but not limited to:

- Enhancing Contract Language for Supply Chain Security;
- Identifying Critical Assets and Services;
- Exercising Due Diligence on Suppliers.

Enhance Contract Language for Supply Chain Security¹²

GPA must ensure contract language with key suppliers includes:

- Metrics for supply chain security along with cost, schedule, and performance.
- An audit capability for key suppliers' supply chain processes.
- Ability to verify compliance with applicable laws, regulations, and industry standards.
- Implementation of SCRM requirements into contractual language with third party vendors.

Identify Critical Assets and Services¹³

GPA must identify critical assets and services, risk tolerance, and contingency plans including:

- Identify those assets and services most critical to the organization.
- Determine the risk tolerance and tradeoffs regarding protecting those critical assets and services.
- Develop contingency plans to restore critical assets and services.

Exercise Due Diligence on Suppliers¹⁴

GPA must perform due diligence on suppliers of goods and services including:

- Conduct research and due diligence on suppliers prior to doing business with them.
- Build an understanding of suppliers' security practices.
- Procure components from authorized sellers, whenever possible.

¹¹ National Counterintelligence and Security Center Supply Chain Directorate. (2019). Supply Chain Risk Management: Best Practices. URL: <https://www.dni.gov/files/NCSC/documents/supplychain/20190405-UpdatedSCRM-Best-Practices.pdf>

¹² Ibid

¹³ Ibid

¹⁴ Ibid

- Change the paradigm from focusing primarily on lowest cost to focusing on best value.
- Reward employees for executing robust due diligence in acquisitions.

2.15.2 Compliance with Section 1260H of the William M. (“Mac”) Thornberry National Defense Authorization Act (Public Law 116-283)

Section 1260H of the William M. (“Mac”) Thornberry National Defense Authorization Act (Public Law 116-283) requires the Secretary of Defense to identify and publish an annual list of "Chinese military companies" operating directly or indirectly in the United States or its territories, until December 31, 2030.

“While being named to this list, by itself, does not prohibit US businesses from continuing to do business with these companies, it can act as an indication that further US government action is under consideration and/or that there are broader US government concerns with these entities.”¹⁵ “Additionally, “While being placed on the list doesn't involve immediate bans, it represents a warning to U.S. entities and companies about the risks of conducting business with them.”¹⁶

GPA must act on the very conservative side as critical infrastructure serving major United States Department of Defense Military Bases. Therefore, for all critical infrastructure procurements, GPA is prohibiting the participation of entities Identified as Chinese Military Companies Operating in the United States in Accordance with Section 1260H of the William M. (“Mac”) Thornberry National Defense Authorization Act (Public Law 116-283). GPA will neither accept proposals from nor conduct business with the entities on the aforementioned list nor with businesses indirectly or directly involved with these entities. GPA will use the latest list available at the time of procurement solicitation announcement and anytime up to award of contract.¹⁷ GPA will use this list as is and will not make any consideration otherwise of the content of this list. Any request for “reconsideration for placement on this list is the responsibility of the listed party” to formally engage the United States Government.

¹⁵ Adelia R. Cliffe, Esq., Maria Alejandra (Jana) del-Cerro, Esq., Jeremy Iloulan, Esq., and Alexandra Barbee-Garrett, Esq., Crowell & Moring LLP. (2025). DOD changes to list of Chinese military companies may impact suppliers, contractors. URL:

https://www.crowell.com/a/web/gBrx3nqgaUVk54CH4hP43d/wlt_cliffe.pdf

¹⁶ David Shepardson. (2024). Hesai returned to US list of firms alleged to help Beijing's military. URL: <https://www.reuters.com/technology/pentagon-removes-lidar-maker-hesai-us-list-firms-alleged-help-beijings-military-2024-10-16/>

¹⁷ United States Defense Department. (2025). Notice of Availability of Designation of Chinese Military Companies. URL: <https://www.federalregister.gov/documents/2025/01/07/2025-00070/notice-of-availability-of-designation-of-chinese-military-companies#footnote-1-p1105>

GPA may augment its decision making based on classified information received from the Department of Defense and the United States Federal sources.

2.15.3 Physical Security Requirements

Given the critical nature of utility infrastructure, the contractor shall implement and maintain robust physical security measures to protect all utility assets, facilities, and personnel involved in this project. Physical security is essential to ensuring the uninterrupted delivery of services, safeguarding public safety, and preventing unauthorized access, sabotage, or damage to critical infrastructure.

Proponent shall be guided by the below Policy Directive on Physical Security:

- 17.0 Physical and Environmental Protection Policy Directive (Appendix U)

3. TECHNICAL INFORMATION

This section discusses the technical information required for the qualification process in Step One of this multi-step bid. Bidders are required to answer all questions raised in the Qualitative Scoring Workbook for Part 1 - Qualitative Scoring References and Part 2 – Technical Data provided with the bid documents.

3.1. Project Development

This category scores the likelihood that a Bidder's energy storage system project will be placed in commercial service. The evaluation criteria for this category generally address construction and development risks associated with the completion of projects that are not yet in commercial operation, and which are necessary to support bids. Plants that are already operating or are sufficiently advanced in construction may be deemed to earn the maximum possible score from this category. GPA requires bids for projects that will achieve commercial operation within 30 months after contract award.

For projects that are less advanced in construction, we will consider the following criteria for scoring:

1. Method and status of project financing
2. Level of site control by developer (full ownership, long-term lease, short-term least, negotiating a site, searching for a site, or non-of-the above).
3. Project management/experience

4. Status of required permits, licenses and studies. Indicate best estimates on what permits, licenses and studies are required and how long the completion period will be.
5. Status of equipment supply and EPC agreements

The following information shall be included:

1. Basic description of the ESS including all system components.
2. Specification documents from the manufacturers of the proposed ESS components. Include the completed Tables 6.1, 6.2 and 6.3 from PNNL-22010 Rev 2 Protocol for Uniformly Measuring and Expressing the Performance of Energy Storage Systems. Bidders are encouraged to provide hourly and rolling average PJM performance scores for accuracy, time delay and precision using the PNNL-22010 signal as well as the supporting documentation. Similar performance scores from other North American Regional Transmission Organizations may also be provided. More points may be given on the Qualitative Proposal Scoring Worksheet to those with higher performance scores.
3. Detailed description of the storage technology including the chemical or kinetic energy storage characteristics.
4. Describe the characteristics of the storage technology that make the technology a good fit for the specified applications. The SOC management control capability shall also be described.
5. Describe the charging and discharging characteristics including any requirements or limitations.
6. Describe the expected lifetime and the effects of time, and the amount and type of use on the lifetime of the ESS for all components.
7. Describe any potential environmental impacts the ESS and any of its components may have including toxic chemicals and disposal requirements. Describe how all components of the ESS can be disposed of when the ESS reaches the end of its life.
8. Describe the safety issues associated with the ESS components including typical failure modes and any design techniques used to mitigate any safety issues.
9. Evidence that the specific storage technology and all ESS components proposed are commercially available and can be found in operating utility systems. Include a listing of the systems currently in operation and describe the ESS specifications and application.
10. Describe how the ESS will respond to a fault condition.
11. A table specifying the annual performance guarantees for availability for 25 years. The ESS shall operate at an annual availability of 98% or greater.
12. A table specifying the annual performance guarantees for AC-AC round-trip efficiency for 25 years. The ESS shall operate with an AC-AC round-trip efficiency of 85% or greater.

13. Provide the total plant and station service annual energy requirements measured at the respective voltage level (115 kV). These energy requirements shall represent all of the energy required by the ESS components and all other support equipment while the ESS is in a quiescent operating mode (not charging or discharging). The minimum, average, and maximum annual energy requirements shall be provided. The maximum energy requirements will serve as the annual performance guarantee. If the plant and station service energy requirements are expected to change over time, then provide a table listing the estimated quantities for 25 years. The climate data found in Appendix P shall be used as the basis for the HVAC related portion of the energy requirements. A table specifying compliance for each required item in Section 2.

3.2. Status of Project Financing

Bidders are required to provide responses to all questions below to demonstrate the financial viability of their project.

1. Identification of equity participants.
 - a. Who are the equity participants in the project?
2. Evidence that the project will be financed.
 - a. How will the project be financed?
 - b. Is there a written commitment from the equity participants? If so, please provide a copy with confidential information redacted if necessary.
 - c. Discuss and/or provide supporting information on any project financing guarantees.
 - d. Does the developer envision any conditions precedent to project financing other than execution of the power purchase agreement and Guam Public Utilities Commission approval of the power purchase agreement? If so, what do you expect them to be?
3. Description of the Bidder's organizational structure from a financial and legal perspective, including any general and limited partners, involvement of subsidiaries, providers of capital, and percentage interest of each party.
4. Provide a description of the financing plan for the project, including construction and term financing. The financing plan should address information contained in the pro forma, such as:
 - a. The project's projected financial structure;
 - b. Expected sources of debt and equity financing;
 - c. Estimated capital cost.
 - d. Evidence the project is financeable

In addition, the financing plan should address the financing of development costs. All bidders are required to provide this information.

5. Provide documentation illustrating the experience of the project sponsor in securing financing for projects of similar size and technology. For each project provide the following information:
 - Project name and location
 - Project type and size
 - a. Date of construction and permanent financing
6. Provide evidence that the Bidder has the financial resources and financial strength to complete and operate the project as planned.
7. Provide copies of the most recent audited financial statement for each Bidder, its parent or subsidiary company to be used in this contract. Also, list the current credit rating from Standard & Poor's and Moody's for the sponsor, affiliates, partners, and credit support provider. Unaudited financials certified by the company's chief financial officer and any Dun & Bradstreet rating are acceptable.
8. The Bidder should demonstrate its ability (and/or the ability of its credit support provider) to provide the required security, including its plan for doing so (including type of security, sources of security and a description of its credit support provider).
9. Provide a description of any current credit issues regarding the Bidder or affiliate entities raised by rating agencies, banks, or accounting firms. Credit issues includes loan defaults or legal suits or potential suits likely to materially affect the company's finances or ability to obtain loans or other instruments in the financial markets.
10. Describe the implication of the federal Production Tax Credits or Investment Tax Credits (or similar incentives) on the viability of the project.
11. Provide a memorandum with supporting information demonstrating that the bid will not be subject to Variable Interest Entity treatment¹ and that GPA will not have to carry this entity on its financial statements.
12. Pro forma income and cash flow statement conforming to Generally Accepted Accounting Principles for the project for the term of the proposed Power Purchase Agreement (include revenue and cost data by major categories, debt service, depreciation expenses and other relevant information). Bidders may propose to submit their financial pro forma to a mutually agreed upon independent third party rather than to GPA. Bidders should note that this information will be required of short-listed bidders only and will be requested by GPA upon shortlist notification or after. Should GPA request pro forma financial information from the bidder, the information will only be used for project viability assessment only.
13. Bidders must disclose any litigation related to projects owned or managed by them or any of their affiliates in the United States.

3.2.1 Site Control

Bidders should provide GPA with some confidence in plant site selected. Unpriced Technical Offers shall address the following:

1. Map of the site(s), the total acreage, the interconnection point, and the relationship of the site to other local infrastructure. In addition to providing the required map, provide a site layout plan which illustrates the location of all equipment and facilities on the site.
2. Identify any rights-of-way or easements that are required for access to the project or for interconnection. Describe the status of rights-of-way and easement acquisition, and describe the plan for securing the necessary rights-of-way, including the proposed timeline.

¹ GPA is not willing to be subject to accounting treatment that results from variable interest entity (“VIE”) treatment as set forth in Financial Accounting Standards Board Interpretation No. 46 (revised December 2003) (“FIN46R”).

3. Describe whether the project has the capability for expansion at the proposed site. If so, describe the expansion capability possible.
4. Describe the level of control that can be exercised on the site.

3.2.2 Project Management/Experience

Bidders are required to demonstrate project experience and management capability to successfully develop and operate the project proposed. GPA is interested in a project team which has demonstrated success in projects of similar type, size and technology and can demonstrate an ability to effectively work together to bring the project to commercial operation in a timely fashion. GPA requests the following information:

1. An organizational chart for the project that lists the project participants and identifies the management structure and responsibilities.
2. Statements that list the specific experience of the firm in developing, financing, owning, and operating generating facilities, other projects of similar type, size and technology, and any evidence that the project participants have worked jointly on other projects for each of the project participants (including the Bidder, partners, and proposed contractors). *(NOTE: If a bidder is relying on the experience of a consultant or contractor to meet the Experience Threshold Requirement, the bidder should describe any contractual relationships between the bidder and the consultant or contractor.)*
3. A management chart which lists the key personnel dedicated to this project and provides biographies of the key personnel.

4. Listing of all projects the project sponsor has successfully developed or that are currently under construction. The following information shall be included for each project:
 - a. Name of the project
 - b. Location of the project
 - c. Project type, size and technology
 - d. Commercial operation date
 - e. Capacity factor of the unit for the past three years
 - f. Availability factor of the unit for the past three years
 - g. References letters from clients showing successful completion of projects or ongoing contracts, including the names and current addresses and telephone numbers of individuals to contact for each reference.
5. With regard to the Seller's project team, identify and describe the entity responsible for the following:
 - a. Construction Period Lender
 - b. Operating Period Lender
 - c. Financial Advisor
 - d. Environmental Consultant
 - e. Owner's Engineer
 - f. Construction Contractor
 - g. Transmission Consultant
 - h. Legal Counsel

3.2.3 Project Schedule and Commercial Operation Date

Bidders are required to provide a complete critical path schedule for the project from the notice of selection of the project for contract negotiation to the start of commercial operations. For each project element, list the start and end date. Bidders should ensure that the schedule provided in this section is not inconsistent with the milestone events contained in the Purchase Power Agreement.

Identify the elements on the critical path. The schedule should include, as a minimum, facility contracts, construction, siting, environmental permitting (anticipated submittal and approval), fuel supply, financing, engineering, procurement, local permits and any other requirements that could influence the project schedule, and the Commercial Operation Date. Bidders shall identify any status of permits, licenses and studies required. The project schedule should include dates for all construction and applicable reporting milestone events specified in the Purchase Power Agreement.

3.2.4. Engineering and Technology (Status of Equipment Supply and EPC Agreements)

Bidders should provide information about the specific technology or equipment including the track record of the technology and equipment. The following information is required for these evaluation criteria:

1. A reasonable but preliminary engineering plan which includes the following information:
 - a. Name of principal engineering firm responsible for facility design
 - b. Type of generation technology
 - c. Major equipment considered or expected to be used
 - d. Equipment vendors selected/considered
 - e. History of equipment operations
 - f. Equipment procurement strategy³.
2. Identification of expected key equipment suppliers and information that illustrates and discusses the proposed equipment and technology, lead times for delivery to GPA, and suppliers prior experience with equipment operation in tropical island environments. This should specifically address the ability of the equipment to operate in low short-circuit conditions and extreme voltage and frequency requirements.
3. Identification of similar equipment by the same manufacturer that are presently in commercial operations including the number installed, installed capacity and estimated generation.
4. Evidence that the technology to be employed for energy production is ready for transfer to the design and construction phases.
 - a. Describe the technology to be employed for energy production.
 - b. To the developer's best knowledge, are there, or have there been any similar plants in commercial operation? If not, i) are there, or have there been, any pilot projects, and ii) please provide evidence that the technology to be employed for energy production has been proven. Such evidence may include copies of studies confirming technical feasibility.
5. Indication if the Bidder has secured its equipment for the project. If not, identify the long-lead equipment options and describe the timing for securing equipment.
6. Bidders are encouraged to provide any additional information that will further describe the proposed projects technical feasibility and applicability to development on Guam.

3.3 Physical Project Characteristics

This category captures the physical characteristic risks of the bid products. The evaluation criteria for this category generally address physical and operational risks associated with the stored and delivery of power to

GPA. Bidders are required to complete Part 2 – Technical Data in the Qualitative Scoring Workbook file (excluding any price references). The characteristics that will be considered in scoring are:

3.3.1 Operating Profile

The evaluation of operating profile shall be based on the following:

1. Conformance with Performance Standards
2. Impacts on System Operations/Stability
3. Generation Profile (see ESS Energy Project Generation Profile data table in Part – 2 Technical Data worksheet in the Qualitative Scoring Workbook)
4. Quality of Forecasting and Dispatchability
5. O&M Plan and Coordination of Maintenance- GPA is interested in projects that can demonstrate that the maintenance plan, level of funding, and mechanism for funding will ensure reliable operations during the term of the contract. Bidders shall:
 - a. Provide an operation and maintenance plan for the project that demonstrates the long term operational viability of the proposed project. The plan should include a discussion of the staffing levels proposed for the project, the expected role of the project sponsor or outside contractor, scheduling of major maintenance activity, maintenance funding levels, and the plan for testing equipment.
 - b. Indicate whether or not the project sponsor is willing to coordinate the maintenance schedule for the project with the annual maintenance schedule of GPA.
 - c. Describe the status of the project sponsor in securing any operation and maintenance agreements or contracts. Include a discussion of the sponsors plan for securing a long-term O&M contract.
 - d. Provide examples of the Bidder's experience with O&M services for other similar projects.

3.3.2 Point of delivery

Bidders must discuss interconnection with GPA system. Information required to evaluate the criteria include the following:

1. Preliminary Single-Line Diagram(s) for the generation and interconnection facilities (see Appendix L for Unpriced Technical Offer submittal requirement details)
2. A plan map of the facilities, indicating the interconnection point to the GPA system.
3. Technical specifications and other information available for the generators included in the bid.

3.3.3. Risk

All bidders must submit a short Risk-Assessment Plan (1-2 pages) which address the following items:

1. Identify project risks. (Include issues that may impact project schedule, budget, output or performance).
2. Explanation of how the risks will be avoided / minimized.
3. Propose any options that could increase the value of the project.
4. Explain the benefits of the proposed options.

3.4. Power Product Characteristics

This category scores how well the bid product matches GPA’s operational needs. The evaluation criteria for this category generally address performance and supply portfolio concentration risks, along with the benefits of flexibility and optionality. The characteristics that will be considered in scoring are:

1. Guaranteed Annual Minimum Stored Energy (MWH) for Energy-Shifting Services and Grid Services.
2. Dispatchability. This bid requires ESS Services for the purpose of shifting energy to a period other than when the energy is produced. Proposals with no ESS services capable of shifting stored energy to another period (i.e. during evening hours) or the Grid Services modes required in this Bid shall be disqualified.
3. Describe unit electrical control features available such as automatic generator control, VAR control, droop control, set-point control, emergency assist capability or such other control related features.
4. Flexibility
 - a. In-service date (GPA prefers projects that reasonably propose a commercial operation within 30 months after contract award)
 - b. Willingness to accept contract provisions for flexibility to accommodate future changes to performance standards; and
 - c. Bid size
5. Contract Term.

3.5. Credit Evaluation

GPA will evaluate the credit-worthiness of the Bidder. Bidders shall discuss the following that will be considered in this evaluation criteria scoring:

1. Debt and equity ratings

2. Performance assurance
3. Financial ratio analysis
4. Default risk
5. Credit concentration and liquidity effect
6. Enforceability of contractual credit terms
7. Bidder revisions to contract templates that may affect credit requirements

3.6. Environmental Permits and Impacts

The Bidder should identify environmental impacts associated with the proposed project and its plan to mitigate such impacts. Included in this section are technical environmental issues associated with air, water, solid waste, land use, noise, and other environmental issues. The following addresses specific environmental permitting considerations.

3.6.1. Permits

Bidders shall identify all permits, licenses, and environmental assessments and/or environmental impact statements required. Specifically, the Unpriced Technical Offer should discuss the following:

1. All Federal and GUAM permits, licenses, and environmental assessments and/or environmental impact statements required to construct and operate the project and governmental agencies for issuing permits and licenses.
2. Experience with governmental agencies which will issue or approve the required permits, licenses, and environmental assessments and/or environmental impact statements. Prepare timeline to complete acquisition of permits, licenses, and environmental assessments and/or environmental impact statements.
3. Provide the anticipated timeline for seeking and receiving the required permits, licenses, and environmental assessments and/or environmental impact statements, using the execution date of the power purchase agreement as the starting point. Please include a narrative on the basis for the assumed timeline.

3.6.2. Site Environmental Assessment

The Bidders are responsible for completing Environmental Site Assessment for the proposed site or sites for the project.

Bidders shall address each of the major environmental areas and sub-areas as presented below;

1. Site development
2. Air quality
3. Water resources
4. Ecology
5. Land use
6. Cultural resources
7. Previous site use
8. Noise level
9. Aesthetic/visual

In addition to the above, GPA requests for the following:

10. The location of the nearest residence and the nature of any buildings within 500 feet of the site.
11. Documentation identifying any potential environmental impediments to project development and the plan to mitigate the impediment. Bidder will be responsible for executing plan(s) to mitigate impediment(s).

4. CONTRACT

GPA has created a draft of the ESS Services Purchase Agreement in Volume III of this IFB. This document includes the Interconnection Agreement and the Sublease Agreement for use of proposed properties. Bidders are required to review the document and provide comments, note any exceptions, and provide recommendations during the proposal development period as a basis for discussions during contract negotiations. This process is also a factor in the Qualitative evaluation in this multi-step bid.

The final, executable ESS Services Purchase Agreement shall be negotiated in good faith between the parties. Each Respondent is responsible for acquiring and/or verifying that it is in compliance with all licenses, permits, certifications, studies, reporting requirements and approvals required by federal, and Guam government laws, regulations and policies in order for it to contract for and perform in accordance with its bid.

The following highlights the contract document between GPA and the selected Bidder(s) or in this section referred to as CONTRACTOR(S).

4.1. CONTRACTOR’S Responsibilities

This section highlights the CONTRACTOR’S responsibilities.

4.1.1. System Integration Study

The CONTRACTOR is responsible for the costs of the System Integration Study.

4.1.2. System Upgrades for Interconnection

The CONTRACTOR is responsible for the all system impact costs, including new or upgraded facilities that are required for the project interconnection with the GPA system.

4.1.3. Interconnection Agreement

The CONTRACTOR shall complete and adhere to the interconnection agreement.

4.1.4. Development Security and Post Development Security

The CONTRACTOR is required to post Credit Support only in the form of a Letter of Credit or cash referred to as "Development Security", to secure the CONTRACTOR’S obligations prior to Commercial Operation of the Facility. The CONTRACTOR will forfeit this security if failed to meet project milestones, claims force majeure, or other conditions identified in the draft contract provided in Volume III.

Upon commissioning of the new facility, the Development Security will be returned to the CONTRACTOR and the CONTRACTOR will be required to submit a Post Development Security as security for Seller’s obligations following the Commercial Operation Date.

4.1.5. Performance Guarantees

The CONTRACTOR is required to meet capacity, availability and efficiency requirements.

4.1.6. Project Milestones

The CONTRACTOR shall submit a construction and commissioning schedule for the proposed project. The CONTRACTOR shall meet deadline for commissioning or is subject to penalties as described in the purchase power agreement.

4.1.7. Project Costs

The CONTRACTOR shall be responsible for all costs throughout the term of the contract, including but not limited to the Project development, land acquisition, permitting, financing, construction of the Facility and all Interconnection Facilities, and operations and maintenance (O&M).

4.1.8. Government Charges

The CONTRACTOR is responsible for all government taxes, fines or fees necessary for operation of proposed facility.

4.1.9. Decommissioning Responsibility

The CONTRACTOR shall be solely responsible for the decommissioning of the Project and the restoration of the Site upon Contract expiration.

4.2 GPA Responsibilities

4.2.1. ESS Energy Purchase

GPA shall purchase ESS Services provided by the CONTRACTOR.

4.2.2. Transmission

GPA is responsible for the maintenance and associated maintenance costs of all equipment and transmission lines after the CONTRACTOR delivery point.

5. PENALTIES / DAMAGE FEES

Contract performance will be evaluated annually, within 60 days of the contract anniversary, for any penalty evaluations for the pre-commissioning period and the post-commissioning period. However, CONTRACTOR shall provide data upon request throughout the post-commissioning period for further verification of contract performance. Volume III, Article Four, discusses performance requirements and penalties.

6. REGULATORY APPROVAL

Any final negotiated term sheet or contract will be conditioned upon actions and/or approvals by Guam Public Utility Commission, satisfactory to GPA in its sole discretion.

INVITATION FOR MULTI-STEP BID

No. GPA-0XX-25

ENERGY STORAGE SYSTEM

PHASE II

Draft

The logo of the Guam Power Authority (GPA) is a circular emblem. It features a blue outer ring with the text "GUAM POWER AUTHORITY" at the top and "POWER TO SERVE" at the bottom. In the center, the letters "GPA" are written in a stylized, bold, red font.

Volume III

Draft Contract

**ENERGY STORAGE
POWER PURCHASE AGREEMENT**

**BETWEEN
GUAM POWER AUTHORITY
AND**

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**ENERGY STORAGE POWER PURCHASE AGREEMENT
BETWEEN
GUAM POWER AUTHORITY
AND**

THIS ENERGY STORAGE POWER PURCHASE AGREEMENT (the "Agreement"), effective as of last date set forth on the signature page hereto (the "Effective Date"), is entered into by and between Guam Power Authority, ("GPA" or "Buyer") and _____ ("Seller"). The purpose of this Agreement is to establish the terms and conditions under which Seller shall sell and GPA shall purchase Energy Storage System (ESS) Services, as defined herein. In this Agreement, Seller and GPA may be individually referred to as a "Party" or collectively as the "Parties."

Recitals

WHEREAS, Seller desires to sell to GPA at the Delivery Point ESS Services from the Facility and GPA desires to buy the same from the Seller at the Delivery Point.

Therefore, for good and valuable consideration, including, without limitation, the covenants and agreements of the Parties contained in this Agreement, the receipt and sufficiency of which consideration is acknowledged, the Parties agree as follows:

ARTICLE ONE: DEFINITIONS

The following definitions apply to this Agreement:

1.1 "Actual ESS Energy" means the actual energy output of the Facility (expressed in MWhs), measured at the Delivery Point, over any Production Measurement Period. Actual ESS Energy shall be measured by the Seller Metering Equipment and adjusted as applicable in accordance with Section 7.4.

1.2 "Affiliate" means, with respect to any party, any other party (other than an individual) that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with, such party. For this purpose, "control" means the direct or indirect ownership of fifty percent (50%) or more of the outstanding capital stock or other equity interests having ordinary voting power.

1.3 "Agreement" has the meaning set forth in the initial paragraph above.

1.4 "Appraisal Price" means the average of three (3) appraisals of the market value of the Facility at the end of the Delivery Period, delivered by three (3) independent appraisers qualified by experience and expertise to determine the arms' length market value of the Facility and assuming that energy and Environmental Attributes produced by the Facility will be sold at fair market value prices over the remaining economic useful life of the Facility. If the Parties do not agree on the independent appraisers, then they shall be determined by arbitration in accordance with Section 12.9.

1.5 "Approval" or "Approvals" means all permits, licenses, consents, authorizations, approvals, no objection certificates, visas, registrations, grants, acknowledgements or agreements required under the laws to be obtained from any Governmental Authority for the Project, including but not limited to the electricity license, main permit from Guam Land Use Commission;

1.6 "Bankrupt" means with respect to any entity, such entity (i) files a petition or otherwise commences, authorizes or acquiesces in the commencement of a proceeding or cause of action under any bankruptcy, insolvency, reorganization or similar law, including but not limited to, under Chapter 11 or Chapter 9 of the United States Bankruptcy Code and Title III of Puerto Rico Oversight, Management and Economic Stability Act, or has any such valid petition filed or commenced against it, (ii) makes an assignment or any general arrangement for the benefit of creditors, (iii) otherwise becomes bankrupt or insolvent (however evidenced), (iv) has a liquidator, administrator, receiver, trustee, conservator or similar official appointed with respect to it or any substantial portion of its property or assets, or (v) is generally unable to pay its debts as they fall due.

1.7 “Bid Security” or “Bid Bond” means \$150,000.00, which is the amount of the security provided by Seller in connection with its initial bid to GPA for the Project prior to entering into the PPA.

1.8 “Business Day” means any day except a Saturday, Sunday, a Federal Reserve Bank holiday or an official Guam holiday. A Business Day shall open at 8:00 a.m. and close at 5:00 p.m. local time for the relevant Party's principal place of business. The relevant Party, in each instance unless otherwise specified, shall be the Party by whom the Notice or payment or delivery is to be received.

1.9 “Buyer” has the meaning set forth in the initial paragraph above.

1.10 “Buyout Payment” means, with respect to Seller’s election not to re-build the Facility pursuant to Section 12.2, an amount equal to: Minimum Production x the number of Contract Years (or portion thereof) remaining in the Delivery Period x the Incremental Price,

1.11 “Change Event” has the meaning set forth in Section 4.16(c).

1.12 “Claiming Party” has the meaning set forth in Section 4.11.

1.13 “Claims” means all claims or actions, threatened or filed and, whether groundless, false, fraudulent or otherwise, that directly or indirectly relate to the subject matter of an indemnity, and the resulting losses, damages, expenses, attorneys' fees and court costs, whether incurred by settlement or otherwise.

1.14 “COD Extension” has the meaning set forth in Section 4.2(a).

1.15 “COD Extension Payment” has the meaning set forth in Section 4.2(a).

1.16 “Commercially Reasonable” or “Commercially Reasonable Efforts” means, with respect to any purchase, sale, decision, or other action made, attempted or taken by a Party, such efforts as a reasonably prudent business would undertake for the protection of its own interest under the conditions affecting such purchase, sale, decision or other action, consistent with Good Utility Practices, including, without limitation, electric system reliability and stability or other regulatory mandates relating to ESS Services portfolio requirements, the cost of such action (including whether such cost is reasonable), the amount of notice of the need to take a particular action, the duration and type of purchase or sale or other action, and the commercial environment in which such purchase, sale, decision or other action occurs. “Commercially Reasonable” or “Commercially Reasonable Efforts” shall be reviewed and determined based upon the facts and circumstances known, or which could have been known with the exercise of reasonable efforts, at the time that a sale, purchase, or other action is taken and shall not be based upon a retroactive review of what would have been optimal at such time.

1.17 “Commercial Operation” has the meaning set forth in Section 4.1.

1.18 “Commercial Operation Date” or “COD” means the date that Commercial Operation of the Project has been achieved in accordance with Section 4.1.

1.19 “Confidential Information” means all information, whether written or oral, that is disclosed or otherwise available in connection with this Agreement or the performance by either Party of any of its duties hereunder, except any information which: (i) at the time of disclosure or thereafter is generally available to the public (other than as a result of a disclosure by any Party in violation of this Agreement); (ii) was available to any Party on a non-confidential basis from a source other than the Party hereto providing the Confidential Information, provided that such source is not bound by a confidentiality agreement that protected the Confidential Information and the Party receiving such Confidential Information is aware of such confidentiality agreement; or (iii) has been independently acquired or developed by any Party without violating any of its obligations under this Agreement.

1.20 “Contract Price” means the price in U.S. Dollars (unless otherwise provided for) rounded to the nearest \$0.01, to be paid by GPA to Seller for the purchase of the ESS Services, as described in Appendix A.

1.21 “Contract Year” means the annual period, beginning on the Commercial Operation Date, and each annual period thereafter commencing on each anniversary of the Commercial Operation Date.

1.22 “Conventional Energy Resource” is an energy resource that is non-renewable in nature, such as natural gas, coal, oil, and uranium, or electricity that is produced with energy resources that are not Renewable Energy Resources; or from an ESS Facility.

1.23 “Credit Rating” means, with respect to any entity, the rating then assigned to such entity’s unsecured, senior long-term debt obligations (not supported by third party credit enhancements), or if such entity does not have a rating for its unsecured senior long-term debt obligations, then the rating then assigned to such entity as an issuer rating by S&P, Moody's or any other rating agency agreed by the Parties.

1.24 “Daily Delay Liquidated Damages” has the meaning set forth in Section 4.2(b).

1.25 “Defaulting Party” has the meaning set forth in Section 6.1.

1.26 “Deficiency Amount” has the meaning set forth in Section 4.8.

1.27 “Delivery Period” means the period of delivery under this Agreement, commencing on the Commercial Operation Date and continuing for a term of twenty five (25) Contract Years or up to 30 Contract Years if contract extensions are applied

1.28 “Delivery Point” means the point at which the ESS Services will be delivered and received, as specified in Section 2.1 herein, or such other delivery point as may be agreed to by the Parties.

1.29 “Development Security” means the security required to be posted by Seller during construction of the Facility prior to Commercial Operation Date. Pursuant to Section 9.1. The Development Security shall be 50% of the total projected payment for the first Contract Year based on the Seller’s first Contract Year Contract Price and the Guaranteed Output for the first Contract Year. The amount of the Development Security is set out in Section 2.1.

1.30 “Early Termination Date” has the meaning set forth in Section 6.2.

1.31 “Effective Date” means the date first set forth above.

1.32 “Eligible Renewable Energy Resources” are applications of the following defined technologies that displace Conventional Energy Resources that could otherwise be used to provide electricity to GPA’s customers: biogas electricity generator, biomass electricity generator, fuel cells that use only renewable fuels, geothermal generator, hybrid wind and solar electric generator, landfill gas generator, solar electricity resources, wind generator and such other generally accepted Renewable Energy Resources.

1.33 “Emergency” means any abnormal interconnection or system condition (including, without limitation, equipment or transmission limitations and constraints caused by thermal limits, stability, voltage, or loop flows) that Buyer determines in accordance with Good Utility Practices: (a) requires automatic or immediate manual operation to prevent or limit loss of Buyer’s system or generation supply; (b) could adversely affect the reliability of the Buyer system or generation supply; (c) could adversely affect the reliability of any interconnected electric system; or (d) could otherwise pose a threat to public safety.

1.34 “Energy Storage System (ESS) Services” shall mean the services provided by the ESS Facility as described in Multi-Step Bid GPA-XXX-25.

1.35 “Environmental Attributes” means environmental characteristics that are attributable to Renewable Energy or the Project, including credits; credits towards achieving local, national or international renewable portfolio standards; green tags; Renewable Energy Credits; greenhouse gas or emissions reductions, credits, offsets, allowances or benefits; actual SO₂, NO_x, CO₂, CO, Carbon, VOC, PM₁₀, mercury, and other emissions avoided; and any and all other green energy or other environmental benefits associated with the generation of Renewable Energy (regardless of how any present or future law or regulation attributes or allocates such characteristics). Such Environmental Attributes shall be expressed in kWh or, as applicable in the case of emissions credits, in tonne equivalent or other allowance measurement. Environmental Attributes do not include Tax Benefits, or any energy, capacity, reliability, or other power attributes used by Seller to provide electricity services.

1.36 “EPC Contractor” means the contractor(s) under the engineering, procurement and construction contract for the Project.

1.37 “Event of Default” has the meaning set forth in Section 6.1.

1.38 “Excused Hours” means the hours in the applicable Production Measurement Period in which (i) Seller or Buyer has declared Force Majeure, (ii) GPA has initiated a Dispatch Down, or (iii) Seller’s delivery to GPA of ESS Services is adversely affected as a result of failure by GPA to perform its obligations under this Agreement or the Interconnection Agreement, provided, however, if the Project is not able to deliver ESS Services during any hour of a Production Measurement Period, fails maintain the “Voltage and Frequency Ride-Through Settings” set forth in Appendix C (“Voltage and Frequency Ride-Through Settings”), or fails to maintain grid voltage and frequency stability, such hours shall not constitute Excused Hours.

1.39 “Facility” means all of the following: the Project, as defined in Section 2.1 of this Agreement, the purpose of which is to provide ESS Services including Seller’s Interconnection Facilities and all equipment and other tangible assets, land rights and contract rights owned by Seller and reasonably necessary for the construction, operation, and maintenance of the Project.

1.40 “Facility Capacity” has the meaning set forth in Section 2.1.

1.41 “Facility Test” has the meaning set forth in Section 4.1 (c).

1.42 “Facility Debt” means the obligations of Seller or its Affiliates to any direct or indirect Facility lender pursuant to the Financing Documents, including without limitation, principal of, premium and interest on indebtedness, fees, expenses or penalties, amounts due upon acceleration, prepayment or restructuring, swap or interest rate hedging breakage costs and any claims or interest due with respect to any of the foregoing. Facility Debt does not include trade debt or obligations incurred in the ordinary course of business.

1.43 “FERC” means the Federal Energy Regulatory Commission or any successor government agency.

1.44 “Financing Arrangement Deadline” has the meaning set forth in Section 4.3.

1.45 “Financing Arrangement Provision Date” has the meaning set forth in Section 4.3.

1.46 “Financing Documents” means the loan and credit agreements, notes, bonds, indentures, security agreements, lease financing agreements, mortgages, deeds of trust, interest rate exchanges, swap agreements and other documents relating to the development, bridge, construction and/or permanent debt financing for the Facility (including any portfolio debt financing of which the Facility is included), including any credit enhancement, credit support, working capital financing, or refinancing documents, and any and all amendments, modifications, or supplements to the foregoing that may be entered into from time to time at the discretion of Seller and/or its Affiliates in connection with development, construction, ownership, leasing, operation or maintenance of the Facility.

1.47 “Forced Outage” means the shutdown or unavailability of the Facility, or a portion thereof other than as a Planned Outage, for reasons including, but not limited to, unanticipated equipment breakdown, human error, or Emergency conditions. A Forced Outage shall not include any Outage that may be deferred consistent with Good Utility Practices and without causing safety risk damage to equipment or additional costs.

1.48 “Forced Outage Notice” has the meaning set forth in Section 4.12(b).

1.49 “Force Majeure” means an event or circumstance which prevents one Party from performing its obligations under this Transaction, which event or circumstance was not anticipated as of the date the Transaction was agreed to, which is not within the reasonable control of, or the result of the negligence of, the Claiming Party, and which, by the exercise of due diligence, the Claiming Party is unable to overcome or avoid or cause to be avoided. So long as the requirements of the preceding sentence are met, a “Force Majeure” event may include, but shall not be limited to, flood, drought, military ordinances or archaeological discoveries at the Project site, change in applicable law or interpretation or application thereof, failure or delay by any Governmental Authority in issuing any required permit, earthquake, storm, fire, lightning, epidemic, war, terrorism, riot, opposition or interference from neighboring residents or communities. Notwithstanding the foregoing, Force Majeure shall not be based on (i) the loss of Buyer's markets; (ii) Buyer's inability economically to use or resell the ESS Services purchased hereunder; (iii) the loss or failure of Seller's supply, including materials or equipment, unless such loss or failure is caused by a Force Majeure event; (iv) the delay in or inability of Seller to obtain financing or economic hardship of any kind unless such delay or inability is caused by a Force Majeure Event; or (v) Seller's ability to sell the ESS Services at a price greater than the Contract Price or Buyer's ability to purchase the ESS Services at a price less than the Contract Price; or (vi) strike or other labor dispute (other than strikes at a national, Guam or regional level). Neither Party may raise a claim of Force Majeure based in whole or in part on curtailment by a transmission provider unless such curtailment is due to "force majeure" or "uncontrollable force" or a similar term as defined under the transmission provider's tariff.

1.50 “Force Majeure Extension” has the meaning set forth in Section 4.2(c).

1.51 “Good Utility Practices” means any of the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry during the relevant time period, or any of the practices, methods and acts which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result consistent with good business practices, economy, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method or act to the exclusion of all others, but rather to be generally accepted and consistently adhered to acceptable practices, methods, or acts.

1.52 “Governmental Authority” means any federal, territorial or local government body; any governmental, quasi-governmental, regulatory or administrative agency, commission, body or other authority exercising or entitled to exercise any administrative, executive, judicial, legislative, policy, regulatory or taxing authority or power; or any court or governmental tribunal.

1.53 “Governmental Charges” has the meaning set forth in Section 10.2.

1.54 “GPA” has the meaning set forth in the initial paragraph above.

1.55 “GPA Delay” means any delay by GPA in performing an obligation under this Agreement or under the Interconnection Agreement which results in a delay to Seller achieving COD.

1.56 [Reserved]

1.57 “Incremental Price” means, at the time of its calculation, the LEAC Rate minus the Contract Price, provided, however, if the LEAC Rate is less than the Contract Price then the Incremental Price shall be deemed to be zero.

1.58 “Independent Engineer” shall mean one of the engineering firms set forth in Appendix D hereto, and any other independent engineer or engineering firm, nationally recognized in the United States and having knowledge and expertise in the United States generation industry (including specifically the design and construction of utility scale solar photovoltaic power projects), and which is mutually agreed to by the Parties.

1.59 “Interconnection Agreement” means the agreement for interconnection service relating to the Facility between GPA and Seller, executed and delivered as of the Effective Date in the form attached hereto as Appendix J.

1.60 “Interest Rate” means, for any date, the lesser of (a) the per annum rate of interest equal to the prime lending rate as may from time to time be published in The Wall Street Journal under "Money Rates" on such day (or if not published on such day on the most recent preceding day on which published), plus two percent (2%) and (b) the maximum rate permitted by applicable law.

1.61 “ITC” means the federal income tax credit available under Sections 38(b)(1), 46 and 48(a) of the Internal Revenue Code, and any federal grants, credits or other incentives issues or arising in addition to or in lieu thereof.

1.62 “kWh” means kilowatt hour.

1.63 “LEAC Rate” means the “Fuel Recovery Charge” (expressed in US\$/MWh) as set forth in GPA’s most recent approved tariff in effect as of any date of determination of the LEAC Rate under this Agreement.

1.64 “Letter(s) of Credit” means one or more irrevocable, transferable standby letters of credit issued by a U.S. commercial bank or a foreign bank with a U.S. branch with such bank having a Credit Rating of at least A- from S&P or A3 from Moody's, in substantially the form set forth in Appendix F hereto; provided, however that such form may be modified by the issuing bank as long as such modifications are acceptable to the beneficiary in its reasonable discretion. Costs of a Letter of Credit shall be borne by the applicant for such Letter of Credit.

1.65 [Reserved]

1.66 “Merger Event” means, with respect to a Party, that such Party consolidates or amalgamates with, or merges into or with, or transfers substantially all of its assets to another entity and (i) the resulting entity fails to assume all of the obligations of such Party hereunder or (ii) the benefits of any credit support provided pursuant to this Agreement fail to extend to the performance by such resulting, surviving or transferee entity of its obligations hereunder and such benefits are not replaced with equivalent credit support or (iii) the resulting entity’s Credit Rating upon the occurrence of the Merger Event is lower than that of such Party immediately prior to such action and is not supplemented by credit support such that the resulting entity’s credit is equal to or better than the predecessor entity.

1.67 [Reserved]

1.68 “Month” means a calendar Month. The term “Monthly” shall have a meaning correlative to a Month.

1.69 “Moody's” means Moody's Investor Services, Inc. or its successor.

1.70 “MW” or “MWh” means megawatt or megawatt hour, in each case rounded to the nearest whole

- 1.71 “NAR” means the North American Renewables Registry.
- 1.72 “NAR Operating Procedures” means any and all guidelines, procedures, requirements and obligations established by the NAR, including the terms of use, operating procedures, and fee schedules, as such may be amended from time to time.
- 1.73 “Non-Defaulting Party” has the meaning set forth in Section 6.
- 1.74 “Notice” has the meaning set forth in Section 12.7.
- 1.75 “Notice to Proceed” means the written notice provided by Seller to the EPC Contractor to begin full (and not limited) procurement and construction activity at the Project site.
- 1.76 “Outage” means the period during which the Facility or a portion thereof is out of service.
- 1.77 “Outside Commercial Operation Date” has the meaning set forth in Section 4.2(b).
- 1.78 “Party” and “Parties” has the meaning set forth in the initial paragraph above.
- 1.79 “Planned Outage” means any Outage that is not a Forced Outage, and refers to the shutdown or unavailability of the Facility or a portion thereof for inspection or maintenance in accordance with an advance schedule.
- 1.80 “Production Measurement Period” has the meaning set forth in Section 4.8.
- 1.81 “Project” has the meaning set forth in Section 2.1.
- 1.82 “QRE” means the Qualified Reporting Entity as such term is defined in the NAR Operating Procedures.
- 1.83 “Quantity” means the actual quantity of ESS Energy delivered or received by Seller or GPA pursuant to this Agreement. The Quantity shall be measured based on the metered data from the Seller Metering Equipment at the Delivery Point.
- 1.84 “ESS Energy” means energy stored in an Energy Storage System.
- 1.85 “Renewable Energy Credit” (“REC”) means the unit created to track kWh derived from an Eligible Renewable Energy Resources or kWh equivalent of Conventional Energy Resources displaced by Renewable Energy Resources.
- 1.86 “Renewable Energy Resource” means an energy resource that is replaced rapidly by a natural, ongoing process and that is not nuclear or fossil fuel.
- 1.87 “Replacement Price” means the price at which GPA, acting in a commercially reasonable manner, purchases electricity in place of ESS Services.
- 1.88 “S&P” means the Standard & Poor's Rating Group (a division of McGraw-Hill, Inc.) or its successor.
- 1.89 “SCADA” means “supervisory control and data acquisition” and shall refer to that category of software application program that can be used to gather data from the Facility remotely in real time in order to monitor Facility equipment and conditions.
- 1.90 “Schedule,” “Scheduled” or “Scheduling” means the actions of Seller, Buyer and/or their designated representatives, of notifying, requesting and confirming to each other the quantity and type of ESS Services to be delivered on any given day or days during the Delivery Period at a specified Delivery Point.
- 1.91 “Scheduled Commercial Operation Date” has the meaning set forth in Section 4.2(a).
- 1.92 “Seller” has the meaning set forth in the initial paragraph above.
- 1.93 “Seller Failure” has the meaning set forth in Section 5.1.

- 1.94 “Seller Failure Damages” has the meaning set forth in Section 5.1.
- 1.95 “Seller’s Interconnection Facilities” means Seller’s equipment as specified in the Interconnection Agreement.
- 1.96 “Seller Metering Equipment” means all metering equipment and data processing equipment used to measure the Quantity delivered to or received by the Delivery Point.
- 1.97 “Shortfall Damages” has the meaning set forth in Section 4.8.
- 1.98 “Study” means the ESS Multi-Step Bid System Impact Study
- 1.99 “Tax Benefits” means Renewable Energy related tax credits or other benefits, including those established under Section 45 and Section 48 of the Internal Revenue Code, as amended, or any similar or successor provision of the Internal Revenue Code.
- 1.100 “Term” has the meaning set forth in Section 12.1.
- 1.101 “Termination Damages” has the meaning set forth in Section 4.4.
- 1.102 “Test Energy” means ESS Energy delivered or received by the Facility prior to the Commercial Operation Date, subject to immediate interruption, fluctuations or reduction/increase with no prior Notice, due to unit performance.
- 1.103 “Transaction” means the transaction relating to the purchase or sale of ESS Services and Environmental Attributes as contemplated in this Agreement.
- 1.104 [Reserved]
- 1.105 [Reserved]

Draft

ARTICLE TWO: COMMERCIAL TERMS

2.1 Commercial Terms.

The following commercial terms apply to the Transaction that is the subject of this Agreement, each as more fully described herein:

Buyer: GPA	Seller:
Project:	
Delivery Point:	
	Facility Capacity (MWs):
Delivery Period: 25 Contract Years with Option of a Five-Year Extension	Contract Price (\$/MWh): See Appendix A
	Development Security:
Day(s) of week: Monday through Sunday, including Holidays	Hours: Hour Ending 0100 – Hour Ending 2400, Monday through Sunday Chamorro Standard Time (CHST), Guam time
Commercial Operation Date:	
Test Energy:	

ARTICLE THREE: REPRESENTATIONS AND WARRANTIES

3.1 Mutual Representations and Warranties.

On the Effective Date of this Agreement, each Party represents and warrants to the other Party that:

- (a) It is duly organized, validly existing and in good standing under the laws of the jurisdiction of its formation;
- (b) It has all regulatory authorizations necessary for it to legally perform its obligations under this Agreement (other than permits or regulatory authorizations to be obtained by Seller for the construction, operation or maintenance of the Facility, which Seller reasonably anticipates it will be able to obtain in due course);
- (c) The execution, delivery and performance of this Agreement are within its powers, have been duly authorized by all necessary action and do not violate any of the terms and conditions in its governing documents, any contracts to which it is a party or any law, rule, regulation, order or the like applicable to it, and the Agreement constitutes its legally valid and binding obligation enforceable against it in accordance with its terms, subject to any equitable defenses.
- (d) It is not Bankrupt and there are no proceedings pending or being contemplated by it or, to its knowledge, threatened against it which would result in it being or becoming Bankrupt;
- (e) There is not pending or, to its knowledge, threatened against it or any of its Affiliates any legal proceedings that could materially adversely affect its ability to perform its obligations under this Agreement;
- (f) No Event of Default or potential Event of Default with respect to it has occurred and is continuing and no such event or circumstance would occur as a result of its entering into or performing its obligations under this Agreement; and
- (g) It is acting for its own account, has made its own independent decision to enter into this Agreement and as to whether this Agreement is appropriate or proper for it based upon its own judgment, is not relying upon the advice or recommendations of the other Party in so doing, and is capable of assessing the merits of and understanding, and understands and accepts, the terms, conditions and risks of this Agreement;

3.2 Seller Representations and Warranties.

Seller affirmatively represents and warrants to GPA that:

- (a) On the Effective Date of this Agreement, or in due course as required in accordance with the Scheduled Commercial Operation Date, Seller has (or reasonably expects to have in due course), good defensible title, or valid and effective leasehold rights in the case of leased property, to the Facility, free and clear of all liens, charges, claims, pledges, security interests, equities and encumbrances of any nature whatsoever other than the lien of current taxes not delinquent, liens, charges, claims, pledges, security, interests, equities and encumbrances relating to Facility Debt as provided for herein, or that are permitted by the Facility Debt, or that in the aggregate do not materially detract from or interfere with the ability of Seller to deliver the ESS Services;
- (b) All acts necessary to the valid execution, delivery and performance of this Agreement by Seller have or will be taken and performed as required under Seller's ordinances, operating agreement, or other regulations including, but not limited to (i) the valid authority of the person executing this Agreement to bind Seller and (ii) the Term of this

Agreement does not extend beyond any limitation applicable to Seller imposed by relevant governing documents and applicable law; and

- (c) Seller will have at the time of sale, title to and ownership of the RECs and Environmental Attributes sold hereunder.

3.3 GPA Representations and Warranties.

GPA represents and warrants that the board of directors of GPA and the Consolidated Commission on Utilities has made all certifications required by the Guam Public Utilities Commission and the Guam legislature in order for GPA to execute this Agreement.

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ARTICLE FOUR: PERFORMANCE REQUIREMENTS & APPROVALS

4.1 Commercial Operation.

Seller shall achieve Commercial Operation of the Project no later than the Scheduled Commercial Operation Date, except to the extent such date is extended pursuant to Section 4.2, in which case Commercial Operation shall occur on or prior to the Outside Commercial Operation Date. Commercial Operation shall be achieved as of the date on which Seller certifies to Buyer in writing that each of the following conditions precedent has been satisfied or waived in writing by the Parties, as applicable ("Commercial Operation"):

- (a) Seller shall have obtained all governmental and regulatory authorizations, including any applicable permits, required for the construction, ownership, operation and maintenance of the Project and for the sale of the ESS Services therefrom (except for any permits or authorizations typically obtained after Commercial Operation and that Seller reasonably believes will be obtained in due course);
- (b) Seller and Buyer shall have entered into the Interconnection Agreement;
- (c) Seller shall have established SCADA information and real time data feed to enable GPA to view parameters or data points that relate to Facility availability, ESS Energy data and other actual resource data for the Facility;
- (d) Seller shall be capable of delivering the ESS Services from the Facility to GPA at the Delivery Point.
- (e) Seller shall perform at its cost a capacity test in accordance with the protocol outlined in Appendix I to determine the capacity of the Facility ("Facility Test"). GPA shall receive the entire ESS Energy from the Facility during such test as contemplated in Section 2.1. ESS Energy deliveries during testing shall be measured at the Delivery Point.

GPA shall use all available Commercially Reasonable Efforts to assist Seller in achieving the Scheduled Commercial Operation Date. Seller shall present to GPA a certificate executed by its duly executed officer, and by an Independent Engineer as to items (d) and (e), verifying that each of the foregoing conditions has been satisfied or waived in writing by the Parties and Commercial Operation shall be deemed to have occurred upon the delivery of such certificate to GPA unless GPA objects to such certificate on the grounds that the condition has not been satisfied within ten (10) Business Days of delivery thereof and such objections are either agreed by Seller or resolved pursuant to Section 12.9 hereof. Upon any acceptance or deemed acceptance of Seller's certificate by GPA, all conditions, set forth above shall no longer be a condition precedent to Commercial Operation of the Project. If the Commercial Operation Date does not occur on or before the Outside Commercial Operation Date, as such date may be extended in accordance with Section 4.2 herein; either Party shall have the right to terminate the Agreement upon written Notice to the other Party. In the event of such termination by either Party, GPA shall be entitled to Termination Damages set forth in Section 4.4; provided, however, that in accordance with Section 4.2(c), GPA shall not be entitled to such Termination Damages if the Outside Commercial Operation Date is not achieved due to a Force Majeure event or a GPA Delay.

4.2 Extension of Commercial Operation Date.

- (a) Planned Extension. The Parties agree that the Commercial Operation Date is expected to occur on or before [] ("Scheduled Commercial Operation Date"). Seller may elect to extend the Commercial Operation Date beyond the Scheduled Commercial Operation Date (the "COD Extension") by paying GPA for such extension (the "COD Extension Payment"). The COD Extension Payment shall be in the amount of fifty percent (50%) of the daily Shortfall Damages (based on ninety percent (90%) of the Minimum Production for the first Contract Year) per day for each day (or portion thereof) after but not including the date of

the COD Extension until, but not including, the date on which the Project actually achieves Commercial Operation. Shortfall Damages for purposes of calculating COD Extension Payment shall follow the formula in Appendix L hereto, based on [TBD]. To extend the Commercial Operation Date, Seller must, as early as reasonably possible, but in no event later than fourteen (14) days prior to the first day of the proposed extension, provide GPA with Notice of its election to extend the Commercial Operation Date along with an estimate of the duration of the extension. The COD Extension Payment is in addition to and not to be considered part of the Development Security, and shall be paid to GPA in arrears on a monthly basis after delivery of the Notice hereunder. Seller's request to extend the Commercial Operation Date shall not be valid unless proper Notice and payment are timely received by GPA. No Event of Default shall be deemed to have occurred with respect to Seller's extension as provided herein, and GPA shall not have the right to terminate the Agreement or to receive Termination Damages with respect to such extension so long as Seller has provided the Notice, estimation and payment as provided in this Section 4.2(a). Seller may further extend the Commercial Operation Date beyond the original COD Extension, subject to the foregoing Notice, estimation and payment terms applicable to the original COD Extension.

Seller shall be entitled to a prompt refund, without interest, of any portion of the COD Extension Payment held by GPA which exceeds the amount required to cover the number of days by which the Commercial Operation Date was actually extended. In no event may Seller extend the Commercial Operation Date by more than six (6) months through the payment of the COD Extension Payment, except as provided in Section 4.2(b). In the event that the Project does not achieve Commercial Operation on or before the expiration of any COD Extension period as provided herein, either Party shall have the right to terminate the Agreement upon written Notice to the other, subject to any further extension rights pursuant to Sections 4.2(b) or (c) below. In the event of such termination by either Party in accordance with this provision, GPA shall be entitled to Termination Damages as set forth in Section 4.4 as its sole and exclusive remedy, subject to Section 4.2(c).

- (b) Unplanned Extension/Additional Planned Extension. In the event that (i) the Project does not achieve Commercial Operation by the Scheduled Commercial Operation Date and Seller fails to provide sufficient Notice and/or payment in order to extend the Commercial Operation Date as provided in Section 4.2(a), or (ii) the Commercial Operation Date shall not have occurred within the six (6) months extension period provided under Section 4.2(a), then Seller may still extend the Commercial Operation Date by paying GPA damages ("Daily Delay Liquidated Damages"). The Daily Delay Liquidated Damages shall be in the amount of one hundred percent (100%) of the Shortfall Damages ([TBD]) per day for each day (or portion thereof) after but not including the earlier of the dates set forth in sub-clauses (i) or (ii) above, or until, but not including, the date on which the Project actually achieves Commercial Operation, and shall be payable on a monthly basis in arrears within ten (10) Business Days following receipt of an invoice from GPA for any such Daily Delay Liquidated Damages. No Event of Default shall be deemed to have occurred with respect to Seller's extension as provided herein and GPA shall not have the right to terminate the Agreement with respect to such extension or to receive Termination Damages so long as Seller has extended the Commercial Operation Date and pays the Daily Delay Liquidated Damages as provided in this Section 4.2(b).

In the event that the Project does not achieve Commercial Operation on or before twelve (12) months from the Scheduled Commercial Operation Date (as extended pursuant to this Agreement, the "Outside Commercial Operation Date"), then either Party shall have the right to terminate the Agreement upon written Notice to the other, subject to any further extension rights pursuant to Section 4.2(c) below. In the event of such termination by either Party in accordance with this provision, GPA shall be entitled to Termination Damages as

set forth in Section 4.4 as its sole and exclusive remedy, subject to Section 4.2(c).

- (c) Force Majeure and GPA Delay Extension. The Scheduled Commercial Operation Date and the Outside Commercial Operation Date shall also be extended, without payment or other penalty being accrued to GPA, on a day-for-day basis for each day of delay caused by reason of Force Majeure (a “Force Majeure Extension”) or by reason of GPA Delay. Any Force Majeure Extension or GPA Delay shall also extend the period of any planned or unplanned extensions pursuant to Sections 4.2(a) or (b) on a day-for-day basis for each day during the Force Majeure Extension or GPA Delay, and Seller shall not be required to pay any COD Extension Payments or Daily Delay Liquidated Damages, as applicable, for any days during the Force Majeure Extension or GPA Delay. Notwithstanding any other provision in this Agreement, if, due solely to a Force Majeure event, the Project does not achieve Commercial Operation on or before the Outside Commercial Operation Date, then the Parties by mutual agreement may terminate this Agreement without penalty or further obligation to either Party, and after one hundred and eighty (180) days following the Outside Commercial Operation Date, either Party may unilaterally terminate this Agreement without penalty or further obligation to either Party. For the sake of clarity, in the event of any such termination, GPA shall not be entitled to Termination Damages.

With the exception of payments, in the case of any delays caused by GPA Delay in excess of fifteen (15) days beyond a reasonable time to cure as agreed by the Parties, and as noticed to GPA in writing, Seller shall be entitled to all remedies available under Section 6.3, as well as reimbursement for Seller’s costs and expenses including but not limited to (i) the cost of network upgrades and interconnection costs incurred by Seller, (ii) costs incurred under construction, equipment and other contracts entered into in connection with the development, construction, operation and maintenance of the Facility, (iii) any tax equity investment and financing costs and expenses (including but not limited to principal, interest, fees and any interest rate hedge termination payments) incurred by the Seller and/or its affiliates in connection with the development, construction, operation and maintenance of the Facility and (iv) Seller’s costs and expenses in connection with the Facility and its performance under this Agreement. Such Seller’s costs and expenses shall be payable by GPA within 30 days of the receipt of an invoice from the Seller. No event of default with regard to a GPA Delay shall be deemed to have occurred with respect to GPA, unless Seller has notified GPA of such occurrence in writing and GPA has been provided with a reasonable period of time to cure such delay. Seller shall not have the right to terminate the agreement with respect to any GPA Delay any earlier than 15 days after the date set for GPA’s reasonable time to cure as agreed by the Parties. In the event of termination of this Agreement by Seller due to GPA Delay, GPA shall not be entitled to Termination Damages.

4.3 Financing Arrangement Deadline.

Seller shall make Commercially Reasonable Efforts to (i) obtain confirmation from the applicable Governmental Authority on whether or not the Project, Seller or its owners, as a U.S partnership for tax purposes, is eligible to receive ITC, (ii) secure a third party financing sufficient for the successful completion of the Project as soon as practicable, and (iii) procure a binding credit agreement for such financing be executed no later than one (1) year after the Effective Date (the “Financing Arrangement Deadline”) unless extended by written agreement of the Parties, or in case Force Majeure or GPA Delay occurs. Seller shall provide GPA with a copy of the executed credit agreement within three (3) Business Days after the execution of such credit agreement (the date on which GPA receives such copy is hereinafter referred to as the “Financing Arrangement Provision Date”).

In the event that Seller fails to procure the execution of a binding credit agreement by the Financing Arrangement Deadline, GPA may terminate the Agreement and shall be entitled to Termination Damages set forth

in Section 4.4 as its sole and exclusive remedy unless such Financing Arrangement Deadline is extended under other provisions of this Agreement, including Section 4.11.

4.4 Termination Damages.

Prior to the Commercial Operation Date, Seller may terminate this Agreement at any time for its convenience or by reason of Force Majeure, GPA Delay and Event of Default by GPA. GPA shall be entitled to termination damages, payable solely from the Bid Security or the Development Security established in Section 9.1 (as applicable) ("Termination Damages"), in the amounts set forth in the table below, if: (a) subject to the last sentence of this Section 4.4, Seller terminates the Agreement prior to the Commercial Operation Date for any reason other than: (i) a Force Majeure event (ii) a GPA Delay, or (iii) an Event of Default by GPA; and/or (b) GPA terminates the Agreement as a result of Seller failing to achieve the Commercial Operation Date on or prior to the Scheduled Commercial Operation Date, as the same may have been extended pursuant to Section 4.2, and subject to Section 4.2. The Termination Damages are designed to help compensate GPA for, among other things, transactions that it did not consummate because it relied on this Agreement with Seller, and GPA's potential failure to meet its applicable renewable energy portfolio requirements and do not constitute a penalty payment. Accordingly, Seller shall pay to GPA Termination Damages, from Bid Security or the Development Security in the following amounts, based upon when the termination occurs:

With respect to the foregoing, no event of default with regard to a GPA Delay shall be deemed to have occurred with respect to GPA, unless Seller has notified GPA of such occurrence in writing and GPA has been provided with a reasonable period of time to cure such delay as agreed by the Parties. Seller shall not have the right to terminate the agreement with respect to any GPA Delay any earlier than 15 days after the date set for GPA's reasonable time to cure as agreed by the Parties.

Up to Financing Arrangement Provision Date	100% of the Bid Security
Up to Six (6) months after Financing Arrangement Provision Date	50% of the Development Security
Up to Twelve (12) months after Financing Arrangement Provision Date from Six (6) months after Financing Arrangement Provision Date	75% of Development Security
Twelve (12) months after Financing Arrangement Provision Date forward:	100% of Development Security

No later than five (5) Business Days after the Financing Arrangement Provision Date, GPA shall return the Bid Security to Seller, to the extent GPA has not validly claimed the Bid Security in respect of Termination Damages on or prior to Financing Arrangement Provision Date. Notwithstanding the foregoing, in the event that Seller terminates this Agreement for any reason prior to the posting date for the Development Security as set forth in Section 9.1 herein, then Seller shall owe GPA no Termination Damages and such termination shall be without penalty to Seller.

4.5 Seller's and Buyer's Obligations.

Subject to Appendix H, Seller shall sell and deliver, or cause to be delivered, and GPA shall purchase and receive, or cause to be received, all ESS Services provided by the Facility including all Test Energy and ESS Energy from the Annual Facility Test, at the Delivery Point, and GPA shall pay Seller the Contract Price for such Quantity of ESS Energy as measured by the Seller Metering Equipment at the Delivery Point. For Seller's failure to deliver ESS Services as required hereunder, GPA's remedies shall be as set forth in Section 4.8. For GPA's failure to purchase and receive ESS Energy as required hereunder, Seller's damages and remedies shall be set forth in Appendix K.

Seller shall be responsible for any costs or charges imposed on or associated with the ESS Energy or its delivery up to the Delivery Point. GPA shall be responsible for any costs or charges imposed on or associated with ESS Energy or its receipt at and from the Delivery Point. Title to and risk of loss of ESS Energy from the Facility delivered to the Delivery Point shall transfer to GPA at the Delivery Point. Seller warrants that it will deliver to Buyer ESS Energy free and clear of all liens, security interests, claims and encumbrances or any interest therein or thereto by any person arising prior to the Delivery Point. Notwithstanding the foregoing Seller's obligation to supply and sell, and GPA's obligation to accept and purchase, ESS Energy shall be limited to such ESS Energy that is actually deliverable from the Facility to the Delivery Point during such period.

4.6 Operation of Facility.

Seller shall operate and maintain the Facility in accordance with Good Utility Practices.

4.7 [Reserved]

4.8 [Reserved]

4.9 Facility Testing.

In addition to the Facility Test referenced in Section 4.1(e), the capacity of the Facility shall be tested during each Contract Year during the Delivery Period (the "Annual Facility Test"). Seller shall notify GPA of the specific date on which it intends to conduct the Annual Facility Test at least ten (10) Business Days in advance and shall permit GPA to be present at such test. GPA shall have the right to receive copies of the results of the Annual Facility Test, which shall be conducted in accordance with the protocol set forth in Appendix I. Any dispute regarding the results of the Annual Facility Test shall be resolved as set forth in Section 12.9 of this Agreement.

GPA shall receive, in accordance with Section 4.5, the entire ESS Energy from the Facility during any Annual Facility Test or re-test. ESS Energy deliveries during testing shall be measured at the Delivery Point.

4.10 Scheduling.

Seller agrees to supply at the Delivery Point all ESS Energy produced by the Project, net of ESS Energy self-generated and consumed at the Facility and net of any generation losses prior to the Delivery Point, up to the Facility Capacity, in accordance with the scheduling and coordination procedures set out in Appendix H. GPA agrees to take at the Delivery Point all ESS Energy tendered by Seller in accordance with the foregoing sentence.

The Schedules and estimates provided pursuant to Appendix H shall be made by Seller in good faith and based on information available to it at such time, but in no event shall such Schedules be binding on Seller nor shall Seller be liable for any inaccuracies in such Schedules.

4.11 Force Majeure.

To the extent either Party is prevented by Force Majeure from carrying out, in whole or part, its obligations

under this Transaction and such Party (the “Claiming Party”) gives Notice and details of the Force Majeure to the other Party promptly upon the occurrence of the Force Majeure event, then the Claiming Party shall be excused from the performance of its obligations with respect to such Transaction (other than the obligation to make payments then due or becoming due hereunder). The Claiming Party shall exercise Commercially Reasonable Efforts to remedy the Force Majeure with all reasonable dispatch. The non-Claiming Party shall not be required to perform or resume performance of its corresponding obligations to the Claiming Party (other than the obligation to make payments then due or becoming due hereunder) until the Claiming Party resumes its performance. If the Force Majeure event extends for a continuous period of three hundred and sixty-five (365) days, either Party may terminate this Agreement without further obligation by either Party.

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4.12 Facility Outages and Maintenance Scheduling.

- (a) Planned Outages. Seller shall provide written Notice to GPA prior to conducting any Planned Outages of the Facility. Within ninety (90) days prior to the Commercial Operation Date, as the same may be extended in accordance with the provisions of Section 4.2, and on or before the first day of each subsequent Contract Year, Seller shall provide GPA with a schedule of such proposed Planned Outages in accordance with Appendix H. The proposed Planned Outages schedule shall be submitted electronically to GPA, using a reasonably acceptable format provided by GPA. Such format is subject to change from time-to-time during the Term of this Agreement by agreement of the Parties, but will generally describe the nature of the Outage, the expected duration, and any other pertinent information that will assist GPA in planning for the decreased output and/or availability of the Facility as a result of the Outage.

GPA shall promptly review Seller's proposed schedule and may request modifications within thirty (30) days of GPA's receipt of such schedule. Changes to the schedule may be requested by either Party and each Party shall make Commercially Reasonable Efforts to accommodate such changes, provided further that Seller shall have no obligation to agree to GPA's proposed modifications or revisions to any Planned Outage schedule.

- (b) Forced Outages. In the event of any Forced Outage, Seller shall promptly notify GPA of the same. Seller shall as quickly as practicable notify GPA verbally and shall then, within twenty-four (24) hours thereafter, provide written Notice to GPA of the Forced Outage (the "Forced Outage Notice"). The Forced Outage Notice shall be submitted electronically to GPA, using a reasonably acceptable format provided by GPA. Such format is subject to change from time-to-time during the Term of this Agreement by agreement of the Parties, but will generally describe the nature of the Outage, the expected duration, and any other pertinent information that will assist GPA in planning for the decreased output and/or availability of the Facility as a result of the Outage. Seller shall return the Facility to service as soon as possible, consistent with Good Utility Practices, after the Forced Outage ceases to exist.
- (c) GPA Parts Inventory. To the extent GPA maintains an inventory of parts or components that are used or useful in the Facility and provided it can prudently do so under its own ordinary course operating practices and restrictions, GPA shall cooperate with Seller in a Commercially Reasonable manner by making such parts or components available to Seller at its request during the period of time Seller is obtaining replacement parts or components for the Facility in order to maximize output of ESS Energy. If Seller obtains a replacement part or component from GPA, it shall at GPA's option either replace such part or component with the new part or component ordered by Seller or return the borrowed part or component to GPA at such time as Seller obtains the replacement. Seller shall bear the installation, transportation and labor charges relating to GPA's replacement parts or components, and if the parts or components are returned to GPA then Seller shall reimburse GPA for any damage to such parts or components while in Seller's possession.

4.13 Operating Status Reports.

From the date of Commercial Operation through the Term, Seller shall provide GPA with Monthly reports regarding material data pertaining to the operation of the Facility. The operations data is generally identified as performance, Outage, and risk data and shall be sent electronically to GPA using a reasonably acceptable format provided by GPA. The operations data report format may be modified by agreement of the Parties from time-to-time during the Term of this Agreement.

4.14 Resource Quality Reporting: Forecasting.

Seller shall provide to GPA at its request copies of non-proprietary resource quality data in Seller's possession that could reasonably be expected to affect, in any material manner, the operation and/or productivity of the Facility, whether produced, compiled or otherwise generated by Seller or any third party in a Commercially Reasonable manner, so that GPA can evaluate the expected performance of the Facility. Seller shall provide such data as it is produced or otherwise made available to Seller. Upon Commercial Operation of the Facility, to the extent generated or procured by Seller, Seller shall also provide to GPA Monthly and day-ahead forecasting information for the Facility. Such information shall be in a format agreed to by the Parties and include, among other things: Seller's forecasts for the performance of the Facility based on Facility specifications, weather-based forecasting, and weather-related studies. Such information, which will be used by GPA solely for evaluation, Scheduling, and other purposes related to this Agreement, shall be provided as available. In no event shall the data and/or information provided to GPA pursuant to this Section 4.14 be binding upon Seller, nor shall Seller be liable for any penalties, charges or other damages based on the inaccuracy of such data or information.

4.15 Permit Violations.

Seller shall at all times during the Term of this Agreement maintain and comply in all material respects with all applicable permits for the development, ownership and maintenance of the Facility.

4.16 Delivery of RECs and Environmental Attributes.

- (a) Use of North American Renewables Registry. At least ten (10) days prior to COD, Seller shall transfer to GPA the authority to create, own and transfer all Environmental Attributes associated with the Renewable Energy produced by the Facility, by executing and delivering the form entitled "Generator Owner's Designation of Responsible Party" published by NAR, wherein Seller shall designate GPA as the "responsible party" for all matters relating to the creation, ownership, and transfer of RECs and Environmental Attributes from the Facility. Thereafter, GPA shall be responsible for all obligations relating to creating and transferring RECs and Environmental Attributes from the Facility and Seller shall have no further obligations or liabilities with respect thereto, provided, however, that Seller shall reimburse to GPA its costs of creating and maintaining the NAR account and NAR's fees charged to transfer the RECs and Environmental Attributes, up to an aggregate maximum amount of \$5,000 per annum. In the event this Agreement is terminated or suspended for any reason, the Parties agree to each consent to the termination of such designation in accordance with NAR procedures.
- (b) GPA Registration as a QRE. GPA shall be the QRE for the Facility as required by NAR and shall comply with any and all NAR Operating Procedures relating to the registration and operation as a QRE and the reporting of generation data from the Facility to NAR. As the QRE, each month upon receipt of an invoice and associated interval metering data from Seller in accordance with Section 7.5 herein, GPA shall report such data to NAR within three (3) Business Days following receipt of such data. The Parties shall cooperate to ensure that the Seller Metering Equipment and the resulting interval metering data meet the NAR requirements for metering equipment and generation data.
- (c) Change Event. During the Term, in the event that (i) the NAR Operating Procedures are amended or changed such that it becomes impossible for the Parties to utilize NAR as the REC tracking method and/or for GPA to continue as "responsible party" for purposes of creating, owning and transferring RECs and Environmental Attributes attributable to the Facility; (ii) the fees or charges imposed by NAR on either Seller or GPA to utilize the NAR REC tracking system are materially increased such that use of the NAR REC tracking system becomes uneconomic or infeasible; or (iii) the NAR REC tracking system is eliminated (each one individually, a "Change Event"), then the Parties shall promptly negotiate in good faith to reform the terms of this Agreement in order to give effect to the original intention of the Parties to the extent reasonable under the circumstances, including utilizing an alternative method for transferring RECs to GPA, but in no case shall Seller's cost with respect thereto exceed \$5,000 per annum.

4.17 [Reserved]

4.18 Energy Shifting and Rapid Reserve Response.

Seller shall be required to use ESS for the purpose of delivering produced energy at a different period of time than its production period. GPA shall receive all of the stored renewable energy before the next solar production period. The active, or real, power shall be dispatchable at the point of interconnection, between the hours of 6:00 PM to 6:00 AM, as required by the GPA Power System Control Center operators or a SCADA control point. The available capacity may also be dispatched outside of these hours if deemed necessary by the GPA Power System Control Center operators. The delivered output to the GPA grid shall be firm, non-intermittent power with a ramp-up and ramp-down rate limited to 1% of rated power output per minute. However, this rate may be exceeded at the request of the GPA Power System Control Center operators. Seller shall also provide a dispatchable reactive capability requirement up to 0.80 lag to lead at the point of interconnection as required by the GPA Power System Control Center operators or a SCADA control point. The project shall perform at +/- 0.80 PF Dynamic Range up to and including the maximum MW output and shall not reduce reactive capability near the peak real power output. The total energy available for dispatching shall be provided to the GPA Power System Control Center through a SCADA point every second. The additional function of the ESS is to provide rapid reserve in response to under-frequency events. The total energy exported for these events shall be included in the annual minimum energy requirement.

During the Delivery Period, Seller shall allow GPA to negotiate a revision in the ESS control function or integration with a grid controller to improve the reliability and/or stability of the GPA grid.

4.19 Performance.

During the Delivery Period, Seller shall cause the Facility to comply with the performance requirements set forth in Appendix C. If the Facility fails to meet the requirements, GPA may provide written notice to Seller of the failure to meet the requirements and a request for Seller to take steps needed to meet the requirements. In response to such a notice, Seller shall, within two (2) weeks from the date of such notice, provide GPA with a written remedial action plan that provides a detailed description of Seller's course of action and plan to meet the requirements and shall take steps to implement such remedial action within six (6) months of the date of such action plan; provided, however, GPA shall not be entitled to such a remedial action plan if the failure to achieve the requirements is due to a Force Majeure event, GPA Delay or an Event of Default by GPA. Seller's sole obligation with respect to any deficiency in the requirements is to follow its remedial action plan.

ARTICLE FIVE: SELLER FAILURE

5.1 Seller Failure.

In the event Seller fails to deliver to GPA any Quantity of ESS Energy to which GPA is entitled in accordance with the terms of this Agreement and instead sells such Quantity of ESS Energy to which GPA is entitled to a third party in violation of this Agreement (“Seller Failure”), then Seller shall pay to GPA the “Seller Failure Damages,” which shall mean the positive difference, if any, between the Replacement Price and the Contract Price for the period of such Seller failure, times such Quantity of ESS Energy. GPA shall calculate the Seller Failure Damages and shall provide to Seller an invoice for such amount, including a written statement explaining in reasonable detail the calculation of such amount. Seller shall pay the Seller Failure Damages not later than ten (10) days following its receipt of such an invoice from GPA. If the Replacement Price is less than the Contract Price, then the Seller Failure Damages are deemed to be zero. The Seller Failure Damages represent the sole and exclusive remedy for Seller’s failure as described herein, except as provided in Section 6.1(f).

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ARTICLE SIX: EVENTS OF DEFAULT; REMEDIES

6.1 Events of Default.

An “Event of Default” shall mean, with respect to a Party (a “Defaulting Party”), the occurrence of any of the following:

- (a) The failure to make, when due, any payment required pursuant to this Agreement if such failure is not remedied within ten (10) Business Days after written Notice;
- (b) Any representation or warranty made by such Party herein is false or misleading in any material respect when made or when deemed made or repeated, if such failure is not remedied within thirty (30) Business Days after written Notice, or such longer time, not to exceed ninety (90) Business Days, as is reasonably required to remedy such failure, provided the Defaulting Party is employing Commercially Reasonable Efforts to achieve the remedy;
- (c) The failure to perform any material covenant or obligation set forth in this Agreement (except to the extent constituting a separate Event of Default and except for such Party’s obligations to deliver or receive the Renewable Energy, the remedies for which are provided in Article Five) if such failure is not remedied within thirty (30) Business Days after written Notice, or such longer time, not to exceed ninety (90) Business Days, as is reasonably required to remedy such failure, provided the Defaulting Party is employing Commercially Reasonable Efforts to achieve the remedy;
- (d) Such Party becomes Bankrupt (or if the Bankruptcy is involuntary, the failure of such Party to achieve dismissal of the Bankruptcy within ninety (90) days);
- (e) A Merger Event occurs with respect to such Party;
- (f) If during the Term of this Agreement there have occurred three (3) or more Seller Failures as that term is used in Section 5.1;
- (g) With respect to Seller, a material permit violation (that is not due to a GPA Delay) occurs and such violation is not remedied within forty (40) Business Days after Notice by either GPA or the relevant permitting authority, or such longer time, as is reasonably required to remedy such failure, provided the Defaulting Party is employing Commercially Reasonable Efforts to achieve the remedy;
- (h) With respect to Seller, failure to maintain the Development Security and failure to reinstate the same within thirty (30) Business Days after Seller’s receipt of written Notice thereof from GPA;

6.2 Declaration of an Early Termination Date.

If an Event of Default with respect to a Defaulting Party shall have occurred on or after the Commercial Operation Date and be continuing, the other Party (the “Non-Defaulting Party”) shall have the right but not the obligation to: (i) designate a day, no earlier than the day such Notice is effective and no later than twenty (20) days after such Notice is effective, as an early termination date (“Early Termination Date”) to accelerate all amounts owing between the Parties and to liquidate and terminate this Agreement between the Parties; (ii) withhold any payments due to the Defaulting Party under this Agreement as setoff against termination costs and liabilities as determined herein (and until such amounts are determined); and (iii) suspend its performance under this Agreement.

6.3 Suspension of Performance and Other Remedies.

Except as otherwise expressly provided in this Agreement, if an Event of Default or a GPA Delay shall have occurred and be continuing, the Non-Defaulting Party, upon written Notice to the Defaulting Party, shall have the right (i) to suspend performance under this Agreement; and (ii) to the extent an Event of Default or a GPA Delay shall have occurred and be continuing to exercise any remedy available at law or in equity, for such suspension and/or termination, including any specific remedies set forth in this Agreement; provided, however, that any damages shall include only the direct actual damages incurred by the Non-Defaulting Party as provided in Section 8.1, (including, but not limited to, if the Non-Defaulting Party is the Seller, any tax equity investment and financing costs and expenses (including but not limited to principal, interest, fees and any interest rate hedge termination payments) incurred by the Seller and/or its affiliates in connection with the development, construction, operation and maintenance of the Facility), and Seller's aggregate total liability hereunder shall not exceed the amounts set forth in Section 4.4 prior to the Commercial Operation Date.

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ARTICLE SEVEN: PAYMENT AND NETTING

7.1 Billing Period.

Unless otherwise specifically agreed upon by the Parties, the calendar Month shall be the standard period for all payments under this Agreement. No later than the tenth (10th) day after the end of each Month, each Party will render to the other Party an invoice (in the case of Seller, such invoice being rendered in accordance with Section 7.5) for the payment obligations of the non-invoicing Party, if any, incurred hereunder during the preceding Month.

7.2 Timeliness of Payment.

Unless otherwise agreed by the Parties, all invoices under this Agreement shall be due and payable in accordance with each Party's invoice instructions on or before the later of the twentieth (20th) day of each Month, or if later the tenth (10th) day after receipt of the invoice or, if such day is not a Business Day, then on the next Business Day. Each Party will make payments by electronic funds transfer, or by other mutually agreeable method(s), to the account designated by the other Party. Any amounts not paid by the due date will be deemed delinquent and will accrue interest at the Interest Rate, such interest to be calculated from and including the due date to but excluding the date the delinquent amount is paid in full.

7.3 Disputes and Adjustments of Invoices.

A Party may, in good faith, dispute the correctness of any invoice or any adjustment to an invoice, rendered under this Agreement or adjust any invoice for any arithmetic or computational error within twelve (12) Months of the date the invoice, or adjustment to an invoice, was rendered. In the event an invoice or portion thereof, or any other claim or adjustment arising hereunder, is disputed, payment of the undisputed portion of the invoice shall be required to be made when due, with Notice of the objection given to the other Party. Any invoice dispute or invoice adjustment shall be in writing and shall state the basis for the dispute or adjustment. Except as otherwise provided in this Agreement, payment of the disputed amount shall not be required until the dispute is resolved. Upon resolution of the dispute, any required payment shall be made within two (2) Business Days of such resolution along with interest accrued at the Interest Rate from and including the due date to but excluding the date paid. Inadvertent overpayments shall be returned upon request or deducted by the Party receiving such overpayment from subsequent payments, with interest accrued at the Interest Rate from and including the date of such overpayment to but excluding the date repaid or deducted by the Party receiving such overpayment. Any dispute with respect to an invoice is waived unless the other Party is notified in accordance with this Section 7.3 within twelve (12) Months after the invoice is rendered or any specific adjustment to the invoice is made. If an invoice is not rendered within twelve (12) Months after the close of the Month during which performance of a Transaction occurred, the right to payment for such performance is waived.

7.4 Metering and Other Facilities.

Seller shall be responsible, at its sole expense, for providing the Seller Metering Equipment in accordance with Good Utility Practices. In accordance with the terms of the Interconnection Agreement, the Seller may elect to have GPA provide Seller with the Seller Metering Equipment; provided, however, the cost of such meters shall be borne solely by Seller at no cost to GPA. Seller shall be solely responsible for operating, maintaining, and repairing the Seller Metering Equipment at its own expense throughout the Term of this Agreement. Seller shall inspect and test the Seller Metering Equipment upon its installation and at least once every year at Seller's expense. Seller shall give GPA reasonable advance Notice of any test, and promptly provide GPA with the results of any such test. GPA may observe the test and conduct its own tests, at GPA's expense, to verify Seller's procedures and results. GPA shall give Seller reasonable advance Notice of any such test, and may observe the tests. GPA shall provide Seller with the results of any test by GPA promptly upon receipt of the results. Access by GPA for any such testing shall be in compliance with Section 12.4.

Upon an inaccurate read of the Seller Metering Equipment or if Seller knows of any inaccuracy or material defect in Seller Metering Equipment, Seller shall notify GPA in writing within forty-eight (48) hours of such defect. Seller shall be solely responsible for adjusting, repairing, replacing or recalibrating such metering device as near as practicable to a condition of zero (-0-) error, and for paying any expenses associated with such adjustment, repair,

replacement or recalibration. If a metering device fails to register or is found upon testing to be inaccurate, an adjustment will be made correcting all measurements by the inaccurate or defective metering device in the following manner:

- (a) In the event that an adjustment factor cannot be reliably calculated, the Parties shall use the measurements from GPA-owned meters if they are installed, fully operational and calibrated in accordance with Good Utility Practices. If for any reason the measurements cannot be obtained from GPA-owned meters, the Parties shall use data from Seller's computer monitoring system to determine the relevant measurements. If Seller's computer monitoring system is found to be inaccurate by more than two (2) percent, the Parties shall estimate the amount of the necessary adjustment using the site meteorological information for the period of the inaccuracy based upon deliveries of ESS Energy delivered to GPA at the Delivery Point from the Facility during periods of similar operating conditions when the Seller Metering Equipment was registering accurately. The adjustment will be made for the period during which inaccurate measurements were made.
- (b) If the Parties cannot agree on the actual period during which the inaccurate measurements were made, the period during which the measurements are to be adjusted will be the shorter of: (1) the last one-half of the period from the last previous test of the metering device to the test that found the metering device to be defective or inaccurate; or (2) the one hundred and eighty 180-day period immediately preceding the test that found the metering device to be defective or inaccurate.
- (c) Upon determination of corrected measurements, the required payment adjustment shall be made according to the procedures set forth in Section 7.3.

7.5 Invoices.

Seller shall maintain and read the Seller Metering Equipment for measuring the ESS Energy delivered hereunder. For review purposes, Seller shall furnish GPA with a written invoice reflecting the Contract Price; interval data from the Seller Metering Equipment used to calculate that invoice; and any other charges due, within ten (10) Business Days after Seller reads the Seller Metering Equipment. Such invoices may be furnished to GPA by facsimile transmission or by such other method as the Parties agree.

ARTICLE EIGHT: LIMITATIONS

8.1 Limitation of Remedies, Liability and Damages.

Except as set forth herein, there are no warranties by either party under this agreement, including warranties of merchantability or fitness for a particular purpose, and any and all implied warranties are disclaimed. The parties confirm that the express remedies and measures of damages provided in this agreement satisfy the essential purposes hereof. For breach of any provision for which an express remedy or measure of damages is provided herein, such express remedy or measure of damages shall be the sole and exclusive remedy and the obligor's liability shall be limited as set forth in such provision and all other remedies or damages at law or in equity are waived. If no remedy or measure of damages is expressly provided herein or in a transaction, the obligor's liability shall be limited to direct actual damages only, such direct actual damages shall be the sole and exclusive remedy and all other remedies or damages at law or in equity are waived. Unless expressly herein provided, neither party shall be liable for consequential, incidental, punitive, exemplary or indirect damages, lost profits or other business interruption damages, by statute, in tort or contract, under any indemnity provision or otherwise. It is the intent of the parties that the limitations herein imposed on remedies and the measure of damages be without regard to the cause or causes related thereto, including the negligence of any party, whether such negligence be sole, joint or concurrent, or active or passive. To the extent any damages required to be paid hereunder are liquidated, the parties acknowledge that the damages are difficult or impossible to determine, or otherwise obtaining an adequate remedy is inconvenient and the damages calculated hereunder constitute a reasonable approximation of the harm or loss.

Notwithstanding the foregoing, if GPA is the Defaulting Party, the Parties agree that the actual damages recoverable to Seller hereunder on account of an Event of Default by GPA shall include loss of Tax Benefits on a grossed up after tax basis, using the highest applicable United States marginal personal income tax rate.

Any assets transferred to GPA as required by the Interconnection Agreement shall require a one-year warranty on all construction work and extension of any manufacturer warranties from the transfer of such assets.

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ARTICLE NINE: CREDIT AND COLLATERAL REQUIREMENTS

9.1 Development Security.

In order to secure Seller's obligations prior to Commercial Operation of the Facility, Seller shall post a Letter of Credit or cash in the amount of [] (the "Development Security"). The Development Security shall be held by GPA as security for Seller's obligations prior to the Commercial Operation Date under the Agreement. To the extent permitted under Section 4.4, GPA may draw on the Development Security at any time prior to the Commercial Operation Date, but only in the amounts and according to the schedule set forth in Section 4.4. Seller shall post the Development Security in accordance with the following terms and conditions:

- (a) Seller shall post the Development Security within ten (10) Business Days from the date when a binding credit agreement is executed pursuant to Section 4.3 but no later than the Financing Arrangement Deadline.
- (b) If the Development Security is posted as a Letter of Credit, it shall be in substantially the form attached hereto as Appendix E, respectively with such changes thereto as may be approved by Buyer and Seller in their reasonable discretion.
- (c) Any Development Security posted in cash shall bear simple interest at a rate equal to the Interest Rate. The calculation and payment of any such interest shall be made in accordance with the procedure specified in Section 9.3 of this Agreement.

9.2 Forfeiture of Development Security.

In the event that the Commercial Operation Date does not occur on or before the Scheduled Commercial Operation Date, as extended pursuant to the terms of this Agreement, and to the extent Seller does not remit any COD Extension Payment or Daily Delay Liquidated Damages payment when due pursuant to Section 4.2, then GPA shall be entitled to proceed against the Development Security in accordance with the terms thereof, to the extent of the amount(s) due and owing from time to time under Section 4.2. If the Development Security is exhausted up to the limits in Section 4.4 and further payments are due, then GPA shall be entitled to terminate this Agreement as its sole and exclusive remedy if Seller otherwise refuses to pay the amount due, and Seller shall have no further liability for damages hereunder. Seller acknowledges and agrees that forfeiture of all or a portion of the Development Security, as provided herein, represents reasonable compensation to GPA for, among other things, transactions that it did not consummate because it relied on this Agreement with Seller, and GPA's potential failure to meet its applicable renewable energy portfolio requirements as a result of Seller's failure to achieve Commercial Operation by the Scheduled Commercial Operation Date. Notwithstanding the foregoing, if Seller terminates this Agreement prior to the Commercial Operation Date for the sole purpose of selling the Renewable Energy to a third party, GPA shall be entitled to both the Development Security and any other remedies available at law or in equity to the extent that GPA's actual damages exceed the value of the Development Security.

9.3 Return of Development Security.

Concurrently with the achievement of the Commercial Operation Date or the earlier termination of the Agreement pursuant to Section 4.2, GPA shall return to Seller any remaining portion of the Development Security still held by GPA and to which GPA has no claim pursuant to the terms of this Agreement. If the Development Security was posted as a Letter of Credit, GPA shall return the Letter of Credit to Seller and Seller shall be entitled to immediately cancel such Letter of Credit. If the Development Security was posted in cash, GPA shall return to Seller the balance of the Development Security, together with daily interest at the Interest Rate, from and including the date that the Development Security was posted until, but not including, the date on which the Development Security is returned by GPA.

9.4 Performance Security.

In order to secure Seller's obligations after Commercial Operation of the Facility and during the Delivery Period hereunder, Seller hereby agrees to post security in one of the forms contemplated below, each of which is deemed acceptable by GPA (the "Performance Security"):

- (a) A Letter of Credit or cash in the amount of \$41,869,124; or

- (b) A Payment and Performance Bond in the amount of \$41,869,124; or
- (c) A subordinated lien on all real and personal property constituting the Project, to be effective as of the Commercial Operation Date (the “GPA Lien”) and Seller agrees to take such action as is reasonably required in order to perfect GPA’s security interest in, and lien on, such collateral and any and all proceeds resulting therefrom; provided, that concurrently with the grant of the such lien, GPA shall enter into such subordination, inter-creditor and other agreements with the senior financing parties pursuant to which GPA shall agree that their rights and remedies pursuant to their lien shall be subordinated in all respects to the senior first lien held by or the financing parties.

The Performance Security shall be held by GPA as security for Seller’s obligations after the Commercial Operation Date and during the Delivery Period, but GPA may draw on the Performance Security at any time only in full the amounts actually due and payable by Seller remaining liable to GPA pursuant to this Agreement. Seller may (i) post the Performance Security by posting a combination or one or more of the above acceptable forms of credit support in an aggregate amount of \$41,869,124, and (ii) at any time elect to substitute any form of one or more of the above acceptable forms of credit support for any existing Performance Security in which case GPA shall return the replaced Performance Security and reasonably cooperate with Seller in the exchange or cancellation of such credit support.

Seller shall post the Performance Security in accordance with the following terms and conditions:

- (a) Seller shall post the Performance Security within ten (10) business days following the Commercial Operation Date.
- (b) If the Performance Security is posted as a Letter of Credit, it shall be in substantially the form attached hereto as Appendix[F-1].
- (c) If the Performance Security is posted as a Payment and Performance Bond, it shall be in substantially the form attached hereto as Appendix [F-2].
- (d) Any Performance Security posted in cash shall bear simple interest at a rate equal to the Interest Rate. The calculation and payment of any such interest shall be made in accordance with the procedure specified in Section 9.5 of this Agreement.

9.5 Return of Performance Security.

At the end of the Term or upon the termination of this Agreement following the settlement and payment of any damages owed as a result of such termination, GPA shall return to Seller any remaining portion of the Performance Security still held by GPA and to which GPA has no claim pursuant to the terms of this Agreement. If the Performance Security was posted as a Letter of Credit or a Payment and Performance Bond, then GPA shall return the Letter of Credit or Payment and Performance Bond to Seller and Seller shall be entitled to immediately cancel such Letter of Credit or Payment and Performance Bond. If the Performance Security was posted in cash, GPA shall return to Seller the balance of the Performance Security, together with daily interest at the Interest Rate, from and including the date that the Performance Security was posted until, but not including, the date on which the Performance Security is returned by GPA.

ARTICLE TEN: GOVERNMENTAL CHARGES

10.1 Cooperation.

Each Party shall use Commercially Reasonable Efforts to implement the provisions of and to administer this Agreement in accordance with the intent of the Parties to minimize all taxes, so long as neither Party is materially adversely affected by such efforts.

10.2 Governmental Charges.

Seller shall pay or cause to be paid all taxes imposed by any Government Authority (“Governmental Charges”) on or with respect to the Renewable Energy, Environmental Attributes or this Agreement arising prior to the Delivery Point. GPA shall pay or cause to be paid all Governmental Charges on or with respect to the Renewable Energy, Environmental Attributes, or this Agreement at and from the Delivery Point. All other tax or income taxes on the sale of the Renewable Energy by Seller hereunder and are, therefore, the responsibility of the Seller. In the event Seller is required by law or regulation to remit or pay Governmental Charges, which are GPA’s responsibility hereunder, GPA shall promptly reimburse Seller for such Governmental Charges. If GPA is required by law or regulation to remit or pay Governmental Charges which are Seller’s responsibility hereunder, GPA may deduct the amount of any such Governmental Charges from the sums due to Seller under Article Seven of this Agreement. Nothing shall obligate or cause a Party to pay or be liable to pay any Governmental Charges for which it is exempt under the law.

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ARTICLE ELEVEN: ASSIGNMENT

11.1 Buyer Assignment.

Buyer may not assign this Agreement or assign or delegate its rights and obligations under this Agreement, in whole or in part, without Seller's consent, not to be unreasonably withheld.

11.2 Seller Assignment.

Seller shall not sell, transfer, pledge, encumber or assign this Agreement or any of the rights, interests or obligations hereunder without the prior written consent of Buyer, which consent shall not be unreasonably withheld, conditioned or delayed, except that Buyer shall have the right to withhold its consent if, in Buyer's reasonable determination, such sale, transfer, pledge, encumbrance or assignment will have a materially adverse effect on the timely construction of the Project or the economic interests of Buyer. Notwithstanding the foregoing, Seller may sell, transfer, pledge, encumber, or assign this Agreement or any of its rights, interests or obligations hereunder without the consent of Buyer, but with at least thirty (30) days' advance written notice to Buyer, either: (1) in connection with any financing or other financial arrangements for the Facility, including, but not limited to, any tax equity financing or any sale-leaseback financing arrangement; (2) to any of its Affiliates in connection with a transfer of the Facility to such Affiliate; or (3) to any person or entity succeeding to all or substantially all of the assets of Seller. In connection with any sale, transfer, pledge, encumbrance or assignment in accordance with the foregoing: (A) Seller's security shall remain in place until the assignee or transferee posts replacement credit support in accordance with this Agreement; and (B) Seller and Assignee shall enter into an assignment and assumption agreement, in form and substance reasonably satisfactory to Buyer, pursuant to which the assignee or transferee assumes all of Seller's obligations hereunder and otherwise agrees to be bound by the terms of this Agreement. Any assignment of this Agreement in violation of the foregoing shall be, at the option of Buyer, void.

11.3 Liability After Assignment.

A Party's assignment or transfer of rights or obligations pursuant to this Article 11 shall relieve said Party from any liability and financial responsibility for the performance thereof arising after any such transfer or assignment.

11.4 Transfers of Ownership.

Subject to any rights of first offer or refusal under this Agreement, during the Term, Seller shall not sell, transfer, assign or otherwise dispose of its interest in the Facility to any third-party absent (1) a transfer of this Agreement to such third-party and (2) Seller entering into an assignment and assumption agreement for this Agreement, in form and substance reasonably satisfactory to Buyer, with such third-party.

11.5 Successors and Assigns.

This Agreement and all of the provisions hereof are binding upon, and inure to the benefit of, the Parties and their respective successors and permitted assigns.

11.6 Collateral Assignment by Seller.

In the event that Seller pursuant to Section 11.2(1) transfers, pledges, encumbers or collaterally assigns this Agreement to Seller's lenders, Seller shall provide written notice to Buyer of such transfer, pledge, encumbrance or assignment, including the address of Seller's lenders. In connection with any financing or refinancing of the Facility, including tax equity financing, Buyer at Seller's request shall negotiate in good faith with Seller and Seller's lenders and financing parties to agree upon reasonable direct agreements, estoppels, opinions and other customary documentation to support the financing(s) with respect to this Agreement, which shall be in form and substance reasonably agreed to by Buyer, Seller and Seller's financing parties. The direct agreement shall include (but not be limited to) provisions substantially as follows:

- (a) The Parties shall not amend or modify this Agreement in any material respect without the prior written consent of the Seller's financing parties;

- (b) Prior to exercising its right to terminate this Agreement as a result of an Event of Default by Seller, Buyer shall give notice of such Event of Default by Seller to the administrative agent of Seller's lenders of Seller's financing parties, which Buyer has been provided written notice of; and
- (c) Seller's lenders or financing parties shall have the right, but not the obligation, to cure an Event of Default on behalf of Seller in accordance with the provisions of this Agreement, provided that Seller's lenders or financing parties shall be provided an additional ninety (90) days, from the end of the cure periods provided pursuant to Section 6.1, to effect a cure of such Event of Default.

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ARTICLE TWELVE: MISCELLANEOUS

12.1 Term of Agreement.

The Term of this Agreement shall commence on the Effective Date and shall remain in effect for the duration of the Delivery Period, as set forth in Section 2.1, unless earlier terminated by either Party in accordance with this Agreement herein (the “Term”); provided, however, that such termination shall not affect or excuse the performance of either Party under any provision of this Agreement that by its terms survives any such termination.

12.2 Insurance.

At all times during the Term of this Agreement, Seller shall maintain at its own expense insurance policies for the Facility and its tangible assets in such amounts and against such risks and losses as are consistent with Good Utility Practices and those policies listed below. Such insurance policies shall be maintained only with insurers rated at least A- VII by MVI Best or comparable ratings agency.

- (a) Commercial General Liability with limits of \$1,000,000 including products, completed operations, and contractual for this Agreement. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
- (b) Commercial Auto Liability in the amount of \$1,000,000 combined single limit for bodily injury and property damage. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
- (c) Excess Liability with limits of \$5,000,000. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
- (d) Workers Compensation and Employers Liability with statutory limits and \$1,000,000/\$1,000,000/\$1,000,000 respectively. Seller shall add a waiver of subrogation endorsement in favor of GPA.
- (e) Pollution Liability, when applicable, with limits for \$5,000,000. GPA is to be an additional insured. Seller shall grant a waiver of Subrogation in favor of GPA.
- (f) Builder’s Risk or Installation Floater, when applicable, is to be furnished by EPC Contractor.
- (g) Property insurance that will keep the premises, property, improvements, structures, and machinery and equipment on the premises insured, at a minimum, against with an all risk property policy for full replacement value as determined from time to time. Such insurance shall be issued by financially responsible insurers duly authorized to do business in Guam, and shall contain the standard form of waiver of subrogation. Nothing contained herein shall be construed as creating any liability or responsibility on the part of GPA for the adequacy of insurance coverage on the premises. As to any insurable risks of loss or damage to the premises not required to be insured hereunder, Seller shall bear the cost of the same. Seller shall be deemed to be self-insured as to the deductible or co-insurance amount applicable to such insurance coverage and shall pay any deductible or co-insurance amount applicable in the event of such loss or damage.

At all times after achieving COD, Seller may discontinue or otherwise cancel each of the aforementioned policies, except the following insurance policies, which shall be maintained with the limits set forth below:

- (a) Commercial General Liability with limits of \$1,000,000.00 including products, completed operations, and contractual for this Agreement. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.

- (b) Excess Liability with limits of \$5,000,000.00. GPA shall be an additional insured. Seller shall grant a waiver of subrogation in favor of GPA.
- (c) Workers Compensation and Employers Liability with statutory limits and \$1,000,000/\$1,000,000/\$1,000,000 respectively. Seller shall add a waiver of subrogation endorsement in favor of GPA.
- (d) Property insurance that will keep the premises, property, improvements, structures, and machinery and equipment on the premises insured, at a minimum, against with an all risk property policy for full replacement value as determined from time to time. Such insurance shall be issued by any financially responsible insurer duly authorized to do business in Guam, and shall contain the standard form of waiver of subrogation. Nothing contained herein shall be construed as creating any liability or responsibility on the part of GPA for the adequacy of insurance coverage on the premises. As to any insurable risks of loss or damage to the premises not required to be insured hereunder, Seller shall bear the cost of the same. Seller shall be deemed to be self-insured as to the deductible or co-insurance amount applicable to such insurance coverage and shall pay any deductible or co-insurance amount applicable in the event of such loss or damage.
- (e) Seller is also required to carry Business Interruption in the amount of \$1,000,000.00.

If the Facility is lost or damaged due to a casualty, Seller shall re-build the Facility promptly and in a commercially reasonable manner; provided, however, (i) if the time to re-build the Facility would result in less than five (5) years remaining in the Delivery Period then (A) Seller shall have the option in lieu of re-building the Facility to pay to GPA the Buyout Payment and terminate this Agreement with no further costs or penalties, or (B) if Seller nevertheless elects to re-build the Facility, then GPA shall reimburse Seller for any deductibles payable by Seller under its property insurance (not to exceed \$500,000), and (ii) regardless of when the casualty event occurs, if Seller re-builds the Facility, then the Delivery Period shall be extended for the greater of one (1) year or two (2) times the length of the interruption of the sale of Renewable Energy (pro-rated based on the Minimum Production for partial interruptions) after the end of the Term, and the Contract Price shall be the price in effect, without escalation, at the end of the Term.

Within ten (10) Business Days after receipt of a request for the same from GPA, Seller shall deliver to GPA a certificate of insurance for any or all policies maintained in accordance with this Section 12.2, which certificate shall include at least the following information: (i) the name of the insurance company, policy number and expiration date; and (ii) the coverage and limits on coverage, including the amount of deductibles or self-insured retentions.

Seller shall furnish certificates of insurance and waiver of subrogation endorsements to GPA prior to commencement of construction of the Facility showing evidence of such coverage, including the statement to the effect that cancellation or termination of the insurance shall not be effective until at least [thirty (30)] days after receipt of written Notice to GPA. At all times Seller's insurance shall be primary and non-contributory to any other insurance that may be carried by GPA. The statement of limits of insurance coverage shall not be construed as in any way limiting the Seller's liability under this Agreement. GPA shall be an additional insured on all liability coverage and certificates of insurance shall clearly indicate such.

12.3 Indemnity.

To the extent permitted by law, each Party shall indemnify, defend and hold harmless the other Party from and against any Claims arising from or out of any event, circumstance, act or incident first occurring or existing during the period when control and title to the Renewable Energy and Environmental Attributes is vested in such Party, unless a Claim is due to such Party's willful misconduct or gross negligence. To the extent permitted by law, each Party shall indemnify, defend and hold harmless the other Party against any Governmental Charges for which such Party is responsible under Article Ten. Notwithstanding anything to the contrary contained in this Agreement, no individual representative of either Party shall have any personal liability to the other Party as a result of the breach of any representation, warranty, covenant or agreement contained herein.

12.4 Site Access and Inspection of Records.

Seller shall provide GPA with reasonable access to the Facility site for purposes of review and inspection during regular business hours within a reasonable time after a request for the same is made by GPA to Seller. During such reviews and inspections, GPA representatives shall be permitted to review such records relating to the Facility and reasonably related to the performance of this Agreement, including Facility maintenance and operations logs. GPA shall have access to the Facility site for the limited purposes described herein, but Seller shall at all times remain responsible and liable for the control and operation of the Facility and the Facility site. GPA representatives shall follow Seller's safety procedures when accessing the Facility site and shall conduct themselves in a manner that will not interfere with the operation of the Facility. Seller will provide GPA with information about such safety procedures to enable GPA to comply with this requirement.

12.5 Audit.

Subject to Section 7.3, each Party has the right, at its sole expense and during normal working hours, to examine copies of the records of the other Party to the extent reasonably necessary to verify the accuracy of any statement, charge or computation made pursuant to this Agreement.

12.6 Confidentiality.

The Parties will make Commercially Reasonable Efforts to safeguard Confidential Information against disclosure by employing the same means to protect such Confidential Information as that Party uses to protect its own non-public, confidential or proprietary information, and otherwise in accordance with the provisions of this Section 12.6. Specifically, no receiving Party shall itself, or permit its employees, consultants and/or agents to disclose to any person, corporation or other entity the Confidential Information without the prior written consent of the Party providing the Confidential Information, except a receiving Party may distribute the Confidential Information to its and its Affiliates' board members, officers, employees, agents, consultants, actual or potential investors, actual or potential purchasers, Facility lenders, and others who have a need for such Confidential Information in connection with the Transaction.

The Parties acknowledge, however, that a Party may need to disclose the Confidential Information in connection with its regulatory filings or to otherwise satisfy its governmental and regulatory requirements. In the event that a Party intends to disclose any of the Confidential Information to its regulatory authorities including, but not limited to, the Guam Public Utilities Commission, the FERC, or any employee, staff member, consultant, and/or agent of the foregoing, it shall give the other Party prompt prior written Notice of its intention so that the other Party may seek a protective order or other appropriate remedy. In addition, each Party specifically agrees not to use the other Party's name in connection with this Agreement or the Facility in any press releases, public meetings or hearings, or other public communications, including any release to any newswire service, without the express written consent of the other Party. The Parties anticipate that at some future time it may be in the best interests of one or both of them to disclose Confidential Information to the media and the Parties anticipate entering into a subsequent agreement that will govern the terms of such disclosure. The Parties expressly agree, however, that unless and until such subsequent agreement is executed between the Parties, the terms of this Agreement shall be binding with respect to such disclosure.

In the event that any Party receiving the Confidential Information becomes legally compelled (by deposition, interrogatory, request for documents, subpoena, civil investigative demand or similar process) to disclose any of the Confidential Information, the legally compelled Party shall give the other Party providing the Confidential Information prompt prior written Notice of such requirement so that the providing Party may seek a protective order or other appropriate remedy and/or waive compliance with the terms of this Agreement. In the event that such protective order or other remedy is not obtained, the providing Party waives compliance with the terms hereof to the extent of the required disclosure.

Each Party acknowledges that the unauthorized disclosure of any Confidential Information may cause irreparable harm and significant injury that may be difficult to ascertain. Each Party therefore agrees that specific performance or injunctive relief, in addition to other legal and equitable relief, are appropriate remedies for any actual or threatened violation or breach of this Agreement, although neither Party shall be entitled to any special, consequential, indirect or punitive damages as a result of a breach of this Agreement, whether a claim is based in contract, tort or otherwise. The Parties agree that the respondent in any action for an injunction, specific performance decree or similar relief shall not allege or assert that the initiating Party has an adequate remedy at law in respect to the relief sought in the proceeding, nor shall the respondent seek the posting of a bond by the Party initiating the action. Under no circumstances will either Party's directors, management, employees, agents or consultants be individually liable for any damages resulting from the disclosure of Confidential Information in violation of the terms of this Agreement.

12.7 Notices.

All notices, requests, statements or payments (“Notices”) shall be made as specified on Appendix B attached hereto and incorporated herein by reference. Notices (other than with respect to Scheduling) shall, unless otherwise specified herein, be in writing and may be delivered by hand delivery, United States mail, overnight courier service or facsimile. Notice by facsimile or hand delivery shall be effective at the close of business on the day actually received, if received during business hours on a Business Day, and otherwise shall be effective at the close of business on the next Business Day. Notice by overnight United States mail or courier shall be effective on the next Business Day after it was sent. Notices relating to Facility operations and Scheduling, as required pursuant to Appendix H, may be given electronically and shall be deemed effective upon receipt; otherwise, electronic notices shall not be effective unless affirmatively acknowledged in writing (including by reply e-mail) by the receiving Party. A Party may change its addresses by providing Notice of same in accordance herewith.

12.8 Purchase Option.

- (a) Transfer During the Delivery Period. In the event that Seller desires to sell the Facility during the Delivery Period, Seller shall provide prior written Notice of the same to GPA, and agrees to engage in discussions with GPA for the purchase of the Facility by GPA during the exclusivity period described in this Section with GPA if GPA desires to purchase the Facility. Within ninety (90) days following Seller’s Notice to GPA of its intent to sell the Facility, GPA may deliver to Seller an indicative purchase price at which it would be willing to purchase the Facility. If GPA does not deliver the indicative purchase price within ninety (90) days of receipt of the Notice, then Seller shall be free to transfer the Facility under any terms and conditions at any time thereafter. If GPA delivers the indicative purchase price within ninety (90) days of receipt of the Notice, then the Parties shall negotiate exclusively for a period of up to sixty (60) days after GPA delivers the indicative purchase price. If no binding agreement is entered into by the Parties during such sixty (60)-day period then Seller shall be free to transfer the Facility to any person on transactions terms, including price, that are better for Seller than GPA’s indicative offer, and neither Party shall have any further liability or obligation to the other Party in connection with such sale or as a result of the terminated negotiations. If Seller does not transfer the Facility on such basis within one (1) year following the end of the sixty (60)-day exclusive negotiation period, then the procedure in this paragraph shall apply to any subsequent sale of the Facility during the Term of this Agreement.
- (b) Extension of Delivery Period and Facility Purchase at End of Delivery Period. At least one (1) year prior to the end of the Delivery Period, GPA and Seller may agree to extend the Term of this Agreement up to five (5) years in the aggregate, in which case the Contract Price and terms shall be mutually agreeable to GPA and the Seller. At least one (1) year prior to the end of the Delivery Period, GPA may provide Notice to Seller that it elects to purchase the Facility at the end of the Delivery Period at a purchase price equal to the higher of (i) 100% of the Appraisal Price of the Facility at the end of the Delivery Period or (ii) the sum of (x) the amount necessary to repay any Facility Debt (including any swap or interest rate hedging breakage costs related thereto) in full plus (y) the amount which when applied pursuant to the governing documents for the Seller or any relevant subsidiary or upstream holding company through which the tax equity invests in the Facility is sufficient to repay any Facility Debt, including back-leverage financing and including any swap or interest rate hedging breakage costs related thereto, and for the tax equity investors to recover (to the extent not previously recovered) the higher of (1) their investment balance together with their targeted return or (2) the amount necessary to avoid a loss under US GAAP. If GPA fails to send such Notice of purchase then this Agreement shall terminate in accordance with the terms hereof. If GPA provides such a Notice of the purchase, Seller and GPA shall exercise Commercially Reasonable Efforts to consummate the purchase within thirty (30) days of the end of the Delivery Period, and at the end of such time period the purchase option shall expire. The documentation for the sale shall be mutually agreeable to the Parties. Any such sale will be on an “as is” basis, without the giving of any representations or warranties, except as to (i) each party’s organization, power and authority; (ii) good standing; (iii) Seller’s ownership of the Facility to be sold in such sale, and the existing liens and encumbrances thereon; (iv) the instrument(s) conveying the Facility to GPA constitutes the legal, valid, and binding obligation of Seller, enforceable against Seller, in accordance with its terms; (v) such conveyance will not violate any contract or legal

requirement applicable to Seller; and (vi) subject to applicable regulatory approvals, no consents, approvals, or filings are required to be obtained or made by Seller to convey the Facility to GPA other than those that have previously been obtained or made and are in full force and effect as of the date of the conveyance.

12.9 Alternative Dispute Resolution.

All disputes arising under this Agreement are subject to the provisions of this Section 12.9.

- (a) Mediation. In the event of any dispute or Claim between the Parties arising out of or relating to this Agreement, or the breach thereof, and if the dispute or Claim cannot be settled through negotiation, the Parties agree first to try in good faith to settle the dispute by mediation administered by the American Arbitration Association under its Commercial Mediation Procedures before resorting to arbitration in accordance with Section 12.9(b) hereof; provided, however, that, during the pendency of any such mediation, (1) neither Party shall do anything to alter the status quo, and (2) either Party shall be entitled to seek interim, conservatory or provisional relief from any court or tribunal of competent jurisdiction in order to protect its rights. In the event of any dispute or Claim between the Parties arising out of or relating to this Agreement, or the breach thereof, consistent with the previous sentence, either Party may submit the matter to mediation in accordance with the Commercial Mediation Procedures of the American Arbitration Association. Within fourteen (14) days of such submission, the Parties shall attempt in good faith to mutually agree on the appointment of a mediator. If no such agreement is reached within fourteen (14) days of the submission of the dispute to mediation, then, unless otherwise agreed by the Parties, the American Arbitration Association shall appoint the mediator as promptly as possible in accordance with its Commercial Mediation Procedures or other rules it has adopted for this purpose. The Parties and the mediator shall schedule and complete the mediation within sixty (60) days from the date that the mediator is appointed. In the event that the mediation is not completed by such time, either Party shall be entitled to terminate the mediation and pursue arbitration of any outstanding dispute or Claim in accordance with subsection (b) of this Section 12.9.

(b) Arbitration. Subject to Section 12.9(a), if the parties cannot resolve any dispute or Claims for any reason, including but not limited to, the failure of either party to enter into mediation within thirty (30) calendar days after the submission of the matter to mediation, any disputes or Claims between the Parties and/or their respective representatives arising out of or relating to this Agreement, or the breach thereof, shall be submitted to binding arbitration, whether such disputes or Claims are in contract, tort or otherwise. The arbitration shall be conducted in accordance with the Federal Arbitration Act (9 U.S.C. Section 1, (*et seq.*)) and administered by the American Arbitration Association (the “Designated Arbitration Association”) pursuant to the then prevailing Commercial Arbitration Rules of the American Arbitration Association. The validity, construction, and interpretation of this Agreement to arbitrate and all procedural aspects of the arbitration conducted pursuant hereto shall be decided by the arbitrator(s). Submission shall be made upon the request of either Party.

(1) The arbitration will be conducted before a panel of one arbitrator if the amount in dispute is under \$1,000,000, and three (3) arbitrators if the amount in dispute is over \$1,000,000. Each arbitrator (whether there is a one or three arbitral panel), shall have at least 10 years’ experience as a lawyer or judge, and at least one arbitrator shall have at least 8 years’ experience with renewable energy agreements (“Qualified Arbitrator”). If three (3) arbitrators are required, both the claimant and the respondent shall appoint one (1) arbitrator within ten (10) calendar days after written Notice by either Party that three (3) arbitrators shall be necessary. The two (2) arbitrators so appointed shall then select the third arbitrator within twenty (20) calendar days, who shall be the chairperson of the tribunal. The chairperson shall be a person who has over eight (8) years of experience in renewable energy-related transactions, and none of the arbitrators shall have been previously employed by either Party or have any direct interest in either Party or the subject matter of the arbitration, unless such conflict is expressly acknowledged and waived in writing by both Parties.

(2) The parties will be entitled to engage in reasonable discovery, including requests for the production of relevant, non-privileged documents, and answers to a reasonable number of interrogatories to be determined by the arbitrator or arbitral panel. Each Party will also be entitled to take up to three depositions for up to seven hours each. Additional depositions may be ordered by the arbitration panel upon a showing of either substantial need or that additional depositions will likely narrow the contested factual issues. Protection of trade secrets or other confidential or sensitive information will be achieved through the Parties’ agreement to a nondisclosure agreement and/or a protective order.

(3) It is agreed that the seat of the arbitration shall be Honolulu, Hawaii and that the arbitration proceeding shall be conducted in Honolulu, Hawaii, or another neutral location mutually agreed to by the Parties, however, the seat of the arbitration shall remain Honolulu, Hawaii.

(4) The Qualified Arbitrator(s) may award compensatory or non-monetary or equitable relief and, in making an award, in no event shall the Qualified Arbitrator(s) exceeds their powers. The Qualified Arbitrator(s) will have no power to award damages inconsistent with this Agreement. The award of the Qualified Arbitrator(s) shall be accompanied by a reasoned opinion and shall contain the panels’ essential findings and conclusions. It is further agreed that the arbitrator(s) shall have no authority to award consequential, treble, exemplary, or punitive damages of any type or kind regardless of whether such damages may be available under any law or right, with the Parties hereby affirmatively waiving their rights, if any, to recover or claim such damages. The compensation and any costs and expenses of the arbitrators shall be borne equally by the Parties. Any arbitration proceedings, decision or award rendered hereunder and the validity, effect and interpretation of this arbitration provision shall be governed by the Federal Arbitration Act. The award shall be final and binding on the Parties and judgment upon any award may be entered in any court of competent jurisdiction. The Parties agree that all information exchanged as a result of any proceeding as described herein shall be deemed Confidential

Information.

(5) Notwithstanding anything to the contrary, the Mediation and Arbitration provisions in paragraphs 12(a) and (b) may not be modified by the parties without the prior written approval of the Guam Public Utilities Commission.

(c) Judicial Relief. Either Party may petition a court of appropriate jurisdiction, as described in Section 12.11, for non-monetary interim or provisional relief relating to any dispute or claim of breach arising out of or relating to this Agreement in order to prevent undue hardship relating to any such claimed breach pending the appointment of an arbitration panel as described in this Section 12.9.

12.10 Governing Law.

This agreement and the rights and duties of the parties hereunder shall be governed by and construed, enforced and performed in accordance with the laws of Guam, without regard to principles of conflicts of law.

12.11 Jurisdiction and Costs.

Subject to and without prejudice to the mandatory arbitration provision set out in Section 12.9 hereof, each Party hereby consents to the exclusive jurisdiction of the United States federal courts sitting in Guam for any action or proceeding to enforce the foregoing agreement to arbitrate, or ancillary to such arbitration proceedings, or to confirm or set aside any award rendered in such proceeding. Both Parties waive any right to trial by jury in any such action. described in this Section 12.11. In the event such judicial proceedings are instituted by either Party, the prevailing Party shall be entitled to award of its costs and reasonable attorneys' fees incurred in connection with such proceedings.

12.12 Financial Accounting Standards.

Under the latest interpretations of the Financial Accounting Standards Board's Interpretation No. 46(R) (FIN No. 46(R)), "Consolidation of Variable Interest Entities," GPA may be required to consolidate a seller's entity for which GPA has entered into a long-term power purchase agreement. Seller agrees to provide all reasonable commercially non-sensitive information needed and in Seller's possession in order for GPA to determine whether or not Seller or any special purpose entity which owns the Seller's Facility must be consolidated by GPA under FIN No. 46(R) upon request from GPA. If it is determined that GPA needs to consolidate Seller or such special purpose entity, Seller agrees to provide the minimum information in its possession that is needed to comply with the consolidation requirements of FIN 46(R) in a timely manner every calendar quarter during the Term upon request from GPA. If GPA is required to consolidate Seller or the special purpose entity that owns the Seller's Facility in its financial statements, Seller agrees to provide access to any needed records in its possession and personnel, as requested by GPA, so GPA's independent auditor, Ernst & Young LLP, can conduct financial statement audits in accordance with generally accepted auditing standards, as well as internal control audits in accordance with Section 404 of the Sarbanes-Oxley Act of 2002.

12.13 Forward Contract.

The Parties intend that in any relevant proceedings, each be regarded as a forward contract merchant in respect of this Agreement and that the Transaction and this Agreement be a forward contract for purposes of the United States Bankruptcy Code, 11 U.S.C. §§ 101 et seq., as amended from time to time, and the Puerto Rico Oversight, Management and Economic Stability Act, including Title III thereof.

12.14 General.

No delay of a Party in the exercise of, or the failure to exercise, any rights under this Agreement shall operate as a waiver of such rights, a waiver of any other rights under this Agreement or a release of the other Party from any of its obligations under this Agreement. Any provision declared or rendered unlawful by any applicable court of law or regulatory agency or deemed unlawful because of a statutory change will not otherwise affect the remaining lawful obligations that arise under this Agreement; and provided, further, that if such an event occurs, the Parties shall use their Commercially Reasonable Efforts to reform this Agreement in order to give effect to the original intention of the Parties. The term "including" when used in this Agreement shall be by way of example only and shall not be considered in any way to be in limitation. The headings used herein are for convenience and reference purposes only. The indemnity provisions of this Agreement shall survive the termination of this Agreement for the period of the applicable statute of limitations. The audit provisions of this Agreement shall survive the termination of this Agreement for a period of twelve (12) Months. This Agreement shall be binding on each Party's successors and permitted assigns.

12.15 Entire Agreement;Amendment.

This Agreement, together with any appendices, schedules, and any written supplements hereto constitutes the entire agreement between the Parties relating to the subject matter hereof. This Agreement shall be considered for all purposes as prepared through the joint efforts of the Parties and shall not be construed against one Party or the other as a result of the preparation, substitution, submission or other event of negotiation, drafting or execution hereof. Except to the extent herein provided for, no amendment or modification to this Agreement shall be enforceable unless reduced to writing and executed by both Parties.

12.16 Appendices.

The following Appendices are included in this Agreement for all purposes:

<u>Appendix A</u>	Contract Price and Minimum Production
<u>Appendix B</u>	Notice Addresses
<u>Appendix C</u>	Energy Storage System and Performance Criteria
<u>Appendix D</u>	Independent Engineers
<u>Appendix E</u>	Permits
<u>Appendix F</u>	Form of Letter of Credit
<u>Appendix G</u>	Calculation of Curtailed Amount Due to Dispatch Down
<u>Appendix H</u>	Scheduling and Coordination
<u>Appendix I</u>	Base Conditions and Facility Test Protocol
<u>Appendix J</u>	Interconnection Agreement
<u>Appendix K</u>	Calculation of Weather Hours
<u>Appendix L</u>	Calculation of Shortfall Damages

12.17 Special Provisions.

12.17.1 Prohibition Against Discrimination. It is the policy of GPA not to discriminate on the basis of age, race, sex, color, national origin, or disability in its hiring and employment practices, or in admission to, access to, or operation of its programs, services, and activities. With regard to all aspects of this Agreement, Seller certifies and warrants it will comply with this policy. No person shall be excluded from participation in, be denied benefits of, be discriminated against in the admission or access to, or be discriminated against in treatment or employment in GPA's contracted programs or activities, on the grounds of such person's handicap or disability, age, race, color, religion, sex, national origin, or any other classification protected by federal or Guam law; nor shall any person be excluded from participation in, be denied benefits of, or be otherwise subjected to discrimination in performance of contracts with GPA or in the employment practices of GPA's contractors. Accordingly, all persons entering into contracts with GPA shall, upon request, be required to show proof of such nondiscrimination and to post notices of non-discrimination in conspicuous places that are available to all employees and applicants.

12.17.2 Prohibition Against Contingent Fees. Seller hereby represents that Seller has not been retained or retained any persons to solicit or secure a contract from GPA upon an agreement or understanding for a contingent commission, percentage, or brokerage fee, except for retention of bona fide employees or bona fide established commercial selling agencies for the purpose of securing business. Breach of the provisions of this section is, in addition to a breach of this Agreement, a breach of ethical standards, which may result in civil or criminal sanction, debarment or suspension from being a contractor or subcontractor under any other contract with GPA and any Government Authority.

12.17.3 Statement Concerning Ethical Standards. In accordance with 2 GAR, Div. 4 § 11103(b), Seller represents that it has not knowingly influenced and promises that it will not knowingly influence a government employee to breach any of the ethical standards set forth in 5 GCA Chapter 5 Article 11 (Ethics in Public Contracting) of the Guam Procurement Act and in Chapter 11 of the Guam Procurement Regulations.

It shall be a breach of ethical standards for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy or other particular matter, pertaining to any program requirement of a contract or subcontract or to any solicitation or proposal therefor. It shall be breach of ethical standards for any payment, gratuity or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or a person associated therewith, as an inducement for the award of a subcontract or order. Breach of the provisions of this paragraph is, in addition to a breach of this Agreement, a breach of ethical standards, which may result in civil or criminal sanction, debarment or suspension from being a contractor or subcontractor under any other contract with GPA and any Governmental Authority.

12.17.4 Prohibition Against Employment of Sex Offenders. Seller warrants that no person providing services on behalf of Seller or in its employment who has been convicted of a sex offense under the provisions of Chapter 25 of Title 9 of the Guam Code Annotated, or convicted of an offense defined in Article 2 of Chapter 28 of Title 9 of the Guam Code Annotated regardless of the jurisdiction in which the conviction was obtained, shall provide services on behalf of Seller relative to this Agreement. If any person employed by Seller and providing services under this Agreement is convicted subsequent to the date of this Agreement, then Seller warrants that it will notify GPA of the conviction within twenty-four hours of being made aware of the conviction, and will immediately remove such convicted person from providing services under this Agreement. If Seller is found to be in violation of any of the provisions of this paragraph, then GPA shall give Notice to Seller to take corrective action. Seller shall take corrective action within twenty-four hours of Notice from GPA, and Seller shall notify GPA when action has been taken. If Seller fails to take corrective steps within twenty- four hours of Notice from GPA, then GPA in its sole discretion may suspend this Agreement temporarily upon prior written Notice to Seller until the individual in question is removed from service to GPA.

12.17.5 Wage Determination. Seller has read and understands the provisions of 5 GCA § 5801 and § 5802 governing wage and benefits determination. Seller acknowledges the obligation to pay its employees on Guam who are delivering services to Guam in accordance with the U.S. DOL Wages and Benefits Determination as stated in 5 GCA §§ 5801 and 5802. A copy of the most recent U.S. DOL Wages and Benefits Determination for the Guam Region is attached hereto and incorporated by reference to this Contract. Seller shall apply the Wage and Benefits Determination for Guam promulgated by the U.S. Department of Labor on a date most recent to the renewal date of the Contract in accordance with 5 GCA §§ 5801 and 5802.

12.18 Waiver of Immunity.

To the extent that GPA may in any jurisdiction claim for itself or its assets or revenues immunity from suit, execution, attachment (whether in aid of execution, before judgment or otherwise) or other legal process, and to the extent that in any such jurisdiction there may be attributed to GPA or its assets or revenues such immunity (whether or not claimed), GPA agrees not to claim and irrevocably waives such immunity to the full extent permitted by the laws of such jurisdiction.

12.19 Contract Documents.

- (a) Documents Included. The following list of documents which are attached hereto, bound herewith or incorporated herein by reference shall constitute the contract documents, all of which are made a part hereof, and collectively evidence and constitute the contract between the parties hereto, and they are as fully a part of this Agreement as if they were set out verbatim and in full herein, and are designated as follows in their order of precedence:
1. This Energy Storage Power Purchase Agreement (ESPPA), Interconnection Agreement (IA) and Amendments to the ESPPA and IA
 2. Amendments to Multi-Step Bid No.: GPA-XXX-25
 3. Multi-Step Bid No.: GPA-XXX-25
 4. Seller's Proposals and Submittals for Multi-Step Bid No.: GPA-XXX--23
- (b) Discrepancies. In the case of discrepancies or conflicts between the above-referenced contract documents, the ESPPA and IA shall take precedence over GPA-XXX-25, and Seller's proposal submitted in response to the Multi-Step Bid. If Seller believes that there is any discrepancy or inconsistency between this Agreement and the other contract documents, Seller shall bring such discrepancy to the attention of the General Manager before proceeding with the work affected thereby.
- (c) Presumption of Familiarity. It will be conclusively presumed that Seller has read, examined and agreed to each and every term, condition, provision, covenant or agreement contained within each and every Contract Document. Seller is assumed to be familiar with all federal (U.S.) and local laws, ordinances, rules and regulations of Guam that in any manner affect the work. Ignorance of law on the part of Seller will not relieve Seller from responsibility.

IN WITNESS THEREOF, the Parties hereto made and executed this Agreement, signed by their duly

authorized officers or individuals, as of the dates listed below.

GUAM POWER AUTHORITY
GPA or Buyer

Seller

By: _____

By: _____

Name: John M. Benavente, P.E.

Name: _____

Title: General Manager

Title: _____

Date: _____, 2025

Date: _____, 2025

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[Signature Page to Energy Storage Power Purchase Agreement]

APPENDICES

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APPENDIX A

**CONTRACT PRICE, MINIMUM PRODUCTION
AND GUARANTEED OUTPUT**

<u>Contract Year</u>	<u>Fixed O&M Price (\$/Month)</u>
<u>1</u>	
<u>2</u>	
<u>3</u>	
<u>4</u>	
<u>5</u>	
<u>6</u>	
<u>7</u>	
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APPENDIX B

NOTICE ADDRESSES

[GPA and Seller shall complete the Notice Addresses prior to COD]

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APPENDIX C

ENERGY STORAGE SYSTEM AND PERFORMANCE CRITERIA

1.1 The Seller's Facility shall be comprised of:

1.1.1 Energy-Shifting Battery Energy Storage System (BESS)

- (a) 90 MW / 360 MWh
- (b) Primarily fully charges during the day and fully discharges at night within 4 hours
- (c) May also charge and discharge at any time of the day as required by the Autonomous Grid Controller or PSCC

1.1.2 Grid Services Battery Energy Storage System (BESS)

- (a) 180 MW / 90 MWh
- (b) Provides the grid services described in the table below:

Grid Service	Description
Energy Shifting	Provide Dispatchable Energy at Any Time
Fast Frequency Response	Rapid injection or absorption of power in response to changes in frequency
Rapid Reserve	Standby Reserve
Rapid Reserve and Hold	Prevent Production Drops from Weather
Reactive Power Support	Control power quality
Black Start	Capability to form and supply microgrids post-natural disaster
Time Correction	Steady state and dynamic management and optimization of Power System Voltages
Microgrid/ Islanding Formation, Control	Operate separately from the rest of the grid.

- (c) Charges and discharges at any time of the day based on the grid services needed

1.2 Voltage and Frequency Ride-through

The Facility shall meet the voltage and frequency ride-through requirements shown in Table 1 below. Voltage and frequency measurements in the table are to be taken at the Delivery Point.

Table 1 – Voltage and Frequency Ride-through Settings

	Settings at Point of Interconnection (34.5 kV) (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	$63.0 < F$	$T > 0.16$

1.3 General Performance

- 1.3.1 Seller's output shall not produce undesirable effects on the GPA grid, such as issues with outages, frequency or voltage. GPA shall notify Seller of such undesirable effects and shall have the right to order Seller to curtail deliveries of BESS Energy from the Project to the Delivery Point until Seller has corrected the issue. GPA will not be required to pay for any curtailments during this period.

1.3.2 Evaluation of Performance Verification

During the Delivery Period, Seller shall submit a performance verification report of the Seller's Energy Storage System output for GPA's review on a monthly basis. Seller shall also provide annual data storage in the Facility database and GPA SCADA.

APPENDIX D

INDEPENDENT ENGINEER

A&R Corporation, Barrigada, Guam
Acme Universal Inc., Barrigada, Guam
AECOM Technical Services, Inc., Hagatna, Guam
AIC International Inc., Hagatna, Guam
Allied Pacific Builders, Inc., Barrigada, Guam
American Builder LLC, Tumon, Guam
Amorient Contracting, Inc., Tamuning, Guam
Anen Construction, Dededo, Guam
APTIM, Tamuning, Guam
ARS Aleut Construction, Tamuning, Guam
ART Constructors LLC, Tamuning, Guam
Asanuma Corporation, Barrigada, Guam
Beacon Construction Co., Mangilao, Guam
Black Construction Corporation, Barrigada, Guam
Black and Veatch, Kansas City, Kansas
BME & Sons Inc., Barrigada, Guam
Brixco LLC, Tamuning, Guam
Brownstone Construction, Inc., Tamuning, Guam
BW24 Corporation, Tamuning, Guam
Caddell-Nan JV (CNJV), Montgomery, Alabama
CH Construction, LLC, Tamuning, Guam
Chugach Consolidated Solutions, LLC, Tamuning, Guam
CH2M HILL, Englewood, Colorado
Circle A Construction, Barrigada, Guam
Citi Development & Construction, Inc., Tamuning, Guam

Clayarch, Inc., Tamuning, Guam
CMS Corporation, Barrigada, Guam
Core Tech International Corporation, Tamuning, Guam
DMS Construction, Yigo, Guam
Detry Corporation, Tamuning, Guam
DLR Corporation, Tamuning, Guam
DN Tanks Inc., El Cajon, California
DZSP21 LLC, Hagatna, Guam
E.M.B. Electrical, Inc., Barrigada, Guam
EMC2 Mechanical, Inc., Barrigada, Guam
E3 Consulting, Denver, Colorado
Environmental Chemical Corporation (ECC), Tamuning, Guam
Fargo Pacific Inc., Hagatna, Guam
First Pacific Builders, LLC, Tamuning, Guam
Fix Builders, Barrigada, Guam
Future World Corporation, Barrigada, Guam
Geo-Engineering & Testing, Inc., Tamuning, Guam
Global Pacific Design Builders, LLC, Tamuning, Guam
GPPC, Inc., Saipan, Northern Mariana Islands
Granite Construction Company Guam, Tamuning, Guam
Green Community Development, dba Surface Solutions, Tamuning, Guam
GSI Pacific, Inc., Dededo, Guam
GTX Construction, LLC, Barrigada, Guam
Guam Advance Enterprises, Inc., Tamuning, Guam
Guam Marine Services, Inc., Yigo, Guam
Guam Pacific Mechanical and Electrical, LLC, Dededo, Guam
Hagens Inc., Tamuning, Guam
Hardwire Electrical, Dededo, Guam
Hawaiian Rock Products, Mangilao, Guam

HDCC Guam, LLC, Dededo, Guam
HDR, Omaha, Nebraska
Healy Tibbitts Builders, Inc., Hagatna, Guam
Hensel Phelps Construction Co., Tamuning, Guam
HEXEL Works, Inc. fma Rokko & Associates, Inc., Tamuning, Guam
HKS Inc., Dallas, Texas
I-Built Construction, Yigo, Guam
IAN Corporation, Barrigada, Guam
IMC Construction Group, Tamuning, Guam
Infratech International LLC, Tamuning, Guam
J&B Modern Tech, Tamuning, Guam
J&RS Equipment Company, Tamuning, Guam
Jacobs, Pasadena, California
JHC Corporation, Tamuning, Guam
JMI Edison, Tamuning, Guam
JMSI Electrical LLC, Tamuning, Guam
JRN Air Conditioning & Refrigeration, Inc., Tamuning, Guam
Kinden Corporation, Tamuning, Guam
Korando Corporation, Barrigada, Guam
LAA Construction, Barrigada, Guam
MCS Constructors Inc., Tamuning, Guam
Mega United Corp. Ltd., Tamuning, Guam
Modern International, Inc., Tamuning, Guam
Motorola, Inc., Harmon, Guam
Mott MacDonald Group, United Kingdom
MZ Corporation, Barrigada, Guam
N.C. Macario & Associates, Inc., Hagatna, Guam
Nakoa Guam, Inc., Tamuning, Guam
Nan Inc., Barrigada, Guam

NBBJ, Seattle, Washington
Obayashi Corporation, Dededo, Guam
P.E.P Construction, Barrigada, Guam
Pacific Armor Screen, Tamuning, Guam
Pacific Metal Works Corporation, Tamuning, Guam
Pacific Modair Corporation, Tamuning, Guam
Pacific Rim Constructors, Inc., Dededo, Guam
Pacific Unlimited Inc., Tamuning, Guam
Paxia Builders, Inc., Tamuning, Guam
Perkins+Will, Chicago, Illinois
PW Investment Corporation, Tamuning, Guam
QRONUS8 Corporation, Barrigada, Guam
Reaction Co., Barrigada, Guam
REG Builders General Construction, Dededo, Guam
Reliable Builders Inc., Tamuning, Guam
Relyant Global, LLC, Tamuning, Guam
SAIC, San Diego, California
SE Construction Corp, Tamuning, Guam
Serrano Construction and Development Corp., Dededo, Guam
Smithbridge Guam, Yigo, Guam
Southcall Construction, Dededo, Guam
Sumitomo Mitsui Construction Co. Ltd., Tamuning, Guam
TC Pacific Construction, LLC, Tamuning, Guam
TECHNI-CON, INC., Tamuning, Guam
Tetra Tech Inc., Pasadena, California
TG Engineers, PC, Barrigada, Guam
Triple Tech Incorporated, Barrigada, Guam
Tutugan Hill Group, Ltd., Tamuning, Guam
Uniss Enterprises, LLC, Tamuning, Guam

URS Corp., San Francisco, California

Valcon Guam, LLC, Barrigada, Guam

Vertex Guam, Barrigada, Guam

VICC International, LLC, Herndon, Virginia

VRM General Contractor, Tamuning, Guam

West Enterprises, Incorporated, Tamuning, Guam

WJ Construction Guam, LLC

Draft

APPENDIX E

PERMITS

Draft

APPENDIX F

FORM OF LETTER OF CREDIT

(Provided is sample which may be replaced by Bank / Financial Institution Form)

(Bank or Financial Institution)

_____, 202__

Irrevocable Standby Letter of Credit No. _____

Beneficiary:

Guam Power Authority

P.O. Box 2977

Guam 96932-2977

Attn:

Applicant:

Dear _____:

We hereby establish for the account of (Company Name) ("Applicant") our irrevocable standby letter of credit in your favor for an amount of USD \$[_____] ([_____] United States Dollars). Applicant has advised us that this letter of credit is issued in connection with the Energy Storage Power Purchase Agreement, dated as of _____, 202__, by and between the Applicant, and Guam Power Authority (the "Beneficiary"). This letter of credit shall become effective immediately on the date hereof and shall expire on _____ [the date that is XX days after the date first set forth above] (such date, or such later date(s) as determined by Applicant in accordance with the next succeeding sentence, the "Expiration Date"). The Expiration Date can be extended on one or more occasions by written notice to us from the Applicant, provided that such written notice is received at least 10 days prior to the Expiration Date. This letter of credit is subject to the following:

1. Funds under this letter of credit shall be made available to Beneficiary against its draft drawn on us in the form of Annex 1 hereto, accompanied by (a) a certificate in the form of Annex 2 hereto, appropriately completed and signed by an authorized officer of Beneficiary, dated the date of presentation, and (b) the original of the letter of credit (the "Accompanying Documents") and presented at our office located at (Bank/Financial Institution Address) attention _____ (or at any other office which may be designated by us by written notice delivered to you). A presentation under this letter of credit may be made only on a day, and during hours, in which such office is open for business (a "Business Day"). If we receive your draft and the Accompanying Documents at such office on any Business Day, all in strict conformity with the terms and conditions of this letter of credit, we will honor the same by making payment in accordance with your payment instructions on the third succeeding Business Day after presentation.

2. This letter of credit shall terminate upon the earliest to occur of (i) our receipt of a notice in the form of Annex 3 hereto signed by an authorized officer of Beneficiary, accompanied by this letter of credit for cancellation, or (ii) our close of business at our aforesaid office on the Expiration Date, or if the Expiration Date is not a Business Day, then on the succeeding Business Day. This letter of credit shall be surrendered to us by you upon the earlier of presentation or expiration.

3. This letter of credit is issued and subject to the International Standby Practices 1998 (ISP98) International Chamber of Commerce Publication No. 590, and as to matters not addressed by ISP98, shall be governed by and construed in accordance with the laws of the State of New York and application of U.S. Federal Law.

4. This letter of credit sets forth in full our undertaking, and such undertaking shall not in any way be modified, amended, amplified or limited by reference to any document, instrument or agreement referred to herein, except for Annexes 1, 2 and 3 hereto and the notices referred to herein; and any such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement except as otherwise provided in this paragraph 4.

5. Communications with respect to this letter of credit shall be in writing and shall be addressed to us at the address referred to in paragraph 1 above, and shall specifically refer to this letter of credit no. _____.

Very truly yours,

Authorized signature
(Bank or Financial Institution)

Draft

under LETTER OF CREDIT No. _____

To:

(Bank or Financial Institution)

(Bank/Financial Institution Address)

Attn: _____

[Month Day , Year]

On Sight

Pay to Guam Power Authority U.S. \$ _____ [not to exceed amount available to be drawn]

Wire to:

Bank's Name: Bank of Guam

Bank's Location: 111 Chalan Santo Papa St., Hagatna, Guam 96910

Bank's Mailing Address: P.O. Box BW, Hagatna, Guam 96932

Account Name: Guam Power Authority Revenue Fund Account

Acct. No.: (to be provided)

Routing No.: (to be provided)

For value received and charge to account of Letter of Credit No. _____ of (Company Name)

GUAM POWER AUTHORITY

By: _____

Name: _____

Title: _____

Drawing under Letter of Credit No. _____

Date: _____

To:

(Bank or Financial Institution)

(Bank/Financial Institution Address)

Attn: _____

The undersigned, a duly authorized officer of the Guam Power Authority, ("Beneficiary"), hereby certifies on behalf of Beneficiary to (Bank or Financial Institution) and to (Company Name) (the "Applicant") with reference to irrevocable standby Letter of Credit No. _____ (the "Letter of Credit") issued for the account of (Company Name) ("Applicant"), that:

- 1) pursuant to the Energy Storage Power Purchase Agreement, dated as of _____, 202__, by and between Applicant and Beneficiary and as of the date hereof Beneficiary is entitled to draw under the Letter of Credit;
- 2) by presenting this certificate and the accompanying sight draft, Beneficiary is requesting that payment in the amount of \$ _____, as specified on said draft, be made under the Letter of Credit by wire transfer or deposit of funds into the account specified on said draft; and
- 3) the amount specified on the sight draft accompanying this certificate does not exceed the remaining amount to which Beneficiary is entitled to draft under said Energy Storage Power Purchase Agreement.

In witness whereof, Beneficiary has caused this certificate to be duly executed and delivered by its duly authorized officer as of the date and year written below.

Date: _____

GUAM POWER AUTHORITY

By: _____

Name: _____

Title: _____

Notice of surrender of Letter of Credit No. _____

Date: _____

To:

(Bank or Financial Institution)

(Bank/Financial Institution Address)

Attn: _____

Re: Letter of Credit No. _____ issued for the account of (Company Name)

Ladies and Gentlemen:

We refer to your above-mentioned irrevocable standby Letter of Credit (the “Letter of Credit”).
The undersigned hereby surrenders the Letter of Credit to you for cancellation as of the date hereof.
No payment is demanded of you under this Letter of Credit in connection with this surrender.

Very truly yours,

GUAM POWER AUTHORITY

By: _____

Name: _____

Title: _____

APPENDIX G

Draft

APPENDIX H

SCHEDULING AND COORDINATION PROCEDURES⁶

The Parties acknowledge that as of the Effective Date GPA has not yet established protocols for scheduling BESS projects to participate in GPA's scheduling process. As soon as practicable, in consultation with Seller (and after taking into account and accommodating Seller's reasonable comments), GPA shall establish such protocols. As soon as practicable after such protocols have been established, become effective and been provided to Seller, but not more than ninety (90) days thereafter, Seller shall use commercially reasonable efforts to cause the Project to become certified as an available resource, including negotiating and executing documents to become an available resource in Guam. Following certification and whenever applicable, Seller shall use commercially reasonable efforts to comply with all additional reasonable protocols issued by GPA relating to available resources during the Delivery Period, and GPA shall consult with Seller (and take into account and accommodate Seller's reasonable comments) in connection with the preparation of any such additional protocols. Seller shall not be required to incur additional costs to comply with such future protocols or to become an available resource under future requirements to be established by GPA. In the event that any protocols for scheduling BESS projects to participate in GPA's scheduling process is established after the Effective Date and such protocols conflict with the procedures set forth in this Appendix H, the procedures set forth in this Appendix H shall control.

1.1 General

- (a) Notices. Seller shall submit to GPA notices and updates required under this Agreement regarding the Project's status, including, but not limited to, outage requests, Forced Outages and Forced Outage reports. If a web based system is not available, Seller shall promptly submit such information to GPA (in order of preference) telephonically, by electronic mail, or facsimile transmission to the personnel designated to receive such information. Seller shall also provide additional reporting requirements specified by the GPA Power System Control Center.
- (b) GPA Settlements. GPA shall be responsible for all settlement functions within GPA related to the Project.
- (c) Resource Data Template. Seller shall provide the data to GPA that is required for GPA's resource data template (or successor data system) for the Project consistent with this Agreement. Neither Party shall change the template for such data without the other Party's prior written consent.

⁶ Appendix H and scheduling and coordination procedures TBD (including PSCC requirements for Hourly Reports, Daily Production Reports, etc.).

- (d) Annual Delivery Schedules. No later than forty-five (45) days before (A) the first day of the first Contract Year and (B) the beginning of each calendar year for every subsequent Contract Year during the Delivery Period, Seller shall provide a non-binding forecast of each month's average-day expected Actual BESS Energy for the following calendar year.
- (e) Monthly Delivery Schedules. Ten (10) Business Days before the beginning of each month during the Delivery Period, Seller shall provide a non-binding forecast of each day's average expected Actual BESS Energy for the following month ("Monthly Delivery Forecast").
- (f) Daily Delivery Schedules. By 5:30 AM Guam Prevailing Time on the Business Day immediately preceding the date of delivery, Seller shall provide GPA with a non-binding forecast of the Project's available energy (a "Day-Ahead Forecast"). A Day-Ahead Forecast provided in a day prior to any non-Business Day(s) shall include Schedules for the immediate day, each succeeding non-Business Day and the next Business Day. Each Day-Ahead Forecast shall clearly identify, for each hour, Seller's estimate of the Project's available energy. Seller may not change such Schedule past the deadlines provided in this section except in the event of a Forced Outage or Schedule change imposed by GPA, in which case Seller shall promptly provide GPA with a copy of any and all updates to such Schedule indicating changes from the then-current Schedule. These notices and changes to the Schedules shall be sent to GPA's on-duty scheduling coordinator. If Seller fails to provide GPA with a Day-Ahead Forecast as required herein, then for such unscheduled delivery period only GPA shall rely on the delivery Schedule provided in the Monthly Delivery Forecast or GPA's best estimate based on information reasonably available to GPA and Seller shall be liable for Scheduling and delivery based on such Monthly Delivery Forecast or GPA's best estimate.
- (g) Hourly Delivery Schedules. Notwithstanding anything to the contrary herein, in the event Seller makes a change to its Schedule on the actual date of delivery for any reason, including Forced Outages (other than a scheduling change imposed by GPA), that results in a change to its deliveries (whether in part or in whole), Seller shall notify GPA immediately by calling GPA's on-duty scheduling coordinator. Seller shall notify GPA of Forced Outages in accordance with this Agreement. Seller shall keep GPA reasonably informed of any developments that are reasonably expected to affect either the duration of the outage or the availability of the Project during or after the end of the outage.

1.2 Dispatch Down/Curtailment.

- (a) GPA shall have the right to order Seller to curtail deliveries of Renewable Energy from the Project to the Delivery Point pursuant to a Notice of a Dispatch Down (as defined in Appendix G) delivered to Seller at least one (1) day prior to the curtailment date, when practical, provided that the value attributable to any BESS Energy curtailed of more than 2% of the Guaranteed Output for any Contract Year which is not delivered during such curtailment periods, whether for transmission unavailability, operational dispatch or otherwise shall be reimbursed in accordance with subsection (d) below.
- (b) Seller shall have the right in its discretion to make up any curtailed quantities, as calculated in accordance with Appendix G, of ESS Energy as a result of a Dispatch Down (“Dispatch Down Makeup Production”), for which it is not reimbursed pursuant to this Appendix H, in the first and any subsequent Contract Year in which at least the Minimum Production is delivered and to extend the Term to the extent necessary, but not to exceed six (6) months, to make up any curtailed quantities. The Contract Price for the Contract Year in which the make-up occurs shall apply to Dispatch Down Makeup Production. Production in excess of Guaranteed Output for any Contract Year as set forth in the third column of Appendix A will first be applied to any previous years’ Deficiency Amounts, then to Dispatch Down Makeup Production, then treated under this Agreement as production in excess of Guaranteed Output.
- (c) GPA shall provide to Seller all technical information necessary to justify and support each Dispatch Down. Seller agrees to reduce the BESS Energy as set forth in such a Notice of Dispatch Down that meets the requirements set forth herein.
- (d) For each MWh of BESS Energy from the Facility curtailed by GPA until the end of this Agreement, GPA shall pay Seller, on the date payment would otherwise be due in respect of the month in which any such curtailment occurred, an amount equal to the product of the Contract Price times the amount of BESS Energy that Seller could reasonably have delivered to GPA but for such curtailment (“Lost Revenue”); provided that no Lost Revenue shall be due and payable from GPA to Seller for curtailments of up to 2% of the Guaranteed Output and curtailments due to undesirable effects on the GPA grid caused by Seller’s output.
- (e) For purposes of clarification, no curtailment by GPA, as a result of a warranted failure of or defect in the interconnection facilities transferred by Seller to GPA pursuant to the Interconnection Agreement, during the one-year warranty term thereof, shall count against the 2% curtailment threshold set forth above. During the one-year warranty term of the interconnection facilities transferred, any curtailment by GPA which results from such failure of or defect in the interconnection facilities

transferred will not be eligible for reimbursement by GPA to Seller as Lost Revenue payments.

1.3 Outage Notification.

- (a) Planned Outages. Seller shall schedule Planned Outages in accordance with Good Utility Practices and with the prior written consent of GPA, which consent may not be unreasonably withheld, conditioned or delayed. Nonetheless, the Parties acknowledge that in all circumstances, Good Utility Practices shall dictate when Planned Outages should occur. Seller shall notify GPA of Seller's proposed Planned Outage schedule for the Project for the following calendar year by submitting a written Planned Outage schedule no later than October 1st of each year during the Delivery Period. The Planned Outage schedule is subject to GPA's concurrence, which concurrence may not be unreasonably withheld, conditioned or delayed. GPA shall promptly respond with its approval or with reasonable modifications to the Planned Outage schedule and Seller shall use its commercially reasonable efforts in accordance with Good Utility Practices to accommodate GPA's requested modifications. Notwithstanding the submission of the Planned Outage schedule described above, Seller shall also submit a completed form of outage notification to GPA no later than fourteen (14) days prior to each Planned Outage and reasonably appropriate outage information or requests to GPA. Seller shall contact GPA with any requested changes to the Planned Outage schedule if Seller believes the Project must be shut down to conduct maintenance that cannot be delayed until the next scheduled Planned Outage consistent with Good Utility Practices. Seller shall not change its Planned Outage schedule without GPA's concurrence, not to be unreasonably withheld, conditioned or delayed.
- (b) Forced Outages. Within two hours of any Forced Outage Seller shall submit a completed form of outage notification to GPA in accordance with the instructions shown on the agreed form and shall submit outage information to GPA. Seller shall not substitute ESS Energy from any other source for the output of the Project during a Forced Outage.
- (c) Coordination with GPA. GPA shall cooperate with Seller in arranging and coordinating all Project outages.

1.4 Operations Logs and Access Rights.

- (a) Operations Logs. Seller shall maintain a log of all material operations and maintenance information on a daily basis. Such log shall include, but not be limited to, information on power production, efficiency, availability, maintenance performed, outages, results of inspections, manufacturer recommended services, replacements, and control settings or adjustments of equipment and protective devices. Seller shall

maintain this information for at least two (2) years and shall provide this information electronically to GPA within five days of GPA's request.

- (b) Access Rights. GPA, its authorized agents, employees and inspectors shall have the right of ingress to and egress from the Project during normal business hours upon reasonable advance notice and for any purposes reasonably connected with this Agreement and in accordance with Section 12.4 and the other applicable requirements of this Agreement.

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APPENDIX I

BASE CONDITIONS AND FACILITY TEST PROTOCOL

[GPA and Seller shall complete a mutually agreed process for commissioning and performance testing prior to COD and to any curtailment claims]

1. Notice of Test plan to GPA

2. Facility Test

There are two types of “Facility Test”: “Ramp-Rate Control” and “Output Capacity Test” performed for 1 (one) day each. Both tests can be performed on the same day. For example, if the Ramp-Rate Control Test is successful while conducting the Output Capacity Test, both tests are considered to have met the test requirements. Before the test, SCADA should be installed completely for data acquisition and analysis, and data such as power generation and irradiation should be collected automatically. The “Facility Test” results could be differ depending on the weather condition, so if it is determined that there is a weather condition problem, “Facility Test” should be performed another day within a week.

2.1 Ramp Rate Control

- (1) Test procedure for one day follows “1.3.2 Evaluation Performance Verification of Appendix C.
- (2) If success rate is equal or greater than the Guaranteed Success Rate (in Appendix C), then Facility shall be deemed to be operated in accordance to its Design Capacity.
- (3) If success rate is less than the Guaranteed Success Rate (in Appendix C), then contractor shall analyze and solve the cause, and test should be performed the following day.

2.2 Output Capacity

- (1) One day output capacity should be measured at Delivery Point.
- (2) If measured one day output capacity values is equal or greater than 90% of the expected average daily output capacity as set forth in the fourth column of Appendix A ([“90% of Minimum Production (MWh)”]/365), then the Facility shall be deemed to be operated in accordance to its Design Capacity.
- (3) If measured one day output capacity value is less than 90% of expected average daily output capacity ([“90% of Minimum Production (MWh)”]/365), then contractor shall compare the irradiance of tested day and expected irradiance

($2268.7/365$ = total sum of “POA irradiance [kWh/m²] (Applied in Monthly PR)” of Appendix G/365). If irradiance of tested day is less than expected irradiance, then test should be performed another day within a week.

3. Exclusion

Test:

The Facility Test shall be redone if any of the following occur during the Facility

- (a) Failure of Facility to perform caused by legislative, administrative, or executive regulation, order or requisition of the government, local utility or public utilities commission, or any state, provincial or municipal government or official;
- (b) Force Majeure events or GPA Delays; or
- (c) Disconnection from the utility grid not caused by Seller or its subcontractors.

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APPENDIX J

INTERCONNECTION AGREEMENT

Draft

INVITATION FOR MULTI-STEP BID

No. GPA-0XX-25

ENERGY STORAGE SYSTEMS

PHASE II



Draft

Volume IV

Bid Scoring Mechanism

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Draft

1. OVERVIEW

GPA will use the Bid Scoring Procedures described in this volume of the Invitation for Bid (IFB) to qualify Bidders for the participation in the final bid stage. The Bid Scoring Procedures provide the Bidders the opportunity to highlight their qualifications to bid in terms of their resources, experience in developing energy storage systems, financial conditions and creditworthiness qualifications, risk exposure, pricing structure, and ability to comply with bidding “Threshold Requirements”.

The IFB bid evaluation shall be based on such specifications and based on the relative ranking of each Bidder’s qualifications, financial information, and the structure of their bid.

2. BID SCORING WORKSHEETS

Bidders shall complete the following worksheets in the **Qualitative Scoring Workbook.xls** for Step 1 of this multi-step IFB.

- **Part 1- Qualitative Proposal Support References**
- **Part 2 – Technical Data**

Bidders shall complete the **Priced Proposal** worksheet in the **Priced Proposal Workbook.xls** for Step 2 of this multi-step IFB.

3. STEP 1 – QUALITATIVE BID SCORING

The qualitative bid scoring is designed to assess the quality of the Bidder’s resources, experience, credit worthiness, maturity of resource technology, and control of proposed site. Each GPA evaluator shall score each Bidder separately under a point system to determine the acceptability of each bid. The majority of the determinations of GPA evaluators shall prevail in the decision to Qualify or not Qualify a Bidder for Step 2.

3.1 Technical Qualification Proposal Qualitative Bid Scoring Procedure

The instructions for filling out the Qualitative Scoring Workbook are listed in the **Workbook Instructions** tab in the Workbook. The Bidder must complete all entries in the **Part 1- Qual Support References** and **Part 2 – Technical Data** tabs of the Workbook.

GPA may elect to have up to seven (7) evaluators for this IFB. Evaluators will be employees of GPA.

Each GPA evaluator will score Bidders’ responses in the “**Part 1- Qual Support References**” and the “**Part 2 – Technical Data**” Worksheet Tabs using the following steps in filling out the “**Qual Eval Scoresheet**” tab:

- Review each Bidder’s response to each line item;
- Assign a relative score to each Bidder’s response to each line item;
- Determine each Bidder’s weighted average raw score using pre-specified weights for each

question.

The maximum Total Qualitative Score is **1,865 points**.

Each GPA evaluator will analyze the contents of the bids and categorize the bids as:

- a. Acceptable—those Technical Qualification Proposals receiving a score at or above 80% of the total possible score of 1,865 points (those receiving 1,492 points).
- b. Potentially Acceptable—those Technical Qualification Proposals receiving a score of less than 80% but at least 70% of the total possible score of 1,865 points (those receiving at least 1,306 points)
- c. Unacceptable—those Technical Qualification Proposals receiving a score of less than 70% of the total possible score of 1,865 points (those receiving less than 1,306 points)

A rating of Potentially Acceptable means the GPA evaluator has determined this Bidder has a reasonable possibility of making its submittal acceptable. A percent score of less than 70% indicates that a GPA evaluator has determined that the Bidder has not supplied sufficient evidence of qualifications and should not be allowed to participate in Step 2.

After each GPA evaluator has completed the evaluation of Technical Qualification Proposals, GPA shall complete the Table 1 below. The Procurement Officer will enter for each GPA evaluator and Bidder one and only one of the following in the appropriate table cell below:

- Acceptable
- Potentially Acceptable
- Unacceptable

Table 1. Final Evaluation of Bidder Qualification

	BIDDER 1	BIDDER 2	BIDDER 3	BIDDER 4	BIDDER 5	BIDDER 6
TECHNOLOGY:						
EVALUATOR						
1						
2						
3						
4						
5						
Majority Result:						

If the majority of the GPA evaluators rate the Bidder as Acceptable, that Bidder is determined to be Qualified and will be allowed to participate in Step 2.

The Procurement Officer may initiate Step Two if there are sufficient acceptable Technical Qualification Proposals to assure effective price competition in the second phase without technical discussions. Sufficient acceptable Technical Qualification Proposals shall include variety of

resource technologies in order to meet GPA's generation diversification goals.

If the Procurement Officer finds that such is not the case, the Procurement Officer shall issue an amendment to this Invitation for Bid or engage in technical discussions with Bidders who are rated by a majority of the GPA evaluators as Acceptable or Potentially Acceptable. During the course of such discussions, the Procurement officer shall not disclose any information derived from one Technical Qualification Proposals to any other Bidders. Once discussions are begun, any Bidder who has not been notified that it's Offer has been finally found acceptable, may submit supplemental information amending its Technical Offer at any time. Such submission may be made at the request of the Procurement Officer or upon the Bidder's own initiative.

Bidders who are rated by the majority of the GPA evaluators as Unacceptable are determined to be not qualified and will not be allowed to participate in Step 2.

The Procurement Officer shall record in writing the basis for finding a Bidder Not Qualified and make it part of the procurement file.

3.2 Qualitative Scoring

Table 2 identifies the factors that will determine which of the Bidders meet the qualifications to participate in Step 2, Price Evaluation, in this multi-step bid. Evaluators will score each bid by criteria category sub-factors listed in this table. The Evaluator scores will be summed by category and weighted to produce a weighted score. The weighted scores will be totaled to produce a total score which will be the final score used to determine "Acceptable", "Potentially Acceptable", and "Unacceptable" bids as defined in previous section.

Descriptions of the scoring criteria sub-factors can be found in Volume II.

Table 2 - Qualitative Scoring

Invitation for Bid: GPA-0XX-23 Renewable Energy Resource Acquisition for the Guam Power Authority PART 3 - QUAL EVAL SCORESHEET					
Bidder's Name: Bidder's No.: <<< BIDDER'S BID NO >>>				Date:	
				BID EVALUTION	
EVALUATION FACTORS	Raw Score Weight	MAX Possible Score	Maximum Weighted Possible Score	RAW SCORE	WEIGHTED SCORE
A. PROJECT DEVELOPMENT	20	26	520	0	
A1. Method and status of project financing (3)		3			
A2. Level of site control by developer (6) (Only Anderson Area)		6			
A3. Project team experience (5)		5			
A4. Project Schedule & Commercial Operation Date (4)		4			
A5. Status of equipment supply and EPC agreements (3)		3			
A6. Bidder concurrence to the draft Purchase Power Agreement (5)		5			
B. PHYSICAL PROJECT CHARACTERISTICS	20	20	400	0	
B1. Operating Profile (5)		5			
B2. Point of delivery (5)		5			
B3. Risk that the resource will not perform as expected (5)		5			
B4. Project life and extension options. (5)		5			
C. POWER PRODUCT CHARACTERISTICS	25	12	300	0	
C1. Guaranteed Annual MWH (3)		3			
C2. Dispatchability (3) -		3			
C3. Product flexibility (3)		3			
C4. Contract Term (3)		3			
D. CREDIT EVALUATION	20	21	420	0	
D1. Debt and equity ratings (3)		3			
D2. Performance assurance (3)		3			
D3. Financial ratio analysis (3)		3			
D4. Default risk (3)		3			
D5. Credit concentration and liquidity effect (3)		3			
D6. Enforceability of contractual credit terms (3)		3			
D7. Bidder revisions to contract templates that may affect credit requirements (3)		3			
E. Environmental Permits and Impacts	15	15	225	0	
E1. Permits (5)		5			
E2. Site Environmental Assessment (10)		10			
TOTALS	100	94	1865	0	
EVALUATION RATING:					
ACCEPTABLE - Scores Greater Than or Equal to:				1492	
POTENTIALLY ACCEPTABLE - Less than Acceptable but Greater Than or Equal to:				1306	
UNACCEPTABLE - Scores are less than:				1306	

4. STEP 2 – PRICE PROPOSAL EVALUATION

The price evaluation will be based on the Annual Fixed Pricing (\$/MWh) for the guaranteed renewable energy delivered for the first contract year. Prices shall escalate at a fixed rate of 0.5% annually for the entire contract period. However, total cost must still fall below GPA's avoided cost, which is the marginal utility cost as determined by GPA's resource planning software. GPA will apply a 1% penalty factor to the prices of bids interconnecting to the 34.5 kV system. Energy degradation shall be limited to 0.7% annually.

The basis of the avoided cost analysis will be the process used in developing GPA's Integrated Resource Plan. GPA's Integrated Resource Plan includes assumptions such as GPA generator performance and efficiencies (heat rate, availability, etc.), fuel forecasts, load forecasts, and GPA generator fixed and variable operating costs. The avoided cost analysis will include an evaluation of the utility's fuel and O&M cost savings expected to be realized by contracting with each Bidder's project using GPA's resource planning software. The evaluation compares the difference in total system costs between the case without ESS Phase II Energy Bids and with Bidder proposed costs and energy guarantees singly and in combination. To meet the avoided cost standard, the Bidder's proposed costs and operational guarantees must result in an equal or lower total system cost when included in the GPA generation mix than the GPA system without the proposed ESS energy system. The components of the total cost of power to the utility for each bid will include the cost of the energy to be purchased as a product of the bid price and the contract energy based on the generation profile submitted by the bidder.

GPA will award the contract(s) to the Bidder(s) whose bid meets all of the requirements and yields the lowest Annual Fixed Pricing (\$/MWh) for the guaranteed ESS energy delivered for the first contract year.

Table 3. Priced Proposal Evaluation

	BIDDER 1	BIDDER 2	BIDDER 3	BIDDER 4	BIDDER 5	BIDDER 6
TECHNOLOGY:						
First Year Annual Fixed Pricing (\$/MWh)						

INVITATION FOR MULTI-STEP BID

No. GPA-0XX-23

ENERGY STORAGE SYSTEM

PHASE II



Draft

Volume V

Required Forms

Proposal Checklists

Draft

DOCUMENT RECEIPT CHECKLIST

Document Title	Proponent Initial
Volume I Commercial Terms and Conditions	_____
Volume II Technical Qualification Requirements	_____
Volume III Purchase Power Agreement (Draft)	_____
Volume IV Proposal Scoring Mechanism	_____
Volume V Appendices	
APPENDIX A – Proposal Checklist	_____
APPENDIX B – Bid Bond Form and Instructions	_____
APPENDIX C – Ownership & Interest Disclosure Affidavit	_____
APPENDIX D – Non-Collusion Affidavit	_____
APPENDIX E – Local Procurement Preference Application	_____
APPENDIX F – Performance Bond	_____
APPENDIX G – No Gratuities or Kickbacks Affidavit	_____
APPENDIX H – Ethical Standards Affidavit	_____
APPENDIX I – Declaration Re Compliance with U.S. DOL Wage Determination	_____
APPENDIX J – Restriction Against Sex Offenders	_____
APPENDIX K – Electrical System Drawings and Site	_____
APPENDIX L – Required Interconnection Technical Information	_____
APPENDIX M – §3118 (Cost or Pricing Data) & §6101 ((9) Liquidated Damages)	_____
of the Guam Procurement Regulations	_____
APPENDIX N – Historical LEAC – Fuel Recovery Rates	_____
APPENDIX O – Potential Energy Storage System Sites	_____
APPENDIX P – Guam Climate Data	_____
APPENDIX Q – SCADA and Network Requirements	_____
APPENDIX R – Contingent Fee Affidavit	_____
APPENDIX S – 7.0 System & Service Acquisition Policy Directive	_____
APPENDIX T – 8.0 Access Control Policy Directive	_____
APPENDIX U – 17.0 Physical and Environmental Protection Policy Directive	_____
APPENDIX V – TESLA Graphs	_____
APPENDIX X – Qualitative Scoring Workbook.xls	_____
APPENDIX Y – Priced Proposal Workbook.xls	_____
APPENDIX Z – RESERVED	_____
Contiguous Amendment Notifications From Amendment No. 1 through _____	_____
Others:	_____

TECHNICAL PROPOSAL SUBMITTAL CHECKLIST

	ITEM	QUANTITY (ORIGINALS) ¹	QUANTITY (COPIES) ¹	GPA INITIAL
1	Technical Qualification Proposal	_____	_____	_____
2	Written Response and Supporting Information to the Questions Raised in The Qualitative Scoring Workbook	_____	_____	_____
3	Electronic Copy of the Completed Qualitative Scoring Workbook (Reference Worksheet)	_____	_____	_____
4	Completion of data input into Technical Proposal Form	_____	_____	_____
5	Electronic Copy of the Completed Price	_____	_____	_____
6	Supplementary Information:	_____	_____	_____
6.1	Articles of Incorporation and By-Laws ²	_____	_____	_____
6.2	Ownership & Interest Disclosure	_____	_____	_____
6.3	Affidavit (Appendix C) ²	_____	_____	_____
6.4	Certificate of Good Standing ²	_____	_____	_____
6.5	Non-collusion Affidavit (Appendix D) ²	_____	_____	_____
6.6	Client References	_____	_____	_____
6.7	Bid Bond ²	_____	_____	_____
6.8	Local Procurement Preference Application (Appendix E)	_____	_____	_____
6.9	No Gratuities or Kickbacks Affidavit	_____	_____	_____
6.10	Ethical Standards Affidavit	_____	_____	_____
6.11	Declaration Re Compliance with US DOL Wage Determination	_____	_____	_____
6.12	Restriction Against Sex Offenders Employed by Service Providers to Government of Guam from Working On Government of Guam Property	_____	_____	_____
6.13	Contingent Fees Affidavit (Appendix R) ²	_____	_____	_____

¹ Quantities supplied for each item must comply with minimums established in Volume I of the Invitation for Bid documents.

² Proposal is subject to automatic disqualification if this article is not provided.

Bid Bond Form and Instructions

Draft



GUAM POWER AUTHORITY

ATURIDÂT ILEKTRESEDÂT GUÅHAN
P.O.BOX 2977 • HAGÂTNÂ, GUAM U.S.A. 96932-2977

Telephone Nos. (671) 648-3054/55 Fax: 648-3165

Lourdes A. Leon Guerrero
I Maga 'håga

Joshua F. Tenorio
I Sigundo Maga 'lâhi

BID BOND

NO.: _____

KNOW ALL MEN BY THESEPRESENTS that _____, as
Principal Hereinafter called the Principal, and (Bonding Company), _____

A duly admitted insurer under the laws of the Territory of Guam, as Surety, hereinafter called the Surety are
Held firmly bound unto the Territory of Guam for the sum of _____
Dollars (\$ _____), for Payment of which sum will and truly to be made, the said Principal and the
said Surety bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly
by these presents.

WHEREAS, the Principal has submitted a bid for (identify project by number and brief description)

NOW, THEREFORE, if the Territory of Guam shall accept the bid of the Principal and the Principal shall enter
into a Contract with the Territory of Guam in accordance with the terms of such bid, and give such bond or bonds as
my be specified in bidding or Contract documents with good and sufficient surety for the faithful performance of such
Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt
payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter
such Contract and give such bond or bonds, if the Principal shall pay to the Territory of Guam the difference not to
exceed the penalty hereof between the amounts specified in said bid and such larger amount for which the Territory of
Guam may in good faith contract with another party to perform work covered by said bid or an appropriate liquidated
amount as specified in the Invitation for Bids then this obligation shall be null and void, otherwise to remain full force
and effect.

Signed and sealed this _____ day of _____ 2025.

(PRINCIPAL)

(SEAL)

(WITNESS)

(TITLE)

(MAJOR OFFICER OF SURETY)

(TITLE)

(TITLE)

(RESIDENT GENERAL AGENT)

SEE INSTRUCTIONS FOR SUPPORTING DOCUMENTS REQUIRED.

INSTRUCTION TO PROVIDERS:

NOTICE to all Insurance and Bonding Institutions:

The Bond requires the signatures of the Vendor, two (2) major Officers of the Surety and Resident General Agent, if the Surety is a foreign or alien surety.

When the form is submitted to the Guam Power Authority, it should be accompanied with copies of the following:

1. Current Certificate of Authority to do business on Guam issued by the Department of Revenue and Taxation.
2. Power of Attorney issued by the Surety to the Resident General Agent or the following:
 - a. Current Sworn Annual Report (Limited Liability Company (LLC) and/or Corporation) or;
 - b. Current Renewal or Annual Limited Liability Partnership (LLP)

The following reference links are for reference:

https://www.govguamdocs.com/revtax/docs/SwornAnnualReport_LLC_0609.pdf

https://www.govguamdocs.com/revtax/docs/SwornAnnualReport_Corporations.pdf

https://www.govguamdocs.com/revtax/docs/Renewal_LLP_Registration_r1106.pdf

3. Power of Attorney issued by two (2) major officers of the Surety to whoever is signing on their behalf.

Bonds, submitted as Bid Guarantee, without signatures and supporting documents are invalid and Bids will be rejected.

Ownership & Interest Disclosure Affidavit

Draft



GUAM POWER AUTHORITY

ATURIDÂT ILEKTRESEDÂT GUÅHAN
P.O.BOX 2977 • HAGÂTÑA, GUAM U.S.A. 96932-2977

SPECIAL PROVISION FOR OWNERSHIP DISCLOSURE AFFIDAVIT

All Bidders/Offerors are required to submit a current affidavit as required below. Failure to do so will mean disqualification and rejection of the Bid/RFP.

5 GCA §5233 (Title 5, Section 5233) states: Disclosure of Ownership, Financial, and Conflicts of Interest

- (a) Purpose. The disclosure required by this Section are intended to reveal information bearing on the responsibility of a bidder, and can be obtained by an inquiry regarding responsibility prior to award.
- (b) Definitions.
As used herein, the term "person" shall be interpreted liberally to include the definition found in 1 GCA § 715, and in § 5030(n) of this Chapter, and includes a natural person as well as every entity of whatever form or composition (an "artificial person") recognized under the laws of Guam other than a natural person, who is a prospective contractor under a bid, offer, proposal, or other response to a solicitation, or is a contractor under a contract with the government of Guam, and subject to the provisions of this Chapter.
- (c) Public Disclosure of Ownership.
 - (1) The ownership interests to be disclosed under this Section include the interests of a natural or artificial person who owns all or any part of a prospective contractor, bidder, or offeror, whether as proprietor, a partner, limited or otherwise, a shareholder of any class, in which case the percentage ownership interest test shall be based on each class, a member of an association or company, limited or otherwise, and any person owning a beneficial legal interest in any trust, and any other person having the power to control the performance of the contract or the prospective contractor.
 - (2) Prior to award, every person who is a prospective contractor, bidder, or offeror of a contract to be acquired under any method of source selection authorized by this Chapter shall submit a Disclosure Statement, executed as an affidavit under oath, disclosing the name of each person who currently or has owned an ownership interest in the prospective contractor, bidder, or offeror greater than ten percent (10%) at any time during the twelve (12) month period immediately preceding the date of the solicitation (the "relevant disclosure period"). If a prospective contractor, bidder, or offeror is an artificial person, the Disclosure Statement shall disclose the name of each person who has owned an ownership interest in such artificial person (a "second tier owner") greater than twenty-five percent (25%) at any time during the relevant disclosure period. If any such second tier owner is also an artificial person, the Disclosure Statement shall disclose the name of each person who has owned an ownership interest in such second tier owner (a "third tier owner") of forty-nine percent (49%) or more during the relevant disclosure period. If the name of no natural person has been identified as an owner, or a second or third tier owner of the prospective contractor, bidder, or offeror, the Disclosure Statement shall identify the name, position, address, and contact information of the natural person having the authority and responsibility for the performance of the prospective contract, and the name of any natural person who has the authority and power to remove and replace the designated responsible person or otherwise control the performance of the prospective contract.

- (d) Disclosure of Financial Interest. A prospective contractor shall execute an affidavit disclosing the name of any person who has received or is entitled to receive a commission, gratuity, contingent fee or other compensation to solicit, secure, or assist in obtaining business related to the solicitation by means of a Disclosure Statement, executed as an affidavit under oath, disclosing such interest and shall also contain the amounts of any such commission, gratuity, contingent fee or other compensation.
- (e) Disclosure of Conflict of Interest. A prospective contractor shall disclose the name of any person who directly or indirectly participates in any solicitation if such person is also an employee of the government of Guam, or of the government of the United States if federal funds are used in payment of the contract.
- (f) Every disclosure of an ownership or financial interest of any person required to be identified by this Section shall name the person required to be disclosed and the street address of their principal place of business. All information disclosed or meant to be disclosed under this Section is public procurement data and shall be kept as part of the public record of each procurement.
- (g) Continuing Duty of Disclosure. Notwithstanding any other provision of this Chapter, the duty to disclose the information required under this Section shall be, upon award a continuing duty of a contractor of every contract subject to this Chapter, and all such information shall become part of the procurement record required by § 5249 of this Chapter. Throughout the term of a contract subject to the terms of this Chapter, the contractor shall promptly make any disclosures not made previously and update changes in the identities or other required information, interests, or conflicts of the persons required to be disclosed herein. Failure to comply with this Section shall constitute a material breach of contract."

Section 2. Severability. If any provision of this Act or its application to any person or circumstance is found to be invalid or contrary to law, such invalidity shall not affect other provisions or applications of this Act that can be given effect without the invalid provision or application, and to this end the provisions of this Act are severable.

1. If the affidavit is a copy, indicate the BID/RFP number and where it is filed.
2. Affidavits must be signed within 60 days of the date the bids or proposals are due.

TERRITORY OF GUAM)
)
HAGATNA, GUAM)

1. That the name of each person who owns or has owned an ownership interest in the prospective contractor, ,bidder, or offeror greater than ten (10%) at any time during the twelve (12) month period immediately preceding the date of this solicitation are as follows:

2. That for any owners listed Section 1 who are artificial persons, the name of each person who owns or has owned an interest in such artificial person (a “second-tier owner”) greater than twenty-five percent (25%) at any time during the relevant disclosure period are as follows:

3. That for any owners listed Section 2 who are artificial persons, the name of each person who has owned an ownership interest in such second-tier owner (a “third-tier owner”) of forty-nine percent (49%) or more during the relevant disclosure period are as follows:

4. That if no natural person has been identified as an owner in Section 1-3 above, the natural person having the authority and responsibility for the performance of the prospective contract:

The natural person having the authority and power to remove and replace the designated responsible person of

otherwise control the performance of the prospective contract:

Name & Position

Street Address (Principal Place of Business)

Contact Information

5. Persons who have received or are entitled a commission, gratuity or other compensation for procuring or assisting in obtaining business related to the Bid/RFP for which this Affidavit is submitted are as follows:

Name	Address	Amount of Commission, Gratuity, or other Compensation
_____	_____	_____
_____	_____	_____

6. Persons who directly or indirectly participated in this solicitation, if government of Guam employees (or government of the United States employees, if federal funds are used in payment of the contract):

Name & Position	Street Address (Principal Place of Business)	Contact Information
_____	_____	_____
_____	_____	_____

Further, affiant sayeth naught.

Date: _____

Signature of individual if bidder/offeror is a sole
Proprietorship; Partner, if the bidder/offeror is a
Partnership Officer, if the bidder/offeror is a corporation.

Subscribe and sworn to before me this _____ day of _____,
20____.

Notary Public _____

In and for the Territory of Guam

My Commission expires _____.

Non-Collusion Affidavit

Draft

NON-COLLUSION AFFIDAVIT

Guam)
)ss:
Hagatna)

I, _____ first being duly sworn, depose and say:
(Name of Declarant)

1. That I am the _____ of _____.
(Title) (Name of Bidding/RFP Company)
2. That in making the foregoing proposal or bid, that such proposal or bid is Genuine and not collusive or shame, that said bidder/offeror has not colluded, Conspired, connived or agreed, directly or indirectly, with any bidder or person, to put in a sham or to refrain from bidding or submitting a proposal and has not in any manner, directly or indirectly, sought by agreement or collusion, or communication or conference, with any person, to fix the bid of affiant or any other bidder, or to secure any overhead, project or cost element of said bid price, or of that of any bidder, or to secure any advantage against the GUAM POWER AUTHORITY or any person interested in the proposed contract; and
3. That all statements in said proposal or bid are true.
4. This affidavit is made in compliance with Guam Administrative Rules and Regulations §§3126(b).

Draft

(Declarant)

SUBSCRIBED AND SWORN to me before this _____ day of _____ 2025.

)Seal(

Notary Public

Local Procurement Preference Application

Draft



GUAM POWER AUTHORITY

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

Telephone Nos. (671) 648-3054/55 Fax: 648-3165

Lourdes A. Leon Guerrero
I Maga 'håga

Joshua F. Tenorio
I Sigundo Maga 'låhi

Accountability	•	Impartiality	•	Competence	•	Openness	•	Value
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LOCAL PROCUREMENT PREFERENCE APPLICATION

Based on the law stipulated below, please place a checkmark or an "X" on the block indicating the item that applies to your business:

5GCA, Chapter 5, Section 5008, "Policy in Favor of Local Procurement" of the Guam Procurement Law states:

All procurement of supplies and services shall be made from among businesses licensed to do business on Guam and that maintains an office or other facility on Guam, whenever a business that is willing to be a contractor is:

- () (a) A licensed bona fide manufacturing business that adds at least twenty-five percent (25%) of the value of an item, not to include administrative overhead, suing workers who are U.S. Citizens or lawfully admitted permanent residents or nationals of the United States, or persons who are lawfully admitted to the United States to work, based on their former citizenship in the Trust Territory for the Pacific Islands; or
- () (b) A business that regularly carries an inventory for regular immediate sale of at least fifty percent (50%) of the items of supplies to be procured; or
- () (c) A business that has a bona fide retail or wholesale business location that regularly carries an inventory on Guam of a value of at least one half of the value of the bid or One Hundred Fifty Thousand Dollars (\$150,000.0) whichever is less, of supplies and items of a similar nature to those being sought; or
- () (d) A service actually in business, doing a substantial business on Guam, and hiring at least 95% U.S. Citizens, lawfully admitted permanent residents or national of the United States, or persons who lawfully admitted to the United States to work, based on their citizenship in any of the nation's previously comprising the Trust Territory of the Pacific Islands.

- Bidders indicating qualification under (d) may be considered QUALIFIED for the Local Procurement Preference only if the Government's requirement is for service. Service is defined Pursuant to 5 GCA Government Operations Subparagraph 5030 entitled DEFINITIONS under Chapter 5 of the Guam Procurement Law.

1. I _____, representative for _____, have read the requirements of the law cited above and do hereby qualify and elect to be given the LOCAL PROCUREMENT PREFERENCE for Bid No.: GPA _____. By filling in this information and placing my signature below, I understand that the Guam Power Authority will review this application and provide me with a determination whether or not the 15% preference will be applied to this bid.
2. I _____, representative for _____, have read the requirements of the law cited above, and do not wish to apply for the Local Procurement Preference for Bid No.: GPA _____.

Bidder Representative Signature

Date

Performance Bond

Draft

PERFORMANCE BONDNUMBER:_____

KNOW ALL MEN BY THESE PRESENTS that_____,
as Principal, hereinafter called **CONTRACTOR**, and_____,
a corporation hereinafter called **SURETY**, are held and firmly bound unto the **GUAM POWER AUTHORITY** as Obligee, in the amount of _____
Dollars (\$_____), an amount negotiated for the first partial **GUAM POWER AUTHORITY** fiscal year within the term of the **CONTRACT**, for the payment whereof **CONTRACTOR** and **SURETY** bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, **CONTRACTOR** has by written agreement dated _____, 20XX, entered into a **PURCHASE POWER AGREEMENT** with the **GUAM POWER AUTHORITY** through midnight of_____, in accordance with forms and specifications prepared by the **GUAM POWER AUTHORITY** which **CONTRACT** is by reference made a part hereof, and is hereinafter referred to as the "**CONTRACT**".

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if **CONTRACTOR** shall promptly and faithfully perform said **CONTRACT** then this obligation shall be null and void; otherwise it shall remain in full force and effect. The **SURETY** hereby waives notice of any alteration or extension provided the same is within the scope of the **CONTRACT**. Whenever **CONTRACTOR** shall be and is declared by the **GUAM POWER AUTHORITY** to be in default under the **CONTRACT**, **GUAM POWER AUTHORITY** having performed its obligation thereunder, the **SURETY** may promptly remedy the default or shall promptly:

- (1) Complete the **CONTRACT** in accordance with its terms and conditions; or,
- (2) Obtain a bid or bids for completing the **CONTRACT** in accordance with its terms and conditions and upon determination by the **GUAM POWER AUTHORITY** and the **SURETY** jointly of the lowest responsive, responsible **BIDDER**, arrange for a **CONTRACT** between such **BIDDER** and the **GUAM POWER AUTHORITY** and make available as work progresses (even though there should be a default or a succession of defaults under the **CONTRACT** or **CONTRACTS** of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the **CONTRACT** price; but not exceeding, including other costs and damages for which the **SURETY** may be liable hereunder, the amount set forth in the first paragraph hereof.

The term "balance of the **CONTRACT** price", as used in this paragraph shall mean the total amount payable by the **GUAM POWER AUTHORITY** to **CONTRACTOR** under the **CONTRACT** for the current fiscal year and any amendments thereto, less the amount properly paid by the **GUAM POWER AUTHORITY** to **CONTRACTOR** for that partial or full fiscal year.

The term fiscal year shall mean the time between October 1 in the calendar year to September 30 of the next calendar year.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the **GUAM POWER AUTHORITY** or successors of the **GUAM POWER AUTHORITY**.

Signed and sealed this _____ day of _____, 20_____.

(Principal)

(Seal)

(Witness)

(Bonding Company)

(Title)

(Title)

By: _____

(Witness) (Attorney-In-Fact)

No Gratuities or Kickbacks Affidavit

Draft

NO GRATUITIES OR KICKBACKS AFFIDAVIT

AFFIDAVIT

(Offeror)

TERRITORY OF GUAM

)

)

HAGATNA, GUAM

)

SS:

_____, being first duly sworn, deposes and says:

As the duly authorized representative of the Offeror, that neither I nor of the Offeror's officers, representatives, agents, subcontractors, or employees has or have offered, given or agreed to give any government of Guam employee or former employee, any payment, gift, kickback, gratuity or offer of employment in connection with Offeror's proposal.

Draft

Signature of Individual if Proposer is a Sole Proprietorship;
Partner, if the Proposer is a Partnership;
Officer, if the Proposer is a Corporation

SUBCRIBED AND SWORN to before me this day of _____, 2025.

Notary Public
In and for the Territory of Guam
My Commission Expires:

Ethical Standards Affidavit

Draft

ETHICAL STANDARDS AFFIDAVIT

AFFIDAVIT

(Proposer)

TERRITORY OF GUAM)

HAGATNA, GUAM

)
)

SS:

_____, being first duly sworn, deposes and says:

That I am (the Sole Proprietor, a Partner or Officer of the Offeror)

That Offeror making the foregoing Proposal, that neither he or nor of the Offeror's officers, representatives, agents, subcontractors, or employees of the Offeror have knowingly influenced any government of Guam employee to breach any of the ethical standards set forth in 5 GCA Chapter 5 Article 11, and promises that neither he nor any officer, representative, agent, subcontractor, or employee of Offeror will knowingly influence any government of Guam employee to breach any ethical standard set for in 5 GCA Chapter 5 Article 11.

Signature of Individual if Proposer is a Sole Proprietorship;
Partner, if the Proposer is a Partnership;
Officer, if the Proposer is a Corporation

SUBSCRIBED AND SWORN to before me this day of _____, 2025.

Notary Public
In and for the Territory of Guam
My Commission Expires:

**Declaration Re-Compliance with U.S. DOL
Wage Determination**

Draft

DECLARATION RE-COMPLIANCE WITH U.S. DOL WAGE DETERMINATION

Procurement No.: _____

Name of Offeror Company: _____

_____ hereby certifies under penalty of perjury:

(1) That I am _____ (the offeror, a partner of the offeror, an officer of the offeror) making the bid or proposal in the foregoing identified procurement;

(2) That I have read and understand the provisions of 5 GCA § 5801 and § 5802 which read:

§ 5801. Wage Determination Established.

In such cases where the government of Guam enters into contractual arrangements with a sole proprietorship, a partnership or a corporation ('contractor') for the provision of a service to the government of Guam, and in such cases where the contractor employs a person(s) whose purpose, in whole or in part, is the direct delivery of service contracted by the government of Guam, then the contractor shall pay such employee(s) in accordance with the Wage Determination for Guam and the Northern Mariana Islands issued and promulgated by the U.S. Department of Labor for such labor as is employed in the direct delivery of contract deliverables to the government of Guam.

The Wage Determination most recently issued by the U.S. Department of Labor at the time a contract is awarded to a contractor by the government of Guam shall be used to determine wages, which shall be paid to employees pursuant to this Article. Should any contract contain a renewal clause, then at the time of renewal adjustments, there shall be made stipulations contained in that contract for applying the Wage Determination, as required by this Article, so that the Wage Determination promulgated by the U.S. Department of Labor on a date most recent to the renewal date shall apply.

§ 5802. Benefits.

In addition to the Wage Determination detailed in this Article, any contract to which this Article applies shall also contain provisions mandating health and similar benefits for employees covered by this Article, such benefits having a minimum value as detailed in the Wage Determination issued and promulgated by the U.S. Department of Labor, and shall contain provisions guaranteeing a minimum of ten (10) paid holidays per annum per employee.

(3) That the offeror is in full compliance with 5 GCA § 5801 and § 5802, as may be applicable to the procurement referenced herein;

Signature of Individual if Proposer is a Sole Proprietorship;
Partner, if the Proposer is a Partnership;
Officer, if the Proposer is a Corporation

SUBSCRIBED AND SWORN to before me this _____ day of _____, 2025.

Notary Public
In and for the Territory of Guam
My Commission Expires:

**Restriction against Sex Offenders
Employed by Service Providers to
Government of Guam from Working
on Government of Guam Property**

Draft

SPECIAL PROVISIONS

Restriction Against Sex Offenders Employed by Service Providers to Government of Guam from Working on Government of Guam Property

GCA 5 §5253 Restriction Against Contractors Employing Convicted Sex Offenders from Working at Government of Guam Venues:

- (a) No person convicted of a sex offense under the provisions of Chapter 25 of Title 9 Guam Code Annotated, or an offense as defined in Article 2 of Chapter 28, Title 9 GCA in Guam, or an offense in any jurisdiction which includes, at a minimum, all of the elements of said offenses, or who is listed on the Sex Offender Registry, and who is employed by a business contracted to perform services for an agency or instrumentality of the government of Guam, shall work for his employer on the property of the Government of Guam other than public highway.
- (b) All contracts for services to agencies listed herein shall include the following provisions: (1) warranties that no person providing services on behalf of the contractor has been convicted of a sex offense under the provisions of Chapter 25 of Title 9 GCA or an offense as defined in Article 2 of Chapter 28, Title 9 GCA, or an offense in another jurisdiction with, at a minimum, the same elements as such offenses, or who is listed on the Sex Offender Registry; and (2) that if any person providing services on behalf of the contractor is convicted of a sex offense under the provisions of Chapter 25 of Title 9 GCA or an offense as defined in Article 2 of Chapter 28, Title 9 GCA or an offense in another jurisdiction with, at a minimum, the same elements as such offenses, or who is listed on the Sex Offender Registry, that such person will be immediately removed from working at said agency and that the administrator of said agency be informed of such within twenty-four (24) hours of such conviction.
- (c) Duties of the General Services Agency or Procurement Administrators. All contracts, bids, or Requests for Proposals shall state all the conditions in § 5253(b).
- (d) Any contractor found in violation of § 5253(b), after notice from the contracting authority of such violation, shall, within twenty-four (24) hours, take corrective action and shall report such action to the contracting authority. Failure to take corrective action within the stipulated period may result in the temporary suspension of the contract at the discretion of the contracting authority.

SOURCE: Added by P.L. 28-024:2 ((Apr. 21, 2005). Amended by P.L. 28-098:2 (Feb. 7, 2006).

Signature of Bidder

Date

Proposer, if an individual;
Partner, if a partnership;
Officer, if a corporation.

Subscribed and sworn before me this _____ day of _____, 2025.

Notary Public

Electrical System Drawings

Draft



Document Path: C:\Users\imgo\Desktop\Map Requests\Transmission\2022\Transmission OneLineGeo2022.mxd



**GUAM POWER AUTHORITY
115kV and 34.5kV TRANSMISSION LINE
ONE GEOGRAPHIC**

MEC PLANT

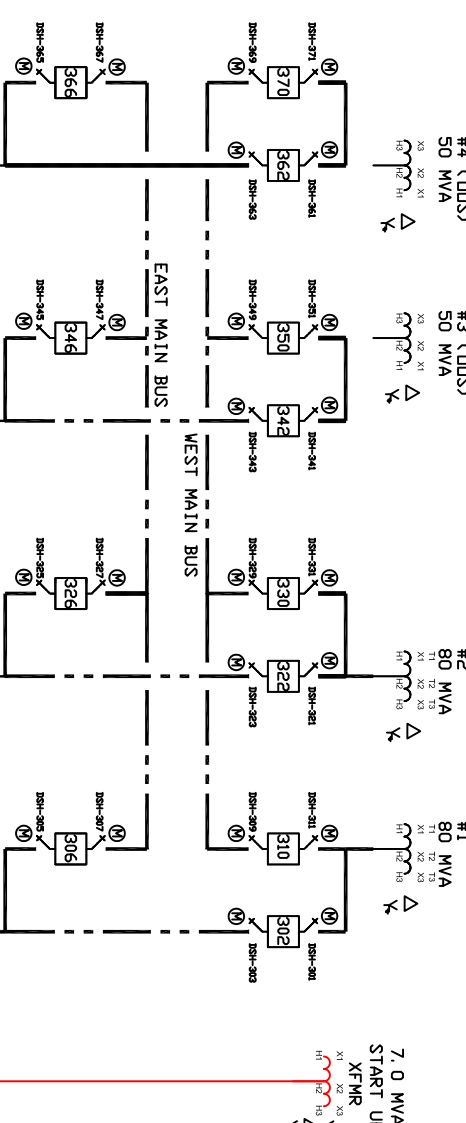
REVISIONS			
SYMBOL	DESCRIPTION	DATE	APPRO
	Revised Piti 115 KV GIS	01/30/25	IBL
	Revised Tamuning Substation	01/30/25	IBL
	Revised Harmon Substation	01/30/25	IBL
	Added Ukudu Switchyard	01/30/25	IBL
	Added (Future) Pohna Point Substation	12/21/22	IBL

CABRAS PLANT

TANOUSSON PLANT (CDS)

TEMES PLANT

HARMON SUBSTATION



PITI 115 KV GIS

UKUDU SWITCHYARD

MANGILAO SUBSTATION

N. FINEGAYAN SUBSTATION

DEDEDU SUBSTATION

WACHECHE SUBSTATION

TUMUN SUBSTATION

ANIGUA SUBSTATION

(FUTURE) P. LARS PT. SUBSTATION

COLD STORAGE

SRC SUBSTATION

APRA HEIGHTS SUBSTATION

JENDU SUBSTATION

SAN VITORES SUBSTATION

GAA SUBSTATION

ANDERSEN SUBSTATION

YIGO SUBSTATION

PAGAT SUBSTATION

HARBO SUBSTATION

TAMUNING SUBSTATION

BARRIGADA SUBSTATION

RADIO BARRIGADA

GIAT SWITCHING STATION

AGANA SUBSTATION

UMATAC SUBSTATION

TALEPOPO SUBSTATION

DANDAN SUBSTATION

PULANAI SUBSTATION

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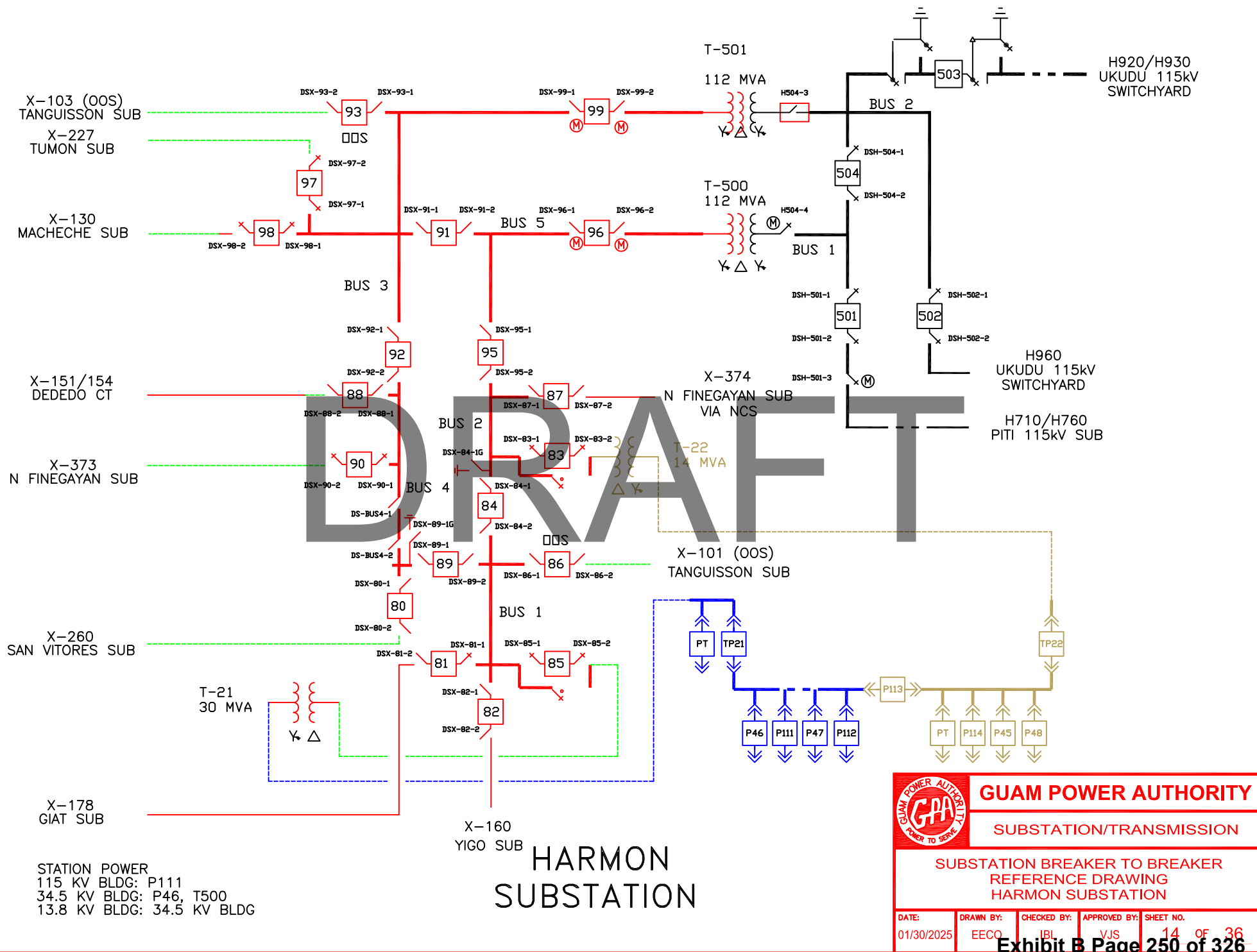
GUAM POWER AUTHORITY
P.O. BOX 2977, AGANA, GUAM, USA 96910

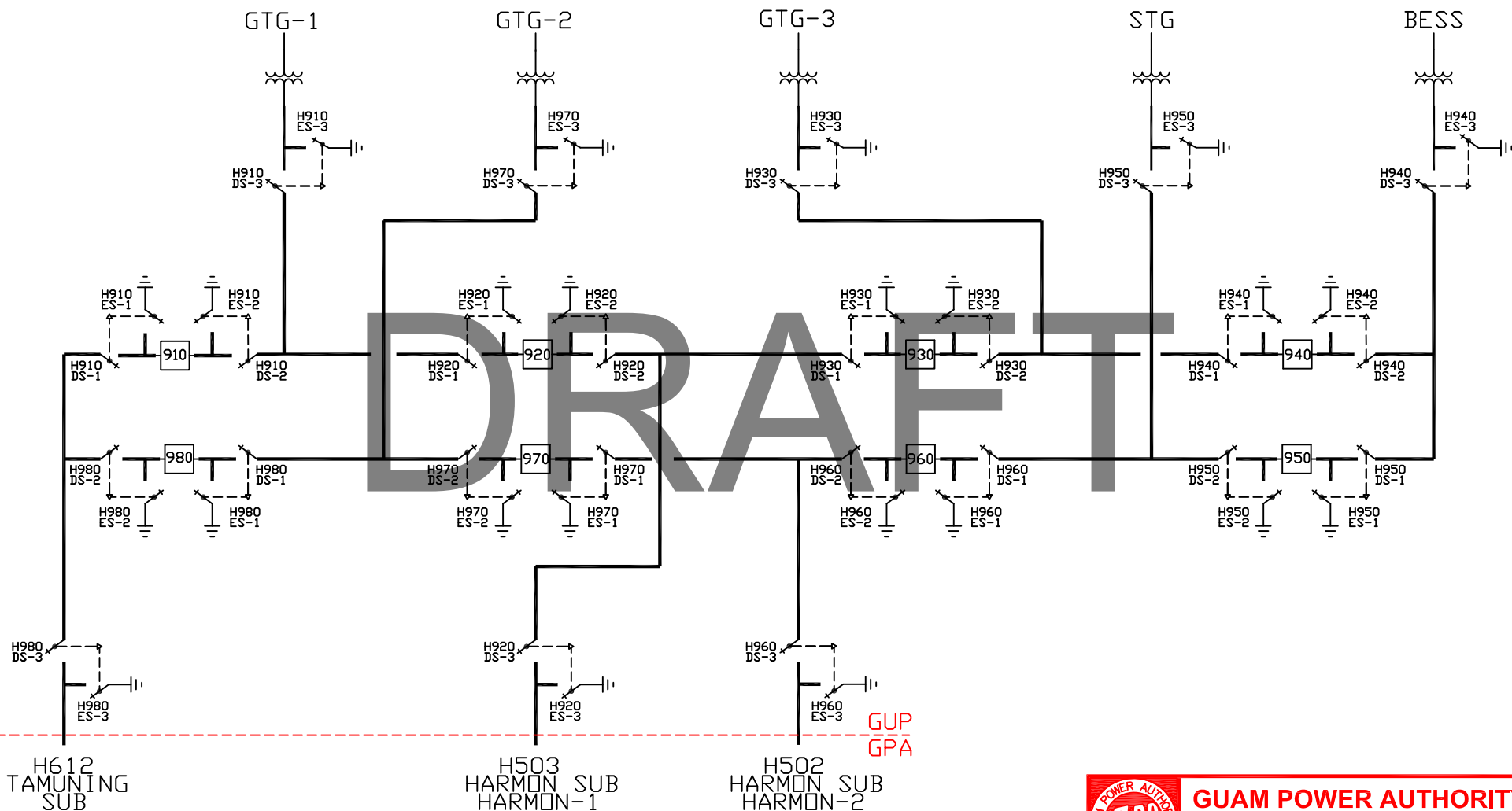
115/34.5KV TRANSMISSION ONE-LINE DIAGRAM

DESIGNED	ENGINEERING
DRAWN	ECDO
CHECKED	ABS
DATE	DATE
APPROVED	DATE

LEGEND

- 115 KV
- 34.5 KV OH
- 34.5 KV UG
- FUTURE OR UNDER CONSTRUCTION
- NAVY
- RENEWABLES AND STORAGE (NRG/LS)
- DISCONNECT (NORMALLY CLOSED)
- DISCONNECT (NORMALLY OPEN)
- GANG DISCONNECT
- GANG DISCONNECT W/ INTERLOCK
- CIRCUIT SWITCHER
- DRAW-OUT TYPE CIRCUIT BREAKER
- OUTDOOR TYPE CIRCUIT BREAKER
- OPEN JUMPER
- GROUNDING TRANSFORMER
- POWER TRANSFORMER
- MVA AS SHOWN





UKUDU SWITCHYARD



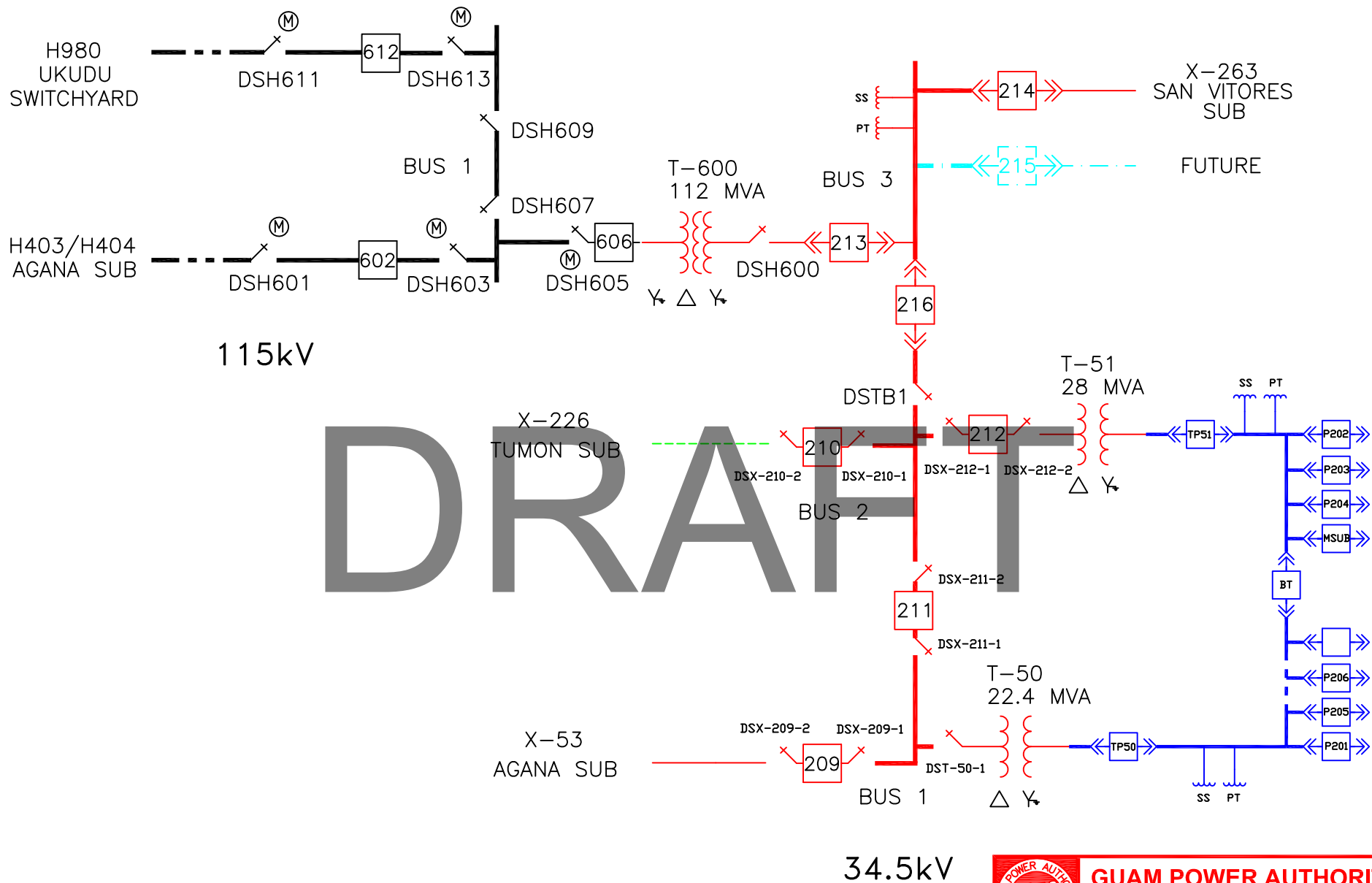
GUAM POWER AUTHORITY

SUBSTATION/TRANSMISSION

SUBSTATION BREAKER TO BREAKER
REFERENCE DRAWING
UKUDU SUBSTATION

DATE:	DRAWN BY:	CHECKED BY:	APPROVED BY:	SHEET NO.
01/30/25	ACQ/SKL	IBL	VJS	34 OF 36

Exhibit B Page 251 of 326



DRAFT

STATION POWER
TAMUNING 115KV BLDG: 34.5 KV BUS 3
TAMUNING 13.8KV BLDG: T-51, T-50

TAMUNING SUBSTATION

 GUAM POWER AUTHORITY				
SUBSTATION/TRANSMISSION				
SUBSTATION BREAKER TO BREAKER REFERENCE DRAWING TAMUNING SUBSTATION				
DATE: 01/30/2025	DRAWN BY: EECO	CHECKED BY: IBL	APPROVED BY: VJS	SHEET NO. 29 OF 36

**Required Interconnection Technical
Information**

Draft

Bidders are required to provide the following information in describing or detailing proposed project's interconnection with GPA grid.

1. Provide preliminary Single-Line Diagram(s) for the generation and interconnection facilities. The Single-line diagram(s) should include:
 - a. **Transformers** - For main and generator step up transformer(s) show:
 - i. Transformer voltage and MVA ratings.
 - ii. Transformer impedance(s).
 - Transformer winding connections and grounding. If neutrals are grounded through impedance, show the impedance value.
 - b. **Breakers** - For the Breakers include:
 - i. The voltage, continuous current and interrupting capability ratings.
 - ii. The trip speed (time to open)
 - c. The protective relaying and metering for the generators, buses, and all other main substation equipment.
 - d. For the potential transformers, indicate the type, quantity, ratio, and accuracy rating.
 - e. For the current transformers, indicate the type, quantity, ratio, and accuracy rating, and thermal rating factor.
 - f. Auxiliary power devices (e.g. capacitors, reactors, storage systems, etc.) and their rating(s); additional inquiries may be made to obtain technical data for these devices.
 - g. The generator(s) voltage, impedances, and MVA ratings.
 - h. The generator grounding method. If the generator is not solidly grounded, provide the grounding method details and equipment ratings.
2. Provide a plan map of the facilities and indicate the interconnection point to the GPA system.
3. Provide the technical specifications and other information available for the generators included in the proposal.

APPENDIX M

Procurement Regulations

(excerpts from 2GAR-Administration; Div. 4 – Procurement Regulations)

§3118 Cost or Pricing Data

§6101 (9) Liquidated Damages Clause

Draft

Historical LEAC – Fuel Recovery Rates

Draft

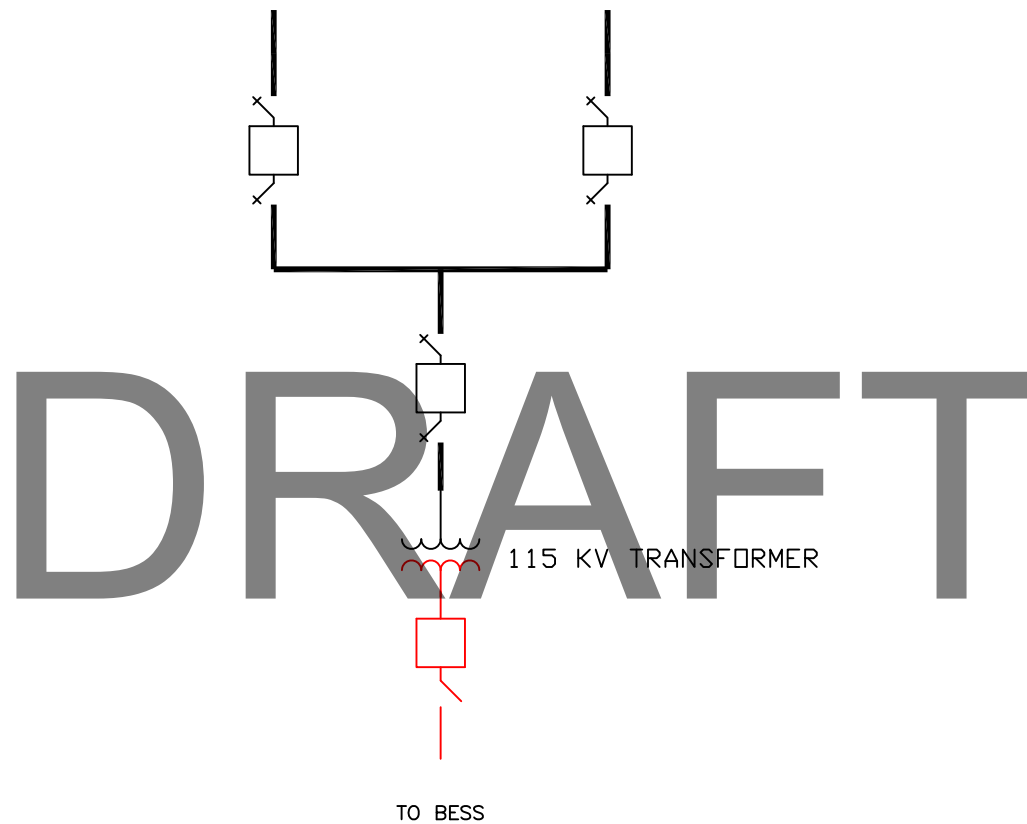
Historical Levelized Adjustment Clause – Fuel Recovery Rate (Secondary)

EFFECTIVE DATES		FUEL RECOVERY RATE (per Kwh)
From	To	
5/1/2009	7/31/2009	0.136450
8/1/2009	1/31/2010	0.129670
2/1/2010	7/31/2010	0.150460
8/1/2010	1/31/2011	0.124650
2/1/2011	7/31/2011	0.161530
8/1/2011	1/31/2012	0.192220
2/1/2012	3/31/2012	0.191980
4/1/2012	7/31/2012	0.192310
8/1/2012	1/31/2013	0.186834
2/1/2013	7/31/2013	0.209271
8/1/2013	1/31/2014	0.182054
2/1/2014	7/31/2014	0.172986
8/1/2014	10/31/2014	0.176441
11/1/2014	1/31/2015	0.146666
2/1/2015	7/31/2015	0.102054
8/1/2015	1/31/2016	0.104871
2/1/2016	7/31/2016	0.086613
8/1/2016	1/31/2017	0.086613
2/1/2017	7/31/2017	0.105051
8/1/2017	1/31/2018	0.117718
2/1/2018	4/30/2018	0.147266
5/1/2018	7/31/2018	0.154242
8/1/2018	1/31/2019	0.154242
2/1/2019	7/31/2019	0.154242
8/1/2019	1/31/2020	0.154242
2/1/2020	3/31/2020	0.134474
4/1/2020	5/31/2020	0.110039
6/1/2020	7/31/2020	0.086800
8/1/2020	1/31/2021	0.086800
2/1/2021	7/31/2021	0.110000
8/1/2021	9/30/21	0.130400
10/1/2021	11/30/21	0.150800
12/1/2021	1/31/2022	0.171458
2/1/2022	3/31/2022	0.180837
4/1/2022	6/30/2022	0.209552

Potential Utility Solar Sites

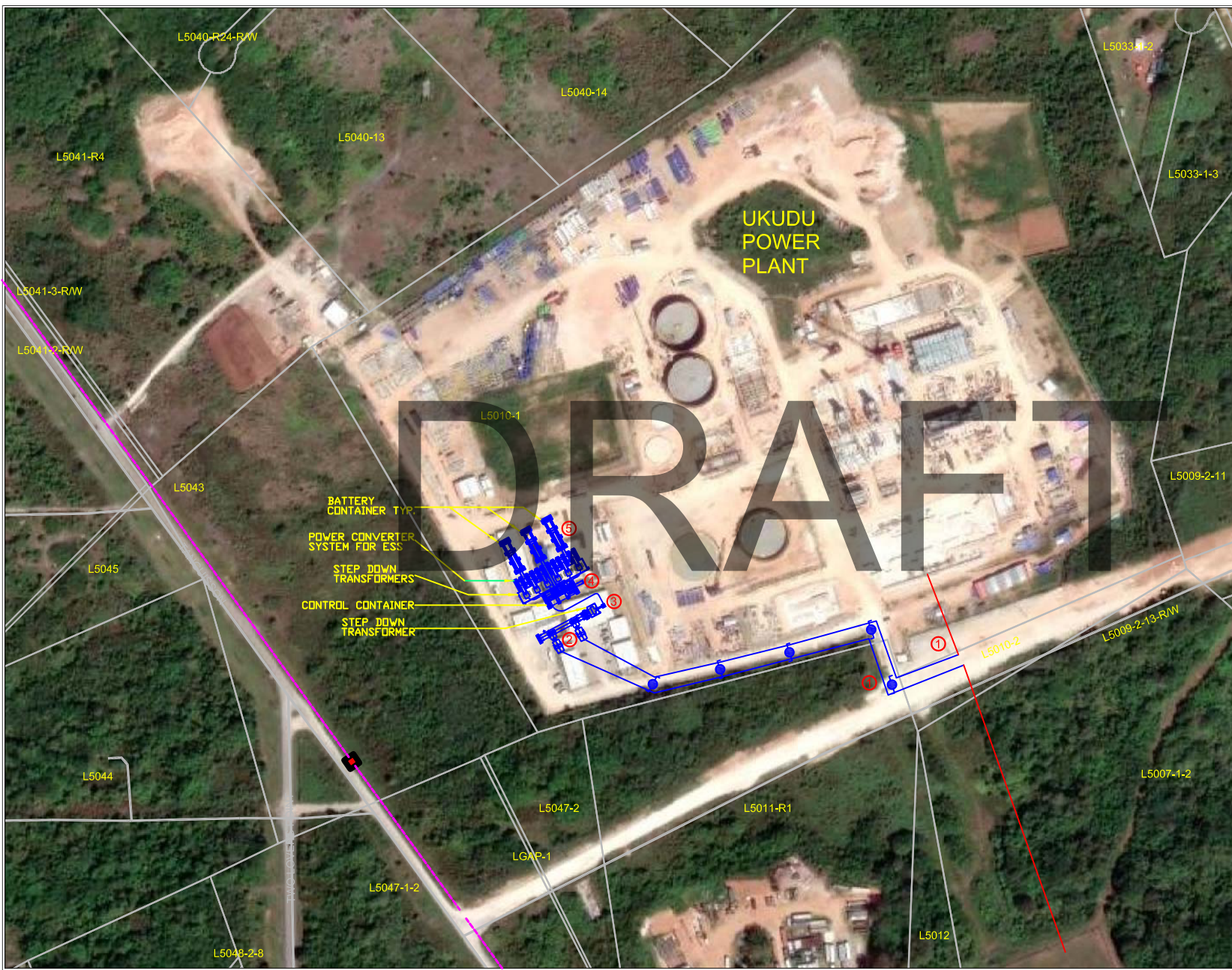
Draft

INTERCEPT EXISTING UKUDU H910/980 TO TAMUNING H612 115 KV TRANSMISSION LINE



UKUDU

 GUAM POWER AUTHORITY				
SUBSTATION/TRANSMISSION				
SUBSTATION BREAKER TO BREAKER REFERENCE DRAWING UKUDU				
DATE: 05/06/25	DRAWN BY:	CHECKED BY:	APPROVED BY:	SHEET NO. OF



GENERAL NOTES

- ① INTERCEPT THE UKUDU TO TAMUNING 115 KV TRANSMISSION LINE
- ② INSTALL 115 KV BREAKERS - 2 EACH LINE BREAKER AND 1 EACH TRANSFORMER BREAKER.
- ③ INSTALL 1 EACH TRANSFORMER STEP DOWN FROM 115 KV TO SECONDARY VOLTAGES FOR BATTERY SYSTEM.
- ④ INSTALL 1 EACH TRANSFORMER BREAKER ON SECONDARY OR TRANSITION POWER.
- ⑤ INSTALL CONTROL CONTAINER FOR CONTROL PANELS, RELAY, METER, BATTERY CHARGER, SUBSTATION BATTERY, ACCESSORIES AND EQUIPMENT.

LEGEND

- EXISTING 115 KV OVERHEAD TRANSMISSION UKUDU - TAMUNING H980 / H612
- NEW 115 KV OVERHEAD TRANSMISSION
- NEW 65 FEET STEEL POLE

KEY MAP



ENGINEERING DEPARTMENT SUBSTATION / TRANSMISSION

SHOP DRAWINGS

SYMBOL	DESCRIPTION OF REVISION	DATE	APPROVAL



GUAM POWER AUTHORITY
P.O. BOX 2977
HAGATNA, GUAM, 96932

Drawn by: EEO	Title: UKUDU L5010-1	Date: 12-06-2024
Checked by: IBL	GPA Drawing No: U-01	Scale: NTS
Approved by: VJS		Sheet No: 1 OF 1

Guam Climate Data

(Refer to electronic file folder “Appendix P – Guam Climate Data”) - TBD

Draft

SCADA and Network Requirements

Draft

SECTION 16704

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PART 1 GENERAL

1.0 SCOPE

1.1. This section includes the requirements for the design, manufacture, factory testing and delivery and installation of indoor supervisory control and data acquisition (SCADA) system. The SCADA system shall be complete and ready for operation with 115 kV, 34.5 kV and 13.8 kV switchgear (or switchyard(s) where applicable) specified in Section 16351 and Section 16352, respectively. The SCADA equipment shall include the following:

- Central processing unit
- Discrete programmable controller
- HMI Monitor, keyboard and mouse
- GPS Clock
- GPS antenna and accessories
- Full-duplex modems. Two (2) each required
- Fiber optic transceivers
- Cables and connectors
- Circuit breakers and accessory devices
- Cabinet with swing doors

1.2. Seismic Category D requirements shall apply. ANSI MC8.1 temperature and humidity requirements shall also apply.

1.2 CONFORMANCE TO STANDARDS AND SPECIFICATIONS

The SCADA system shall meet the requirements of the following standards and specifications, including the latest revisions with respect to material design and tests.

1.2.1 Applicable Standards

Provisions of the following standards shall apply:

- | | |
|------------|--|
| IEEE C37.1 | Definition, Specification, and Analysis of Systems used for Supervisory Control, Data Acquisition, and Automatic Control |
| IEEE 999 | IEEE Recommended Practice for Master/Remote Supervisory Control and Data Acquisition Communications |

16704-1

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

NEC National Electrical Code
NESC National Electrical Safety Code

1.2.2 Deviation and Non-Conformance Requirements

2.2.1 Deviations from this specification or changes in materials or design after the Purchase Order has been placed must be approved by the GPA Engineering Department and acknowledged by a Purchase Order Amendment.

2.2.2 Units received with deviations or non-conformances which are not acknowledged as specified in Sub-Paragraph 2.2.1 are subject to rejection. The Supplier is responsible for any corrective action including but not limited to materials, labor and transportation necessary to dispose of, or make the units conform to the specification.

2.2.3 Notification of defects discovered before or after installation that are believed to be inherent to manufacturing problems or workmanship shall be made and forwarded to the Supplier. The description of the item, documentation of the problem and the described information, disposition and/or follow-up (as appropriate) that GPA expects from the Supplier will be specified. The Supplier's response shall be made within thirty (30) days unless an extension is acknowledged and approved in writing by the GPA Manager of Engineering.

2.2.4 GPA shall be allowed two (2) weeks to review and approve drawings without affecting the shipping date. Delays in delivery due to drawings which are not approved during this review period are the responsibility of the Supplier.

1.2.3 Warranty

The Supplier shall warrant the satisfactory and successful operation of the apparatus furnished under this specification at the rating, under the conditions, and for the service specified for a period of not less than one (1) year. The Supplier shall further warrant the apparatus against defects of design, material and workmanship.

1.3. SUBMITTALS

1.3.1 Equipment outline drawings shall be submitted for approval within 30 days after Notice to Proceed. The remaining Shop Drawings shall be submitted within 60 days after Notice to Proceed. GPA will provide the successful bidder samples for three line and DC Schematics and preferred format for inter-connection diagrams as a guide.

16704-2

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

1.3.2 Shop Drawings and data shall include the following:

- a. General arrangement, floor plan, elevations and sections, anchor bolt details, overall dimensions and weights.
- b. A complete set of ac and dc schematic diagrams
- c. SCADA input and output point list.
- c. Panel wiring diagrams with terminal block and device connections. Tabular format is not acceptable.
- e. External wiring diagrams with terminal blocks and cables
- f. Software and SCADA program descriptions.
- g. Bill of materials and manufacturers catalog sheets clearly marked.
- h. SCADA HMI screen shots (in color)
- i. Operations and maintenance manuals with a section on troubleshooting shall be submitted 30 days prior to shipment.

1.3.3 Instructions for installation shall be submitted within 90 days after Notice to Proceed.

1.3.4 Operations and maintenance manuals with a section on troubleshooting shall be submitted 30 days prior to shipment.

1.3.5 Number of Copies

- a. Submit two (2) each hardcopies and one (1) electronic soft file (pdf) of shop drawing, pre-printed manufacturers' data, brochures and suppliers' information for review and approval. Electronic copies may be submitted if approved by the Owner.
- b. After approval and manufacturing of equipment, submit one (1) electronic soft file (pdf) and five (5) prints of each shop drawing which has been specifically prepared for the Work. Indicate on the drawings that the drawings reflect the as-built condition of the equipment.
- c. Submit one (1) electronic soft file (pdf) and five (5) copies of operations and maintenance manuals with a section on trouble shooting and instructions for installation.

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SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

- d. Submit one (1) copy of the as-built condition shop drawings on AUTOCAD 2013.

1.4 QUALITY ASSURANCE

1.4.1 Factory Tests

Not less than 30 days prior to factory tests, a factory test plan shall be submitted to the Owner for approval. Each item of electrical equipment and similar equipment supplied as spare parts, shall be given the manufacturer's routine factory tests and also other tests as specified, to ensure successful operation of parts of the assemblies. The factory test equipment and the test methods used shall conform to the applicable requirements of ANSI, IEEE and NEMA standards. Five certified copies of the reports of production tests, including complete test data shall be submitted to the Owner. Factory tests will be witnessed by the Owner. Contractor shall be responsible for cost of travel, meals, and accommodations for two (2) GPA personnel for a minimum of three (3) days, or days required to perform and witness a comprehensive Factory Acceptance Testing.

1.4.2 Factory Acceptance Test

Not less than 30 days prior to factory tests, a factory test plan shall be submitted to the Owner for approval. Each item of electrical equipment and similar equipment supplied as spare parts, shall be given the manufacturer's routine factory tests and also other tests as specified, to ensure successful operation of parts of the assemblies. The factory test equipment and the test methods used shall conform to the applicable requirements of ANSI, IEEE and NEMA standards. Five certified copies of the reports of production tests, including complete test data shall be submitted to the Owner.

1.4.2.1 Functional Tests

Tests shall be made on assembled SCADA system for proper programming, operations, direction and calibration. Operational tests shall be performed with the SCADA system interconnected with the switchgear equipment specified in Sections 16351 and 16352 to verify monitoring and control capability intended for normal operation. Testing shall not interfere with switchgear testing and shall done separately.

1.4.2.2 Factory Test Reports

Two (2) hardcopies and one (1) soft file (pdf) of certified test results shall be provided to the Owner

16704-4

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

within 30 days after performance of factory tests.

1.4.3 Field Acceptance Test

Perform field acceptance tests as specified in elsewhere in these specifications.

1.5 TRAINING

- 1.5.1 Provide a minimum of three (3) day training for SCADA equipment for Owner's personnel. Training shall consist of classroom and on-site instructions for a minimum of 25 personnel. Supply all necessary reference materials, drawings, and documentation.
- 1.5.2 Classroom training shall provide a technical overview of SEL-3355 platform, system configuration and communication, screen display (HMI), control and monitoring, alarm processing, input/output points, programming, diagnostics and maintenance requirements.
- 1.5.3 On-site training shall provide hands-on instructions on SCADA equipment operation in real-time environment. All operating conditions and "what if" scenarios shall be simulated and covered, including remote communications with GPA's energy control system. Interface with protective relays and field equipment shall be reviewed and verified for correct indications and control.

PART 2 PRODUCTS

2.1 GENERAL

The SCADA system shall be housed in a self-standing cabinet and consist of GE G500 Substation Gateway (primary and backup), GE Multilin D20S Status Input Module, Schweitzer SEL-3355 computing platform, SEL-2407 GPS clock, interconnecting cables, power strips and breakers as a fully functioning SCADA remote terminal unit that is capable of communicating with the GPA Power Control Center in DNP3.0 protocol. The SCADA system shall be configured for communications with the protective relays, meters and Real-Time Automation Controller (RTAC) Automation Platform, located in the 34.5 kV and 13.8 kV switchgear and retrieve real-time data and engineering data, such as protective relay status, alarms and events access. The SCADA system shall be able to send remote control signals to switchgear line and feeder breakers when the 43L/R switches on the switchgear are in Remote position. Time signals shall be disseminated to all protective relays.

2.2 COMPUTING PLATFORM

The computing platform shall be Schweitzer SEL-3355 (3355#9F79) and Microsoft Windows 10 IoT. The computing platform shall include a 17-inch LCD monitor with keyboard and mouse.

16704-5

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

2.3 GPS CLOCK

The GPS satellite clock shall be Schweitzer SEL-2407 (2407#MMDK) with GPS antenna (SEL-9524). Accessories shall include antenna mounting kit, cable, gas tube surge protector and mounting brackets and RG-58 cable with BNC connectors and resistor(s).

2.4 INDUSTRIAL SWITCH / ROUTER

The L3 Cisco Industrial Switch (IE-4010-4S24P) shall include Power Supply (PWR-RGD-AC-DC-250), Software License upgrade (L-IE4000-RTU) to IP Service for L3 features, and a pair (2) of Cisco 1000 Base-LX/LH 1310 nm, 10km, SFP for Single Mode Fiber Transceiver Modules (GLC-LH-SMD) per Industrial Switch.

2.5 SCADA SOFTWARE

The GE Substation Gateway shall include required sets of client-server for data acquisition from SEL protective relays, meters and RTAC, communications, event retrieval, relay database access and HMI.

2.6 SCADA HMI DISPLAYS

The following HMI screens shall be provided as minimum.

Substation One-line Diagram with real-time data
Metering Data (revenue and relay metering)
Main and feeder breaker remote controls
Main and feeder breaker status
Transformer status (provision only)
Protective relay status and alarms
43L/R Switch Status
Alarms with acknowledge - reset
Alarm History
Setup Menu (password access)

2.7 CABINET AND ACCESSORIES

The cabinet shall be provided with ventilated front and rear lockable doors with ventilating fan on top panel as shown on the Drawing. The front door shall be hinged as shown. The cabinet shall be equipped with a 19-inch relay rack for component mounting, including the HMI monitor, slide-out keyboard tray, and relays. Unused rack spaces shall be covered with blank panels. Circuit breakers and power strips shall be provided for components installed in the cabinet. Wiring and cable management provisions shall be provided for all external cables entering the cabinet. The cabinet shall be approximately 26" W x 32" D x 72" H and constructed of 14 Gage steel. A ground bus shall be provided.

16704-6

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

2.8 WIRING AND ACCESSORIES

- 2.8.1 The SCADA system shall be completely wired at the factory, ready for installation and connection by others. Terminal blocks and jumper cables shall be properly identified for assembly. Unused terminals on relays and auxiliary contacts shall be brought to conveniently located terminal blocks. Cables and all control and meter connections shall enter from the bottom. The manufacturer shall ensure that sufficient vertical and horizontal clearances are provided for training and terminating these cables without requiring excessive bending or the use of special adapter plates.
- 2.8.2 All secondary wiring shall be stranded. No. 12 AWG shall be used for control circuits, #10 for CT circuits and #16 for SCADA indication or as indicated in the design drawings. Switchboard wire shall be NEC type SIS, and rated for 600 volts. Insulation jacket shall be gray in color. Splices will not be permitted. Suitable, extra flexible wiring shall be provided over door hinges or other locations where leads may be subjected to flexing.
- 2.8.3 Ring-tongue terminals shall be used for secondary wiring. Spade, slotted spade, flanged spade, and hook terminals are not acceptable. The strength of the terminals shall be such that the terminals will not break during vibration of the equipment in which the terminals are installed. Ring-tongue terminals shall be Thomas & Betts Stakon.
- 2.8.4 Terminals shall have insulated ferrules. To assure positive electrical connections, and to avoid damage to the ferrule, it is mandatory that the crimping tool be used in accordance with manufacturer's instructions, and that the proper terminal and crimping tool be used for each wire size. Crimps shall be made with the crimp indentation opposite to the connector seam.
- 2.8.5 Miscellaneous accessories, such as resistors, fuses, fuse blocks, and capacitors not shown on the Drawings but required for proper operation shall be furnished.
- 2.8.6 Terminal blocks for grouping of SCADA wiring shall be thermo-plastic insulation type, rated 300 Volts, with test socket screws, knife switch contacts and shall be mounted on rails. The marking system shall be Dekafix consecutive vertical numbering system and Peso white blanks for Owner's marking. Terminal blocks shall be furnished complete with mounting rails, end brackets, end plates, partitions and test equipment. Wiring to the SCADA terminal blocks shall be made with No. 16 wire minimum.
- 2.8.7 Wiring Format
- A. All terminals shall be numbered, and the numbers shall correspond to the numbers on the wiring diagram.

16704-7

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

- B. All wires shall be identified at their termination points with the opposite end designation identification by labeled plastic sleeves or equal. Identification shall correspond to the lettered device, numbered terminal format of the wiring diagrams.

2.9 NAMEPLATES

Nameplates shall be furnished and installed for panels, switches, relays and devices, including those internally mounted, and shall be of laminated plastic or formica with white letters on black background and shall be sized for easy reading. Nameplates shall be securely fastened to the panel with stainless steel panhead screws to prevent detachment and loss. Nameplate data shall be submitted for Owner's approval. Designations shall be machine engraved in upper case letters and shall be centered on the nameplates.

2.10 PAINTING

The cabinet shall be thoroughly cleaned of rust, welding scale and grease, and shall be treated to effectuate a bond between the metal and paint which will prevent the formation of rust under the paint. A priming coat shall be applied immediately after the bonding treatment. A final finish shall consist of not less than one coat for concealed surfaces and two coats for exterior surfaces. Final finish shall be light gray, ANSI Color No. 70.

2.11 SPACE HEATERS

Provide heaters that are installed and operable at the time of shipment so that the heaters can be operated immediately upon arrival at the site, during storage, or before installation. Provide connection locations that are marked prominently on drawings and shipping covers and that have temporary leads for storage operation.

2.12 ACCESSORIES AND SPARE PARTS

Accessories, special tools and spare parts required for proper maintenance and testing of the equipment, circuit breakers and devices shall be provided and shall be turned over to GPA upon the completion of the project. Accessories and spare parts shall include the following:

- Ten fuses of each rating used.
- Four circuit breakers of each type used.
- Exhaust fan.
- Special tools required for proper maintenance, testing and inspection of the equipment.

2.13 PACKING AND SHIPPING REQUIREMENTS

- 2.13.1 Because of severe transportation conditions, the Supplier shall pay particular attention to the proper packaging and bracing of the apparatus to assure its safe arrival.

16704-8

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

2.13.2 The Supplier shall prepare all materials and equipment for shipment in such a manner as to protect from damage in transit. All small parts and unit components shall be separately boxed or bundled to prevent galling due to rubbing of one part against another. Each item, box or bundle shall be plainly and individually identifiable for content according to item number, GPA P.O. Number, and Supplier's Identifying Number.

2.13.3 A complete itemized Bill of Lading, which clearly identifies and inventories each assembly, sub-assembly, carton, package, envelope, etc., shall be furnished and enclosed with each item or items at the time of shipment.

2.13.4 The SCADA system shall be shipped in crates containing not more than two units each.

PART 3 EXECUTION

3.1 GENERAL

- A. Fully assemble and install in accordance with manufacturer's instruction.
- B. Remove wedges, ties, and shipping blocks.
- C. Do not distort frames. Follow manufacturer's instructions for handling, installing and operating equipment. Ensure personnel working with the equipment fully understand the procedures involved.
- D. Make all electrical connections. Use proper calibrated torque wrench when terminating feeder cables.
- E. Make ground connections.

3.2 FIELD TESTING AND COMMISSIONING

Submit test and commissioning procedures for field testing and acceptance of the SCADA system in accordance with the manufacturer's recommendations, for approval by the Owner. Procedures shall include steps to verify data acquisition, controls and communications between all protective relays, meters, I/O devices, SEL-3355, RTU and GPA PSCC (Power System Control Center) EMSYS (Energy Management System). Accuracies of acquired data shall be verified against calibrated test equipment.

Refer to Section 16998 and 16999 for other field installation testing and startup requirements.

END OF SECTION 16704

16704-9

SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM

PROJECT NAME:

PROJECT NUMBER:

DATE:

TECHNICAL SPECIFICATIONS

1.0. SECTION INCLUDES

- A. Project Conditions
- B. General Requirements for Work
- C. Termination Schedule
- D. Conceptual Drawings

2.0. PROJECT CONDITIONS

- A. Temperature and Elevation
 - 1. Furnish equipment rated for operation in tropical weather with corrosive salt air environment, at sea level, in ambient temperatures between 50degF and 104degF, and sustained wind velocities of 155 mph with peak velocities up to 180 mph.
- B. Earthquake
 - 1. Design equipment and installations to withstand Zone 4 seismic forces.
- C. Equipment Operation
 - 1. Furnish equipment designed for continuous 24-hour-per-day, 7-day-per-week operation.

3.0. GENERAL REQUIREMENTS FOR WORK

3.0.1 Mobilization

3.0.1.1 GENERAL

The Contractor shall be responsible for all preparatory operations including but not limited to:

- A. Those necessary for the movements of its personnel, equipment, supplies and incidentals to the project site.
- B. For premiums on bonds for the project
- C. For other operations which it must perform or costs it must incur before beginning construction on the various items on the project site.

3.0.1.2 SUBMITTAL INFORMATION

The Contractor shall submit to GPA for approval a proposed work schedule with milestones, deliverables and timelines no later than ten (10) days after issuance of the Notice to Proceed. The proposed work schedule shall be prepared in a bar chart format and shall display scheduled and actual progress. The proposed work schedule shall show the work broken down into major phases and key items with the dates work is expected to begin and be completed. The schedule shall be constantly updated and submitted to GPA every month. The schedule shall show actual progress and any proposed changes in the schedule of remaining work. The Contractor shall not change the

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approved work schedule without prior concurrence of GPA.

3.0.2 Procurement and Delivery of Fiber Optic Cable and Other Necessary Equipment

3.0.2.1 GENERAL

The Contractor shall be responsible for the procurement and delivery of all fiber optic cable and other necessary equipment to construct and install this project in a turn-key manner. The fiber optic cable and accessories shall be new and compatible with the existing GPA fiber optic cable installation.

Procurement and delivery of the fiber optic cable and necessary accessories includes lead-time to order and shipping to project site.

3.0.2.2 STANDARDS

Installed fiber optic cable must meet or exceed the following performance specifications set forth in the following Single Mode ITU Standards:

- a. ITU-T G.652 defines the characteristics of single-mode optical fiber cable
- b. ITU-T G.655 defines the characteristics of a non-zero-dispersion-shifted single-mode optical fiber and cable
- c. ITU-T G.657 defines the characteristics of a bending loss-insensitive single-mode optical fiber and cable for the access network

Riser or plenum cable shall be used for all interior installations and shall meet or exceed applicable ANSI/TIA-568-C standards and ISO/IEC 11801 standards.

Provide from the following manufacturer (or equivalent or better):

- a. Corning
- b. Commscope

3.0.2.3 SUBMITTAL INFORMATION

The Contractor shall provide fiber optic cable and equipment specifications that are required for the underground installation and fiber optic cable splicing. They include but not limited to the following equipment:

- A. 96 strand single mode fiber optic cable (outside plant)
- B. 96 strand single mode fiber optic cable (indoor plant)
- C. Fiber optic equipment cabinets
 - 1. 19" wide rack mounting unit
 - 2. Dimensions: 23" W x 24" D x 72" H (*or size as required and approved by GPA*)
 - 3. Plexiglas front door and field reversible from left to right swing
 - 4. Locks installed in front door and rear section (keyed differently)
 - 5. Constructed from carbon steel

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6. Mounting rails are zinc plated 14 gauge steel, tapped # 10-32 on EIA standard spacing and are fully adjustable front to rear
 7. Dual swing unit provides access to rear of equipment
 8. Lift off style rear hinge to allow separation of rear section for easy installation
 9. Rear section is field reversible from left to right hand swing with optional swing hinge kit
 10. Three 3" cable entry holes and two 1-1/8" knock outs on both top and bottom of rear section
 11. Ventilated sides of center section for maximum cooling
 12. Covered fan hole top and bottom of center section for future addition of fan
 13. Color black
 14. Must be compatible with installed fiber optic cable
 15. Provide from the manufacturer (or equivalent or better):
 - a. Southwest Data Products (SWDP)
 16. Shall include equipment ground bus bar and lug
 17. Shall accommodate AC and DC power sources for equipment and outlet, with minimum 5A circuit breaker (sized as required)
- D. Network Industrial Switch and Router (CISCO as listed below)
1. CISCO IE-4010-4S24P (L3 Industrial Ethernet Switch)
 2. CISCO PWR-RGD-AC-DC-250 Power Supply
 3. CISCO L-IE4000-RTU Electronic Software License Upgrade to IP Services for L3 Features
 4. CISCO GLC-LH-SMD 1000Base-LX/LH SFP Transceiver Module, 1310nm, 10km, SFP for Single Mode Fiber (2ea./Switch)
- E. Closet connector housings (patch panels)
1. Cabinet mount to fit inside fiber optic equipment cabinet
 2. CCH housing type
 3. Black housing color
 4. 4U height unit
 5. 12 panels per housing
 6. Must be compatible with installed fiber optic cable
 7. Provide from the following manufacturer (or equivalent or better):
 - a. Corning
 - b. Commscope
- F. Closet connector housing panel with 12 fiber SC duplex type adapters
1. Single mode (OS2) fiber category
 2. UPC connector polish
 3. 12 fiber count
 4. 6 adapters per panel
 5. Blue adapter housing color
 6. Composite adapter housing material
 7. SC duplex adapter type
 8. Ceramic insert material
 9. Must be compatible with installed fiber optic cable
 10. Provide from the following manufacturer (or equivalent or better):

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TECHNICAL SPECIFICATIONS

Network Communications – Fiber to All Substations:

XXX to XXX

Fiber Project No. GPA-

- a. Corning
 - b. Commscope
- G. Pigtails
 - 1. 12 Total fiber quantity (blue to aqua)
 - 2. Plenum
 - 3. SC to unconnectorized
 - 4. Must be compatible with installed fiber optic cable
 - 5. Provide from the following manufacturer (or equivalent or better):
 - a. Corning
 - b. Commscope
- H. Splice cassettes
 - 1. CCH panel or module type
 - 2. CCH cassette, termination and slack storage, empty, and for one (1) CCH adapter panel
 - 3. Must be compatible with installed fiber optic cable
 - 4. Provide from the following manufacturer (or equivalent or better):
 - a. Corning
 - b. Commscope
- I. Splice sleeves
 - 1. Must be compatible with installed fiber optic cable
 - 2. Provide from the following manufacturer (or equivalent or better):
 - a. Corning
 - b. Commscope
- J. Splice enclosures
 - 1. Suitable for all applications (aerial, wall, pole, or direct-buried)
 - 2. Must be compatible with installed fiber optic cable
 - 3. Provide one from the following manufacturer (or equivalent or better):
 - a. Corning
 - b. Commscope
- K. Cable for interconnection applications between equipment in different cabinets/enclosures/panel sections
 - 1. Tight-buffered.
 - 2. Indoor Single-Mode OS2
 - 3. Optical Fiber Nonconductive Riser (OFNR)
 - 4. Interconnect type with Yellow Jacket
 - 5. 2 Fiber Count per cable
 - 6. Tight Buffer Color - Blue, White
 - 7. Flame Retardant Outer Jacket
 - 8. Layer 1 Dielectric Strength Tensile Strength/Armoring
 - 9. Minimum Bend Radius Installation / Operation – 2 in. / 1 in. respectively
 - 10. Provide from manufacturer (or equivalent or better):
 - a. Corning, Part Number 012ZM4-T4F22A20
- L. Interconnection cable connectors (Connector type as required)
 - 1. Subscriber Connector (SC)
 - a. Manufacturer 3M or Corning

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- b. Hot Melt Style
 - c. Single Mode, Simplex
 - d. Engineering Resin Body Material
 - e. Zirconia Ceramic Ferrule Material
 - f. Less than 0.2dB Attenuation
 - g. White Boot Color
 - 2. Straight Tip Connector (ST)
 - a. Manufacturer 3M or Corning
 - b. Hot Melt Style
 - c. Single Mode, Simplex
 - d. Engineering Resin Body Material
 - e. Zirconia Ceramic Ferrule Material
 - f. Less than 0.2dB Attenuation
 - g. Yellow Boot Color
 - 3. Lucent Connector (LC)
 - a. Manufacturer Corning
 - b. Single Mode (SM) 125 micrometer
 - c. Simplex with clip Body Type
 - d. 2.00 mm Ribbed Boot Type
 - e. Blue Housing Color
 - f. Insertion Loss of 0.15dB typ., 0.25dB Maximum
 - g. White Boot Color
- M. Orange innerduct
 - 1. Plenum, flexible, non-metallic, corrugated raceway
 - 2. Meets UL-910 standards for NEC, Article 770 and satisfy UL-2024 standards for low smoke and flame propagation
 - 3. Pre-installed with pull tape
 - 4. Color orange
 - 5. Sequential marked footage
 - 6. Provide from the following manufacturer (or equivalent or better):
 - a. Premier conduit
 - b. Commscope
- N. Microduct conduit
 - 1. 12.7mm OD/10mm ID per inner tube
 - 2. Must be appropriate for Direct Buried Application
 - 3. Must have Rip Cord and Insulated Tracer Wire
 - 4. Preferred with Internal Longitudinal Ribbing inside inner tube
 - 5. Silicone coated inner tube
 - 6. HDPE Oversheath of 0.050 in.
 - 7. Sequential footage Markings
 - 8. Color:
 - a. Oversheath – Orange
 - b. Microduct – 1 Orange, 1 Blue
 - 9. Provide from the following manufacturer (or equivalent or better):
 - a. Dura-Line Future Path

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TECHNICAL SPECIFICATIONS

Network Communications – Fiber to All Substations:

XXX to XXX

Fiber Project No. GPA-

- O. Two-Tone Bollards
- P. Warning tape
- Q. Manhole/Handhole
- R. Reinstatement material

3.0.3 Permits, Bonds and Codes

3.0.3.1 GENERAL

The Contractor shall secure all permits and bonds required for the construction of this project, including but not limited to those required by the Department of Public Works, Guam Waterworks Authority, Guam Telephone Authority and Department of Parks and Recreation. The Contractor shall provide assistance with obtaining the Department of Land Management (DLM) Zone Variance for Height permit if needed.

The Contractor shall be responsible for applying for and obtaining all other federal, local and other applicable permits, agreements, licenses, and certificates to complete this project, unless otherwise stated in this document. The Contractor shall also adhere to all applicable codes governing electrical, mechanical, civil, structural systems, etc.

3.0.3.2 SUBMITTAL INFORMATION

The Contractor shall submit to GPA copies of all the permits and approvals before starting work.

3.0.4 Site and Route Plan

3.0.4.1 GENERAL

The Contractor shall perform all site survey work required for preparation of the design and as-built drawings and for construction completion. Security and access controls shall be secured and implemented by the Contractor to prevent unauthorized entry to site during construction. Moreover, all costs required for furnishing instruments and miscellaneous survey materials shall be included.

3.0.4.2 SUBMITTAL INFORMATION

The Contractor shall develop a site plan as part of the Integrated Design Plan. The site plan must be signed and sealed by a registered Professional Engineer (PE) in the appropriate discipline. The Contractor shall identify locations specific to the project. This includes but not limited to fiber optic cable route locations, termination and splice locations, trenching locations, manhole/handhole locations including GPS coordinates, and other utility locations. Contractor shall secure the services of a Registered Licensed Surveyor to determine the Right-of-Way easement for the stake out of handhole locations and placement of conduits. Handholes shall be placed within the Right-of-Way, 6 inches (maximum) from the property line, and 2 feet (minimum) from concrete poles for proper clearance from pole concrete encasement. Contractor must obtain approval of field stakes for

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handhole locations (*with respect to property lines*) from the GPA Project Engineer or Inspector prior to any excavation work. Site plan shall reflect all currently present utilities' lines on the fiber optic cable route.

3.0.5 Underground Installation Plan

3.0.5.1 GENERAL

The Contractor shall be responsible for all underground installation work including but not limited to:

- A. Trenching, excavation, and removal of all bushes, trees or other necessary work needed for fiber optic cable installation.
- B. Installation of manhole/handhole
- C. Laying down of microduct
- D. Installation of new fiber optic cable in new underground microduct splices and appurtenances for a complete operating system.

This includes restoration of the project site as nearly as possible to its original conditions after project completion. A GPA Concrete Placement Release Card shall be accomplished by the Contractor prior to final reinstatement. Road restoration shall comply with approved DPW standards.

3.0.5.2 REQUIREMENTS

3.0.5.2.1 EXCAVATION, TRENCHING, FILL AND MICRODUCT INSTALLATION

- A. Underground fiber optic cable installation shall comply with DPW standards and shall be solely for GPA use. Fiber optic installation in parallel with new Transmission Line construction shall be in 4" conduit at a minimum depth of 24", and concrete encased. Microduct Trenching on road and roadside should have a minimum depth 12" and 24" respectively, both having 1" minimum widths.
- B. Use approved 1" microduct conduit designed for air-blown fiber/micro trenching applications. The 1" microduct conduit shall have two (2) inner tubes; the first tube shall be the active tube and second shall be the spare tubes.
- C. Penetration method to existing manholes/handholes shall be core-drill and 2 inches diameter in size unless otherwise instructed by GPA. End-bells shall be installed at both sides of the new opening made on the manhole/handhole. Duct seal shall be applied to seal conduit openings after pulling the fiber optic cable.
- D. Separation between the excavation and trench shall have adequate space with other underground utility, in accordance with DPW Standards, all applicable rules, regulations, building codes, and ordinances.
- E. Install, operate and maintain pump or dewatering equipment as necessary to prevent water from accumulating in the excavation or trench.
- F. Protect open excavations or trenches at the end of the work shift. Cover with steel

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sheets and barricade prior to leaving the job site.

- G. Over-excavate, fill, and compact any soft spots in the subgrade.
- H. Run trench or excavation true and straight as possible. Clear trenches of stones and soft spots.
- I. Contractor shall take into account the "Trench Sharing" program by GPA. Contractor must take note that ONLY the Trench will be shared. All other fiber related materials/accessories (Handholes, microduct, etc.) shall be separate. Clarifications for details shall be done by the Contractor to GPA.
- J. Slope trench toward lower manhole/handhole or from high points toward manhole/handhole at both ends. Slope trench away from building entrances.
- K. Manholes/handholes shall be installed at every 1000' fiber optic cable runs to act as "pull box". Manholes/handholes shall also be installed at both sides of the road should the fiber run through road crossings. Manholes/handholes shall be installed as close as possible to existing GPA power poles in case there will be a need for overhead installation. Manholes/handholes to be installed shall be traffic grade rated.
- L. Bollards of approved design for fiber application shall be placed to mark installed manholes/handholes and underground fiber optic cable runs.
- M. Reinstatement material shall be a high modulus material that once cured, achieves high bond strength to the cut asphalt faces. Acceptable reinstatement material includes but not be limited to:
 - a. EZ Street Cold Asphalt Technology
 - b. Perma Patch
 - c. Stirling Lloyd's Safetrack Crack Infill
- N. Bedding sand shall be added below and above the 1" microduct conduit. 2" red warning tape with "GPA FIBER OPTIC CABLE" marking shall be added at a maximum depth of 12".

3.0.5.2.2 FIBER OPTIC CABLE INSTALLATION

- A. Fiber optic cable installation shall be underground and method shall be air-blown.
- B. Fiber optic cable and fiber splice enclosure shall be properly secured inside the manholes/handholes. Provide at least one (1) foot clearance between fiber optic cable and the 34.5 kV underground transmission line if inside the same manhole.
- C. 120' of fiber optic slack cable per entrance shall be provided at each manhole/handhole where splices are to be made and at the manhole/handhole nearest the control building, unless otherwise instructed by GPA. 30' slack cable shall be provided at manhole/handhole with no designated and future intended splice.
- D. Fiber splice enclosures shall be used for splices inside the manholes/handholes.
- E. Fiber optic cable and enclosures shall be properly secured with approved means to avoid fiber optic cable slipping and enclosures falling out-of-place.
- F. Fiber optic cables shall be installed in an approved conduit. Conduit to be used shall be schedule 40 pvc, concrete encased or be of high-density polyethylene (HDPE) type, resistant to cracking or shattering, have UV protection when used as ground

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riser, have low coefficient of friction, has tracer for locating conduit/fiber optic cable, and for air-blown fiber application. Duct type is dependent on project scope and shall be determined by GPA.

- G. Fiber optic cables shall be routed and placed in orange innerducts inside cable trenches or trays.
- H. Fiber optic cables and orange innerducts shall be labelled "GPA FIBER OPTIC CABLE".

3.0.5.3 SUBMITTAL INFORMATION

The Contractor shall provide documentation showing state of the project site before and after construction. This shall be used to restore the project site as nearly as possible to its original conditions, with the exception of equipment integral to the project.

3.0.6 Integrated Design Plan

3.0.6.1 GENERAL

The integrated design plan shall include but not limited to the following:

- A. Title sheet (Location Map, Vicinity Map and Index of Drawings)
- B. Installation notes and list of materials
- C. General notes, abbreviations, legend and symbols
- D. Site plan and route details
- E. Equipment cabinet and installation details
- F. Transmission/Fiber Trench, Microduct and Microtrench Details as applicable
- G. Fiber optic cable splice details
- H. Fiber optic cable diagram details
- I. Fiber optic cable oneline diagram
This shall detail all manholes/handholes, termination points, splices, slack fibers, and traffic control details.
- J. Lane (road) closure and traffic control details and plans which are DPW approved
- K. Bollards and Manhole/handhole details (Latitude and Longitude coordinates, etc.)
This shall show but not limited to the location of the bollards and manhole/handholes, entry/exit details of fiber optic cable inside manholes/handholes, installation details of fiber optic cable inside manholes/handholes, and location of splice points and enclosure.
- L. Fiber optic cable installation method

3.0.6.2 SUBMITTAL INFORMATION

The Contractor shall submit to GPA for review an integrated design plan in the following formats: hardcopy of appropriate size, and softcopy in AutoCAD 2013 and PDF. Construction shall not commence until the integrated design plan is approved by GPA and is certified by a RCDD. The approval of GPA shall not relieve the Contractor from the responsibility of corrective actions if defective or inadequate work was overlooked.

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3.0.7 On-Site Fiber Optic Cable Construction, Installation and Interconnection

3.0.7.1 GENERAL

The Contractor's primary scheduled activities shall include, but are not limited to:

- A. Construction materials and equipment delivery
- B. Site work: site survey, leveling, trenching, etc. activities to prepare the site for construction
- C. Installation of conduits
- D. Fiber optic cable installation
- E. Fiber optic cable testing
- F. Restoration of surroundings to pre-installation conditions
- G. As-built documentation

The Contractor shall furnish all labor, equipment, tools and materials to construct the underground fiber optic cable on the routes described for this project. This includes the installation of overhead fiber optic cable when necessary. All construction work must comply with applicable GPA, ANSI, TIA/EIA standards.

3.0.7.2 REQUIREMENTS

- A. Outside plant fiber optic cables within a building shall not exceed 50' from the point of entrance into the building. Outside plant fiber optic cable must also be terminated in a NEC approved enclosure transitioning to inside plant fiber optic cable.
- B. Contractor shall comply with applicable fire stopping codes and standards. All penetrations shall be protected by approved firestops. Fire stopping compounds and devices shall be used whenever a fire separation has been breached by installation works.
- C. Fiber optic cables shall be terminated at the closet connector housings (patch panels) supplied by the Contractor. Closet connector housings (patch panels) shall have eight (8) EA splice cassettes, eight (8) EA closet connector housing panels and each closet connector housing panel shall be of type 12 fiber SC duplex. Fiber optic cable terminations shall be fusion spliced.
- D. All fiber strands shall be terminated with SC Connectors.
- E. Fiber optic cable splicing shall be fusion splice not mechanical splice.
- F. Monthly progress meetings shall be held throughout the duration of the project. GPA may request additional meetings if deemed necessary. Such meetings shall be attended by the Contractor either via phone or in person, by all active subcontractors and by GPA. The purpose of these meetings is to discuss current work progress, design or construction issues, interface issues, and potential changes to the schedule. Meeting minutes shall be prepared by the Contractor within two (2) days to document the progress meeting.

3.0.7.3 SUBMITTAL INFORMATION

- A. The Contractor shall include the submission of a Master Project Schedule outlining

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anticipated start and end dates for each of the on-site construction, installation and interconnection activities.

- B. The Contractor shall submit to GPA monthly reports on actual work progress. Such reports shall be submitted to GPA prior to the scheduled work progress meetings. The narrative shall contain a description of current and anticipated delaying factors, if any, impact of possible delaying factors, and proposed corrective actions. The reports shall be submitted as supporting documents for progress payments.
- C. Fiber optic installation (i.e. splicing) shall be performed or supervised by a certified fiber optic installer. Current certifications and validity shall be provided to GPA.

3.0.8 Commissioning and Performance Testing

3.0.8.1 GENERAL

The Contractor shall conduct final inspection activities with the GPA to demonstrate the successful installation and fully functional operation of the fiber optic cable and its subsystems.

3.0.8.2 REQUIREMENTS

A. Pre-Final Inspection

The Contractor shall conduct a pre-final walk-through inspection with the GPA and document the pre-final inspection findings in a brief report. The report shall include but not limited to the list of equipment/products installed, work accomplished, setbacks and solutions performed to correct the problems, test conducted.

B. Testing

Tests should be conducted in compliance with TIA/EIA 526-7 (single mode). Each individual fiber optic cable strand must be tested while on the reel before installation, and after installation. A RCDD must review and approve all test (FAT, at the reel, and after installation) done on the fiber optic cable.

Prior to testing, Contractor shall submit a Link Loss Budget and a testing plan which includes (but not limited to):

- a. Testing procedure (includes test equipment operation)
- b. Acceptable test values and reference standards
- c. Use of test tools and interpretation of testing results
- d. Testing and troubleshooting procedures (if results show failed results)

Test to be conducted includes (but not limited to):

- a. Continuity testing
- b. Optical Time-Domain Reflectometer Test
- c. Power Loss Test

Each individual fiber optic cable strand must be tested bi-directionally (A->B and B->A) with an

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OTDR for length and transmission anomalies. A RCDD must review and approve all tests done on the fiber optic cable, namely test result from the factory/manufacturer, while on the reel before installation, and after cable installation.

C. Warranty

The Contractor shall complete all inspection and commissioning requirements prior to final inspection. The fiber optic cable shall include a one (1) year full service and parts warranty.

D. Final Inspection

The Contractor shall conduct a final inspection with GPA and document the findings in a final inspection report. The inspection shall concentrate on the items identified at the pre-final inspection and recorded in the pre-final inspection report. The final inspection report shall: (1) certify that all items of the design have been implemented and that the construction is complete, and (2) include a record of "signed and sealed" as-built drawings and specifications verifying that all development standards have been met. At the final inspection, the Contractor shall present a completed form for the Transfer and Acceptance of Real Property to GPA for signature and acceptance.

3.0.8.3 SUBMITTAL INFORMATION

- A. Pre-final inspection report
- B. Equipment calibration certificate
- C. Link Loss Budget and testing plan
- D. RCDD certified test results
- E. Final inspection report

3.0.9 Full Documentation of All Equipment and Construction Work

3.0.9.1 GENERAL

The Contractor shall have a detailed documentation of the construction works as well as exact locations of Fiber Optic Cable, equipment, manhole/handhole and other Fiber Optic Cable accessories to be reflected on the as-built drawings.

3.0.9.2 SUBMITTAL INFORMATION

- A. The Contractor shall provide a final as-built integrated design plan in the following formats: hardcopy of appropriate size, and softcopy in AutoCAD 2013 and PDF.
- B. O&M manual of the fiber optic cable and its accessories

3.0.10 Demobilization

The Contractor shall demobilize facilities and construction equipment as necessary, and restore the site surrounding the fiber optic cable to pre-construction conditions. The Contractor shall remove any temporary facilities and implement erosion control measures such as seeding, mulching, sodding, and erosion control fabrics; restore roads, structures, and utilities; and plant trees, shrubbery, grasses, and other vegetation. All costs associated with withdrawing from the

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site after completion of work, including Contractor's personnel, facilities, equipment, cleaning and securing the site shall be included.

4.0. TERMINATION SCHEDULE

Substation X (*Piti*)

First Patch Panel (new)			
Substation	CCH Cassettes	CCH Panels w/ 12 Fiber SC Duplex Type Adapters	Channel
Polaris	8	8	A to H

Substation Y (*Polaris*)

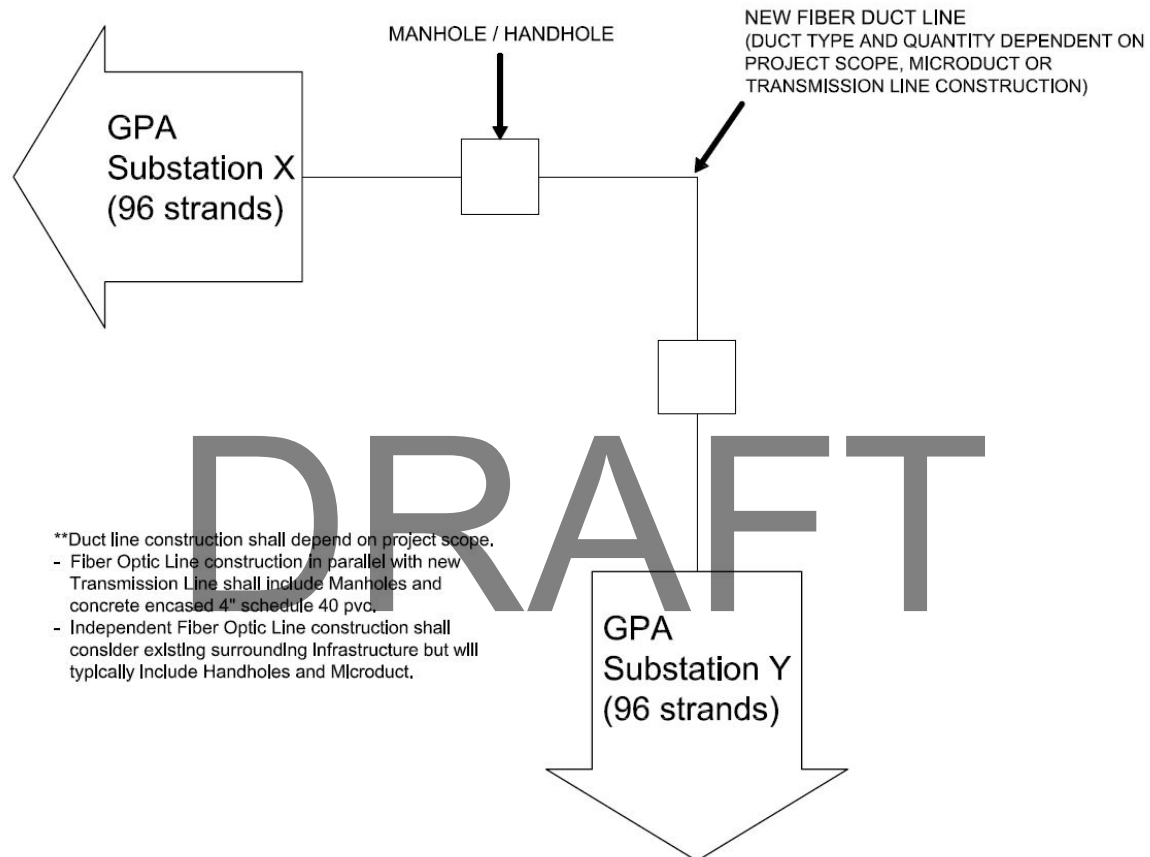
First Patch Panel (new)			
Substation	CCH Cassettes	CCH Panels w/ 12 Fiber SC Duplex Type Adapters	Channel
Piti	8	8	A to H

DRAFT

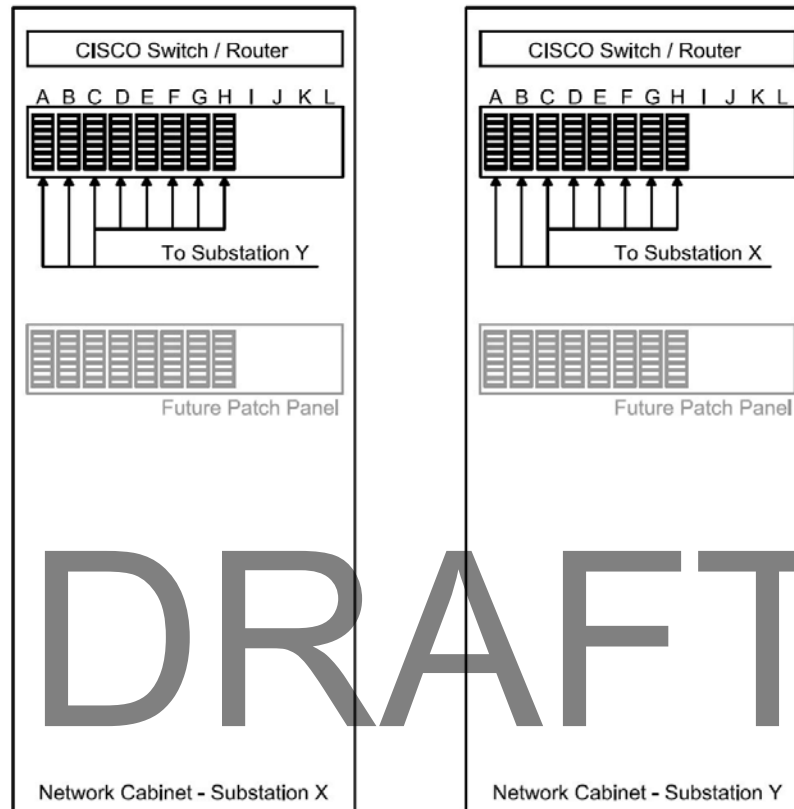
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5.0 CONCEPTUAL DRAWINGS

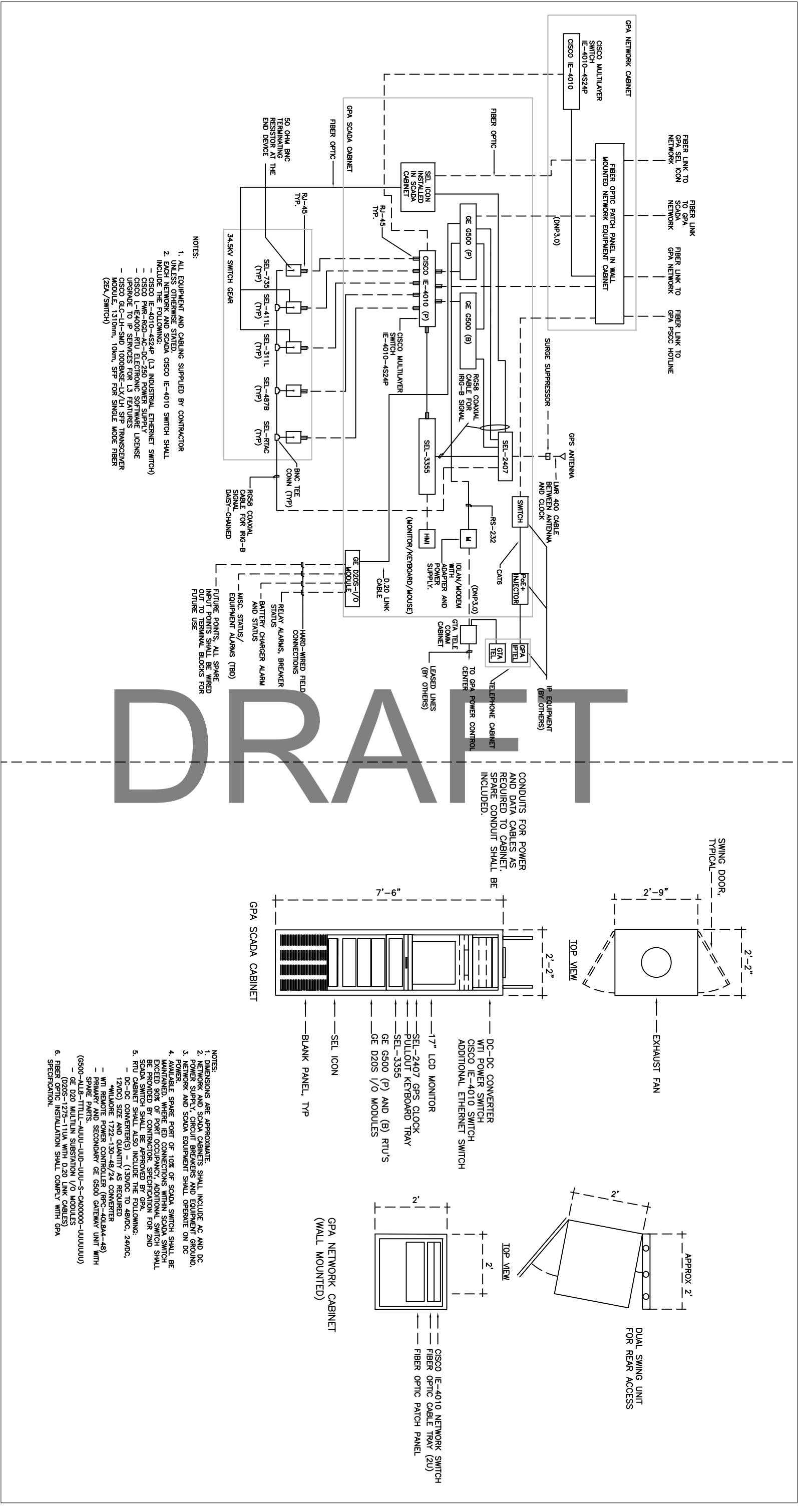
5.1 Fiber Arrangement



5.2 Substation X and Substation Y Termination Diagram



REVISIONS			
SYMBOL	DESCRIPTION	INT.	DATE





GUAM POWER AUTHORITY
P.O. BOX 2977, AGANA, GUAM, USA 96910

DRAWING NO. AS NOTED		SHEET TITLE PROPOSED POLARIS POINT SUBSTATION	
DESIGNED BY XX	SCALE	CHECKED BY XX	SCALE AS NOTED
DATE 11/7/22	DATE	DATE	DATE
DESIGNED BY XX	SCALE	CHECKED BY XX	SCALE AS NOTED
DATE	DATE	DATE	DATE
DESIGNED BY XX	SCALE	CHECKED BY XX	SCALE AS NOTED
DATE	DATE	DATE	DATE

Contingent Fee Affidavit

Draft

CONTINGENT FEES AFFIDAVIT

CITY OF _____)
) ss.
ISLAND OF GUAM)

_____ [state name of affiant signing below] being first duly sworn, deposes and says that:

1. The name of the offering company or individual is [state name of company] _____.
2. As a part of the offering company's bid or proposal, to the best of my knowledge, the offering company has not retained any person or agency on a percentage, commission, or other contingent arrangement to secure this contract. This statement is made pursuant to 2 GAR Division 4 11108(f).
3. As a part of the offering company's bid or proposal, to the best of my knowledge, the offering company has not retained a person to solicit or secure a contract with the government of Guam upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies for the purpose of securing business. This statement is made pursuant to 2 GAR Division 4 11108(h).
4. I make these statements on behalf of myself as a representative of the offeror, and on behalf of the offeror's officers, representatives, agents, subcontractors, and employees.

Signature of one of the following:

Offeror, if the offeror is an individual;
Partner, if the offeror is a partnership;
Officer, if the offeror is a corporation.

Subscribed and sworn to before me

this _____ day of _____, 2025.

NOTARY PUBLIC

My commission expires _____, _____.

7.0 System & Service Acquisition Policy Directive

Draft



GUAM POWER AUTHORITY

DRAFT
Cybersecurity Policy Directive for
GPA Vendors On

System & Service Acquisition

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NOTICE

The following Cybersecurity Policy Directive for Guam Power Authority (GPA) Vendors and 3rd Party Contractors is meant to be a guide for the implementation of controls related to:

System & Service Acquisition Policy Directive

The attached Policy Directive clarifies what is required from GPA Vendors and 3rd Party Contractors that utilizes IT systems resulting from the performance of the GPA contract. This will include all systems located on Guam or remote sites that are utilized by the Vendor and 3rd Party Contractors during the performance and support of a GPA Contract.

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1 System and Service Acquisition Policy Directive (SA-1)

Documented procedures shall be developed and implemented effectively to facilitate the implementation of the system and services acquisition security controls for all SGSN and services acquisitions. Procedures shall be consistent with applicable laws, executive orders, directives, policies, regulations, standards, and guidance.

1.1 RESOURCE ALLOCATION (SA-2, A, C)

As part of the capital planning and investment control processes, the Guam Power Authority or the external organization shall determine, document, and allocate the resources required to protect the Guam Power Authority SGSN adequately. SGSN requirements shall be included in mission / business case planning, and a separate line item shall be established in the Guam Power Authority programming and budgeting documentation for the implementation and management of SGSN security.

The Guam Power Authority shall, prior to the acquisition of SGSN services or technology, ensure that the security requirements for said services and technology have been documented as part of the planning process.

The Guam Power Authority shall require that resources are available, as required by bullet of Section 3.2 of the SG Cyber Security Plan, for the acquisition of information system services and technology per the capital planning process outlined in Section 3.3 of this document and shall document specific line items for security in budgetary planning.

1.2 LIFE CYCLE SUPPORT (SA-3)

A uniform System Development Life-Cycle (SDLC) methodology shall be established and followed to manage all Guam Power Authority SGSNs adequately.

The Guam Power Authority best practices maintain a system development life cycle methodology that includes information security considerations and will recommend that appropriate personnel are assigned roles and responsibilities to fulfill the needs of that methodology.

1.3 ACQUISITIONS (SA-4)

Security requirements and/or security specifications shall be included, either explicitly or by reference, in all information system acquisition contracts based on an assessment of risk in accordance with applicable laws, executive orders, directives, policies, regulations, and standards.

1.3.1 Solicitation Documents

Solicitation documents (e.g., Request for Proposal) for any the Guam Power Authority SGSN shall include, either explicitly or by reference, security requirements that describe the required:

- Security capabilities;
- Design and development processes;
- Test and evaluation procedures; and
- Documentation.

The requirements in the solicitation documents shall permit updating security controls as new threats / vulnerabilities are identified and as new technologies are implemented

1.3.2 Use of Evaluated and Validated Products

For acquisition of security and security-enabled commercial-off-the-shelf (COTS) SGSN products, when multiple products meet the Guam Power Authority requirements, preference shall be given to products that have been evaluated and validated through one or more of the following sources:

1. The National Information Assurance Partnership (NIAP) Common Criteria Evaluation and Validation Scheme;
2. The International Common Criteria Recognition Arrangements; and
3. The NIST Cryptographic Module Validation Program.

1.3.3 Configuration Settings and Implementation Guidance

The SGSN required documentation shall include security configuration settings, including documentation explaining exceptions to the standard, and security implementation guidance.

Ensure solicitation documents require that appropriate documentation be provided describing the functional properties of the security controls employed within the SGSN with sufficient detail to permit analysis and testing of the controls.

The Guam Power Authority will include the following requirements and/or specifications, explicitly or by reference, in SGSN acquisition contracts:

- a. Security functional requirements/specifications;
- b. Security-related documentation requirements; and
- c. Developmental and evaluation-related assurance requirements.

1.4 INFORMATION SYSTEM DOCUMENTATION (SA-5)

Procedures shall be developed, documented, and implemented effectively to ensure that adequate documentation for all the Guam Power Authority SGSN and its constituent components is available, protected when required, and distributed only to authorized personnel. The administrative and user guides and/or manuals shall include information on configuring, installing, and operating the SGSN, and for optimizing the system's security features. The guides and/or manuals shall be reviewed periodically, and, if necessary, updated as new vulnerabilities are identified and/or new security controls are added.

The Guam Power Authority shall obtain all system related documentation for service and technology providers, including administrator and user documentation, as required by contract and prior to contract fulfillment and shall protect such information commensurate with the media protection program outlined in Section 16.

1.5 SOFTWARE USAGE RESTRICTIONS (SA-6)

All software or shareware and associated documentation used on the Guam Power Authority SGSN shall be deployed and maintained in accordance with appropriate license agreements and copyright laws. Software associated documentation protected by quantity licenses shall be managed through a tracking system to control copying and distribution. All other uses not specifically authorized by the license agreement shall be prohibited. The use of publicly accessible peer-to-peer file sharing technology shall be controlled and documented to ensure that this capability is not used for the unauthorized distribution, display, performance, or reproduction of copyrighted work.

1.6 USER-INSTALLED SOFTWARE (SA-7)

All users shall be restricted from downloading or installing software, unless explicitly authorized in writing by the General Manager or his/her designated representative. Users that have been granted such authorization may download and install only organization-approved software. The use of install-on-demand software shall be restricted.

The Guam Power Authority shall enforce explicit rules governing the installation of software by users, such as locking out local administrative rights.

1.7 EXTERNAL INFORMATION SYSTEM SERVICES (SA-9)

All external information system services shall include specific provisions requiring the service provider to comply with the Guam Power Authority SGSN policies, standards, and guidelines; and shall be monitored for compliance. The Guam Power Authority shall define the remedies for any loss, disruption, or damage caused by the service provider's failure to comply. Service providers shall be prohibited from outsourcing any system function overseas, unless explicitly authorized, in writing, by the Guam Power Authority SGSN General Manager or his/her designated representatives with concurrence from the Guam Power Authority's personnel security department.

The Guam Power Authority shall investigate security requirements for providers of external information system services, such as hosting, security monitoring, and backup services. Where it is determined that security requirements must be implemented at the SGSN service provider site, those requirements shall be documented in contracts and agreements and authorized by the General Manager.

The Guam Power Authority retains the right to audit information service providers to ensure that security requirements described in contracts or have been implemented as assigned.

2 Definitions

3rd Party Vendor: Any person or business that accesses and processes a company's data is also considered a third-party vendor. This can include tax professionals, accountants, consultants, and email list services, among others.

Account: An identity created for a person in a computer or computing system.

COTS: Commercial Off the Shelf available preprogrammed software.

GPA Cyber Security Plan (CSP): A Guam Power Authority (GPA) document that states the strategy, policy, procedures, and technologies of the Authority to address cyber risk management and implementation of security programs.

GPA Project: Any official contracted project between the Guam Power Authority (GPA) and the Vendor for performance of work related to services, equipment, software and/or deliverables.

IT: Information Technology. Hardware, software and services related to the Vendor's Information Technology (IT) network.

IT System: IT Hardware and Software that makes up the IT Environment that is utilized by the Vendor to support in providing the services, materials and/or deliverables for GPA.

National Information Assurance Partnership (NIAP): A U.S. government initiative that focuses on evaluating and certifying the security of information technology (IT) products

National Institutes of Standards and Technology (NIST): a non-regulatory agency of the U.S. Department of Commerce. Its mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology.

Software: a collection of programs, data, and instructions that tell a computer or device how to perform specific tasks or operations. It is the non-physical (intangible) component of a computer system, as opposed to hardware (the physical components).

System Development Life Cycle (SLDC): A structured process used for developing software applications, ensuring quality and correctness throughout the development stages.

SGSN: Smart Grid System and Networks.

Vendor: Any person or business that has a valid business contract with the Guam Power Authority to provide services, materials and/or deliverables for the Authority.

8.0 Access Control Policy Directive

Draft



GUAM POWER AUTHORITY

DRAFT
Cybersecurity Policy Directive for
GPA Vendors On

Access, Authentication, and Authorization

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NOTICE

The following Cybersecurity Policy Directive for Guam Power Authority (GPA) Vendors and 3rd Party Contractors is meant to be a guide for the implementation of controls related to:

Access, Authentication, and Authorization Policy Directive

The attached Policy Directive clarifies what is required from GPA Vendors and 3rd Party Contractors that utilizes IT systems resulting from the performance of the GPA contract. This will include all systems located on Guam or remote sites that are utilized by the Vendor and 3rd Party Contractors during the performance and support of a GPA Contract.

DRAFT

1 Access, Authentication and Authorization Policy Directive (AAA) (AC-1), (IA-1)

Logical access controls and procedures shall be established and implemented effectively to ensure that only authorized individuals, under specified conditions (e.g. time of day, port of entry, type of authentication) can access the IT System, activate specific commands, execute specific programs and procedures, or create views or modify specific objects (i.e., programs, information, system parameter). Procedures shall be developed to guide the implementation and management of logical access controls. The logical access controls and procedures shall be consistent with applicable laws, directives, policies, regulations, standards, and guidance, and shall be periodically reviewed, and, if necessary, updated.

Automated identification and authentication (IA) mechanisms shall be implemented and enforced for all the IT System in a manner commensurate with the risk and sensitivity of the system, network, and data. Supporting procedures shall be developed, documented, and implemented effectively to enable reliable identification of individual users of the IT System. The IA procedures shall be consistent with applicable laws, executive orders, directives, policies, regulations, standards, and guidance.

1.1 ACCOUNT MANAGEMENT (AC-2)

Comprehensive account management mechanisms shall be established to: identify account types (i.e., individual, group, and system); establish conditions for group membership; and assign associated authorizations. Access to the IT System shall be granted based on the: (a) Scope of Work of assigned official project duties (role based) and satisfying all personnel security criteria; and (b) intended system usage. Proper identification and approval shall be required for requests to establish information system accounts.

Account control mechanisms shall be in place and supporting procedures developed, documented and implemented effectively to authorize and monitor the use of guest/anonymous accounts; and to remove, or disable, unnecessary accounts. Account managers shall be notified when the system users are terminated, departed or transferred and associated accounts are removed, or disabled. Account managers shall also be notified when users' project duties have changed with information system, usage or need-to-know changes.

The IT System Manager shall institute an Account Management Program that includes the following elements:

- a. Identifying account types (i.e., individual, group, system, application, guest/anonymous, and temporary);
- b. Establishing conditions for group membership;
- c. Identifying authorized users of the information system and specifying access privileges;
- d. Requiring appropriate approvals for requests to establish accounts;
- e. Establishing, activating, modifying, disabling, and removing accounts;
- f. Specifically authorizing and monitoring the use of guest/anonymous temporary accounts;
- g. Notifying account managers when temporary accounts are no longer required and when information system users are terminated, departed, transferred, or information system usage or roles changes;
- h. Deactivating: (i) temporary accounts that are no longer required; and (ii) accounts of terminated, departed or transferred users; and,
- i. Granting access to the system based on: (i) a valid access authorization; (ii) intended system usage; and (iii) other attributes as required by the organization or associated missions/business functions.

1.2 ACCESS ENFORCEMENT (AC-3)

Access enforcement mechanisms shall be developed, documented and implemented effectively to control access between named users (or processes) and named objects (e.g., files and programs) in the IT System. Additional application level access enforcement mechanism shall be implemented, as required, to provide increased information security for the Vendor IT System. When encryption of stored information is employed as an access enforcement mechanism, it shall be encrypted using GPA IT approved and validated cryptographic modules.

In addition, encryption as access enforcement extends to all IT System furnished desktop and/or portable computers that store sensitive information. While encryption is the preferred technical solution for protection of sensitive information on all desktop portable computers, adequate physical security controls and other management controls are acceptable mitigations for the protection of desktop computers with the approval of the GPA Chief Information Technology Officer (CITO) or his/her designated representative.

The Vendor shall ensure that the IT Systems utilized for the GPA Project are configured properly to enforce approved authorizations for logical access to the system in accordance with the account management policy program, the remote access program and the wireless access program.

1.3 UNSUCCESSFUL LOGIN ATTEMPTS (AC-7)

Automated mechanisms shall be in place and supporting procedures shall be developed, documented, and implemented effectively to enforce a limit of access through the IT System through defined consecutive invalid access attempts by a user during a specified time period. Systems shall be locked after a specified number of multiple unsuccessful log-on attempts.

1.4 APPROPRIATE USE BANNER (AC-8)

The Vendor shall ensure an appropriate use banner, an approved warning/notification message that is to be displayed upon successful log-on and before gaining access to IT System. The banner shall notify users that the IT System is owned by the Vendor and shall describe conditions for access, acceptable use, and access limitations. The system use banner shall provide appropriate privacy and security notices (based on associated privacy and security policies) and shall remain on the screen until the user takes explicit actions to log-on to the IT System. The Vendor shall maintain documentation of the contents of all approved banner displays.

1.5 PERMITTED ACTIONS WITHOUT IDENTIFICATION AND AUTHENTICATION (AC-14)

Based upon mission/business requirements, public access to the IT System without identification and authorization shall be limited to public websites and other publicly available systems. The IT System shall be configured to permit public access only to the extent necessary to accomplish mission objectives, without first requiring individual identification and authentication.

The Vendor shall limit the use of guest and generic accounts on systems declared in scope and shall document and limit the actions that can be performed using those guest or generic accounts.

1.6 REMOTE ACCESS (AC-17)

Remote access for privileged functions shall be permitted only for compelling operational needs, shall be strictly controlled, and must be approved in writing by the IT System Manager or his/her designated

representative. The number of users who can access the IT Network from remote locations shall be limited and justification/approval for such access shall be controlled, documented, and monitored.

Dial-up lines, other than those with validated cryptography, shall not be used to gain access to the IT System that processes sensitive information unless the IT System Manager or his/her designated representative, provides specific written request and GPA CITO or his/her designated representative approves authorization. Periodic monitoring shall be implemented to ensure that installed equipment does not include unanticipated dial-up capabilities.

The Vendor follows a Remote Access Program that includes the following elements:

- a. Documents allowed methods of remote access to the IT System;
- b. Establishes usage restrictions and implementation guidance for each allowed remote access method;
- c. Monitors for unauthorized remote access to the IT System;
- d. Authorizes remote access to the IT System prior to connection; and,
- e. Enforces requirements for remote connections to the IT System.

1.7 WIRELESS ACCESS (AC-18)

Installation of wireless access points (WAP) into the IT System shall be prohibited unless explicitly authorized, in writing, by the GPA CITO or his/her designated representative. Authorized WAP devices and wireless access shall be monitored on a regular basis, and wireless communications shall be secured through the use of approved encryption controls.

The IT System Manager shall institute a Wireless Access Program that shall include the following elements:

- a. Establishes usage restrictions and implementation guidance for wireless access;
- b. Monitors for unauthorized wireless access to the IT System;
- c. Authorizes wireless access to the IT System prior to connection; and,
- d. Enforces requirements for wireless connections to the IT System.

1.8 MOBILE DEVICES (AC-19)

The connection of portable and mobile devices (e.g., notebook computers, personal digital assistants (PDA), cellular telephones, and other computing and communications devices with network connectivity and the capability of periodically operating in different physical locations) to the IT System shall be prohibited unless explicitly authorized, in writing, by the GPA CITO or his/her designated representative. Prior to connecting portable and mobile devices to IT System and networks, such devices shall be configured to comply with GPA's cyber security policies and procedures. The storage and transmission of any data and sensitive information on portable and mobile information devices shall be protected with activities such as scanning the devices for malicious code, virus protection software, and disabling unnecessary hardware. The activities and controls shall be commensurate with the system security level of the information.

The Vendor shall implement various mobile device prevention measures:

- a. Devices have been locked down and hardened for security purposes, password protected screen saver with maximum 15-minute activation
- b. Anti-malware is in place for Windows OS devices
- c. Mounting of mobile devices is prohibited by non system administrator type accounts for Linux

- d. Various levels of monitoring are in place for the devices including Tripwire
- e. Alarms are activated if servers go down

1.9 EXTERNAL INFORMATION SYSTEMS (AC-20)

External information systems, including, but not limited to, Internet kiosks, personal desktop computers, laptops, tablet personal computers, personal digital assistant (PDA) devices, cellular telephones, facsimile machines, and equipment available in hotels or airports shall not be used to store, access, transmit, or process sensitive information, unless explicitly authorized, in writing, by the GPA CITO or his/her designated representative.

The IT System Manager shall establish the strict terms and conditions by which authorized individuals may gain access to and process, store, or transmit documents on the systems declared in scope in Section 1.3 from any external information system. The terms and conditions shall address, at a minimum:

- a. The types of applications that can be accessed from external information systems;
- b. How other users of the external information system will be prevented from accessing information;
- c. The use of virtual private networking (VPN) and firewall technologies;
- d. The use of and protection against the vulnerabilities of wireless technologies;
- e. The maintenance of adequate physical security controls;
- f. The use of virus and spyware protection software; and
- g. How often the security capabilities of installed software(s) are to be updated.

1.10 PUBLICLY ACCESSIBLE CONTENT (AC-22)

The Vendor shall control the information obtained, created, documented or content that is posted to customer facing or other public facing systems resulting from the contract performance between the Vendor and GPA. Such control shall use the following measures:

- a. Designating individuals authorized to post information onto an organizational information system that is publicly accessible;
- b. Training authorized individuals to ensure that publicly accessible information does not contain nonpublic information;
- c. Reviewing the proposed content of publicly accessible information for nonpublic information prior to posting onto the organizational information system;
- d. Reviewing the content on the publicly accessible organizational information system for nonpublic information on an annual basis; and,
- e. Removing nonpublic information from the publicly accessible organizational information system, if discovered.

1.11 IDENTIFICATION AND AUTHENTICATION OF ORGANIZATIONAL USERS (IA-2)

Automated IA mechanisms shall be in place and supporting procedures shall be developed, documented, and implemented effectively to enable unique IA of individual users (or processes acting in behalf of users) of Vendor. Authentication of user identities shall be accomplished through the use of passwords, tokens, biometrics, or in the case of multifactor authentication, or some combination therein.

The Vendor shall ensure that the information system uniquely identifies and authenticates organizational users or processes acting on behalf of organizational users.

1.12 IDENTIFIER MANAGEMENT (IA-4)

Procedures shall be developed, documented, and implemented effectively to manage user identifiers. The procedures shall address processes and controls for:

- Identifying each user uniquely;
- Verifying the identity of each user;
- Receiving authorization to issue a user identifier from an appropriate organization official;
- Ensuring that the user identifier is issued to the intended party;
- Disabling user identifier after a specific period of inactivity; and
- Archiving user identifiers.

Reviews and validation of system users' accounts shall be conducted to ensure the continued need for access to a system. Identifier management shall not be applicable to shared Vendor accounts (i.e., guest and anonymous).

The Vendor shall institute a User Identifier: Management Program, either separately or as part of the Account Management Program that includes the following elements:

- a. Receiving authorization from a designated organizational official to assign a user identifier;
- b. Selecting an identifier that uniquely identifies an individual;
- c. Assigning the user identifier to the intended party
- d. Disabling the user identifier as appropriate per system

1.13 AUTHENTICATOR MANAGEMENT (IA-5)

Procedures shall be developed, documented, and implemented effectively to manage user authenticators. The procedures shall address processes and controls for: initial authenticator content; distribution for new, lost, compromised, or damaged authenticators; revocation of authenticators; changing default authenticators; and changing/refreshing authenticators at specified intervals. Users shall not loan or share authenticators with other users. Lost or compromised authenticators shall be reported immediately to appropriate authority.

Selection of passwords or other authentication devices (e.g., tokens, biometrics) shall be appropriate, based on the Guam Power Authority System Security Level CSP. Automated mechanisms shall be in place for password-based authentication, to ensure the following:

- Protects passwords from unauthorized disclosure and modification when stored and transmitted;
- Prohibits passwords from being displayed when entered;
- Enforces automatic expiration of passwords;
- Prohibits password reuse for a specified number of generations; and
- Enforces periodic password changes.

The Vendor shall institute an Authenticator Management Program, that includes the following elements:

- a. Establishing initial authenticator content for authenticators defined by the organization;
- b. Ensuring that authenticators have sufficient strength of mechanism for their intended use;
- c. Establishing and implementing administrative procedures for initial authenticator distribution, for lost/compromised or damaged authenticators, and for revoking authenticators;
- d. Changing default content of authenticators upon information system installation;
- e. Establishing minimum and maximum lifetime restrictions and reuse conditions for authenticators, as appropriate;

- f. Changing/refreshing authenticators on an annual basis;
- g. Protecting authenticator content from unauthorized disclosure and modification; and
- h. Requiring users to take specific measures to safeguard authenticators.

1.14 AUTHENTICATOR FEEDBACK (IA-6)

Automated mechanisms shall be established and supporting procedures shall be developed, documented, and implemented effectively to obscure feedback to users during the authentication process to protect the information from possible exploitation / use by unauthorized individuals.

1.15 IDENTIFICATION AND AUTHENTICATION OF NON-ORGANIZATIONAL USERS (IA-8)

The IT System shall uniquely identify and authenticate non-organizational users (or processes acting on behalf of non-organizational users).

1.16 REVIEW OR AUDIT OF THE ACCESS, AUTHENTICATION AND AUTHORIZATION POLICY DIRECTIVE

The IT System of the Vendor shall be subject to review or audit of the Access, Authentication and Authorization Policy Directive. Review or audit of the system shall be performed by GPA or a 3rd Party Vendor to include but not limited to:

- Review of Access Policy, Documentation and other information related to System Access
- Testing of Controls related to the Access, Authentication and Authorization process.
- Identification of deficiencies and gaps in the performance of implantation of Access, Authentication and Authorization controls.
- This document for the Access, Authentication and Authorization Policy Directive shall be subject to modification in part or whole based on enforcement of GPA's Cybersecurity Policy.

2 Definitions

3rd Party Vendor: Any person or business that accesses and processes a company's data is also considered a third-party vendor. This can include tax professionals, accountants, consultants, and email list services, among others.

Account: An identity created for a person in a computer or computing system.

GPA Cyber Security Plan (CSP): A Guam Power Authority (GPA) document that states the strategy, policy, procedures, and technologies of the Authority to address cyber risk management and implementation of security programs.

GPA Project: Any official contracted project between the Guam Power Authority (GPA) and the Vendor for performance of work related to services, equipment, software and/or deliverables.

IT: Information Technology. Hardware, software and services related to the Vendor's Information Technology (IT) network.

IT System: IT Hardware and Software that makes up the IT Environment that is utilized by the Vendor to support in providing the services, materials and/or deliverables for GPA.

IT System Manager: The designated person in charge of the IT System who is authorized to act on behalf of the Vendor to make decisions related to the security of their IT System.

IT System Operator: The designated person who is assigned to manage the daily operation the IT System of the Vendor.

Identification and Authentication (IA): The ability to identify uniquely a user of a system or an application that is running in the system. Authentication is the ability to prove that a user or application is genuinely who that person or what that application claims to be.

Temporary Accounts: An identity created for a person in a computer or computing system that is not intended to be a permanent user account.

Vendor: Any person or business that has a valid business contract with the Guam Power Authority to provide services, materials and/or deliverables for the Authority.

17.0 Physical and Environmental Protection Policy Directive

Draft



GUAM POWER AUTHORITY

DRAFT
Cybersecurity Policy Directive for
GPA Vendors On

Physical and Environmental Protection

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DRAFT

NOTICE

The following Cybersecurity Policy Directive for Guam Power Authority (GPA) VENDORS and 3rd Party Contractors is meant to be a guide for the implementation of controls related to:

Physical and Environmental Protection Policy Directive

The attached Policy Directive clarifies what is required from GPA VENDORS and 3rd Party Contractors that utilizes IT systems resulting from the performance of the GPA contract. This will include all systems located on Guam or remote sites that are utilized by the VENDOR and 3rd Party Contractors during the performance and support of a GPA Contract.

DRAFT

1 Physical and Environmental Protection Policy

1.1 PHYSICAL ACCESS AUTHORIZATIONS

VENDOR shall:

- a. Develop and keeps current a list of personnel with authorized access to the facility where the information system resides (except for those areas within the facility officially designated as publicly accessible);
- b. Issues authorization credentials;
- c. Reviews and approves the access list and authorization credentials quarterly, removing from the access list personnel no longer requiring access.

1.2 PHYSICAL ACCESS CONTROL

VENDOR shall institute a Physical Access Control Program for the systems declared in scope in Section 1.3 that addresses the following items:

- a. Enforces physical access authorizations for all physical access points (including designated entry/exit points) to the facility where the information system resides (excluding those areas within the facility officially designated as publicly accessible);
- b. Verifies individual access authorizations before granting access to the facility;
- c. Controls entry to the facility containing the information system using physical access devices and/or guards;
- d. Controls access to areas officially designated as publicly accessible in accordance with the organization's assessment of risk;
- e. Secures keys, combinations, and other physical access devices;
- f. Inventories physical access devices monthly; and,
- g. Changes combinations and keys annually and when keys are lost, combinations are compromised, or individuals are transferred or terminated.

1.3 MONITORING OF PHYSICAL ACCESS

VENDOR shall:

- a. Monitor physical access to the systems declared in scope in Section 1.3 to detect and respond to physical security incidents;
- b. Review physical access logs quarterly; and
- c. Coordinate results of reviews and investigations with the organization's incident response capability.

1.4 VISITOR ACCESS CONTROL

VENDOR shall control physical access to the systems declared in scope in Section 1.3 by authenticating visitors before authorizing access to the facility where the information system resides other than areas designated as publicly accessible. Records of such visitor access shall be maintained and reviewed on a semi-annual basis.

1.5 EMERGENCY LIGHTING

VENDOR shall employ and maintain automatic emergency lighting for the systems declared in scope in Section 1.3 that activates in the event of a power outage or disruption and that covers emergency exits and evacuation routes within the facility.

1.6 FIRE PROTECTION

VENDOR shall employ and maintain fire suppression and detection devices/systems for the systems declared in scope in Section 1.3 that are supported by an independent energy source.

1.7 TEMPERATURE AND HUMIDITY CONTROLS

VENDOR shall maintain temperature and humidity level within the facility where the systems declared in scope in Section 1.3 resides in accordance within VENDOR defined tolerance levels and shall monitor such levels on a quarterly basis to ensure compliance.

1.8 WATER DAMAGE PROTECTION

VENDOR shall protect the systems declared in scope in Section 1.3 from damage resulting from water leakage by providing master shutoff valves that are accessible, working properly, and known to key personnel.

1.9 DELIVERY AND REMOVAL

The organization authorizes, monitors, and controls components of the systems declared in scope in Section 1.3 entering and exiting the facility and maintains records of those items.

DRAFT

2 Definitions

3rd Party VENDOR: Any person or business that accesses and processes a company's data is also considered a third-party VENDOR. This can include tax professionals, accountants, consultants, and email list services, among others.

Account: An identity created for a person in a computer or computing system.

Authenticating: Verifying the identity of a person, device, or system to ensure they are **who or what they** claim to be.

Credentials: Evidence of a person's qualifications, identity, or authority.

Facility: A place, service, or piece of equipment that is provided for a particular purpose.

GPA Cyber Security Plan (CSP): A Guam Power Authority (GPA) document that states the strategy, policy, procedures, and technologies of the Authority to address cyber risk management and implementation of security programs.

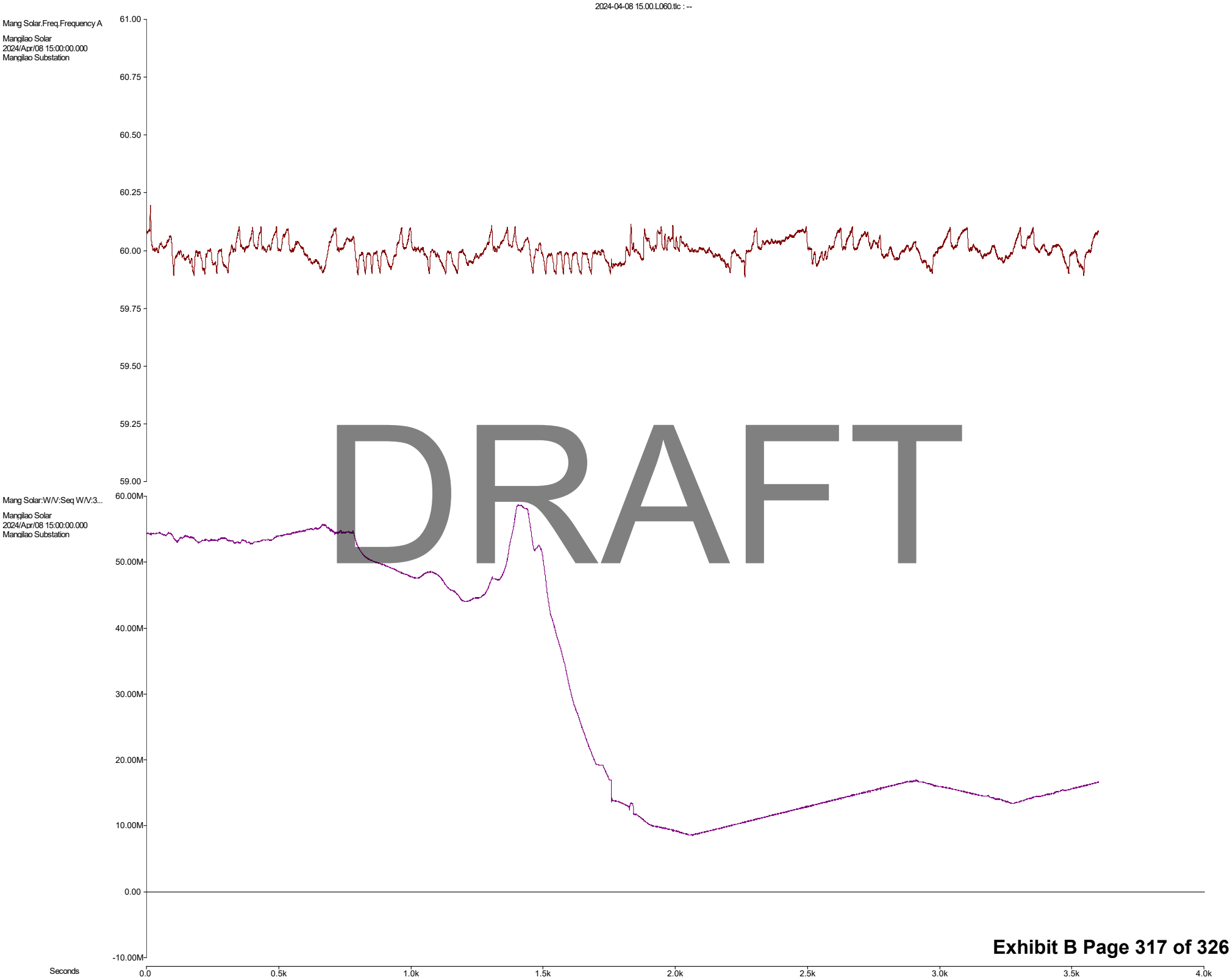
GPA Project: Any official contracted project between the Guam Power Authority (GPA) and the VENDOR for performance of work related to services, equipment, software and/or deliverables.

Identification and Authentication (IA): The ability to identify uniquely a user of a system or an application that is running in the system. Authentication is the ability to prove that a user or application is genuinely who that person or what that application claims to be.

VENDOR: Any person or business that has a valid business contract with the Guam Power Authority to provide services, materials and/or deliverables for the Authority.

TESLA Graphs

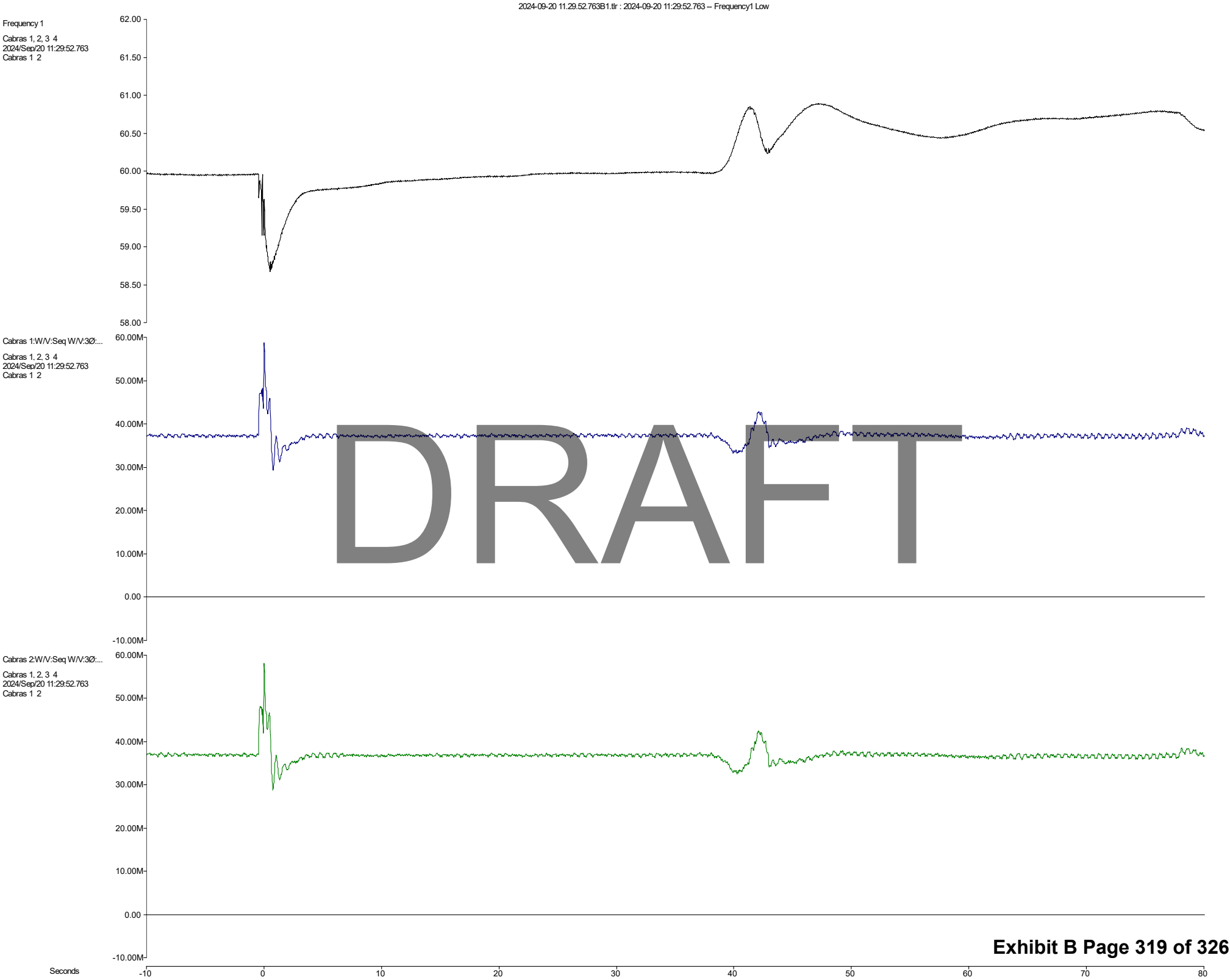
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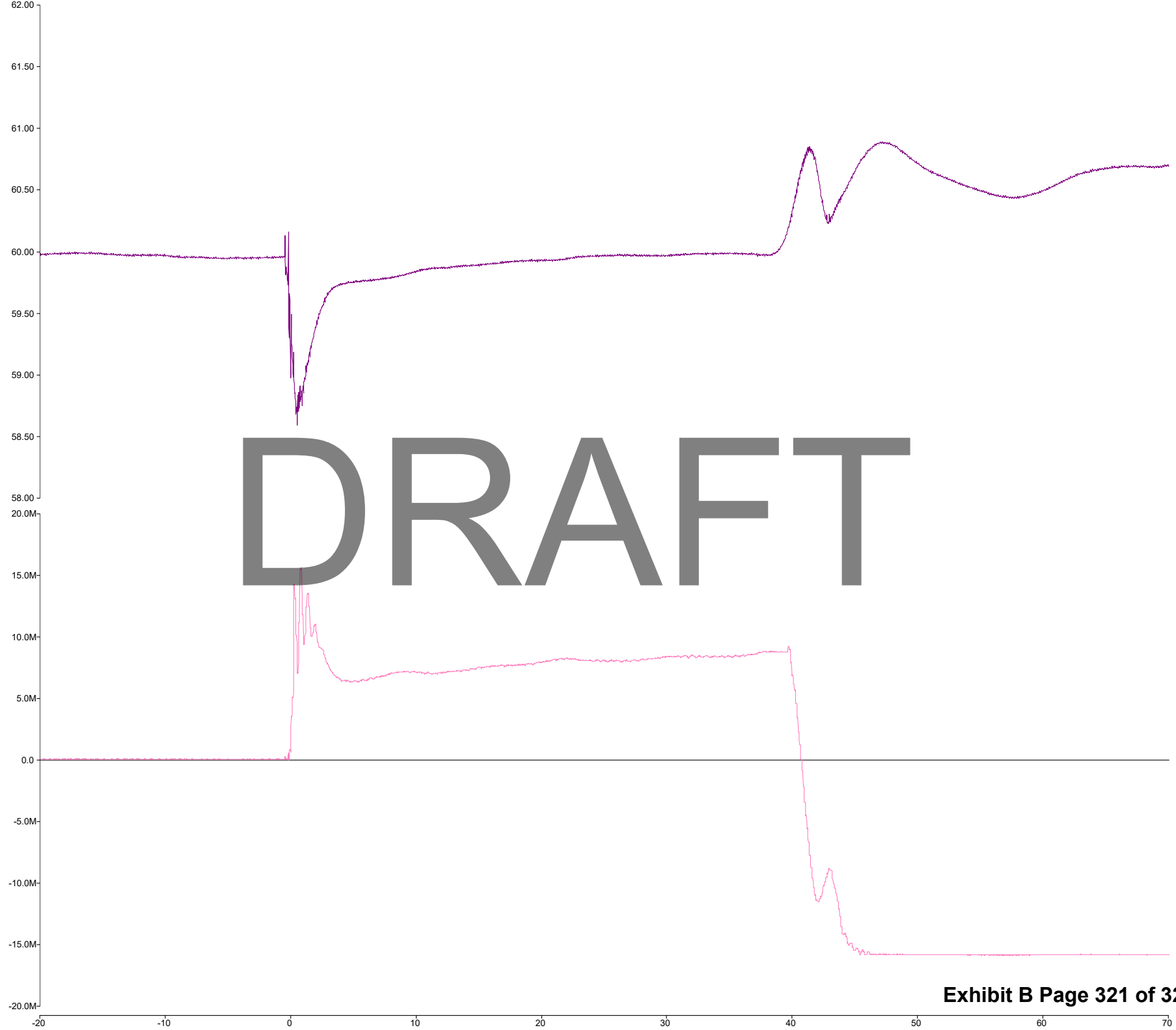
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Manglao Substation



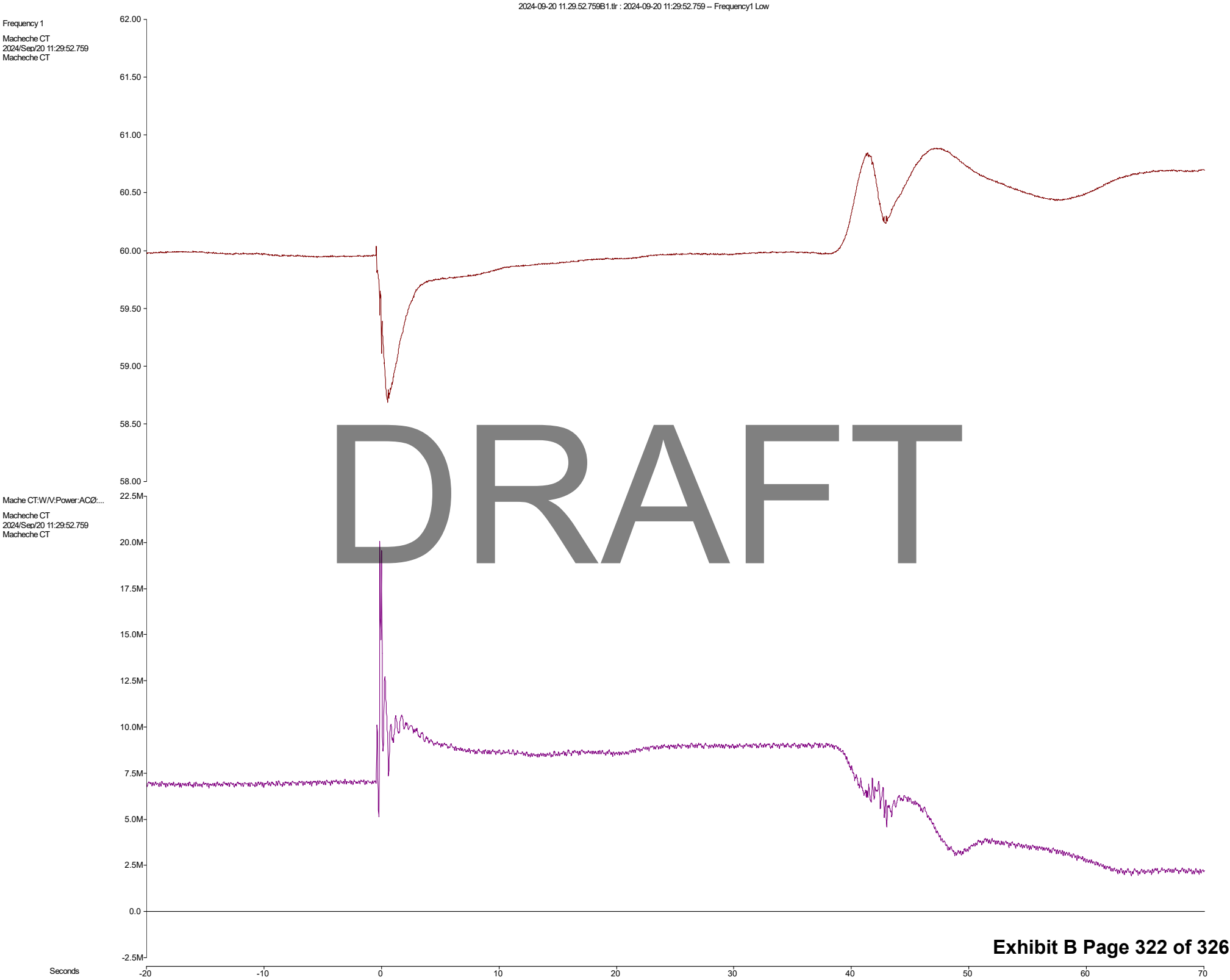


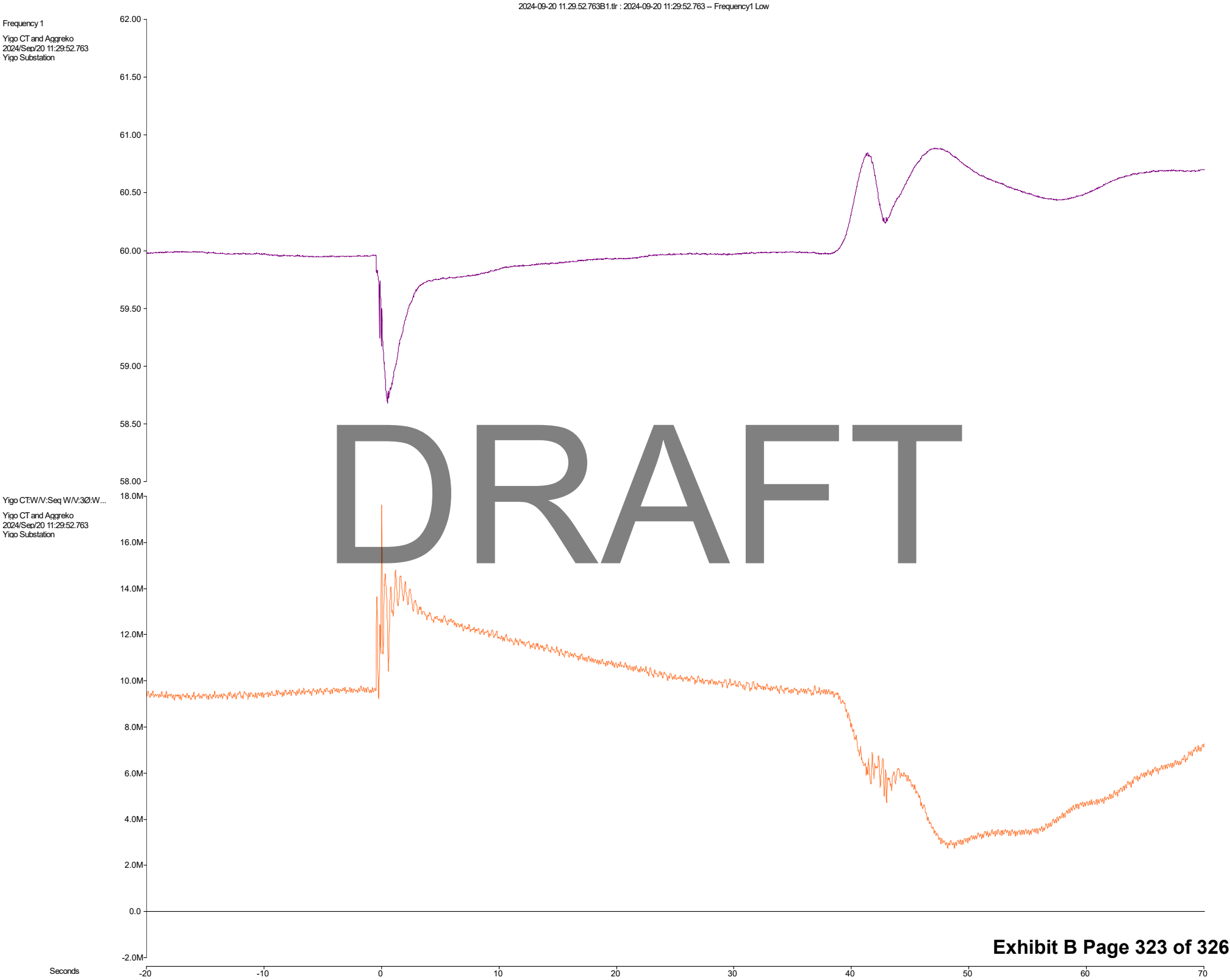


Agana ESS.Freq:FrequencyA
Agana ESS
2024/Sep/20 11:29:52.759
Agana Substation



Agana ESS.W/V:Seq W/V.3...
Agana ESS
2024/Sep/20 11:29:52.759
Agana Substation





Bank1 Frequency
Tal Dsl and Dandan
2024/Sep/20 11:29:52.599
Talofofo Substation

2024-09-20 11:29:52.599B1.tr : 2024-09-20 11:29:52.599 -- Group1:Freq Low Freq

X126 Tal:W/V:Seq. W/V:302...

Tal Dsl and Dandan
2024/Sep/20 11:29:52.599
Talofofo Substation

Seconds



Qualitative Proposal Scoring Workbook

Draft

Priced Proposal Workbook

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