BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:	)	**GPA DOCKET 26-10**
PETITION OF THE GUAM POWER AUTHORITY TO AMEND THE UKUDU POWER PLANT ENERGY CONVERSION AGREEMENT TO PERMIT GPA TO PAY FOR ADDITIONAL TESTING	)	**GUAM POWER AUTHORITY RESPONSES TO PUC COUNSEL INFORMATION REQUESTS**

COMES NOW, Guam PUC Legal Counsel ANTHONY R. CAMACHO, ESQ., who hereby submits the GUAM POWER AUTHORITY's [GPA] responses the PUC Legal Counsel's requests for information in GPA Docket No. 26-10 and said responses are attached herein as indicated.

Dated this 10th day of April, 2026.

Anthony R. Camacho

Anthony R. Camacho, Esq.
Guam PUC Legal Counsel

TABLE OF CONTENTS

Anthony Camacho, Esq.

From: Anthony Camacho, Esq. <acamacho@guampuc.com>
Sent: Tuesday, April 7, 2026 2:20 PM
To: 'Marianne Woloschuk'
Subject: PUC Information Request for GPA Docket No. 26-10

Dear Marianne,

Please provide the following information to me no later than 5 pm on Friday, April 10, 2026 to ensure that my report will be available for the PUC's April 30, 2026 meeting:

1. A copy of the ECA and all its existing amendments or Change Orders.
2. A copy of the Amendment or Change Order that is the subject of the $6.148 million increase in the contract at issue in this docket.

Please contact me if you have any questions.

Sincerely,

Anthony R. Camacho, Esq.
Legal Counsel
Guam Public Utilities Commission

Anthony R. Camacho, Esq.
Legal Counsel
GUAM PUBLIC UTILITIES COMMISSION
Suite 807, DNA Building
238 Archbishop F.C. Flores Street
Hagatna, Guam 96910
Telephone: (671) 472-1907
Email: acamacho@guampuc.com

From: Marianne Woloschuk <mwoloschuk@gpagwa.com>
Sent: Tuesday, April 7, 2026 3:19 PM
To: Anthony Camacho, Esq. <acamacho@guampuc.com>
Subject: Re: PUC Information Request for GPA Docket No. 26-10

Good afternoon, Anthony!

I'm not sure I can email the ECA in one piece, because of its size (25 MB), but I will try sending it separately after this and let you know how it goes. Amendment No. 1 (executed) and No. 2 (draft; $6.148m) are attached (Amendment No. 2 is also attached to the petition).

Okay, please stand by; I'll send ECA shortly.

-Marianne

AMENDMENT NO. 1 TO THIRD AMENDED AND RESTATED ENERGY CONVERSION AGREEMENT

This Amendment No. 1 to Third Amended and Restated Energy Conversion Agreement (hereinafter referred to as "Amendment") is made and entered into as of May 30, 2025, by and between the **GUAM POWER AUTHORITY** ("GPA"), whose address is Gloria B. Nelson Public Service Building, 688 Route 15 Fadian, Mangilao, Guam 96913, and **GUAM UKUDU POWER** ("GUP"), whose mailing address is 105 Inda Street, Suite 107, PMB 1053, Dededo, Guam 96929 (hereinafter referred to collectively as the "Parties" and each individually a "Party").

RECITALS

WHEREAS, reference is made to that Energy Conversion Agreement, dated November 5, 2019, by and between GPA and GUP, as amended and restated by that Amended and Restated Energy Conversion Agreement dated March 17, 2021 and that certain letter agreement "re: Energy Conversion Agreement dated 5 November 2019" dated December 10, 2021, and further amended and restated by that Second Amended and Restated ECA dated September 30, 2022, and further amended and restated by the Third Amended and Restated ECA dated July 26, 2024, and as may be further amended, restated and/or modified from time to time ("ECA"), wherein GUP shall, in accordance with the terms and conditions set forth in the ECA, develop, design, permit, finance, construct, test, commission, complete, own, insure, operate and maintain an electric power plant (the "Facility") and a related BESS Facility (collectively with the Facility, the "Project Facilities") on a build, own, operate and transfer basis to provide electric power capacity and net energy output to GPA (the "Project"). Capitalized terms not otherwise defined herein shall have the meanings set forth in the ECA;

WHEREAS, the Required Commercial Operation Date ("RCOD") of the Project Facilities is September 30, 2025;

WHEREAS, pursuant to Article 7 of the ECA, GUP is obligated to test the Project Facilities prior to the Commercial Operation Date ("COD") and is currently Testing the Project Facilities to ensure Commissioning of the Project Facilities is achieved by the RCOD;

WHEREAS, in accordance with the terms and conditions set forth herein, the Parties desire GUP to increase the daily total hours of Testing of the Facility in order to reduce the risk of any delays to and to facilitate the achievement of Commissioning of the Project Facilities by the RCOD, and GPA is willing to compensate GUP for the costs associated with the additional Testing hours and the power produced during such additional Testing hours, which will provide needed supplemental power to the local grid;

WHEREAS, pursuant to Article 3.2.2 of the ECA, prior to the Commercial Operation Date, GPA is prohibited from paying for energy delivered to GPA during Testing and Commissioning ("Test Energy") and GPA and GUP desire to amend the ECA to allow GPA to purchase the Test Energy generated during the additional Testing hours and to set forth the terms for the purchase of power delivered to GPA during such additional Testing hours and for the payment of costs associated therewith.

NOW THEREFORE, GPA and GUP, in consideration of mutual covenants hereinafter set forth, do hereby AGREE to amend the ECA as follows:

SECTION 1. Article 3.2.2 of the ECA is hereby amended by restating and replacing it, in its entirety, with the following:

3.2.2 Test Energy

Section 7.1 and Schedule 4 notwithstanding, prior to the Commercial Operation Date, GPA will make all reasonable efforts to accept all the energy generated and shall pay for such energy delivered to GPA during Testing and Commissioning on terms mutually agreed upon by the Parties that provide a benefit to ratepayers. The Parties agree to increase the daily Testing hours and GPA shall pay the costs associated therewith and for any energy produced from the additional Testing hours in accordance with the terms set forth in Schedule 3-1.

SECTION 2. MISCELLANEOUS PROVISIONS.

A. **Governing Law.** This Amendment is made under and shall be interpreted, governed and construed in accordance with the laws of Guam and all applicable laws of the United States of America.

B. The provisions of Articles 22.1 through 22.4, 22.11 and 22.15 of the ECA shall apply to this Amendment to the same extent as if fully set forth in this Amendment *mutatis mutandis* and shall apply hereto.

C. **Effect on ECA.** Except as amended herein, the provisions, terms, and conditions of the ECA shall remain in full force and effect.

D. **PUC Approval.** GPA is required by law to obtain prior approval from the Guam Public Utilities Commission before entering into, extending, or amending contracts that could impact rates. This approval process is described in PUC's February 15, 2008 Order, which is available for inspection. GPA certifies that it has complied with this requirement, if applicable, before entering into this Amendment.

E. **Approval by Lenders.** This Amendment is subject to approval by GUP's lenders.

F. **Counterparts.** This Amendment may be executed in more than one counterpart, each of which shall be deemed to be an original and all of which, when taken together, shall be deemed to constitute one and the same instrument.

[Signature page follows]

IN WITNESS HEREOF, GPA and GUP have caused this Amendment No. 1 to Third Amended and Restated Energy Conversion Agreement to be executed as of the date set forth above.

GUAM POWER AUTHORITY

By: _____
JOHN M. BENAVENTE, P.E.
General Manager

GUAM UKUDU POWER LLC

By: _____
JAESUK HAN
Chief Executive Officer

APPROVED AS TO FORM:

By: _____
Marianne Woloschuk
GPA General Counsel

SCHEDULE 3-1
ADDITIONAL TESTING HOURS

SECTION 1. TERM.

A. Initial Term. The initial term of Additional Testing Hours (defined below) shall be for a period beginning May 30, 2025, and expiring on September 6, 2025 (the "Initial Term"), unless sooner terminated as provided herein.

B. Extended Term. Provided GPA is not in breach of any provision of this Schedule 3-1, before the expiration or earlier termination of the Initial Term, GPA may request to extend the Initial Term by providing five (5) days' prior written notice to GUP setting forth the period for extension. In the event the Parties agree to extend the Initial Term of Additional Testing Hours ("Extended Term"), the terms and conditions during the Extended Term shall be as provided in this Schedule 3-1, except that GPA agrees to pay a FOMC (defined below) of FORTY THOUSAND USD ($40,000) per day for each day of the Extended Term, plus VOMC (defined below) at the rate of $0.0020/kWh for actual net power generation delivered to GPA during the Extended Term. The FOMC shall be paid as follows: FOMC of EIGHTEEN THOUSAND TWO HUNDRED AND SIXTY-ONE USD ($18,261) per day for each day of Additional Testing Hours until the end of the Extended Term, which shall be payable to GUP within five (5) working days of the end of the Extended Term, and FOMC of TWENTY-ONE THOUSAND SEVEN HUNDRED THIRTY-NINE DOLLARS ($21,739) per day for each day of Additional Testing Hours until the end of the Extended Term, which shall be payable to Doosan Ukudu Power, LLC ("DUP") within five (5) working days of the end of the Extended Term. VOMC shall be paid by GPA to GUP within five (5) working days of GPA's receipt of an invoice issued by GUP.

SECTION 2. ADDITIONAL TESTING HOURS, POWER OUTPUT, AND SCHEDULE. GUP agree to increase the daily total hours of Testing of the Facility ("Additional Testing Hours") as follows:

Period of Term	Additional Testing Hours	Expected Power Output
May 30, 2025 to June 12, 2025	5:00 PM to 8:00 AM	55.8 MW
June 13, 2025 to September 6, 2025	5:00 PM to 8:00 AM	135 MW

Provided, however, that the Additional Testing Hours may be paused for such times and on such days as deemed necessary by GUP in its sole discretion. GUP agrees to deliver to GPA, and GPA agrees to receive all the power generated during the Additional Testing Hours that does not compromise the power grid stability. GUP agrees to deliver nominal power, defined as the maximum instantaneous power level that the facility can produce and that the grid can reasonably receive while maintaining grid stability (which may constitute a fraction of a MW) for at least sixty-one (61) days from the agreed commencement date of the Initial Term.

SECTION 3. PAYMENT. In consideration of GUP conducting Additional Testing Hours and for the power generated during the Additional Testing Hours and delivered by GUP to GPA during the Initial Term, GPA agrees to pay a lump sum Fixed Operations and Maintenance Charge ("FOMC") and a Variable Operations and Maintenance Charge ("VOMC") for actual net power generation delivered to GPA as follows ("Initial Term Payment"):

A. FOMC. A total of FOUR MILLION SIX HUNDRED THOUSAND USD ($4,600,000) payable by GPA as follows:

i) First installment of SIX HUNDRED THOUSAND USD ($600,000) due on June 29, 2025, which shall be payable to DUP;

ii) Second installment of SIX HUNDRED THOUSAND USD ($600,000) due on July 29, 2025, which shall be payable to DUP;

iii) Third installment of SIX HUNDRED THOUSAND USD ($600,000) due on August 29, 2025, which shall be payable to DUP;

iv) Fourth installment of TWO MILLION EIGHT HUNDRED THOUSAND USD ($2,800,000) due at COD payable as follows:

a) SEVEN HUNDRED THOUSAND USD ($700,000) payable to DUP; and

b) TWO MILLION ONE HUNDRED THOUSAND USD ($2,100,000) payable to GUP.

B. **VOMC.** The VOMC is $0.0020/kWh and shall be calculated based on actual net power generation delivered by GUP to GPA during the Additional Testing Hours. Based on the Expected Power Output set forth above, the total estimated VOMC during the Initial Term is THREE HUNDRED THOUSAND USD ($300,000). The actual total VOMC shall be paid by GPA to GUP within five (5) working days of receipt of an invoice issued by GUP at COD.

SECTION 4. TERMINATION. Notwithstanding anything herein to the contrary, including Section 2, either Party may terminate the Additional Test Hours upon ten (10) days prior written notice to the other Party setting forth the effective date of termination ("Termination Date"). In the event of termination, GPA agrees to pay a prorated FOMC of Forty-Six Thousand Four Hundred Sixty-Six Dollars USD ($46,466) per day for each day of Additional Testing Hours plus VOMC as follows:

A. **FOMC.** A prorated FOMC of TWENTY-ONE THOUSAND TWO HUNDRED THIRTEEN USD ($21,213) per day for each day of Additional Testing Hours until the Termination Date, which shall be payable to GUP within five (5) working days of the Termination Date, and a prorated FOMC of TWENTY-FIVE THOUSAND TWO HUNDRED FIFTY-THREE USD ($25,253) per day for each day of Additional Testing Hours until the Termination Date minus any previous installment payments that have been already paid, which shall be payable to DUP within five (5) working days of the Termination Date;

B. **VOMC.** VOMC at the rate of $0.0020/kWh for actual net power generation delivered by GUP to GPA up to the Termination Date. VOMC shall be paid by GPA to GUP within five (5) working days of GPA's receipt of an invoice issued by GUP.

Notwithstanding the foregoing, in the event that: (1) the Facility has been Commissioned (as defined in the ECA) before the Termination Date, or (2) the Termination Date pursuant to a termination by GPA occurs after August 30, 2025, then in either event GPA shall remain liable to GUP for the full Initial Term Payment, payable in accordance with Section 3.

SECTION 5. FUEL SUPPLY. GPA agrees to credit all fuel required for the operation and Additional Testing of the Facility pursuant to this Schedule at no additional cost to GUP. GPA and GUP shall mutually agree on the calculation of fuel based on the test schedules and average heat rate.

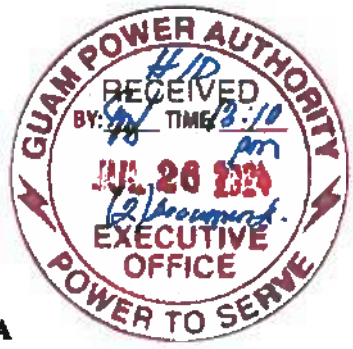
From: Marianne Woloschuk
Sent: Tuesday, April 7, 2026 3:40 PM
To: Anthony Camacho, Esq.
Subject: Re: Re: PUC Information Request for GPA Docket No. 26-10

Here is the ECA all in one document

GUAM UKUDU POWER

105 Inda Street, STE 107, PMB 1053, Dededo, Guam 96929
TEL : +1-671-788-9370 / FAX : +1-671-969-4189

July 26, 2024



GUAM POWER AUTHORITY (GPA)
Gloria B. Nelson Public Service Building 688
Route 15 Fadian, Mangilao, Guam

RE: Request for Counter Signature and Counter Initial for Approved ECA

Dear GPA Team,

Please find signed and initialed ECA for counter signature and counter initial by GPA. Please also include the date of signature on the ECA Page 1:

THIRD AMENDED AND RESTATED ENERGY CONVERSION AGREEMENT

This **THIRD AMENDED AND RESTATED ENERGY CONVERSION AGREEMENT** is entered into as of this ___ day of July, 2024, **BETWEEN** the Guam Power Authority, a public corporation and an enterprise fund of the Government of Guam established by the Guam Power Authority Act of 1968 (herein referred to as "**GPA**"), with principal offices located at Gloria B. Nelson Public Service Building 688 Route 15 Fadian, Mangilao, Guam, **AND** Guam Ukudu Power LLC, a limited liability company established in Guam in accordance with Guam law, (herein referred to as the "**Project Company**"), whose mailing address is 105 Inda Street, Suite 107, PMB 1053, Dededo, Guam 96929.

Once completed, please contact at sunggoo.son@guamup.com or jaehyun.cho@guamup.com for completed copy pickup.

Thank you for your time and attention.

Best regards,

Jaehyun Cho
Administrative Manager
Guam Ukudu Power LLC

UKUDU POWER PLANT

THIRD AMENDED AND RESTATED

ENERGY CONVERSION AGREEMENT

BETWEEN

THE GUAM POWER AUTHORITY
(GPA)

AND

GUAM UKUDU POWER LLC

for a

198 MW Dual Fired Power Electric Facility

Located at Ukudu, Guam

2024

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Table of Contents

THIRD AMENDED AND RESTATED ENERGY CONVERSION AGREEMENT

This **THIRD AMENDED AND RESTATED ENERGY CONVERSION AGREEMENT** is entered into as of this 26 day of July, 2024, **BETWEEN** the Guam Power Authority, a public corporation and an enterprise fund of the Government of Guam established by the Guam Power Authority Act of 1968 (herein referred to as "**GPA**"), with principal offices located at Gloria B. Nelson Public Service Building 688 Route 15 Fadian, Mangilao, Guam, **AND** Guam Ukudu Power LLC, a limited liability company established in Guam in accordance with Guam law, (herein referred to as the "**Project Company**"), whose mailing address is 105 Inda Street, Suite 107, PMB 1053, Dededo, Guam 96929.

RECITALS

WHEREAS, GPA is authorized by its enabling legislation to enter into build-operate-transfer contracts for a period not exceeding thirty (30) years;

WHEREAS, pursuant to the Invitation For Bids issued by GPA on October 1, 2018 (as amended or supplemented), and that letter of confirmation of award from GPA to the Project Company dated November 4, 2019, the Project Company has been chosen to develop, design, permit, finance, construct, test, commission, complete, own, insure, operate and maintain an electric power plant (the "**Facility**", as hereinafter defined), a related BESS Facility (together with the Facility, the "**Project Facilities**") and a related Reserve Facility on a build, own, operate and transfer basis to provide electric power capacity and net energy output to GPA, which Project Facilities shall be located at the Site, to be leased to the Project Company through a land lease agreement;

WHEREAS, the Project Company and GPA entered into (i) an Energy Conversion Agreement dated November 5, 2019 ("**Original ECA**"), as amended and restated by that Amended and Restated Energy Conversion Agreement dated March 17, 2021 ("**First A&R ECA**"), and further amended and restated by that Second Amended and Restated Energy Conversion Agreement dated September 30, 2022 ("**Second A&R ECA**"), (ii) that certain letter agreement "re: Energy Conversion Agreement dated 5 November 2019", dated December 10, 2021 ("**2021 Side Letter**"), and (iii) a Land Lease Agreement, dated as of November 5, 2019, as amended and restated by that Second Amended and Restated Land Lease Agreement, dated July 6, 2022, for the Project Site co-terminus with this Agreement;

WHEREAS, to allow for the construction and operation of a power generation plant solely on behalf of GPA or its successor, Public Law 34-102 rezoned the Site to Light Industrial Zone (M1) with respect to the portion of the Site where the Facility will be located and Industrial Zone (M2) with respect to the portion of the site where the Reserve Facility was envisioned to be located and Public Law 36-104 authorized and approved as a conditional use on the Site, the construction and operation of the Facility and Reserve Facility;

WHEREAS, the Consolidated Commission on Utilities ("**CCU**") and Guam Public Utilities Commission ("**PUC**") approved the Original ECA on September 3, 2019 and October 31, 2019, respectively;

WHEREAS, the 2021 Side Letter contemplates that the construction of the Reserve Facility shall only proceed if the conditions set forth in Section 2.2 of the 2021 Side Letter are satisfied by March 31, 2022. However, such conditions were not satisfied by such date and the ECA was not amended by May 30, 2022. In connection therewith, and the Project Company was deemed no longer obligated to GPA to proceed with the construction of the Reserve Facility. Notwithstanding the 2021 Side Letter, GPA desired to proceed with the construction of the Reserve Facility and the Project Company continued to work in good faith with the GPA to reach a new commercial agreement upon which the Reserve Facility construction may proceed (including to agree to revised construction costs and/or a new payment schedule for the Construction Contractor);

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WHEREAS, due to the significant increase in construction costs, GPA has sought to cancel the Reserve Facility from the project scope as confirmed by written notice to the Project Company dated December 7, 2022;

WHEREAS, on January 24, 2023, the CCU approved the cancellation of the Reserve Facility;

WHEREAS, GPA and the Project Company entered into a Side Letter dated January 31, 2023 (**"Reserve Facility Side Letter"**), with Lenders' (as defined in that Common Terms Agreement between Lenders and Project Company) consent confirming that the Project Company is relieved of all obligations under the ECA and Land Lease Agreement relating to the Reserve Facility and GPA's and the Project Company's agreement to amend the ECA and, to the extent necessary the Land Lease Agreement, in relation to the Reserve Facility, and to adjust the Fixed Capacity Charge for each Contract Year presented in Schedule 4, Table A.2 of the ECA;

WHEREAS, on February 23, 2023, the PUC approved the cancellation of the Reserve Facility and amendment of the ECA to reflect the same;

WHEREAS, in accordance with that certain Order dated February 23, 2023 issued by the Guam Public Utilities Commission in GPA Docket 23-07 and which approved the cancellation of the Reserve Facility, GPA and the Project Company now desire to amend and restate the ECA to (i) remove the Reserve Facility from the Project scope, (ii) remove all references to the Reserve Facility in the ECA, and (iii) terminate all corresponding obligations of the parties related to the Reserve Facility;

WHEREAS, on May 24, 2023, Typhoon Mawar passed over Guam as a Category 4 typhoon, which brought significant destruction to Guam and the Facility, particularly to the ULSD storage tanks and treated water tanks at the Site;

WHEREAS, Typhoon Mawar constitutes a Force Majeure event under Article 16 and the parties desire to amend and restate the ECA to address the delays resulting from Typhoon Mawar;

WHEREAS, the Project Company desires to sell electric capacity and net energy output of the Project Facilities to GPA in accordance with the terms and conditions set forth in this Agreement;

WHEREAS, GPA is agreeable to purchasing such electric capacity and net energy output from the Project Company in accordance with the terms and conditions set forth in this Agreement; and

WHEREAS, GPA and the Project Company hereby wish to amend and restate the ECA.

NOW THIS AGREEMENT WITNESSETH as follows:

ARTICLE 1
DEFINITIONS

Each of the following capitalized terms shall have the meaning set forth below unless a different meaning is expressly attributed to it in the Agreement. All units of measurement used in this Agreement shall conform to the International System of Units (SI).

"Abandonment" means a voluntarily cessation by Project Company of the development, construction or operation of the Facility and either (i) the Project Company expressly declares in writing that development, construction or operation of the Facility will not be resumed; or (ii) such cessation continues for sixty (60) consecutive Days, provided that an Abandonment shall not occur if the Project Company is using commercially reasonable and diligent efforts to commence or reinstate development, construction or operation.

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"AAA Rules" has the meaning set forth in Article 18.4.

"Accumulated Unused Forced Outage Energy" or **"AUFOE"** has the meaning set forth in Article 8.3.

"Accumulated Unused Scheduled and Maintenance Outage Energy" or **"AUSMOE"** has the meaning set forth in Article 8.3.

"AGC" means automatic generation control.

"Agent" has the meaning set forth in Article 4.2.

"Agreement" or **"ECA"** means this Energy Conversion Agreement, including its Schedules, as amended, restated, supplemented or modified by that Amended and Restated Energy Conversion Agreement dated March 17, 2021, and that certain letter agreement "re: Energy Conversion Agreement dated 5 November 2019", dated December 10, 2021, the Second Amended and Restated Energy Conversion Agreement dated September 30, 2022, and this Third Amended and Restated Energy Conversion Agreement, and as may be further amended, restated, supplemented or modified from time to time in accordance with the terms and conditions herein.

"Allowable Total Outages Energy" or **"ATOE"** has the meaning set forth in Article 8.3.

"Allowable Forced Outages Energy" or **"AFOE"** has the meaning set forth in Article 8.3.

"Annual Average Dependable Capacity" means for the relevant Contract Year, an amount equal to (a) the sum of the multiplication of each Dependable Capacity (including Initial Dependable Capacity) in effect during such Contract Year by the number of hours that each such Dependable Capacity was in effect during such Contract Year, divided by (b) the number of hours in such Contract Year.

"Bank" means the Federal Reserve Bank of the United States of America.

"Bank Rate" means the prime interest rate of the Bank from time to time.

"BESS" means a battery energy storage system.

"BESS Facility" means the BESS that meets the requirements set forth in Schedule 1 to be installed by the Project Company as part of the Project Facilities.

"BESS-Related Capacity" means 25 MW of BESS capacity to be available for thirty (30) minutes as further described in Schedule 1.

"Bid Date" means April 2, 2019.

"Bid Guarantee" means the security established in accordance with the IFMSB to secure, inter alia, Project Company's obligations as set forth in this Agreement, during the period between the execution of the Original ECA and the date of the Full Notice to Proceed.

"Black Start" means the process of restoring an electric power station to operation without relying on the external transmission network.

"British Thermal Unit" or **"Btu"** or **"BTU"** means the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

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"**Business Day**" means any Day (including partial Days) of the year on which banks are required to be open for business in Guam.

"**Capacity Charge**" has the meaning set forth in Schedule 4.

"**Capacity Damages**" has the meaning set forth in Article 8.3.

"**Cause**" means, in relation to the issuance, renewal, revocation, amendment or modification of any Government Authorization, any material default, neglect or failure by Project Company to abide by any Laws of Guam or the United States or any of the terms and conditions of any Government Authorization which entitles the relevant Government Authority to revoke, or refuse to issue or renew, the Government Authorization or make an amendment to its terms and conditions.

"**Change in Law**" means any of the following events occurring after the date falling thirty (30) Days prior to the Bid Date as result of any action by any Government Authority:

(a) the adoption, imposition, promulgation, coming into effect, modification or repeal of any Law of Guam or the United States that affects the Project or Project Company;

(b) any change in the manner in which a Law of Guam or the United States that affects the Project or Project Company is applied or interpreted;

(c) the imposition by a Government Authority (other than for Cause) of any material condition or delay in connection with the issuance, renewal, or modification of any Government Authorization; or

(d) the revocation or failure to issue (other than for Cause) of any Government Authorization by a Government Authority, except to the extent such failure to issue is due to Project Company's failure to diligently prepare the application for the applicable Government Authorization and to diligently seek the issuance thereof by the applicable Government Authority in compliance with applicable application requirements and procedures (taking into account the input of the Project Company's local permitting consultant),

that establishes or results in requirements that affect or relate to the Project that are materially more or less restrictive or materially more or less costly for Project Company.

"**Commercial Operation Date**" or "**COD**" means the earlier of (i) the Day following the Day upon which the Facility is Commissioned; or (ii) the Day following the Day upon which the Facility is deemed Commissioned in accordance with Article 7.

"**Commercial Operation Period**" means the period of time commencing on the COD and ending on (but including) the last Day of the Term.

"**Commercial Operation Tests**" mean the tests specified in Schedule 3 to demonstrate that the standard requirements and the guaranteed values (set out in Schedule 2) are met to achieve the COD with respect to the Facility.

"**Commissioned**" means notification by Project Company, accompanied by a report of the GPA Engineer certifying that the tests for the Facility have been satisfactorily completed in accordance with Schedule 3, and that the Facility meets the relevant characteristics set out in Schedule 2, provided that upon receipt of such notice and report, the date on which the Facility is Commissioned shall be the date upon which the tests for the Facility (as referred to above) have been satisfactorily completed.

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"**Commissioning**" means the process by which the Facility is Commissioned.

"**Common Terms Agreement**" means that certain Second Amended and Restated Common Terms Agreement, by and among the Project Company, each of the lenders and agents party thereto from time to time, and certain others, dated as of September 2024, as amended, restated, supplemented or modified from time to time.

"**Connection Agreement**" has the meaning set forth in Article 4.5(i).

"**Construction Contract**" means the agreement/s between Project Company and the Construction Contractor/s for the design, engineering, procurement, construction and Commissioning of the Facility, as amended from time to time.

"**Construction Contractor**" means the construction contractor/s that are party to the Construction Contract.

"**Construction Period**" means the period of time commencing on the Construction Start Date and ending on the Commercial Operation Date.

"**Construction Start Date**" means the day on which Project Company issues the limited notice to proceed to a Construction Contractor, being 8 January 2021.

"**Contracted Characteristics**" means the characteristics of the Project Facilities described in Schedule 2.

"**Contracted Capacity**" means the net electric power generating capacity of the Facility (excluding, for the avoidance of doubt, the BESS-Related Capacity) guaranteed to be provided to the Delivery Point on a continuous basis, adjusted to Site Reference Conditions as set forth in Schedule 2 and to the Fuel being consumed by such generating capacity at any given time, if applicable.

"**Contractors**" means the Construction Contractor and any O&M Contractor.

"**Contract Year**" means a period of twelve (12) consecutive Months commencing on each consecutive anniversary of the Commercial Operation Date and ending as of the end of the Day preceding the next anniversary of the Commercial Operation Date, except for the first Contract Year which shall start on the Commercial Operation Date.

"**Day**" means a twenty-four (24) hour period beginning and ending at 12:00 midnight Guam time.

"**Declared Capacity**" means the estimated net capacity of the Facility (adjusted to Site Reference Conditions and excluding, for the avoidance of doubt, the BESS-Related Capacity) announced by Project Company pursuant to Article 9.3.

"**Delivery Point**" means the connection points to the 115kV bus bars at the Project Facilities' switchyards where GPA receives the Net Energy Output from the Project Company, as specified in Schedule 2.

"**Dependable Capacity**" means, at any given time, the net capacity of the Facility (excluding, for the avoidance of doubt, any BESS-Related Capacity) operating on ULSD or Natural Gas if and when applicable, measured in kW (adjusted to Site Reference Conditions), at the Delivery Point of the Facility as determined by the most recent Dependable Capacity Test, provided that for purposes of calculating the Capacity Charge, the Dependable Capacity shall not exceed the Contracted Capacity.

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"Dependable Capacity Test" means a "DC Test" described in Schedule 3 for the Facility and having the frequency described in Article 7.2.

"Dispatch Instruction" means an instruction issued directly by the PSCC to Project Company in accordance with (i) the dispatch principles and guidelines established by GPA in accordance with the applicable system grid code for the Grid System; (ii) the Operating Procedures; (iii) the Technical Limits; (iv) Prudent Utility Practices; and (v) this Agreement.

"Dispute" means any dispute or disagreement of any kind whatsoever between GPA and Project Company in connection with or arising out of this Agreement.

"Dollars" or **"USD"** or **"US$"** all mean the lawful currency of the United States of America.

"Early Transfer Price" means the applicable price set forth in Schedule 8 for the purchase of the Project Facilities by GPA from Project Company pursuant to Article 4.5(e).

"Electrical Interconnection Facilities" means all of the electrical interconnection facilities and equipment described in Schedule 1 to be constructed by the Project Company and transferred to GPA at the Commercial Operation Date.

"Emergency" means a condition or situation that in the reasonable opinion of GPA poses an imminent threat of (a) materially adversely affecting the ability of GPA to maintain safe, adequate and continuous electrical service to its customers, having due regard to the then current standard of electrical energy provided to its customers; or (b) endangering the safety of people, plant, or equipment.

"Energy Charge" has the meaning set forth in Schedule 4.

"Environmental Attributes" means (a) credits, benefits, reductions, offsets and other beneficial allowances, howsoever named or referred to, with respect to any and all fuel, emissions, air quality, or other environmental characteristics, resulting from the use of Facility generation or the avoidance of the emission of any gas, chemical or other substance into the air, soil or water attributable to the sale of energy generated by the Project during the Term and in which Project Company has property rights or will have property rights upon such attributes coming into existence, and include any of the same arising out of legislation or regulation (i) concerned with (A) oxides of nitrogen, sulfur, or carbon, (B) particulate matter, soot, or mercury, or (C) implementing the United Nations Framework Convention on Climate Change (the **"UNFCCC"**) or protocols connected to the UNFCCC or crediting "early action" with a view thereto, and (b) all Environmental Attribute Reporting Rights.

"Environmental Attribute Reporting Rights" means the rights to report the ownership of any Environmental Attribute, including those rights accruing under any emissions trading program.

"Equity" means Shares or other securities convertible into Shares issued by Project Company and any instruments constituting or evidencing Shares or other securities convertible into Shares issued by Project Company, and any documents or agreements evidencing or relating to indebtedness for money borrowed by Project Company from the Investors or their affiliates which, by its terms, is subordinated to any indebtedness for borrowed money incurred by Project Company under any Financing Document.

"Equity Bridge Loan" means any equity bridge loan for the Project that is guaranteed by an Initial Shareholder.

"Equity Documents" means any agreements relating to the issuance, subscription, placement or underwriting of Equity.

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"**Excessive Forced Outages Energy**" or "**EFOE**" has the meaning set forth in Article 8.3(a).

"**Excessive Total Outages Energy**" or "**ETOE**" has the meaning set forth in Article 8.3(b).

"**Excusable Event**" means:

(i) events or circumstances constituting a Change in Law or Force Majeure event occurring after the date falling thirty (30) Days prior to the Bid Date and prior to Financial Close; or

(ii) a delay in the issuance of a Government Authorization, including, without limitation any delay in:

(A) the issuance of a building height variation for the zoning applicable to the Site of the Facility to accommodate the buildings and structures forming part of the Project Facilities beyond the date falling six (6) months after the date of the Original ECA, except to the extent that such delay is due to Project Company's failure to diligently prepare the application for the applicable permit, and to diligently seek approval thereof by the applicable Government Authority in compliance with applicable application requirements and procedures (taking into account the input of the Project Company's local permitting consultant); or

(B) the issuance of the environmental permits (including delay in the approval of the environmental impact assessment and the building permit) required under applicable environmental Laws beyond the date falling six (6) months after the date of the Original ECA, except to the extent such delay is due to Project Company's failure to diligently prepare the applications for the applicable environmental permits and environmental impact assessment, and to diligently seek the approval thereof by the applicable Government Authority in compliance with applicable environmental permit/environmental impact assessment application requirements and procedures (taking into account the input of the Project Company's local environmental consultant).

provided further, that in the case of this sub-clause (ii), such delay prevents Project Company from performing its obligations under this Agreement or delays such performance, as demonstrated by the Project Company.

"**Facility**" means an electric generating facility with an expected continuously available fully dispatchable capacity of 198 MW net (when operating on ULSD) to be constructed by Project Company at a leased Site in Guam, whether completed or at any stage of development and construction, including, without limitation or regard to the level of development, the leased land, buildings, engineering and design documents, all power producing equipment and auxiliary equipment, Black Start capability, Fuel handling and storage infrastructures, Water intakes and discharges, Water treatment and pumping facilities, solid waste disposal facilities, main and plant transformers, plant switchgear, and all other installations as described in Schedule 1, but excluding the BESS Facility.

"**FERC**" means the U.S. Federal Energy Regulatory Commission.

"**Final Major Overhaul**" has the meaning set forth in Article 17.2.

"**Financial Close**" means the date on which all conditions of the Lenders under the Financing Documents have been met or waived (in accordance with the terms thereof), and initial financing disbursements can take place (as certified by the Agent in writing).

"**Financing Documents**" means the loan agreements, notes, bonds, note or bond purchase agreements, participation agreements, indentures, security agreements, hedging agreements, guarantees,

shareholder support agreements, the Lenders' Direct Agreements and other documents relating to the construction and permanent financing (including refinancing) of the Project Facilities or any part thereof provided by any Lender, and as may be further amended, restated, supplemented or modified from time to time, but excluding any Equity Documents.

"**First Fill**" has the meaning set forth in Article 3.3.2(a).

"**Fixed Capacity Charge**" has the meaning set forth in Schedule 4.

"**Fixed Operations and Maintenance Charge**" has the meaning set forth in Schedule 4.

"**Force Majeure**" has the meaning set forth in Article 16.

"**Force Majeure Transfer Price**" means the applicable price set forth in Schedule 8 for the purchase of the Project Facilities by GPA from Project Company pursuant to Article 4.5(g).

"**Forced Outage**" means a failure to make available the Dependable Capacity

(a) that is not the result of a request by GPA in accordance with this Agreement;

(b) that is not the result of a Scheduled Outage or a Maintenance Outage;

(c) that is not the result of an event or occurrence of a Force Majeure;

(d) that is not the result of a condition caused by GPA or by the Grid System, provided that such condition would not have occurred without the action or inaction of GPA or the condition of the Grid System;

(e) that does not occur during any period during which the Facility is deemed to provide the Dependable Capacity under Article 7.5; or

(f) that is not the result of GPA failing to deliver Fuel that meets the Fuel Specifications at the times and in the quantities required to satisfy the Fuel Supply Requirement (after the Project Company has utilized available Fuel in the relevant ULSD Storage Facilities).

"**Forced Outages Energy**" has the meaning set forth in Article 8.3.

"**Fuel**" means fuel used by the Project Facilities, which will be ULSD (as specified in Schedule 6) or Natural Gas (as specified in Schedule 7).

"**Fuel Charge**" has the meaning set forth in Schedule 4.

"**Fuel Delivery Point**" means the delivery point described in paragraph 3.2 of Schedule 2 (in respect of the Facility).

"**Fuel Specifications**" means the requirements of Schedule 6 (in the case of ULSD) or Schedule 7 (in the case of Natural Gas), as applicable.

"**Fuel Supply Requirement**" means the delivery by GPA of Fuel that meets the Fuel Specifications in the amounts and at the times specified in Articles 3.3.1(a), 3.3.2 or 3.4.1, as the case may be.

"**Full Notice to Proceed**" means the full notice to proceed to the Construction Contractor dated May 31, 2022 to commence engineering, procurement or construction work pursuant to the Construction Contract.

"**Functional Specifications**" or "**Specification**" means the characteristics (adjusted to Site Reference Conditions) for the design, construction and operation of the Project Facilities as set forth in Schedule 1

"**Government**" means the Government of Guam and the Government of the United States, as applicable.

"**Government Authority**" means the Government and/or any national or local governmental authority of Guam with jurisdiction over Project Company, the Project or any part thereof, and/or any department, regulatory, supervisory or competent authority, or political subdivision or instrumentality, agency or judicial body of the Government, or any national or local governmental authority of the Government and/or any person under the direct or indirect control of any of the foregoing.

"**Government Authorizations**" means all formal written permits, licenses, authorizations, consents, decrees, waivers, privileges, approvals and filings required to be obtained from or provided by any Government Authority for the execution, delivery and performance of this Agreement, any other Project Agreement or any Financing Document, including without limitation the design, development, construction, financing, ownership, maintenance and operation of the Project Facilities (and all other activities incidental thereto), as contemplated by this Agreement, the other Project Agreements and the Financing Documents.

"**GPA**" has the meaning set forth in the Preamble hereto.

"**GPA Default Transfer Price**" means the applicable price set forth in Schedule 8 for the purchase of the Project Facilities by GPA from Project Company pursuant to Article 4.5(d), as the case may be.

"**GPA Engineer**" means the engineering company selected by GPA, the costs of whose appointment and retention shall be paid by GPA.

"**GPA Delay Event**" means a material breach by GPA of its obligations under this Agreement that is not remedied within five (5) Days after Notice from the Project Company to GPA (which Notice shall (i) identify the material breach in reasonable detail, and (ii) request the remedy thereof).

"**GPA Event of Default**" has the meaning set forth in Article 4.3.

"**Grid System**" means the transmission and distribution facilities through which the Net Energy Output may be transmitted and distributed to users.

"**Guaranteed Heat Rate**" or "**GHR**" means the Heat Rate (at the Site Reference Conditions) guaranteed by the Project Company for the Facility, as set forth in the tables included in Schedule 4.

"**Guam**" or "**Territory of Guam**" means that certain unincorporated and organized territory of the United States in Micronesia.

"**GWA**" means Guam Waterworks Authority.

"**Heat Rate**" expressed in Btu per kWh, means the fuel energy consumption expressed in Btu (higher heating value) required to generate one (1) kWh by the Facility at the high voltage bushings of the main power transformers.

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"**IFMSB**" means the invitation for bids issued by GPA on October 1, 2018 and including all updates and amendments thereto between the date of its submission and the date of the Original ECA.

"**Independent Engineer**" means a qualified, international, and independent engineering firm selected by Project Company and approved by GPA for purposes of certifying any claim by Project Company that the Facility should be deemed Commissioned in accordance with Article 7.5.

"**Initial Dependable Capacity**" means, at the Commercial Operation Date, the capacity set upon successful completion of the Dependable Capacity Test of the Facility used to establish the Commercial Operation Date, which is the maximum capacity adjusted for Site Reference Conditions that the Facility (excluding, for the avoidance of doubt, the BESS-Related Capacity) is demonstrated to be capable of delivering continuously at the Delivery Point at that time, in accordance with (and subject to) Article 7.1(d)(iii) and is the capacity to apply until the next Dependable Capacity Test occurs after the Commercial Operation Date.

"**Initial Shareholders**" means Korea Electric Power Corporation and Korea East West Power Co., Ltd.

"**Investor**" means a shareholder of Project Company

"**Invoice Due Date**" has the meaning set forth in Article 13.4.

"**Joint Coordinating Committee**" is the committee established by Project Company and GPA pursuant to Article 10.

"**kW**" means kilowatts.

"**kWh**" means kilowatt-hours.

"**Law**" or "**Laws**" means the laws of Guam and the United States of America.

"**Land Lease Agreement**" or "**LLA**" means the agreement entered into by and between Project Company and GPA whereby Project Company will lease the Site on which the Project Facilities shall be built, as amended, restated, supplemented or modified from time to time.

"**Lead Shareholder**" means Korea Electric Power Corporation or any transferee of its Shares pursuant to a transfer that is in compliance with Article 20.2, and includes their respective successors and permitted assigns.

"**Lenders**" means the lenders, guarantors, credit providers, multilateral agencies, export credit agencies or other financial institutions or insurers providing (or supporting) the financing or refinancing arrangements for the Project pursuant to the Financing Documents, but not including any Investor or affiliate of an Investor with respect to indebtedness for money borrowed by Project Company from any such Investor or affiliate.

"**Lenders' Direct Agreement**" means the agreement to be entered into by the Project Company, GPA, and the Lenders and/or their security agent pursuant to Article 22.11, substantially in the form attached hereto as Exhibit 1.

"**Liquidated Damages Due Date**" has the meaning set forth in Article 8.6.

"**Liquidated Damages Notice**" has the meaning set forth in Article 8.6.

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"**Long Term Programme Agreement**" or "**LTPA**" means the agreement to be entered into between the Project Company and the LTP Contractor for the provision by the LTP Contractor of technical services to the Project Company for the Project Facilities, or any agreement for the provision of similar services.

"**Loss**" means any loss, cost, expense damage, liability, payment or obligation (including reasonable legal fees and expenses but excluding any indirect or consequential loss, cost, expense, damage, liability, payment or obligation or any loss of revenue or loss of profit).

"**LTP Contractor**" means Siemens Corporation or any replacement or successor party under an LTPA for the Project Facilities or any part thereof.

"**Lump Sum Payment**" has the meaning set forth in Article 13.8.

"**Maintenance Outage**" means an interruption or reduction of the generating capability of the Facility that:

(a) is not a Scheduled Outage;

(b) has been scheduled in accordance with Article 9.4(f); and

(c) is for the purpose of performing work on specific components of the Facility, which work should not, in the reasonable judgment of Project Company, be postponed until the next Scheduled Outage.

"**Major Overhaul**" means the repair and reconditioning of any Unit of the Facility that is conducted in accordance with Article 9.4(g) and Schedule 2.

"**Maximum Natural Gas Switch Quantity**" has the meaning set forth in Article 7.2(f).

"**Metering System**" means the measurement system capable of interpreting readings of all pertinent parameters required by the invoicing process.

"**Million Btu**" or "**MMBtu**" means 10^6 Btu.

"**Mitigating Costs**" has the meaning set forth in Article 16.1.

"**Month**" means a month according to the Gregorian Calendar, and "**Monthly**" shall be construed accordingly.

"**MW**" means megawatts.

"**MWh**" means megawatt hours.

"**Natural Gas**" means natural gas meeting the Fuel Specifications contained in Schedule 7.

"**Net Energy Output**" means the energy output delivered by the Facility and BESS Facility accepted by GPA during a given period of time measured in kWh by the Metering System at the Delivery Point.

"**NERC**" means North American Electric Reliability Corporation.

"**NG Fuel Pipeline**" means the Natural Gas fuel pipeline between a liquefied natural gas receipt and storage facility at the ULSD Bulk Storage and the Site of the Facility as described in Schedule 1 to be constructed by the Project Company and transferred to GPA on the Commercial Operation Date.

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"**Non-Conforming Fuel**" has the meaning set forth in Article 3.3.1(f).

"**Notice**" has the meaning set forth in Article 21.

"**Notice of Intent to Terminate**" has the meaning set forth in Article 4.5(a).

"**O&M Contract**" means any agreement entered into between Project Company and a third-party contractor for the operation and maintenance of the Project Facilities or any portion thereof, including any LTPA.

"**O&M Contractor**" means any party to any O&M Contract which is responsible for the operation and maintenance of the Project Facilities or any portion thereof, including any LTP Contractor.

"**Operating Procedures**" means the operating procedures developed by the Parties pursuant to Article 6.4 and in compliance with the applicable system grid code, as such procedures may be modified from time to time in accordance with Article 6.4 and the applicable system grid code.

"**Original ECA**" means that Energy Conversion Agreement between the Project Company and GPA dated November 5, 2019.

"**Outage Hours**" means for each month during the Commercial Operation Period, the total number of full load equivalent hours during such month in which Dependable Capacity is reduced due to Forced Outages, Maintenance Outages and Scheduled Outages which shall be calculated as the summation of the duration of each such outage in the month (in hours) multiplied by the reduction in Dependable Capacity during such outage (in MW) divided by the Dependable Capacity (in MW).

"**Party**" or "**Parties**" means GPA and Project Company, either individually or collectively.

"**Performance Bond**" means the security established in accordance with Article 8.5(d) to secure the Project Company's ability to pay liquidated damages in accordance with Article 8, substantially in the form attached hereto as Schedule 9.

"**Period of Testing**" means the period from initial synchronization of a Unit or Facility to the Commercial Operation Date during which period testing occurs and net power is produced.

"**Pipeline Route**" means the land on which the new ULSD Supply Infrastructure and the NG Fuel Pipeline is to be built.

"**Power System Control Center**" or "**PSCC**" means GPA's main control center located at Gloria B. Nelson Public Service Bldg., 688 Route 15, Mangilao, Guam or such other control center designated by GPA from time to time (but not more than one center at a time) which shall issue Dispatch Instructions to Project Company.

"**Pre-Existing Condition**" means a Pre-Existing Site Condition or a Pre-Existing Pipeline Route Condition.

"**Pre-Existing Pipeline Route Condition**" means any artificial obstructions on, under, in, or affecting the Pipeline Route (including any transmission lines or water lines situated thereon), or any contamination (whether occurring before or after the Bid Date (in respect of the parts of the Site on which the Project Facilities is situated on)), but not resulting from Project Company's or Contractor's activities on the Pipeline Route) that could not reasonably have been discovered prior to Bid Date by an experienced international engineering and construction contractor using the most sophisticated devices and personnel available at the time of the pipeline route investigation by such contractor but shall not, for the avoidance of doubt, include archaeological discoveries.

"**Pre-Existing Site Condition**" means any artificial obstructions on, under, in, or affecting the Site (including any transmission lines or water lines situated thereon) or any contamination (whether occuring before or after the Bid Date (in respect of the parts of the Site on which the Project Facilities is situated), but not resulting from Project Company's or Contractor's activities on the Site) that could not reasonably have been discovered prior to the Bid Date by an experienced international engineering and construction contractor using the most sophisticated devices and personnel available at the time of Site investigation by such contractor but shall not, for the avoidance of doubt, include archaeological discoveries on the Site.

"**Pre-Existing Condition Period**" means the period from the date of the Original ECA to (a) in the case of a Pre-Existing Site Condition, the date falling twelve (12) months after the issuance of Full Notice to Proceed under the Construction Contract, and (b) in the case of a Pre-Existing Pipeline Route Condition, the date falling fifteen (15) months after the issuance of the Full Notice to Proceed under the Construction Contract .

"**Price**" means the price of capacity and electricity charged by Project Company to GPA and calculated in accordance with the formulas in Schedule 4.

"**Project**" means the development, design, engineering, financing, refinancing, insurance, procurement, construction, startup, testing, Commissioning, completion, ownership, operation and maintenance of the Project Facilities, all activities incidental thereto, and each of the Project Facilities themselves.

"**Project Agreements**" means collectively, this Agreement, the Land Lease Agreement, the O&M Contract (if applicable), the Construction Contract, the Water Supply and Discharge Agreement, and any other document, contract, or agreement executed subsequent to the date hereof by Project Company that is relevant to the construction and development of the Project or the ownership or management of Project Company (other than any Financing Document, Equity Document or Government Authorization) or otherwise mutually agreed in writing to constitute a "Project Agreement".

"**Project Company**" has the meaning set forth in the Preamble hereto.

"**Project Company Default Transfer Price**" means the applicable price set forth in Schedule 8 for the purchase of the Project Facilities by GPA from Project Company pursuant to Article 4.5(f).

"**Project Company Event of Default**" has the meaning set forth in Article 4.2.

"**Project Facilities**" means each of the Facility and the BESS Facility.

"**Project Facilities Transfer**" has the meaning set forth in Article 17.1.

"**Prolonged Force Majeure**" means a condition in which a Force Majeure event has caused fifty percent (50%) or more of the Contracted Capacity to be unavailable for dispatch for eighteen (18) consecutive months or more and is continuing.

"**Proposal**" means Project Company's written offer and amendments based on the covenants, terms and conditions as contained in the IFMSB for the development, financing, construction, ownership, operation and transfer of the Project.

"**Prudent Utility Practices**" means those practices, methods, techniques and standards, as changed from time to time, that are generally accepted internationally for use in electric utility industries , and commonly used in prudent engineering and operation to design, engineer, construct, test, operate and maintain equipment lawfully, safely and economically as applicable to power stations of the size, service, and type (and operating with the contemplated Fuels) as the applicable Project Facilities.

"PUC" means the Public Utilities Commission of Guam.

"Remedial Actions" means any necessary actions to increase the Initial Dependable Capacity to the Contracted Capacity.

"Required Commercial Operation Date" means September 30, 2025 , as may be extended in accordance with the provisions of this Agreement.

"Required Financial Closing Date" means the date falling nine (9) months after execution of the ECA, as such date may be extended in accordance with Article 8.5(b) or Article 16.8.

"Reserve Facility" means the high speed diesel fuel power plant with a proposed capacity of 41MW which was planned to be developed and constructed on Lot 261-2, Piti, Guam as a back up/reserve plant to the Facility.

"Scheduled Outage" is a planned interruption of the generating capability of the Facility that:

(a) is not a Maintenance Outage;

(b) has been scheduled in accordance with Article 9; and

(c) is for inspection, testing, Major Overhauls, preventive and corrective maintenance, repairs, replacement or improvement of the Facility.

"Security" means any one or more of the following: the Bid Guarantee, the Performance Bond, or the Transfer Security.

"Security Package" consists of:

(a) this Agreement;

(b) the LLA;

(c) the Construction Contract;

(d) the O&M Contract (if applicable);

(e) the Financing Documents;

(f) the bylaws and articles of Project Company;

(g) the Equity Documents;

(h) the insurance policies required to be obtained by Project Company pursuant to Article 14;

(i) the documents creating or evidencing the security for the Lenders (including the Lenders' Direct Agreement);

(j) all Government Authorizations, including a generation license issued in accordance with applicable regulations; and

(k) any other Project Agreements to which Project Company is party.

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"Shares" means shares of Project Company with voting or other rights of management and/or control.

"Site" means the land on which the Project Facilities are to be installed (defined by the boundaries shown in Exhibit A to the LLA), and has been leased by GPA to Project Company by means of the LLA.[1]

"Site Reference Conditions" means the physical and meteorological conditions at which the relevant part of the Project Facilities would be operating under hypothetical representative circumstances as defined in Schedule 1.

"Start" means the process of starting up a Unit or other Project Facilities until its synchronization, when the corresponding Unit or the other Project Facilities has been shut down.

"Supplemental Charge" means any additional charges which are payable by GPA to Project Company pursuant to this Agreement (or as otherwise agreed by the Parties) as part of the Price payments.

"Technical Limits" means the limits and constraints described in Schedule 2 relating to the operation and maintenance of the Facility, and which shall be in accordance with the Functional Specifications.

"Term" has the meaning set forth in Article 4.1.

"Termination Notice" has the meaning set forth in Article 4.5(c).

"Testing" means the process of testing the Project Facilities pursuant to Article 7.

"Threshold Capacity" means a Dependable Capacity in respect of the Facility equal to ninety per cent (90%) of the Contracted Capacity in respect of the Facility.

"Transfer Date" means the date upon which all ownership, custody and control of all or the relevant part of the Project Facilities shall be transferred from Project Company to GPA, which date shall be the final day of the Term unless mutually agreed otherwise.

"Transfer Security" has the meaning set forth in Article 17.4.

"ULSD" means ultra-low sulfur diesel fuel with maximum sulfur content of 14 ppm suitable for firing by diesel engine generators or combustion turbine generators meeting Fuel quality specifications contained in Schedule 6.

"ULSD Bulk Storage" means GPA's existing GPA ULSD bulk storage located near the existing Cabras power station to be modified by the Project Company as required under this Agreement.

"ULSD Storage Facilities" has the meaning set forth in Article 3.3.1(g).

"ULSD Supply Infrastructure" means the ULSD Bulk Storage, and the ULSD supply pipeline between the ULSD Bulk Storage and the Site of the Facility with all its associated systems, equipment, and accessories as described in Schedule 1 to be constructed by the Project Company and transferred to GPA on the Commercial Operation Date.

"Unit" means an individual gas turbine-generator or steam turbine that is part of the Facility.

"Unit Available Capacity" means the capacity of each Unit (adjusted to Site Reference Conditions) announced by Project Company pursuant to Article 9.3(e).

"U.S. EPA" means the United States Environmental Protection Agency.

"Variable Operation and Maintenance Charge" has the meaning set forth in Schedule 4.

"Water" means water used by the Facility coming from the Northern District Wastewater Treatment Facility, or if such water is not available, potable water provided by GPA or GWA.

"Water Supply and Discharge Agreement" means the agreement to be entered into by and among GPA, GWA and the Project Company.

"Willful Misconduct" means an intentional, conscious or reckless default in announcing an accurate Declared Capacity by a director, officer, manager or employee of Project Company exercising apparent authority to announce, or cause to be announced, a Declared Capacity, provided, however, that Willful Misconduct shall not include any error of judgement or mistake made in good faith in the exercise of any function, authority or discretion arising under or in connection with the performance of this Agreement.

"Year" means a calendar year according to the Gregorian calendar beginning at midnight December 31 in Guam.

ARTICLE 2
INTERPRETATION

In this Agreement (including its Schedules), unless otherwise stated:

2.1 Any references to:

(a) any agreement (including this Agreement) or document shall be construed, at any particular time, as including a reference to the relevant agreement or document as it may have been amended, novated, assigned, modified or supplemented in accordance with its terms;

(b) the Preamble, Recitals or a particular Article or Schedule, shall be a reference to the Preamble, Recitals or relevant Article or Schedule in or to this Agreement;

(c) a particular paragraph or sub-paragraph, if contained in an Article or Schedule, shall be a reference to the relevant paragraph or sub-paragraph of that Article or Schedule; and

(d) a Party or any other person includes its successors in title, permitted assigns and permitted transferees.

2.2 Words in the singular may be interpreted as referring to the plural and vice versa.

2.3 A requirement that a payment be made on a Day which is not a Business Day shall be construed as a requirement that the payment be made on the next following Business Day.

2.4 The words "including" and "include" are to be construed as being at all times followed by the words "without limitation", unless the context otherwise requires.

2.5 For the purpose of any calculation under this Agreement, references to any period or periods of an hour or hours shall be rounded up to the nearest 1/10th of an hour.

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2.6 The Schedules contained herein form an integral part of this Agreement. In the event of an inconsistency between the body of this Agreement and the Schedules thereto, the provisions of the body shall govern.

2.7 Where reference is made in this Agreement to a period or periods of time the periods in question shall be deemed to end at midnight on the last Day of such period unless otherwise stated.

2.8 Unless otherwise stated, whenever a consent or approval is required by one Party from the other Party, such consent or approval shall not be unreasonably withheld or delayed.

2.9 In carrying out its obligations and duties under this Agreement, each Party shall have an implied obligation of good faith.

2.10 Any capitalized term used but not defined in this Agreement shall have the meaning attributable thereto in the IFMSB.

2.11 The Parties agree that, should a situation arise where the provisions of Schedule 1 require clarification, then Form 8 of the Proposal, to the extent relevant, would be used to interpret the provisions of Schedule 1, provided that this process in no event results in the modification of the Project Company's obligations hereunder or the imposition of obligations additional to those included in this Agreement.

2.12 Any reference to GPA's successors and permitted assigns shall be a reference to such successors and permitted assigns in all of GPA's capacities.

ARTICLE 3
SALE AND PURCHASE OF CAPACITY AND ENERGY

3.1 Energy and Capacity

Subject to and in accordance with the terms and conditions of this Agreement, Project Company agrees to maintain and make available and deliver exclusively to GPA, and GPA agrees to accept and purchase from Project Company, from and after the Commercial Operation Date, for the consideration described in Article 13 and Schedule 4, the entire Dependable Capacity and, subject to Dispatch Instructions, the Net Energy Output. GPA further agrees to pay to Project Company all amounts (and adjustments to amounts) described in Article 13.1 in the circumstances contemplated in Article 13.1.

3.2 Sales to Third Parties and Test Energy

3.2.1 No Sales to Third Parties

The Parties agree that Project Company shall not during the Term sell or deliver electric capacity or energy produced by the Project Facilities to any entity other than GPA.

3.2.2 No Payment for Test Energy

Prior to the Commercial Operation Date, GPA shall not pay for energy delivered to GPA during Testing and Commissioning.

3.3 Fuel Supply

3.3.1 Fuel Supply after COD

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(a) Commencing as of the Commercial Operation Date, GPA shall deliver Fuel to Project Company in compliance with the Fuel Specifications for each Day of operation, at such times as it may be required by Project Company to satisfy the hourly dispatch requirements to be provided by GPA. All Fuel required to be delivered by GPA to Project Company under this Article shall be delivered to the corresponding Fuel Delivery Point and shall be measured at the corresponding Fuel Measurement Point in accordance with the provisions set forth in Schedule 10.

(b) Unless Project Company informs GPA otherwise, the Fuel Supply Requirement shall be consistent with the Guaranteed Heat Rate specified in Schedule 4, adjusted to Site Reference Conditions and expressed in BTUs per kWh. In the event the expected operating heat rate applicable to any period of operation is higher than the corresponding Guaranteed Heat Rate, Project Company shall inform GPA of the magnitude of the deviation, the likely cause of such deviation, and the way this deviation is going to be corrected. Project Company shall use its best efforts to meet the Guaranteed Heat Rate. GPA shall supply the Fuel Supply Requirement even if the expected operating heat rate is higher than the Guaranteed Heat Rate.

(c) Each Party shall cooperate reasonably with the other Party to coordinate the supply and delivery of Fuel to the Fuel Delivery Point with the operation of the Facility as follows: (x) by providing the other Party such information as the first Party shall reasonably request regarding the supply and delivery of the Fuel to the Fuel Delivery Point (on both a historical and estimated future basis); and (y) by maintaining personnel available at all times to address scheduling of Fuel supply and delivery.

(d) Subject to the foregoing, GPA shall have the right to change the quantities of Fuel nominated and received on a daily basis, or more frequently, to the extent permitted, so long as such changes do not disrupt Project Company's operations.

(e) GPA shall be deemed to be in exclusive control of, and responsible for any damage or personal injury caused by, Fuel up to the relevant Fuel Delivery Point. Project Company shall be deemed to be in exclusive control of, and responsible for any losses of Fuel, and any damages or injury caused by, such Fuel at and from the relevant Fuel Delivery Point. GPA warrants that Fuel caused to be delivered hereunder to Project Company shall be free and clear of all liens or other encumbrances. Title to and risk of loss of all Fuel shall transfer from GPA to Project Company upon delivery to the relevant Fuel Delivery Point.

(f) GPA undertakes that all Fuel delivered at the relevant Fuel Delivery Point shall meet the Fuel Specifications. Project Company shall have the right to reject Fuel which fails to meet the Fuel Specifications at the relevant Fuel Delivery Point (**"Non-Conforming Fuel"**), provided that the Project Company shall not have any obligation to accept Non-Conforming Fuel if the original equipment manufacturer of the Facility will not accept the use of such Non-Conforming Fuel. If Project Company erroneously rejects Fuel that in fact meets the Fuel Specifications, Project Company shall be liable to GPA for all damages caused by said rejection and shall indemnify and hold GPA harmless therefor. If either Party becomes aware that Fuel that is being or will be delivered by GPA to the Project Company fails to meet the Fuel Specifications, such Party shall inform the other Party of this fact as soon as possible after becoming aware thereof.

(g) Project Company shall, in accordance with Schedule 1, construct and maintain storage facilities at the Site for the supply of ULSD for the operation of the Facility (the **"ULSD Storage Facilities"**). Such storage facilities shall be capable of holding an inventory equivalent to

the amount of ULSD necessary to operate (x) the Facility at the full Contracted Capacity (in accordance with the Guaranteed Heat Rate) for at least thirty (30) consecutive Days or (y) such larger quantities as may be required by Lenders.

(h) Project Company shall, in accordance with Schedule 1, (i) finance, design and construct each of the ULSD Supply Infrastructure and the NG Fuel Pipeline, and (ii) transfer each of them to GPA at no cost on the Commercial Operation Date. GPA shall (x) procure all easements required for the ULSD Supply Infrastructure and the NG Fuel Pipeline and (y) own, operate, and maintain the ULSD Supply Infrastructure and NG Fuel Pipeline during the Term of the ECA.

3.3.2 Fuel Supply During Testing and Commissioning

(a) The Project Company will provide written notice to GPA fourteen (14) days prior to the completion of all inspections for ULSD fuel receiving for the ULSD Supply Infrastructure, including the ULSD Bulk Storage modification and ULSD supply pipeline, and the ULSD Storage Facilities. Commencing from the later of (i) the completion of the ULSD Supply Infrastructure and ULSD Storage Facilities or (ii) August 31, 2024 (the date falling thirteen (13) months prior to the Required Commercial Operation Date), GPA shall procure and deliver the Fuel required for start-up, Testing and Commissioning of the Facility, to the ULSD Storage Facilities pursuant to the specifications in Schedule 6. GPA shall pay for the Fuel required for start-up, Testing and Commissioning up to a maximum of 1,245,000 MMBtu and Project Company shall pay for any Fuel required and delivered in excess thereof. The Project Company shall be responsible for the operation and maintenance of the ULSD Supply Infrastructure prior to the Commercial Operation Date. GPA shall pay for the cost of first fill of ULSD in an amount equal to the Fuel storage requirements in Article 3.3.1(g) (the "First Fill"). The Project Company shall reimburse GPA for the cost (without markup or interest) of the First Fill; provided that GPA shall competitively procure the ULSD in accordance with GPA's procurement laws and regulations, and shall provide the Project Company with a detailed breakdown of such cost. The cost of the First Fill shall be reimbursed by the Project Company to GPA in equal monthly installments during the first seven (7) years of the Commercial Operation Period either by making monthly payments to GPA or by deducting the monthly installment amount from monthly invoices issued to GPA.

(b) No later than five (5) Months prior to the expected completion date of the ULSD Bulk Storage modification, ULSD Storage Facilities and ULSD Supply Infrastructure necessary for the ULSD delivery operation, Project Company and GPA shall initiate and develop coordination procedures on the ULSD transfer requirement and agree on a procedure to periodically estimate and forecast the necessary amount of Fuel expected to be required for Commissioning and start-up, provided that the final amount of Fuel required shall be set no later than three (3) Months prior to completion of ULSD Storage Facilities and ULSD Supply Infrastructure.

3.4 Natural Gas Supply

The following is applicable for Natural Gas if and when it becomes available and if and when GPA so elects to supply Natural Gas to the Facility.

3.4.1 Natural Gas Procurement

At any time after the Commercial Operation Date, GPA, in its sole discretion may elect to supply Natural Gas to the Facility and require that the Facility burn Natural Gas. The

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procedure set forth in Articles 7.2(f) and 7.2(g) of this Agreement shall apply to the implementation of this election. For such time as GPA elects for the Facility to burn Natural Gas, the provisions of Articles 3.3.1(a), (b), (c), (d), (e) and (f) shall apply, mutatis mutandis.

3.4.2 Natural Gas Nominations by the Project Company

After receiving the daily Dispatch Instructions, the Project Company shall provide to GPA the Natural Gas daily nominations as required by the Project Company to satisfy the Dispatch Instructions. The detailed procedure for daily nominations and for renominations shall be determined by the Joint Coordinating Committee.

3.5 Fuel Cost Allocation

(a) When GPA receives bills for Fuel supply and delivery for the Facility, GPA shall send a copy to the Project Company. Once received by the Project Company, the Joint Coordinating Committee shall meet to distribute the cost between the Parties.

(b) For Fuel consumed by the Facility, the Project Company shall be responsible for the cost determined in accordance with Schedule 4 of any Fuel consumed in excess of the quantity of Fuel that should have been required to produce the applicable amount of Net Energy Output had the Facility operated in compliance with the Guaranteed Heat Rate for the simple or combined operation modes as specified in Schedule 4, as adjusted to the operating parameters provided in the applicable Dispatch Instructions.

(c) Reserved.

(d) In the event that, in any given hour or portion thereof, the Facility is unavailable to operate at one hundred percent (100%) load due to a reason other than the fault of GPA, an event of Force Majeure, a Change in Law or an Excusable Event, and this event occurs during a Scheduled Outage, Maintenance Outage or Forced Outage after the Facility has exceeded its Allowable Total Outages Energy for the applicable Contract Year pursuant to Article 8.3, then the Guaranteed Heat Rate used to calculate the Fuel cost allocation for fuel used by the Facility shall be the Guaranteed Heat Rate applicable to the load at which the Facility would have been dispatched had the Facility been available to operate at one hundred percent (100%) load, as further specified in Schedule 4.

(e) Commencing from the third (3rd) anniversary of the Commercial Operation Date, the Project Company may from time to time request an amendment or supplement to the terms of this Agreement to incorporate a Fuel saving bonus for Fuel consumed by the Facility on terms that are mutually acceptable to the Parties. Upon receipt of such a request, the Parties shall negotiate reasonably and in good faith to seek to reach agreement on the terms of such a Fuel saving bonus, which shall be reflected in an amendment or supplement to the terms of this Agreement.

3.6 Set-off for Fuel Costs

Any amounts owed to GPA by the Project Company with respect to Fuel, if any, shall be deducted from the monthly invoice as set forth in Article 13.

3.7 Non-Conforming Fuel

(a) If GPA supplies Non-Conforming Fuel, Project Company may send a Notice to GPA notifying that Project Company has received Non-Conforming Fuel.

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(b) GPA shall, promptly upon becoming aware of such delivery or promptly upon receipt of the Notice from Project Company referred to in paragraph (a) above, take such steps as are reasonably necessary to rectify the situation and shall send a Notice to Project Company stating, to the extent known to GPA, the period during which the Non-Conforming Fuel was delivered, the quantity thereof and how its specifications vary from the ones set out in Schedule 6 or Schedule 7, as the case may be, and the steps it is taking (and will take) to rectify the situation.

(c) Except for Fuel accepted by the Project Company pursuant to Article 3.3.1(f), Project Company shall be under no obligation to accept, or operate the Facility on such Non-Conforming Fuel. In the event that the Dependable Capacity for the Facility would otherwise be available but for the delivery of Non-Conforming Fuel, then GPA shall remain obligated to pay the Capacity Charge (in the case of the Facility's unavailability) .

ARTICLE 4
TERM, DEFAULTS AND REMEDIES

4.1 Term of Agreement

(a) Except for the provisions of Articles 1, 2, 4, 5.5, 6, 10, 15, 16, 18, 19, 21 and 22 (which shall commence and be effective upon the date of signature of the Original ECA), the term of this Agreement ("**Term**") shall commence and be effective on and from the date of the Full Notice to Proceed and shall terminate twenty five (25) Contract Years after the Commercial Operation Date, unless extended for the Facility or earlier terminated pursuant to the provisions of this Agreement. The termination of this Agreement shall be without prejudice to all rights and obligations of the Parties accrued under this Agreement prior to the date of such termination.

(b) On or before the end of the twenty-first (21st) Contract Year the Parties shall meet to discuss whether the Term of this Agreement shall be extended. To the extent the Parties agree to extend the Term, then the terms and conditions of this Agreement shall be negotiated and mutually agreed by the Parties, as required and appropriate. To the extent this Agreement is not extended, then this Agreement shall terminate in accordance with its terms and conditions, and the Parties shall commence the implementation of the Project Facilities Transfer procedures set forth in Article 17.

4.2 Project Company Events of Default

The Project Company shall be in default under this Agreement upon the occurrence of any of the following events set forth in subsections (a) to (r) below (each a "**Project Company Event of Default**"); provided, however, that none of such events shall constitute a Project Company Event of Default if such event (i) results from a breach or default by GPA under this Agreement or the LLA or (ii) occurs as a result of, or during, a Force Majeure pursuant to Article 16. Subject to the proviso in the immediately preceding sentence, the following are Project Company Events of Default:

(a) Not Used.

(b) Not Used.

(c) prior to the achievement of the Commercial Operation Date, an Abandonment occurs without GPA's prior written consent and continues for a period of thirty (30) consecutive Days from the receipt of a Notice from GPA;

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(d) the failure of the Project Company to achieve the Commercial Operation Date within two hundred and forty (240) Days after the Required Commercial Operation Date;

(e) the failure of Project Company to submit the Performance Bond on or before the date of the Full Notice to Proceed;

(f) the failure of the Project Company to establish and maintain any Security in accordance with the terms of this Agreement;

(g) after the Commercial Operation Date, an Abandonment occurs without the prior written consent of GPA and continues for a period of fifteen (15) consecutive Days from receipt of a Notice from GPA;

(h) the failure of the Facility to achieve the Threshold Capacity upon completion of the Commercial Operation Tests under Article 7.1 or, after the Commercial Operation Date, the failure of the Facility to (A) achieve a Dependable Capacity level equal to eighty-five percent (85%) of the Initial Dependable Capacity after any Dependable Capacity Test and (B) achieve such level of Dependable Capacity after a later Dependable Capacity Test or otherwise make available to GPA such level of capacity, in each case no later than six (6) Months after the test mentioned in (A) above, provided that, in the case of a failure of equipment where the Project Company can demonstrate that replacement equipment has been ordered, or that a repair has been undertaken, as soon as reasonably practicable after the failure (taking into account the amount of time required to determine whether a repair can be achieved), but in any event no later than the end of such six (6) Month period, such period shall be extended for as long as Project Company is awaiting delivery of such equipment or is otherwise diligently pursuing a cure of the cause of the failure, up to a maximum of fifteen (15) Months;

(i) should the Facility experience more than two hundred and eighty-five (285) Outage Hours in each month for a period of six (6) consecutive Months, provided that, in the case of a failure of equipment where the Project Company can demonstrate that replacement equipment has been ordered, or that a repair has been undertaken, as soon as reasonably practicable after the failure (taking into account the amount of time required to determine whether a repair can be achieved), but in any event no later than the end of such six (6) Month period, such period shall be extended for as long as the Project Company is awaiting delivery of such equipment or is otherwise diligently pursuing a cure of the Forced Outage, up to a maximum of fifteen (15) Months;

(j) Project Company's failure to operate, maintain, modify, or repair the Project Facilities in accordance with Prudent Utility Practices and applicable environmental Laws, such that the safety of persons and property (including the Project Facilities) is materially adversely affected, and such failure shall continue unremedied for a period of thirty (30) Days after Notice from GPA, provided that where Project Company has implemented a remedial plan approved by GPA, such failure shall continue unremedied for a period of ninety (90) Days after Notice from GPA;

(k) the occurrence of any of the following events: (i) the passing of a resolution by the Investors for voluntary liquidation (or other similar relief) of Project Company; (ii) the appointment of a liquidator by Project Company or by the controller of companies for liquidation of Project Company; (iii) submission of an application to a court of competent jurisdiction for mandatory liquidation of Project Company which application is not dismissed within ninety (90) Days, (iv) the issuance of a final and conclusive order by a court of competent jurisdiction for liquidation or winding up of Project Company; or (v) except as otherwise

permitted under and pursuant to the Financing Documents or the Project Agreements, the transfer, conveyance, loss, or relinquishment to any person of Project Company's right to own and/or operate the Project Facilities or any material part thereof or to occupy the Site without the prior written approval of GPA;

(l) any statement representation or warranty by Project Company in this Agreement proves to have been incorrect, in any material respect, when made and such failure or incorrect statement, representation or warranty has a material and adverse effect on Project Company's ability to perform its obligations under this Agreement;

(m) the failure of Project Company to make any payment or payments required to be made by it hereunder (other than payments disputed by Project Company in good faith and by Notice to GPA) within thirty (30) Days of the due date for such payment;

(n) any material breach by Project Company of this Agreement (other than any such breach referred to elsewhere in this Article 4.2), that is not remedied within sixty (60) Days after Notice from GPA to Project Company (which Notice shall (i) state that a material breach of this Agreement has occurred that could result in the termination of the Agreement; (ii) identify the material breach in question in reasonable detail; and (iii) demand remedy thereof);

(o) the occurrence of a Project Company Event of Default under the LLA or Water Supply and Discharge Agreement (as such term is defined in each such agreement), which is not cured within the applicable cure period (if any) provided for therein;

(p) Project Company makes an assignment of this Agreement or transfers or creates a lien on the Project in violation of Article 20.2;

(q) the failure of Project Company to obtain or maintain the Government Authorizations during the Term of this Agreement and its extension, without which the Project Company cannot comply with its material obligations under the Project Agreements, which is not remedied within ninety (90) Days after Notice from GPA; and

(r) except as otherwise provided in this Article 4.2, Project Company shall fail to comply with any of its other obligations under this Agreement and such failure has a material adverse effect upon GPA, and such failure shall continue uncured for sixty (60) Days after Notice from GPA to the Project Company, provided that if such failure is not capable of being cured within such period of sixty (60) Days with the exercise of commercially reasonable efforts, then such cure period shall be extended for an additional reasonable period of time (not to exceed one hundred and twenty (120) Days) so long as Project Company is exercising commercially reasonable efforts to cure such failure.

GPA shall deliver to the Lenders' agent ("**Agent**") (in accordance with the Lenders' Direct Agreement) a copy of any Notice given under this Article 4.2.

4.3 GPA Events of Default

GPA shall be in default under this Agreement upon the occurrence of any of the following events set forth in subsections (a) to (e) (each a "**GPA Event of Default**"); provided, however, that none of such events will constitute a GPA Event of Default if such event (i) results from a breach or default by Project Company under this Agreement or the LLA, or (ii) occurs as a result of a Force Majeure

pursuant to Article 16. Subject to the proviso in the preceding sentence, the following are GPA Events of Default:

(a) the submission for voluntary liquidation (or other similar relief) of GPA by GPA or any Government Entity with the authorization to make such submission, the appointment of a liquidator by GPA or the Public Utilities Commission, the submission of an application to a court of competent jurisdiction for mandatory liquidation of GPA which application is not dismissed within ninety (90) Days, or the issuance of a final and conclusive order by a court of competent jurisdiction for liquidation or winding up of GPA;

(b) any default or defaults by GPA in the making of any payment or payments (other than payments disputed by GPA in good faith and by Notice to Project Company) required to be made by it within thirty (30) Days of the due date for such payment;

(c) any material breach by GPA of this Agreement (other than any such breach referred to elsewhere in this Article 4.3) that is not remedied within sixty (60) Days after Notice from the Project Company to GPA (which Notice shall (i) state that a material breach of this Agreement has occurred that could result in the termination of this Agreement, (ii) identify the material breach in reasonable detail and (iii) demand remedy thereof);

(d) any statement, representation, or warranty made by GPA in this Agreement proves to have been incorrect in any material respect when made, and such failure or incorrect statement, representation, or warranty has a material and adverse effect on GPA's ability to perform its obligations under this Agreement; or

(e) the occurrence of a GPA Event of Default under the LLA (as such term is defined therein) which is not cured within the applicable cure period (if any) provided for therein.

The Project Company shall deliver to the Agent a copy of any Notice given under this Article 4.3.

4.4 GPA Early Termination and Termination for Prolonged Force Majeure

(a) GPA shall have the right to terminate this Agreement for convenience at any time subject to the terms and procedures set forth in Article 4.5(e).

(b) GPA shall have the right to terminate this Agreement during a Prolonged Force Majeure, subject to the terms and procedures set forth in Article 4.5(g), unless (i) the Project Company is exercising reasonable efforts to resolve the impact of the underlying Force Majeure event on the Project Facilities' performance, (ii) that such resolution is reasonably expected to occur within three (3) months from the end of the eighteen (18) month period described in the definition of Prolonged Force Majeure, and (iii) result in the Facility operating, on a continuing basis, with an annual availability of ninety percent (90%) or more.

4.5 Termination Notices and Rights

(a) Upon the occurrence of a GPA Event of Default or a Project Company Event of Default, as the case may be, the non-defaulting Party may, subject to the Lenders' Direct Agreement, at its option, initiate termination of this Agreement by delivering a Notice of its intent to terminate this Agreement (a "**Notice of Intent to Terminate**") to the defaulting Party and the Agent. The Notice of Intent to Terminate shall specify in reasonable detail

the Project Company Event of Default or the GPA Event of Default, as the case may be, giving rise to such Notice.

(b) Following the delivery of a Notice of Intent to Terminate, the Parties shall consult for a period of up to forty-five (45) Days in the case of a failure by either Party to make payments when due, and up to sixty (60) Days with respect to any other Event of Default (or such longer period as the Parties may mutually agree), as to what steps shall be taken with a view to mitigating the consequences of the relevant Event of Default taking into account all the circumstances. During the period following the delivery of the Notice of Intent to Terminate, the Party in default may continue to undertake efforts to cure the Event of Default, and if the Event of Default is cured at any time prior to the delivery of a Termination Notice in accordance with Article 4.5(c) then the non-defaulting Party shall have no right to terminate this Agreement in respect of such cured Event of Default.

(c) Upon expiration of the consultation period described in Article 4.5(b) and unless the Parties shall have otherwise agreed or unless the Event of Default giving rise to the Notice of Intent to Terminate shall have been remedied, the Party having given the Notice of Intent to Terminate may, subject to the Lenders' Direct Agreement and the conditions set forth in subsections (d)-(i) below, terminate this Agreement by delivery of a Notice (a "**Termination Notice**") to the other Party and the Agent, whereupon, subject to the Lenders' Direct Agreement, this Agreement shall immediately terminate.

(d) In the event of a termination by Project Company due to a GPA Event of Default, GPA shall be required to acquire the Project Facilities from Project Company for the applicable GPA Default Transfer Price set forth in Schedule 8. The Parties will commence working together diligently and in good faith to effect such transfer within forty-five (45) Days of GPA's receipt of Project Company's Termination Notice, or as soon as practicable, but otherwise no later than ninety (90) Days thereafter.

(e) In the event of an early termination by GPA for convenience pursuant to Article 4.4(a), GPA shall be required to acquire the Project Facilities from Project Company for the applicable Early Transfer Price set forth in Schedule 8. The Parties shall work together diligently and in good faith to effect such transfer within forty-five (45) Days of Project Company's receipt of GPA's early Termination Notice or as soon as practicable, but otherwise no later than ninety (90) Days thereafter.

(f) In the event of a termination by GPA due to a Project Company Event of Default, GPA shall have the right, but not the obligation, to acquire the Project Facilities from Project Company for the applicable Project Company Default Transfer Price set forth in Schedule 8. In order to exercise such right, GPA shall provide Project Company with Notice of its election to acquire the Project Facilities within sixty (60) Days of the date Project Company received the Notice of Intent to Terminate from GPA, after which the Parties shall commence working together diligently and in good faith to effect such transfer within forty-five (45) Days of Project Company's receipt of GPA's Notice of its election to acquire the Project Facilities or as soon as practicable, but otherwise no later than ninety (90) Days thereafter.

(g) In the event of a termination by GPA due to a Prolonged Force Majeure pursuant to Article 4.4(b), GPA shall have the right, but not the obligation, to acquire the Project Facilities from Project Company for the applicable Force Majeure Transfer Price set forth in Schedule 8. In order to exercise such right, GPA shall provide Project Company with Notice of its election to acquire the Project Facilities within sixty (60) Days of the date Project Company

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receives the applicable Notice of Intent to Terminate from GPA, after which the Parties will commence working together diligently and in good faith to effect such transfer within ninety (90) Days of Project Company's receipt of GPA's Notice of its election to acquire the Project Facilities or as soon as practicable, but otherwise no later than ninety (90) Days thereafter.

(h) Any transfer contemplated in subsections (d)-(g) above shall:

(i) be free and clear of all liens or other encumbrances;

(ii) include all right, title and interest in and to the Project Facilities including all fixtures, fittings, plant and equipment (including all test equipment, special tools, as-built drawings, software, documents, reports, analyses, all relevant files, plant procedures and forms as reasonably required and necessary for GPA to effectively operate the Project Facilities after the transfer) and all improvements comprising the Project Facilities; and.

(iii) include, at GPA's election and upon the payment of the applicable transfer price in Schedule 8, the assignment by the Project Company to GPA of the Construction Contract, LTPA and O&M Contract, including, for the avoidance of doubt, the assumption by GPA of all rights, obligations and liabilities of the Project Company under the foregoing agreements.

(i) In the event of a termination resulting in Project Company (or any successor thereof) continuing to be the owner of any of the Project Facilities, the Parties shall enter into a connection agreement (the "**Connection Agreement**") whereby the Project Company shall be granted the exclusive rights to use the Electrical Interconnection Facilities and to provide capacity and inject energy to the Grid System from the Project Facilities at the Delivery Point as if this Agreement had not been terminated; provided that the Connection Agreement shall (i) be compliant with the applicable system grid code, (ii) have a term that is equal to or greater than the remaining term of this Agreement immediately prior to its termination, and (iii) obligate GPA to operate and maintain the Electrical Interconnection Facilities in accordance with the applicable system grid code and Prudent Utility Practices for a reasonable and customary annual fee limited to the amount necessary to cover the reasonable costs of such operation and maintenance.

4.6 Other Remedies

(a) The exercise of the right of a Party to terminate this Agreement, as provided herein, does not preclude such Party from exercising other remedies that are provided herein or available at Law, provided that, notwithstanding the above:

(i) no Party may terminate this Agreement other than in accordance with the express terms of this Agreement;

(ii) the termination rights, rights to liquidated damages, and right to draw under the Performance Bond as expressly set out in this Agreement shall be the sole and exclusive remedies available to GPA against Project Company or the Project for any delay in Commissioning or failure of any Project Facilities to be available or to meet the Dependable Capacity and/or outage requirements set out in this Agreement; and

(iii) Not Used.

(b) Subject to Article 4 and Article 4.6(a) above, remedies are cumulative, and the exercise of, or failure to exercise, one or more of them by a Party shall not limit or preclude the exercise of, or constitute a waiver of, other remedies by such Party.

ARTICLE 5
COVENANTS, REPRESENTATIONS AND WARRANTIES

5.1 Project Company Covenants

The Project Company hereby covenants and agrees with GPA to:

(a) develop, design, permit, engineer, finance, construct and complete the Project Facilities in a good and workmanlike manner, only with materials and equipment that are new and of international utility-grade quality, and in all material respects in accordance with:

(i) the Functional Specifications set forth in Schedule 1;

(ii) the plans and specifications prepared in accordance with this Agreement;

(iii) the Technical Limits set forth in Schedule 2;

(iv) the U.S. EPA requirements;

(v) all applicable Laws and the Government Authorizations;

(vi) Prudent Utility Practices; and

(vii) FERC and NERC requirements;

(b) design, engineer, construct and complete the Facility in such a manner as to provide, with proper maintenance and operation, that the useful life of the Facility will be at least equal to thirty (30) years;

(c) after the Commercial Operation Date, operate and maintain the Project Facilities in all material respects, in accordance with:

(i) the Operating Procedures developed pursuant to Article 6.4 and the Dispatch Instructions;

(ii) the Technical Limits set forth in Schedule 2;

(iii) the Guam and U.S. EPA requirements;

(iv) all applicable Laws and the Government Authorizations; and

(v) Prudent Utility Practices;

(d) use all reasonable efforts to procure and maintain all Government Authorizations necessary for its performance under this Agreement;

(e) engage only such advisors, representatives and experts as are experienced in the development, engineering, construction, financing, operation and maintenance of power stations similar to the Project Facilities;

(f) provide at its own risk and expense the necessary facilities and services for the safety, comfort and protection of its personnel;

(g) work and cooperate in good faith with GPA with respect to all of GPA's obligations and rights hereunder;

(h) ensure that the Construction Contract, LTPA and O&M Agreement (if any) are freely assignable to GPA (at no cost to GPA for such assignment beyond the applicable transfer price under Schedule 8) upon an early transfer of the Project Facilities pursuant to Article 4;

(i) ensure that (i) from Financial Close until the Commercial Operation Date, the Project Company does not have a debt to equity ratio in excess of eighty percent (80%) to twenty percent (20%), and (ii) after the Commercial Operation Date, the Project's debt is not higher than eighty percent (80%) of the total project costs incurred by the Project Company as of the Commercial Operation Date minus the Lump Sum Payment, where from Financial Close until the Commercial Operation Date, the term "equity" shall mean the sum of (A) the remaining unused balance equity committed to the Project as reflected in the Financing Documents as of Financial Close (including all amounts available to be drawn under an Equity Bridge Loan), and (B) the amount of equity actually contributed to the Project (including all amounts actually drawn under an Equity Bridge Loan); and

(j) upon the written request of GPA, provide reasonable evidence that any Equity Bridge Loan is guaranteed by an Initial Shareholder.

5.2 GPA Covenants

GPA hereby covenants and agrees with Project Company to:

(a) work with and cooperate in good faith with Project Company with respect to all of Project Company's obligations and rights hereunder;

(b) upon request by Project Company, use its reasonable efforts to support Project Company in obtaining the Government Authorizations required by Article 6; and

(c) deliver possession of the Site to the Project Company in accordance with the provisions of the LLA for the purposes of the Project Facilities.

5.3 The Project Company Representations and Warranties

The Project Company hereby represents and warrants at the date of this Agreement that:

(a) the Project Company is a company duly organized, validly existing and in good standing under the Laws of Guam, and Project Company has all requisite corporate power and authority to conduct its business, to own its properties, and to execute, deliver, and perform its obligations under this Agreement;

(b) the execution, delivery and performance by Project Company of this Agreement have been duly authorized by all necessary corporate action on the part of Project Company, and do not and will not:

(i) require any consent or approval of Project Company's board of directors, shareholders or partners other than those which have been obtained (evidence of

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which consents and approvals shall be, if it has not heretofore been, delivered to GPA upon its request), or

(ii) violate or result in a breach of, or constitute a default under any provisions of Project Company's articles and memorandum of association or bylaws or other organic documents, or any material indenture, contract, or agreement to which it is a party or by which it or its properties may be bound, or any material law, rule, regulation, order, writ, judgment, injunction, decree, determination, or award presently in effect applicable to Project Company;

(c) to the best of Project Company's knowledge, no Government Authorization or approval by any other Government Authority is necessary for the due execution, delivery and performance by Project Company of this Agreement other than the Government Authorizations or approvals by any other Government Authority as contemplated by this Agreement, the other Project Agreements and the Financing Documents;

(d) this Agreement is a legal, valid and binding obligation of Project Company, enforceable against Project Company in accordance with its terms; and

(e) there is no pending or, to the best of Project Company's knowledge, threatened action or proceeding against Project Company before any court, Government Authority or arbitrator that could materially and adversely affect the financial condition or operation of Project Company or the ability of Project Company to perform its obligations hereunder, or that could affect the legality, validity or enforceability of this Agreement (as in effect on the date hereof).

5.4 GPA Representations and Warranties

GPA hereby represents and warrants at the date of this Agreement that:

(a) GPA is a public corporation and an enterprise fund of the Government of Guam established by the Guam Power Authority Act of 1968, duly organized, validly existing, and in good standing under the Laws of Guam, and has all requisite corporate power and authority to conduct its business, to own its properties, and to execute, deliver, and perform its obligations under this Agreement;

(b) the execution, delivery and performance by GPA of this Agreement have been duly authorized by all necessary corporate or Government action, and do not and will not:

(i) require any consent or approval of GPA's board of directors, shareholders, officers or officials other than those which have been obtained (evidence of which consents and approvals shall be, if it has not heretofore been, delivered to the Project Company upon its request); and

(ii) violate or result in a breach or constitute a default under any provisions of GPA's articles and memorandum of association or bylaws, or other organic documents, or any material indenture, contract, or agreement to which it is a party or by which it or its properties may be bound, or any material law, rule, regulation, order, writ, judgment, injunction, decree, determination, or award presently in effect applicable to GPA;

(c) to the best of GPA's knowledge, no Government Authorization or approval by any other Government Authority is necessary for the due execution, delivery and performance by

GPA of this Agreement other than the Government Authorizations or approvals by any other Government Authority as contemplated by this Agreement, the other Project Agreements and the Financing Documents;

(d) this Agreement is a legal, valid, and binding obligation of GPA, enforceable against GPA in accordance with its terms; and

(e) there is no pending or, to the best of GPA's knowledge, threatened action or proceeding against GPA before any court, Government Authority, or arbitrator that could materially and adversely affect the financial condition or operation of GPA or the ability of GPA to perform its obligations hereunder, or that could affect the legality, validity or enforceability of this Agreement (as in effect on the date hereof).

5.5 Pre-Existing Condition

(a) If a Pre-Existing Condition is discovered during the Pre-Existing Condition Period, Project Company will notify GPA within fourteen (14) Days of such discovery (or, if later, the date when Project Company becomes aware of such discovery).

(b) Following a notification under paragraph (a) above, Project Company will promptly submit to GPA a remediation plan and a proposal for the cost of any remedial action required to remove such Pre-Existing Condition. Within thirty (30) Days of receipt of such plan and proposal, GPA will either (i) approve the remediation plan and proposal or (ii) not approve the remediation plan and proposal (setting out in reasonable detail the reasons therefore).

(c) In the event that GPA does not approve the remediation plan and proposal proposed by Project Company, GPA and Project Company shall discuss in good faith to attempt to agree to such a plan and proposal for a period of thirty (30) Days. In the event of a failure to agree to such a plan and proposal within such thirty (30) Days, GPA shall carry out, or shall appoint a third party to carry out, the remediation work and Project Company shall grant access to the Site or relevant portion of the Pipeline Route to GPA or such third party for this purpose, provided that the remediation work shall be carried out on a timely basis and in a manner that does not interfere with the activities of Project Company and its Contractors, and that all persons present on the Site on behalf of GPA (or the third party appointed by it to carry out the remediation work) will comply with Project Company or its Contractors' safety rules.

(d) GPA may not unreasonably withhold or delay its consent in relation to any remediation plan and proposal delivered by Project Company pursuant to this Article 5.5 and failure by GPA to respond to any remediation plan and proposal within fifteen (15) Days of receipt of such proposal shall be deemed to constitute GPA's consent to such remediation plan and proposal.

(e) Following any remediation plan and proposal being agreed (or being deemed to have been agreed) by Project Company and GPA and subject to subsections (g) and (h) below:

(i) Project Company shall be responsible for the first one million Dollars (US$1,000,000) (in aggregate) of remediation costs resulting from the discovery of Pre-Existing Site Condition(s) during the Pre-Existing Condition Period;

(ii) Project Company shall be responsible for the first one million Dollars (US$1,000,000) (in aggregate) of remediation costs resulting from the discovery of Pre-Existing Pipeline Route Condition(s) during the Pre-Existing Condition Period; and

(iii) GPA shall be responsible for (i) all remediation costs resulting from the discovery of Pre-Existing Site Condition(s) during the Pre-Existing Condition Period in excess of the one million Dollars (US$1,000,000) of costs (in aggregate) to be met by Project Company and (ii) all remediation costs resulting from the discovery of Pre-Existing Pipeline Route Condition(s) during the Pre-Existing Condition Period in excess of the one million Dollars (US$1,000,000) of costs (in aggregate) to be met by Project Company, and GPA shall pay such costs to Project Company within thirty (30) Days of receipt of an invoice from Project Company in respect of such costs. Notwithstanding the above, only reasonable and documented remediation costs shall be considered in determining whether and to what extent GPA may be responsible for remediation costs under this subsection (e).

(f) Late payment of any invoice delivered by Project Company under this clause shall accrue interest in accordance with Article 13.4. Project Company shall not be in default or breach of any of its obligations under this Agreement where such default or breach is directly attributable to a Pre-Existing Condition.

(g) Project Company shall exercise commercially reasonable efforts to mitigate the effects and costs of any Pre-Existing Condition. GPA shall have no obligation to pay any remediation costs pursuant to this Article 5.5 to the extent such costs are incurred due to a failure by Project Company to meet its obligation under this subsection (g).

(h) Prior to finalizing the design of the Project Facilities, Project Company shall perform early-stage site investigation and analysis consistent with Prudent Utility Practices. GPA shall not be obligated to pay remediation costs (and subsection (f) shall not excuse Project Company from any of its obligations under this Agreement) for any Pre-Existing Condition that was not notified to GPA within fourteen (14) Days of the date such condition was discovered.

ARTICLE 6
PRE-OPERATIONAL PERIOD

6.1 Permits, Licenses and Approvals

Prior to the Commercial Operation Date, Project Company shall, at its own expense, obtain and maintain all Government Authorizations or any other permit, license, approval or authorization required to be obtained and maintained by Project Company as and when required to comply with its obligations under this Agreement, including reaching Financial Close by the Required Financial Closing Date and achieving the Commercial Operation Date by the Required Commercial Operation Date.

6.2 Documents to be Submitted by Project Company

Project Company shall provide the following documents to GPA:

(a) no later than the date falling fifteen (15) days after Financial Close, a complete copy of the Construction Contract, including all exhibits and schedules thereto, and complete plans and specifications for the construction of the Project Facilities, including drawings and interconnection points for SCADA and AGC, as soon as these are completed,

provided that the Project Company shall be entitled to redact certain commercial terms from the copy of the Construction Contract supplied to GPA;

(b) no later than the date falling fifteen (15) days after Financial Close, a complete copy of the O&M Contract (if applicable), including all exhibits and schedules thereto, provided that Project Company shall be entitled to redact certain commercial terms from the copy of the O&M Contract supplied to GPA;

(c) no later than the date falling fifteen (15) days after Financial Close, a complete copy of the Water Supply and Discharge Agreement;

(d) no later than the date falling fifteen (15) days after Financial Close, complete copies of all Government Authorizations that have been issued to Project Company for the design, financing, construction, operation and maintenance of the Project Facilities;

(e) as soon as available, copies of all Government Authorizations other than those provided under the preceding clause that have been issued to Project Company or the Contractors (as applicable) for the design, financing, construction, operation and maintenance of the Project Facilities;

(f) no later than the date falling fifteen (15) days after Financial Close, a copy of Project Company's quality control program, safety program, environmental compliance program, and security (including cybersecurity) program, each with respect to all aspects of the design, engineering, equipping, construction, and operation and maintenance of the Project Facilities;

(g) on or before the Construction Start Date, complete copies of all insurance policies and certificates of insurance required for construction as indicated in Article 14, provided that Project Company shall be entitled to redact from the copy of the insurance policies supplied to GPA, all commercial terms and all other information that Project Company reasonably considers to be of a confidential or proprietary nature;

(h) as soon as available, but not later than the Commercial Operation Date, complete copies of all insurance policies and certificates of insurance obtained pursuant to Article 14 other than those provided under the preceding subsection;

(i) at least one hundred and twenty (120) Days (or such other period as shall be agreed between the Parties) before the scheduled commencement of the Testing and Commissioning for the Project Facilities, detailed programs and protocols to be used during the Testing and Commissioning of the Project Facilities consistent with the provisions of this Agreement, including Article 7 and Schedule 3. The GPA Engineer and GPA shall have the opportunity to comment on the proposed program and protocols within thirty (30) Days of receipt from Project Company of said documentation, and the GPA Engineer, GPA, and Project Company will work together to agree on the procedures and protocols to be used for Testing and Commissioning not later than sixty (60) Days prior to the scheduled commencement of the respective Testing and Commissioning;

(j) at least sixty (60) Days before the scheduled commencement of the Commercial Operation Tests, the intended start up and test schedule;

(k) not later than thirty (30) Days after the Commercial Operation Date, copies of all test results, certified by the GPA Engineer, for the Commercial Operation Tests performed with respect to the relevant part of the Project Facilities; and

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(l) all the drawings, manuals, procedures, and other technical documents listed in Schedule 1 at the time specified in Schedule 1.

6.3 Supply of Power

(a) The Project Company will arrange for the supply of all electrical energy and capacity required for construction of the Project Facilities through (i) self-generation, or (ii) to the extent available, through making arrangements to purchase construction power from the GPA.

(b) GPA will arrange for backfeed power to be available at GPA substations as required for Testing and Commissioning of the Project Facilities. Any such backfeed power shall be charged to Project Company at the prevailing rates applicable to such power.

(c) Project Company will arrange for the supply of all electrical energy and capacity required for the maintenance and operation of the Project Facilities by (i) generating it with Project Company's own facilities, or (ii) to the extent available, using backfeed power through GPA substations. Any such backfeed power, to the extent it is supplied by GPA, shall be paid to GPA by Project Company at the then current rate for electricity at that location.

6.4 Operating Procedures

(a) Not later than one hundred and eighty (180) Days before the Required Commercial Operation Date, Project Company shall provide GPA with a first draft of its proposed operating procedures dealing with all operation interfaces between GPA and Project Company, including the method of day-to-day communication, key personnel lists, clearances and switching practices, outage scheduling, capacity and energy reporting, operating log and reactive power support, which procedures shall be consistent with this Agreement, the designs of the Project Facilities and the Grid System (including the principles and guidelines developed by GPA for the Grid System as part of and in accordance with the applicable system grid code and as provided to Project Company), and Prudent Utility Practices (the "**Operating Procedures**"). GPA shall cooperate with Project Company, including by providing responses to reasonable requests for information submitted by Project Company in preparation of the Operating Procedures.

(b) Within ninety (90) Days after GPA's receipt of the first draft of the Operating Procedures, GPA shall notify Project Company of any requested deletions, amendments or additions that, in the exercise of GPA's reasonable judgment, are necessary or desirable. Project Company shall make any deletions, amendments or additions that GPA reasonably requests unless such requests would be inconsistent with this Agreement, the designs of the Project Facilities, and the Grid System or Prudent Utility Practices. GPA may, from time to time, require the Operating Procedures to be revised to conform to any duly established grid code binding on GPA to the extent that those revisions are not inconsistent with the terms of this Agreement, the designs of the Project Facilities, the Grid System (including the principles and guidelines developed by GPA as part of and in accordance with the applicable system grid code for the Grid System), and Prudent Utility Practices.

6.5 GPA Observation Visits

GPA shall have the right, upon reasonable prior Notice, and subject to the safety rules and regulations of Project Company, to have its agents or employees at the Site at any time; provided that (i) such visits do not unreasonably interfere with the construction, Testing, Commissioning, operation or maintenance of the Project Facilities and (ii) such visits are at GPA's own expense.

All persons visiting the Project Facilities on behalf of GPA shall comply with the reasonable instructions and directions of Project Company and/or its Contractors. GPA shall bear responsibility for any claim, demand, action, proceeding, loss or damage to such persons or any property of Project Company caused by the negligence or willful misconduct of any persons visiting pursuant to this Article 6.5 or the negligence or willful misconduct of GPA during such visits. Insurance policies issued to Project Company must also cover GPA personnel and the GPA Engineer other than their bodily injury or death during their visits to the Site during the Term.

6.6 Project Company Progress Reports

Commencing on the date of the Original ECA and continuing until the end of the Term, the Project Company shall submit progress reports to GPA prior to the fifteenth (15th) Day of each Month. Such reports shall cover in reasonable detail the progress in the development, permitting, financing, procurement, construction, and operation of the Project Facilities for the preceding Month.

Prior to the Commercial Operation Date, the progress report shall include, as a minimum, an updated critical path schedule, a list of activities completed in the preceding month, a list of activities behind schedule and reasons therefor, a recovery plan for activities more than thirty (30) Days behind schedule, a safety report specifying all safety related incidents (e.g., fatalities, lost time accidents, and near misses), and a list and description of outstanding issues or concerns impacting, or reasonably expected to impact, the Project or its implementation schedule.

Subsequent to the Commercial Operation Date, the progress report shall include, as a minimum, an operational performance report (including hours of operation, gross and net capacity, heat rate, auxiliary load, number of trips, outages, or derations), description of maintenance activity, an updated maintenance plan, a safety report specifying all safety related incidents (e.g., fatalities, lost time accidents, and near misses), a list and detailed description of any environmental or security violations and a list and description of outstanding issues or concerns impacting the operation and maintenance of the Project Facilities.

ARTICLE 7
TESTING OF THE FACILITY

7.1 Testing of the Project Facilities Prior to the Commercial Operation Dates

(a) Project Company shall provide to GPA on an on-going basis relevant information regarding its program for Testing the Project Facilities, including any delay suffered, or reasonably anticipated to be suffered, in the date of synchronization of a Unit (or other Project Facilities) or to the Required Commercial Operation Date. The reference to Commercial Operation Test in this Agreement may include the Commercial Operation tests for the whole Project Facilities or the respective parts thereof, including the Facility.

(b) Not less than sixty (60) Days prior to the Required Commercial Operation Date, Project Company will deliver to GPA in writing the final program for Testing, including the expected duration of Project Company's start-up and Testing program and a tentative schedule for conducting all tests required by Schedule 3. Project Company shall advise GPA in writing of its final schedule for the Testing program not less than fifteen (15) Days prior to the commencement of the tests required by Schedule 3. If the schedule for any test required by Schedule 3 is adjusted after Project Company has provided GPA with the final Testing program schedule, Project Company shall advise GPA not less than seventy-two (72) hours prior to the commencement of any such test. On each Day beginning with the Day on which Testing commences, Project Company shall provide GPA with a schedule of the

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tests to be conducted on the following Day or Days, if such test will continue for more than one (1) Day. All Testing of the Project Facilities shall satisfy the requirements provided in Schedule 3 and the procedures and protocols agreed upon by GPA, Project Company, and the GPA Engineer pursuant to Article 6.2(i). GPA will make all reasonable efforts to accept all the energy generated by the Facility during the Period of Testing and enable full load operation of the Facility during Dependable Capacity Tests..

(c) If GPA is unable to accommodate the schedule for such test or tests as provided by Project Company in the final schedule for the program of tests pursuant to the foregoing Article 7.1(b), GPA will give Project Company a Notice regarding deferral of any test or tests within seventy-two (72) hours of its receipt of the final schedule for Testing, and the Parties will mutually agree on a date for any deferred test or program of tests.

(d) Additional Commercial Operation Tests

(i) Project Company shall be entitled to attempt as many Commercial Operation Tests as are necessary to ensure that the Project Facilities, or any part thereof, is Commissioned in accordance with the requirements of this Agreement. Project Company shall give GPA not less than seventy-two (72) hours' Notice of each additional Commercial Operation Test it desires to attempt.

(ii) Notwithstanding subsection (i), if the results of a Commercial Operation Test satisfy the applicable minimum performance criteria for successful completion of such Commercial Operation Test, but Project Company is not satisfied with the results of such Commercial Operation Test, Project Company may request additional tests to establish the results of the Commercial Operation Test with at least seventy-two (72) Hours' prior Notice provided to GPA prior to a subsequent test: provided, however, that Project Company will continue to be responsible for any delay liquidated damages under Article 8.1 and will not be paid for capacity until it has notified GPA that Project Company has designated the test as the Commercial Operation Test in accordance with subsection (iii) below.

(iii) For the Facility, when Project Company is satisfied with a test to establish the Commercial Operation Date, Project Company shall notify GPA that Project Company has designated such test as the Commercial Operation Test. The Initial Dependable Capacity shall be set at any level successfully demonstrated during the Commercial Operation Test up to the Contracted Capacity. The test period for the Initial Dependable Capacity test shall be for six (6) continuous hours; and

(iv) The Commercial Operation Date shall occur and payment for Capacity Charges for the Facility shall commence as of the first Day after the Day the Facility is Commissioned. In the event that Project Company is unable to demonstrate in the Commercial Operation Tests (carried out in accordance with the foregoing subsection (i) that the Facility is capable of operating at Threshold Capacity, GPA may terminate this Agreement as a Project Company Event of Default in accordance with Article 4.5.

7.2 <u>Testing of Dependable Capacity and Heat Rate of the Facility after the Commercial Operation Date</u>

The following provisions with respect to Testing the Project Facilities after the Commercial Operation Date shall apply:

(a) Dependable Capacity shall be tested annually (at Project Company's cost) after the Commercial Operation Date at times mutually agreed upon by Project Company and GPA. Project Company may, within twenty-four (24) hours of completion of a Dependable Capacity Test, reject the test and may conduct a retest (at Project Company's cost) at a time to be mutually agreed; provided, however, that Project Company cannot conduct more than two (2) retests of any Dependable Capacity Test before the level of capacity achieved during such a test is set as the Dependable Capacity. Project Company shall give GPA at least forty-eight (48) hours' prior Notice of the first retest and twenty-four (24) hours' prior Notice of the second retest, and any retest shall be conducted within ten (10) Days after the completion of the rejected test;

(b) The test period for the Dependable Capacity Test shall be for one (1) hour. The test shall be run using the Metering System and plant instrumentation for measurements, unless otherwise decided by the Joint Coordinating Committee. The Dependable Capacity shall be the Net Energy Output during this one (1) hour corrected for Site Reference Conditions, but may not exceed the Contracted Capacity, respectively. If, as the result of a Dependable Capacity Test, the tested capacity is shown to be above the Dependable Capacity in effect prior to such test, Project Company shall set the Dependable Capacity at the new tested capacity up to the Contracted Capacity, and payments for the Dependable Capacity shall be increased accordingly, effective the Day such Dependable Capacity Test is completed. If, as a result of the Dependable Capacity Test, the tested capacity is shown to be below the Dependable Capacity in effect prior to such test, the Dependable Capacity will be reduced to the newly tested capacity, and payments for the Dependable Capacity shall be decreased to the tested level, effective the Day Dependable Capacity Test is completed;

(c) Between annual tests, GPA may request one (1) additional Dependable Capacity Test (at Project Company's cost) if GPA reasonably believes that the currently set Dependable Capacity does not accurately reflect the Dependable Capacity previously declared to GPA. GPA shall provide written Notice of its request to test fourteen (14) Days prior to the requested test date. Project Company shall be entitled to one (1) retest of such Dependable Capacity Test (at Project Company's cost) before the level of capacity achieved during such a test is set as the Dependable Capacity provided that it rejects the test within twenty-four (24) hours of completing the Dependable Capacity Test. Each such Dependable Capacity Test and, as appropriate, any retest, shall be conducted in accordance with the foregoing subsection (b), within ten (10) Days of its request or, as the case may be, the rejection, and Project Company shall give GPA not less than seventy-two (72) hours' Notice of its intention to perform such retest;

(d) Between annual tests, Project Company may:

(i) conduct one (1) additional Dependable Capacity Test; and

(ii) in addition to Project Company's right to request an additional Dependable Capacity Test under subsection 7.2(d)(i) above, conduct (at Project Company's cost) one additional Dependable Capacity Test if GPA has elected to conduct an additional Dependable Capacity Test mentioned in Article 7.2(c) during a Forced Outage,

in each case, if Project Company reasonably believes that the currently set Dependable Capacity does not accurately reflect the Dependable Capacity that the Facility is able to achieve.

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Each such Dependable Capacity Test carried out pursuant to this Article 7.2(d) shall be conducted in accordance with Article 7.2(b) and Project Company shall give GPA not less than seventy-two (72) hours' Notice of its intention to perform each such Dependable Capacity Test;

(e) Notwithstanding anything to the contrary in this Agreement, no Dependable Capacity Test will be conducted during a Scheduled or Maintenance Outage, during the occurrence of a Force Majeure that affects the Project Facilities, including where the Force Majeure affects only the Facility; or while the consequences of such Force Majeure continue to affect the Project Facilities. For the avoidance of doubt, the additional Dependable Capacity Test mentioned in Article 7.2(c) may be conducted during a Forced Outage;

(f) If GPA requires the Facility to operate on Natural Gas in accordance with the provisions of Article 3.4:

(i) GPA shall issue a Notice to Project Company stating the date, which shall not be less than sixteen (16) months from the date of the Notice, starting from which it could start the supply of Natural Gas;

(ii) Project Company shall be allowed a period of twenty-five (25) Days for each Unit following the date set forth in the above-mentioned Notice to implement the switch to Natural Gas and to perform the tests set forth in Schedule 3;

(iii) during each such twenty-five (25) Day period, which shall be extended in case of occurrence of any Force Majeure event or unavailability of Natural Gas:

(A) the Facility shall be deemed to provide the Dependable Capacity and the Project Company shall receive the full Capacity Charge;

(B) GPA shall provide sufficient quantities of Natural Gas pursuant to the specifications in Schedule 7 in order to allow Project Company to implement the switch;

(C) provision of Natural Gas by GPA to Project Company up to one hundred and ninety-three thousand (193,000) MMBtu of Natural Gas (the "**Maximum Natural Gas Switch Quantity**") shall be at GPA's cost;

(D) provision of Natural Gas by GPA to Project Company in quantities exceeding the Maximum Natural Gas Switch Quantity shall be at Project Company's cost; and

(E) Project Company shall perform the tests referred to in Schedule 3 (at Project Company's cost) and shall be required to conduct (including after the expiry of such period) as many retests (at Project Company's cost) as necessary to pass these tests in accordance with the provisions of Schedule 3;

(g) The Parties agree that the provisions of subsection (f) above shall only apply when GPA elects to burn Natural Gas for the first time during the Term; and

(h) GPA shall have the right to request that the Facility's Heat Rate be tested (at Project Company's cost) concurrently with any Dependable Capacity Test and Project Company shall be obligated to comply with such request.

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7.3 Notice of and Compliance with Testing Procedures

Project Company shall carry out Commissioning of the Facility, the Testing of the Initial Dependable Capacity at or prior to the Commercial Operation Date, and the Testing of the Dependable Capacity thereafter in accordance with Article 7.2 and Schedule 3. GPA shall use its reasonable efforts to comply promptly with all reasonable requests made by Project Company for assistance in carrying out such Testing and Commissioning. GPA shall be given prior Notice of the Testing or Commissioning procedure in accordance with Article 7.2 and shall be entitled to be present and observe any such testing and Commissioning. The procedures and results of such tests shall be certified by the GPA Engineer.

7.4 Copies of Test Results

Project Company shall provide GPA with copies of the results of all tests performed pursuant to Schedule 3 and after every Major Overhaul of a generating Unit at the Facility. GPA shall not use or disclose such results other than in connection with the administration and enforcement of this Agreement or subject to applicable Law.

7.5 Deemed Commissioning

(a) In the event that for any reason (other than a breach by Project Company of its obligations under this Agreement or any other Project Agreement):

(i) Due to (A) any action or inaction by GPA, the GPA Engineer or GWA that is inconsistent with the terms of this Agreement, the LLA or the Water Supply and Discharge Agreement (including any failure by GPA to satisfy the Fuel Supply Requirement), (B) the discovery of a Pre-Existing Condition, (C) any failure by GPA or any third party appointed by GPA to carry out remediation work in accordance with Article 5.5(c), or (D) unavailability of Fuel or Water, a Commercial Operation Test is delayed beyond the date falling fourteen (14) Days before the Required Commercial Operation Date, then upon receipt of a certificate from an Independent Engineer to the effect that the Facility is, or would have been, ready for testing by the Required Commercial Operation Date, the Facility shall be deemed Commissioned fifteen (15) Days after the Required Commercial Operation Date (provided that for the avoidance of doubt the Project Company shall in no event be required to pay delay liquidated damages under Article 8.1 for such fifteen (15) Day period) and the Facility shall be deemed to be providing Initial Dependable Capacity equal to the applicable Contracted Capacity from the end of such fifteen (15) Day period for the purposes of payments of Capacity Charges to be made by GPA to Project Company; and

(ii) If the Facility has been deemed Commissioned, the Commercial Operation Tests for the Facility shall be conducted at the first available opportunity after such deemed Commissioning, and the Initial Dependable Capacity adjusted as a result of such test in accordance with subsection (b) below. Project Company shall use reasonable efforts to mitigate the delay caused by any of the events mentioned in this Article 7.5(a);

(b) In the event that the Initial Dependable Capacity at the Commercial Operation Tests after the Facility has been deemed Commissioned is less than the Contracted Capacity, Project Company shall refund to GPA an amount equal to:

(i) the difference, if any, between the Contracted Capacity and the Initial Dependable Capacity, divided by the Contracted Capacity; times

(ii) the total Capacity Charges relating to the Facility paid between the date of deemed Commissioning and the date upon which the Initial Dependable Capacity Tests take place; provided, however, that in the event that the Initial Dependable Capacity is less than the Threshold Capacity, the Project Company shall refund all Capacity Charges relating to the Facility, received based on deemed Commissioning;

(c) If, due to a delay mentioned in Article 7.5(a), the actual Commercial Operation Date does not occur within one (1) month of the Required Commercial Operation Date, GPA shall indemnify Project Company for (i) the actual reasonable documented costs of demobilization and remobilization of the personnel of Project Company, the O&M Contractor and the Construction Contractor, and (ii) any other actual reasonable documented costs payable to the Construction Contractor.

ARTICLE 8
LIQUIDATED DAMAGES PAYABLE BY PROJECT COMPANY

8.1 Delay in Commissioning

Project Company covenants that the Facility shall be Commissioned on or before the Required Commercial Operation Date. If the Commercial Operation Date has not occurred by the Required Commercial Operation Date, the Project Company shall pay GPA, as liquidated damages, for the delay in Commissioning a sum equal to:

Two hundred and forty thousand Dollars (US$240,000) for each Day of delay or fraction thereof.

In no event shall the damages assessed under this Article 8.1 exceed forty-three million, two hundred thousand Dollars (US$43,200,000).

8.2 Failure to Meet Contracted Capacity

(a) Project Company covenants that the Initial Dependable Capacity of the Facility shall not be less than the Contracted Capacity. In the event that upon completion of the Dependable Capacity Test used to establish the Initial Dependable Capacity of the Facility at or prior to the Commercial Operation Date pursuant to Article 7, the Initial Dependable Capacity for the Facility is less than the Contracted Capacity (but greater than the Threshold Capacity), Project Company shall have the option for a period of up to six (6) months from the Commercial Operation Date to undertake Remedial Actions to increase the Initial Dependable Capacity to the Contracted Capacity at its own cost. Within fifteen (15) Days of the expiration of such period or any decision by Project Company not to undertake Remedial Actions (whichever is the earlier to occur), Project Company shall pay to GPA, as liquidated damages, an amount equal to three thousand one hundred Dollars (US$3,100) per kW of the shortfall between the most recently determined Initial Dependable Capacity and the Contracted Capacity.

(b) In no event shall the damages assessed under this Article 8.2 exceed thirty-five million Dollars (US$35,000,000).

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(c) Results of all Initial Dependable Capacity Tests and Dependable Capacity Tests shall be valid only to the extent such tests are performed while the Facility operates within the requirements of all Government Authorizations and the environmental permits.

8.3 Excessive Outages

(a) Facility Excessive Forced Outages

Project Company covenants that, in respect of each Contract Year, the Facility's Excessive Forced Outages Energy ("**EFOE**") for such Contract Year shall be less than or equal to zero (0).

In the event that, during any Contract Year other than the first Contract Year, the EFOE is greater than zero (0), then Project Company shall pay to GPA, as liquidated damages, the Capacity Damages, calculated as follows:

Capacity Damages (US$) =
Capacity Damages Amount (US$/MW) x 1.3 x EFOE (MWh) / number of hours in such Contract Year

Where:

Capacity Damages Amount	=	the product of (i) the Capacity Charge per MW per Month prevailing during the relevant Contract Year and (ii) twelve (12) Months.

The EFOE for any Contract Year, other than as modified in this Article 8.3 for the first Contract Year, will be the sum of the actual Forced Outages Energy (FOE) minus the Allowable Forced Outages Energy (AFOE), minus Accumulated Unused Forced Outage Energy (AUFOE), namely:

Excessive Forced Outages Energy (MWh) = [FOE – (AFOE) – (AUFOE)] (each term expressed in MWH)

FOE (MWh)	=	the summation of all periods of Forced Outage of this product: duration of outage (hours) x reduction in Dependable Capacity (MW).
AFOE (MWh)	=	Annual Average Dependable Capacity (MW) x guaranteed maximum Forced Outage hours pursuant to the availability guarantee set forth in Schedule 4.
AUFOE (MWh)	=	Annual Average Dependable Capacity (MW) x unused guaranteed maximum Forced Outage Hours pursuant to the availability guarantee set forth in Schedule 4 from previous Contract Years (MWh), up to a maximum number of such unused hours that may be carried over from prior Contract Years to the then current Contract Year of one hundred and twenty (120) hours, where unused guaranteed maximum Forced Outage Hours is the sum of the quotients, for each of the previous Contract Years when such quotient was above zero, of (a) AFOE minus FOE, divided by (b) the Annual Average Dependable Capacity for the relevant Contract Year.

f the EFOE for any Contract Year is less than or equal to zero (0), no liquidated damages are due.

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(b) Facility Excessive Total Outages

Project Company covenants that, in respect of each Contract Year, the Excessive Total Outages Energy ("**ETOE**") of the Facility for such Contract Year shall be less than or equal to zero (0).

In the event that, during any Contract Year other than the first Contract Year, the ETOE is greater than zero (0), then Project Company shall pay to GPA, as liquidated damages, the Capacity Damages, calculated as follows:

Capacity Damages (US$) =

Capacity Damages Amount (US$/MW) x 1.3 x Excessive Total Outages Energy (MWh)/ the number of hours in such Contract Year

Where		
Capacity Damages Amount	=	the product of (i) the Capacity Charge per MW per Month of the Facility prevailing during the relevant Contract Year and (ii) twelve (12) Months.

The ETOE for any Contract Year, other than as modified in this Article 8.3 for the first Contract Year, will be the sum of the actual total outages (FOE, MOE and SOE) minus the Allowable Total Outages Energy ("**ATOE**"), minus the difference between the FOE and the AFOE minus Accumulated Unused Scheduled and Maintenance Outage Energy ("**AUSMOE**"), namely

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For the Facility:

Excessive Total Outages Energy (MWh) = [FOE + MOE + SOE - (ATOE) – (AUSMOE)] – [FOE-AFOE-AUFOE)] if

[FOE – AFOE-AUFOE] is above zero or

Excessive Total Outages Energy (MWh) = [FOE + MOE + SOE - (ATOE) – (AUSMOE)] if [FOE – AFOE - AUFOE] is equal to or below zero (each term expressed in MWH)(each term expressed in MWH)

FOE (MWh)	=	the summation of all periods of Forced Outage of this product: duration of outage (hours) x reduction in Dependable Capacity (MW).
MOE (MWh)	=	the summation of all periods of Maintenance Outage of this product: duration of outage (hours) x reduction in Dependable Capacity (MW).
SOE (MWh)	=	the summation of all periods of Scheduled Outage of this product: duration of outage (hours) x reduction in Dependable Capacity (MW).
ATOE (MWh)	=	Annual Average Dependable Capacity (MW) x guaranteed maximum total Outage Hours pursuant to the availability guarantee set forth in Schedule 4.
AFOE (MWh)	=	Annual Average Dependable Capacity (MW) x guaranteed maximum forced Outage Hours pursuant to the availability guarantee set forth in Schedule 4.
AUSMOE (MWh)	=	Annual Average Dependable Capacity (MW) x unused guaranteed maximum Scheduled Outage and Maintenance Outage hours pursuant to the availability guarantee set forth in Schedule 4 from previous Contract Years (MWh), up to a maximum number of such unused hours that may be carried over from prior Contract Years to the then current Contract Year of one hundred and twenty (120) hours, where unused guaranteed maximum Scheduled Outage hours and Maintenance Outage hours is the sum of the quotients for each of the previous Contract Years, when such quotient is a positive number, of (a) ATOE minus AFOE minus the sum of SOE and MOE divided by (b) Annual Average Dependable Capacity for the relevant Contract Year

If the ETOE for any Contract Year is less than or equal to zero (0), no liquidated damages are due.

8.4 Waiver of Defenses

Notwithstanding that GPA may be substantially damaged in amounts that may be difficult or impossible to determine in the event that the Facility (i) is not Commissioned by the date required, (ii) is not capable of achieving and maintaining the Contracted Capacity, (iii) cannot minimize the number of Forced Outages, or (iv) cannot achieve the designated operating levels, the Parties agree that the sums set out in this Article 8 constitute a genuine pre-estimate of the loss to GPA and as a result are fair and reasonable as liquidated damages and it is further understood and agreed that the payment of liquidated damages is in lieu of actual damages for such occurrences. Project Company hereby waives any defense as to the validity of any liquidated damages in this Agreement on the grounds that such damages are void as penalties.

8.5 Financial Close and Security Deposits

(a) Notice of Possible Delays to Financial Close

Project Company shall, promptly (and in no event later than seven (7) Days after becoming aware thereof) give written Notice to GPA of the occurrence of any event which delays, or is reasonably likely to delay, Financial Close beyond the Required Financial Closing Date. Within fourteen (14) Days after any such initial Notice, Project Company shall provide GPA with a further written Notice substantiating such occurrence in reasonable detail, its effect on Project Company's ability to achieve Financial Close, and its effects, if any, on the Project, including financial implications. Further, Project Company shall thereafter provide such further information and updates as GPA may reasonably request from time to time in order to substantiate such occurrence and/or such effects.

(b) Extension of Required Financial Closing Date

If Project Company does not achieve Financial Close by the Required Financial Closing Date due to reasons other than an Excusable Event, a GPA Delay Event or Project Company's failure, then the Required Financial Closing Date shall be extended until the date that is ninety (90) Days after the original Required Financial Closing Date, provided, however that (A) if the failure to achieve Financial Close is due to the occurrence of one or more Excusable Events, then the Required Financial Closing Date shall be extended on an equitable basis up to a maximum of an additional one hundred and eighty (180) Days to account for such delay, and (B) if the failure to achieve Financial Close is due to a GPA Delay Event, then the Required Financial Closing Date shall be extended on an equitable basis to account for such delay.

Prior to any extension referred to in this subsection (b), the validity period of the Bid Guarantee shall be extended (by written amendment thereto delivered to GPA) until the extended Required Financial Closing Date.

(c) Not Used.

(d) Full Notice to Proceed

On the date of the Full Notice to Proceed, GPA shall return the Bid Guarantee to Project Company and Project Company shall provide to GPA a security deposit (the "**Performance Bond**") in an amount in Dollars equal to seventy-eight million, three hundred and twenty thousand Dollars (US$78,320,000) to ensure Project Company's obligations to pay liquidated damages in accordance with Articles 8.1 and 8.2. The Performance Bond shall terminate three (3) Months after the Day following the Day upon which the Facility is Commissioned (or, in the case that Project Company opts to pursue Remedial Actions, six (6) Months thereafter), at which point GPA shall return the Performance Bond to Project Company. The Performance Bond shall consist of either: (i) an unconditional and irrevocable direct pay letter of credit issued by an international bank with an investment grade rating in form and substance reasonably acceptable to GPA; (ii) a bank guarantee issued by an international bank with an investment grade rating in form and substance reasonably acceptable to GPA; or (iii) a performance bond issued by an international surety with an investment grade rating in form and substance reasonably acceptable to GPA.

8.6 Payments of Liquidated Damages

(a) Within fourteen (14) Days after the end of (i) each Month in respect of amounts due pursuant to Articles 8.1 and 8.2, and (ii) each Contract Year in respect of amounts due pursuant to Article 8.3, GPA shall compute and advise Project Company by Notice (a "**Liquidated Damages Notice**") of the amount of liquidated damages, if any, due to GPA pursuant to this Agreement for the preceding Month or Contract Year, as the case may be. Subject to Article 8.6(b), Project Company shall pay to GPA the amount of liquidated damages shown on the Liquidated Damages Notice within thirty (30) Business Days of the date of the Liquidated Damages Notice (the "**Liquidated Damages Due Date**"). If Project Company fails to pay any amount due pursuant to Articles 8.1, 8.2 and 8.3 by the Liquidated Damages Due Date, GPA shall be entitled to draw such amount from the Performance Bond. Interest shall accrue on any unpaid and undrawn amount from the Liquidated Damages Due Date until the date payment is made at the rate of the Bank Rate. Save to the extent that the amount of liquidated damages reflected on the Liquidated Damages Notice is paid to GPA by Project Company or, with respect to liquidated damages pursuant to Articles 8.1, 8.2 and 8.3, drawn from the Performance Bond, the amount of liquidated damages pursuant to Articles 8.1, 8.2 and 8.3 plus accrued interest due to GPA may be set off against amounts owed to Project Company by GPA on the next statement(s) submitted to GPA pursuant to Article 13.

(b) In the event of any Dispute as to the computation or payment of liquidated damages, Project Company shall provide Notice to GPA specifying the amount disputed and the reason therefor. In such event, the amounts not disputed shall be paid as described in this Article 8 and the Dispute shall be settled in accordance with the Dispute resolution procedures set forth in Article 18. If any such Dispute is resolved in favor of GPA, the determination of amounts due to GPA shall include interest at the rate specified for late payment in Article 13.4. Upon resolution, the Project Company shall pay the amount determined to be owed to GPA within ten (10) Days of such resolution, failing which GPA shall be entitled to claim such amount from the Performance Bond, as applicable.

ARTICLE 9
CONTROL AND OPERATION OF THE PROJECT FACILITIES

9.1 Operating Procedures

The Project Facilities shall be operated and maintained in accordance with the Operating Procedures.

9.2 Dispatch

(a) The PSCC will issue Dispatch Instructions to establish the Net Energy Output (in respect of dispatch of the Facility) that the Facility is expected to feed into the Grid System during forthcoming periods of time. In coordination with GPA, Project Company shall be responsible for determining the operating modes (including but not limited to the determination of how to load each Unit) that will result in the most efficient and reliable operation.

(b) Project Company shall notify GPA and the PSCC whenever a Dispatch Instruction results in a part of or the whole Facility being operated beyond the Technical Limits. Project Company never has an obligation to operate and GPA never has a right to dispatch any of the Project Facilities beyond the Technical Limits. The Operating Procedures shall establish the circumstances under which Project Company will trip a Unit, prior to such Unit being tripped by a protective device. GPA's right to issue Dispatch Instructions in respect of the Project Facilities is subject to (i) the characteristics and Technical Limits of the Project

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Facilities set forth in Schedule 2 and (ii) compliance with environmental Laws and any applicable environmental Government Authorizations.

(c) Dispatch Instructions shall indicate the total amount of Net Energy Output required during the relevant period, expressed as an amount in MW, which amount may not exceed the Declared Capacity required during the relevant period.

9.3 Scheduling of Capacities and Energy

GPA and Project Company shall cooperate in establishing the following scheduling for the Facility's Dependable Capacity and Net Energy Output:

(a) Year-Ahead Notification: Not less than ninety (90) Days before the scheduled Commercial Operation Date and thereafter not less than ninety (90) Days before the beginning of each Contract Year, GPA shall provide to Project Company good faith estimates of its requirements on a Monthly basis, for the Net Energy Output and the maximum capacity required during that Contract Year, but shall not be bound by those figures. GPA will also indicate the desired maintenance periods for the upcoming Contract Year;

(b) Quarter-Ahead Notification: Not less than sixty (60) Days before each quarter of each Contract Year, GPA shall provide to Project Company good faith estimates of its requirements, on a week-by-week basis for the Net Energy Output and maximum capacity required during that quarter and also provisionally for the following quarter, but shall not be bound by those figures;

(c) Month-Ahead Notification: Not less than fourteen (14) Days before each Month, GPA shall provide to Project Company good faith estimates of its requirements on a day-by-day basis, for the Net Energy Output and maximum capacity required during that Month and also provisionally for the following Month, but shall not be bound by those figures;

(d) Week-Ahead Notification: Not later than 12:00 p.m. on Thursday before each week beginning on each Saturday, GPA shall:

(i) provide Project Company estimated requirements, on an hour by hour basis, for the Net Energy Output and maximum capacity required during that week and also provisionally, during the following week, but shall not be bound by these figures; and

(ii) determine which Fuel shall be used each hour during that week;

(e) Declared Capacity Notification: To enable GPA to give final schedules of requirements, Project Company shall notify the PSCC, by 8:00 a.m. each Day, of the Declared Capacity available during each hour of the following Day. However, Project Company may notify the PSCC, not less than twelve (12) hours prior to its scheduled occurrence, of any reasonable modification to the Declared Capacity schedule. The Notices that Project Company is required to send to GPA pursuant to this Article 9.3(e) shall include the number of MW available for each Unit during each hour of the following day and the amount and type of Fuel required to comply with the expected dispatch (the **"Unit Available Capacity"**). The availability of the Facility shall be based, for the purposes of determining the Declared Capacity or calculating Outage Hours, on the availability of the Facility with the Fuel that GPA instructs the Project Company to run;

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(f) Day-Ahead Notification: Not less than eight (8) hours before the start of each Day the PSCC shall provide to Project Company firm requirements in accordance with Article 9.2(c), on an hour-by-hour basis for capacity during that Day and also, provisionally, during the following Day. The firm requirements shall be binding upon GPA; provided, however, Project Company shall not unreasonably withhold its consent to any reasonable request from GPA for an alteration to its requirements; and

(g) The methods for scheduling the capacity may be modified from time to time. Such modifications may be initiated by GPA, the PSCC, or Project Company and must be approved by the Joint Coordinating Committee.

9.4 Scheduled Maintenance

(a) Project Company shall submit its desired schedule of Scheduled Outage periods (including the duration of each such period) to GPA six (6) Months before the Required Commercial Operation Date and thereafter on August 1st of each calendar year. Project Company shall seek to schedule any Scheduled Outage periods during the period from January to (and including) April or such other alternative periods as GPA may specify (but, in each case, without any obligation to do so and subject to the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities), provided that GPA specifies at least one (1) year in advance the alternative period and that the period available for Scheduled Outages is of equal duration to the period specified herein. Within thirty (30) Days of receipt of such schedule, GPA shall notify Project Company in writing as to the acceptability of such schedule. Project Company shall use all reasonable efforts to make each such Scheduled Outage period of relatively short duration consistent with the Technical Limits and Prudent Utility Practices.

(b) If GPA does not accept any one or more of the requested Scheduled Outage(s) periods, GPA shall advise Project Company within thirty (30) Days of the receipt of Project Company's notification in accordance with subsection (a) above of the acceptable period when GPA determines any such unacceptable Scheduled Outage can be rescheduled. The rescheduled time shall be as close as reasonably practicable to the requested time, shall be consistent with the Technical Limits, Prudent Utility Practices and the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities, and shall be of the same duration as the requested period. If GPA fails within such thirty (30) Day period to object to any Scheduled Outage for which it receives Notice pursuant to subsection (a) above or fails within such period to advise Project Company of a substitute time, Project Company may schedule and conduct the Scheduled Outage(s) as initially requested.

(c) Project Company shall schedule Scheduled Outages only at times determined as aforesaid; provided, however, that GPA may not require Project Company to schedule Scheduled Outages in a manner or time which is outside the Technical Limits, is inconsistent with Prudent Utility Practices or the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities.

(d) Notwithstanding the fixing of a time for a Scheduled Outage pursuant to subsections (a), (b) and (c) above, GPA may, upon at least ninety (90) Days prior Notice and upon agreeing to pay the documented increased cost, if any, to the Project Company resulting therefrom, require Project Company to reschedule a Scheduled Outage; provided,

however, that (i) GPA shall not require such Scheduled Outage to be rescheduled for a period of shorter or longer duration or in a manner or time that is outside the Technical Limits, or inconsistent with Prudent Utility Practices or the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities, (ii) GPA shall not require that a single Scheduled Outage period be split into two (2) or more periods without compensating Project Company for any additional costs incurred thereby, and (iii) GPA shall not require that a Scheduled Outage be brought forward any earlier than sixty (60) Days from the date of such Notice without the consent of Project Company.

(e) Notwithstanding the fixing of a time for a Scheduled Outage pursuant to subsections (a), (b) and (c) above, Project Company may request a rescheduling of any Scheduled Outage upon ninety (90) Days prior written Notice to GPA. GPA shall respond to such request within ten (10) Business Days and shall not unreasonably withhold its permission for such rescheduling.

(f) When the need arises for a Maintenance Outage, Project Company shall advise GPA of such need and of the commencement and estimated duration of such work, and GPA shall allow Project Company to schedule such Maintenance Outage within a period of time that is reasonable under the circumstances, but in any event not to exceed the time required by the Technical Limits and Prudent Utility Practices. Project Company shall use all reasonable efforts to conduct such Maintenance Outage during off-peak hours. Project Company may advise GPA orally of the above matters set forth in this subsection (f), and GPA shall respond orally within twenty-four (24) hours of such notice. GPA shall confirm its communication in writing within one (1) week of such oral notice.

(g) For those years in which Project Company plans to conduct a Major Overhaul, Project Company shall submit its Major Overhaul schedule (including the number of Units subject to Major Overhaul and outage duration of each Unit for such period) to GPA, for each Contract Year, one (1) year in advance by Notice. It is expected that a Major Overhaul will take place approximately in accordance with Schedule 2, as defined by the manufacturer and will not exceed twenty-three (23) Days per Unit in any Contract Year for the Facility. Project Company shall seek to schedule a Major Overhaul outside the months of May through (and including) December (but, in each case, without any obligation to do so and subject to the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities). Within thirty (30) Days of receipt of such schedule, GPA shall notify Project Company in writing as to the acceptability of such schedule. If GPA does not accept such schedule, GPA shall advise Project Company within thirty (30) Days of receipt of such schedule of the time when GPA determines the Major Overhaul can be rescheduled. The rescheduled time shall be as close as reasonably practicable to the requested time, shall be consistent with the Technical Limits, Prudent Utility Practices, and the recommendations and maintenance requirements of the applicable original equipment manufacturers of the various components of the Project Facilities, and shall be of equal duration as the requested period. If GPA fails within the allowed period to object to any Major Overhaul for which it receives Notice pursuant to this Article 9.4, or fails within such period to advise Project Company of a substitute time, Project Company may schedule the Major Overhaul as initially requested.

9.5 Emergencies

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(a) Project Company shall cooperate with GPA in establishing agreed Emergency plans for the Project Facilities at least ninety (90) Days before the Required Commercial Operation Date, including recovery from a local or widespread electrical blackout and voltage reduction in order to curtail load.

(b) On or after the Commercial Operation Date, Project Company shall, during an Emergency, within no more than fifteen (15) minutes of GPA's request, and more quickly if possible consistent with Prudent Utility Practices, supply such power as one or more of the Project Facilities is able to generate; provided, however, that Project Company shall not be obligated to operate any of the Project Facilities beyond the Technical Limits or beyond the limits which Project Company reasonably believes could result in a trip. If a Scheduled Outage or Maintenance Outage occurs or would occur coincident with an Emergency, Project Company, upon consultation with GPA and at GPA's sole cost and expense, shall make all reasonable efforts to reschedule the Scheduled Outage or Maintenance Outage or, if the Scheduled Outage or Maintenance Outage has begun, expedite the completion of the work to restore power supply as soon as possible.

9.6 Maintenance of Operating Records

(a) Each Party shall keep complete and accurate records and all other data required by each of them for the purposes of proper administration of this Agreement. Among, but not limited to, other records and data required hereby or elsewhere in this Agreement, Project Company shall maintain an accurate and up-to-date operating log at the Project Facilities with records of:

(i) Net Energy Output production for each demand period and Delivery Point, and bus voltage at all times (for this purpose Project Company shall install a computerized system that will maintain an agreed data base of all pertinent parameters, as determined by the Joint Coordinating Committee);

(ii) changes in operating status, Scheduled Outages, Maintenance Outages and Forced Outages; and

(iii) any unusual conditions found during inspections.

(b) All such records required under Article 9.6(a) shall be maintained for a minimum of sixty (60) Months after the creation of such record or data; provided, however, that the Parties shall not dispose of or destroy any such records after such sixty (60) Month period without thirty (30) Days' prior Notice to the other Party. Either Party shall have the right, upon reasonable prior Notice to the other Party, and at reasonable times during normal office hours, to examine the records and data of the other Party relating to this Agreement or the operation and dispatch of the Project Facilities within the Grid System at any time during the period such records and data are required hereunder to be maintained.

9.7 Annual Report

Project Company shall deliver to GPA an annual operating and maintenance report for each Contract Year, within two (2) Months following the expiration of each Contract Year. Such annual report must include the operation and maintenance report for the prior year and the anticipated operation and maintenance plan and Emergency plan for the upcoming year.

9.8 Project Facilities Improvements

Subject to the prior written consent of Project Company and the Agent (in accordance with the Lenders' Direct Agreement), if Project Company shall be requested by GPA to (a) increase the generation capacity of the Project Facilities or (b) add equipment, then Project Company shall (once all relevant details have been agreed by Project Company and GPA) implement and prosecute such request at GPA's expense.

Notwithstanding the first sentence of this Article 9.8, the Project Company shall not prosecute and implement such request until:

(a) GPA and the Project Company shall have agreed on the feasibility, schedule and cost of such implementation and additional construction (if any), with capital costs and operational costs being recoverable through Supplemental Charges or by direct cost-plus reimbursement at the discretion of the Project Company;

(b) the financing for such implementation and construction (if any) has been obtained; and

(c) appropriate adjustments to the Price (if any), including the Capacity Charge and the Energy Charge, have been agreed, and taking into account any lost revenue due to necessary Project Facilities outages and all other costs or Losses to be incurred by Project Company as a consequence of the implementation of such changes.

9.9 Reactive Power

If, due to instability in the Grid System, GPA requests Project Company to operate the Facility in a power factor range outside the range mentioned in Schedule 2, Project Company shall comply with such request, provided that (i) it shall not have any obligation to operate the Facility in such a way for more than one (1) hour at a time if, in the opinion of Project Company, it could damage the Project Facilities and (ii) Project Company shall never be required to operate the Project Facilities in a manner that is inconsistent with the Functional Specifications or the Technical Limits and the Contracted Characteristics.

9.10 GPA Access to Site

Project Company shall allow GPA to have reasonable access to the Site subject to prior notice by GPA. GPA personnel will be required to comply with all Project Company safety rules and procedures when accessing the Site.

GPA will be allowed to access the on-site ULSD Storage Facilities, without the need for prior notice, to fuel GPA's tanker trucks at no charge, subject to coordination of such access and fueling pursuant to the Operating Procedures.

9.11 Employment of former GPA Employees by the Project Company

GPA power facilities maintenance and operations employees who may be adversely affected or separated as a result of the Commissioning of the Project, shall have an opportunity to be interviewed by the Project Company (in priority to other candidates) for employment at the Project Facilities in positions for which they are qualified. For each case of hiring an existing GPA maintenance and/or operating employee, the Project Company shall advise GPA of their plan for hiring such employee and allow a minimum of six (6) Months before beginning the employment period to allow GPA to adjust its plant operation and maintenance activities. If requested by GPA, Project Company will make reasonable efforts to assist GPA with finding a temporary labor pool for positions at their existing power plants that will be vacated by personnel hired by the Project Company.

ARTICLE 10
JOINT COORDINATING COMMITTEE

10.1 Membership

Within ninety (90) Days from the date of the Original ECA, the Parties shall establish a Joint Coordinating Committee of ten (10) members, with Project Company and GPA each appointing five (5) members. Each Party shall also appoint two (2) substitutes for each of its members. The substitutes must be appointed at least thirty (30) Days prior to being able to substitute for one (1) of the members. Substitutes may attend the Joint Coordinating Committee meetings but cannot participate in them unless they are replacing a regular member.

The Joint Coordinating Committee shall meet at least once per Month.

The chairmanship of the Joint Coordinating Committee shall rotate each year between the Parties, and the first chairman shall be appointed by GPA. The Joint Coordinating Committee shall develop procedures for holding meetings, keeping minutes of meetings, maintaining records and appointing and operating sub-committees as may be required.

10.2 Duties

The power and duties of the Joint Coordinating Committee shall include only the following:

(a) coordination of the respective programs of the Parties for the permitting, design, construction and Commissioning of the Project Facilities, the Fuel supply and delivery interfacing, and the Electrical Interconnection Facilities, and agreement where necessary upon the respective Commissioning procedures;

(b) discussion of the steps to be taken upon shutdown or reduction in capacity for Force Majeure or any other reason;

(c) coordination and modification, if required, of Operating Procedures, including day-to-day communications, dispatching procedures, and Emergency plans and procedures, and compliance with Operating Procedures;

(d) coordination and modification, if required, of scheduled maintenance programs and scheduling and acceptance of performance tests and periodic tests;

(e) review of maintenance records, including results of periodic tests, for compliance with manufacturers' maintenance instructions and recommendations;

(f) coordination of annual, monthly, weekly, and daily forecasts or requirements for the Project Facilities;

(g) developing, monitoring, and auditing the procedures to record Dependable Capacity, reliability, Net Energy Output, and any other parameters that may influence the billing or liquidated damages arising from operation;

(h) developing protocols for invoicing and for measuring Dependable Capacity and Net Energy Output;

(i) developing detailed procedures with respect to Natural Gas (when available) daily nominations and renominations based on Dispatch Instructions, ambient conditions for the

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next day and data provided in the tables entitled "Guaranteed Heat Rate at the Site Reference Conditions" and "Heat Rate Correction Curves" contained in Schedule 4;

(j) dealing with safety and security matters affecting the Project Facilities, the Parties, and their Contractors;

(k) consultation on Emergency plans developed by the Parties for recovery from a local or widespread electrical blackout;

(l) review of metering and protective schemes and devices; and

(m) any other matter agreed by the Parties affecting the operation of the Project Facilities and the Grid System.

10.3 Scope and Effect

The Parties agree and acknowledge that the jurisdiction of the Joint Coordinating Committee shall be limited to liaison and consultation only and that any decisions or agreements of the committee shall not be binding upon the Parties absent express written agreement to the contrary. The resolutions, considerations and discussions taking place from time to time within the Joint Coordinating Committee shall at all times remain subject to the express provisions of this Agreement, and, accordingly the respective rights and obligations of the Parties under this Agreement (or otherwise) shall not be affected by Articles 10.1 to 10.2.

10.4 Special Reporting

During any period in which the two hundred and forty (240) Day period mentioned in Article 4.2(d) is extended, the Joint Coordinating Committee will meet every fourteen (14) Days and the members of the Joint Coordinating Committee appointed by Project Company will report on the status of the measures taken by Project Company to cure the deficiency.

ARTICLE 11
ELECTRICAL INTERCONNECTION

11.1 Electrical Interconnection Facilities

The Electrical Interconnection Facilities shall be designed, procured, and constructed by Project Company. Upon achieving the Commercial Operation Date and GPA's written acceptance thereof, the ownership, custody and control of the Electrical Interconnection Facilities shall be transferred by Project Company to GPA, after which the latter will operate and maintain the facilities in accordance with Prudent Utility Practices and the applicable system grid code at no cost to the Project Company. The transfer of the Electrical Interconnection Facilities shall be at no cost to GPA.

11.2 Testing

The Parties shall cooperate in testing the Electrical Interconnection Facilities from time to time prior to the scheduled synchronization dates of the Project Facilities and at such other times thereafter as either Party may reasonably require. All such testing shall be carried out on a timely basis.

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ARTICLE 12
METERING

12.1 Electrical Metering

The standards for performance measurement systems and testing are specified in Schedule 5.

(a) All electrical metering devices used to measure Net Energy Output pursuant to this Agreement, and to monitor and coordinate operation of the Project Facilities, shall be purchased, owned, installed and maintained by Project Company according to the specifications in Schedule 5. All electrical metering will be done jointly by the Parties, and each Party shall designate a representative for performing such metering. All electrical metering devices used to provide data for the computation of payments due under this Agreement shall be sealed, and the seal shall be jointly broken by the designated representatives of the Parties when such metering devices are to be inspected and tested or adjusted in accordance with Article 12.1(b) below. The number, type and location of such electrical metering devices shall be on the 115 kV high voltage bushings of the main power transformers and according to the single line diagram presented by Project Company and approved by GPA.

(b) GPA shall inspect, test, calibrate, and if necessary, replace all electrical metering devices upon installation and at least once every three (3) years thereafter. GPA shall provide the Project Company with reasonable advance Notice of, and allow a representative of the Project Company to witness and verify such inspections, tests, calibrations and replacements. Upon the written request by the Project Company, and in the presence of the Project Company, GPA shall perform additional inspections, tests, or calibrations of the electrical metering devices within twenty (20) Days following the date of such written request. The actual expense of any such requested additional inspection, tests, or calibration shall be borne by the Project Company, unless, upon such inspection, tests or calibration, a metering device is found to register inaccurately by more than zero point two percent (0.2%), in which event the expense of the requested additional inspection or testing shall be borne by GPA. If an electrical metering device is found to be defective or inaccurate, whether or not within the accuracy and repeatability tolerances set forth in Table 1 of Schedule 5, GPA shall, at its own expense, adjust, repair, replace, and/or recalibrate the electrical metering device as near as practicable to a condition of zero (0) error.

(c) The Project Company may elect to install and maintain, at its own expense, back-up electrical metering devices at the Delivery Point in addition to (and identical to) those installed and maintained by GPA, which installation and maintenance by the Project Company shall be in accordance with Prudent Utility Practices.

12.2 Adjustment for Inaccurate Electrical Meters

(a) If an electrical metering device fails to register, or if the measurement made by a metering device is found upon testing to be inaccurate, an adjustment shall be made correcting all measurements by the inaccurate or defective electrical metering device for the Project for the amount of the inaccuracy and the period of the inaccuracy, in the following manner:

(i) by (x) integrating the capacity measurements obtained by the MW-meter readings which are registered every thirty (30) minutes in the PSCC, or (y) by using the Declared Capacity, whichever is applicable; or

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(ii) as may be agreed upon by the Parties.

(b) In the event that the Parties cannot agree on the amount of the adjustment necessary to correct the measurements made by any inaccurate or defective electrical metering device, the Parties shall use GPA's back-up electrical metering device, if installed, to determine the amount of such inaccuracy, so long as such electrical metering devices are tested and maintained in the same manner as Project Company's. In the event GPA's back-up electrical metering devices are also found to be outside the accuracy and repeatability tolerances set forth in Table 1 of Schedule 5, as are applied to Project Company's electrical metering devices under Article 12.1(b) above, the Parties shall estimate the amount of the necessary adjustment on the basis of deliveries of Net Energy Output during periods of similar operating conditions when the electrical metering device was registering accurately;

(c) In the event that 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 shall be the shorter of (i) the last one-half of the period from the last previous test of the electrical metering device, or (ii) the one hundred and twenty (120) Days immediately preceding the test which found the electrical metering device to be defective or inaccurate.

(d) To the extent that the adjustment period covers a period of deliveries for which payment has already been made by GPA, GPA shall use the corrected measurements as determined in accordance with Articles 12.2(a)(i), 12.2(a)(ii), 12.2(b), or 12.2(c) hereof to recompute the amount due for the period of the inaccuracy and shall subtract the previous payments by GPA for this period from such recomputed amount. If the difference is a positive number, the difference shall be paid by GPA to Project Company. If the difference is a negative number, the difference shall be paid by Project Company to GPA, or in the sole discretion of GPA, the difference may take the form of an offset to payments due to Project Company by GPA. Payment of such difference by the owing Party shall be made not later than thirty (30) Days after the owing Party receives Notice of the amount due, unless GPA elects payment via an offset.

12.3 Natural Gas Metering

(a) Natural Gas Metering Equipment

(i) GPA at its cost shall be responsible to install and maintain primary Natural Gas measurement equipment at the gas metering station in the Natural Gas pipelines supplying Natural Gas to the Facility in accordance with Schedule 10. GPA shall read its meter(s) at that point and such readings shall be considered official meters.

(ii) Project Company may install Natural Gas backup measurement equipment downstream of GPA's measurement equipment for Natural Gas. In such case, Project Company shall be responsible for installing and maintaining the Natural Gas backup measurement equipment.

(iii) GPA's Natural Gas metering devices shall be inspected, tested, and calibrated by GPA at least once each three (3) years. If Project Company at any time desires a special test of any meter or the computer used in the operation of the GPA's Natural Gas metering devices, it will promptly notify GPA and the Parties will then co-operate to secure a prompt test. All tests of GPA's Natural Gas metering devices shall be made at GPA expense, except that Project Company shall bear the GPA's

reasonable cost of special tests made at the Project Company's request if the inaccuracy is found to be within one percent (1%). Following each test, GPA shall ensure that GPA's Natural Gas metering devices shall be adjusted as required to record centrally and accurately.

(iv) Project Company's Natural Gas metering devices shall be inspected, tested, and calibrated by Project Company at least once each three (3) years. If GPA at any time desires a special test of any meter or the computer used in the operation of Project Company's Natural Gas metering devices, it will promptly notify Project Company and the parties will then co-operate to secure a prompt test. All tests of Project Company's Natural Gas metering devices shall be made at Project Company's expense, except that GPA shall bear Project Company's reasonable cost of special tests made at GPA's request if the inaccuracy is found to be within one percent (1%). Following each test, Project Company shall ensure that Project Company's Natural Gas metering devices shall be adjusted as required to record centrally and accurately.

(b) Adjustment for Inaccurate Natural Gas Meters.

(i) If, for any reason, GPA's Natural Gas meters are out of service or registering outside the specified limits, so that the quantity of Natural Gas delivered cannot be ascertained or computed from the reading thereof, the Natural Gas delivered during the period such meters are out of service shall be determined upon the basis of the best data available, using the first of the following methods which is feasible:

(A) by using the quantity recorded by Project Company's Natural Gas meters, if installed and accurately registering;

(B) by adjusting for the error, if the extent of the error is ascertainable by calibration, test or mathematical calculation; or

(C) by estimation on the basis of deliveries (Net Energy Output) during preceding periods of similar demand under similar conditions when the equipment was registering accurately, and for purposes of this estimation, the Parties may agree upon using data from measurements from outside of the measurement facility.

(ii) In the event that 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 shall be the shorter of (x) the last one-half of the period from the last previous test of the Natural Gas metering device, or (y) the one hundred and twenty (120) Days immediately preceding the test that found the Natural Gas metering device to be defective or inaccurate.

(c) To the extent that the adjustment period covers a period of deliveries for which payment has already been made by GPA, GPA shall use the corrected measurements as determined in accordance with Articles 12.3 and 12.4(b)(i) or (ii) hereof to recompute the amount due for the period of the inaccuracy and shall subtract the previous payments by GPA for this period from such recomputed amount. If the difference is a positive number, the difference shall be paid by GPA to Project Company. If the difference is a negative number, the difference shall be paid by Project Company to GPA, or in the sole discretion of GPA, the difference may take the form of an offset to payments due to Project Company by GPA. Payment of such difference by the owing Party shall be made not later

than thirty (30) Days after the owing Party receives Notice of the amount due, unless GPA elects payment via an offset.

12.4 ULSD Metering

(a) ULSD Fuel Metering Equipment

(i) The Project Company shall be responsible for installing primary ULSD measurement equipment at the relevant Fuel Delivery Point in accordance with Schedule 10. These meters will be transferred to GPA at the Commercial Operation Date. GPA will own and maintain these meters and shall read these meter(s) at these points and such readings shall be considered official meters.

(ii) Project Company may install ULSD backup measurement equipment downstream of GPA's measurement equipment for ULSD. In such case, Project Company shall be responsible for installing and maintaining the ULSD backup measurement equipment.

(iii) GPA's ULSD metering devices shall be inspected, tested, and calibrated by GPA at least once each three (3) years. If Project Company at any time desires a special test of any meter or the computer used in the operation of the GPA's ULSD metering devices, it will promptly notify GPA and the Parties will then co-operate to secure a prompt test. All tests of GPA's ULSD metering devices shall be made at GPA expense, except that Project Company shall bear the GPA's reasonable cost of special tests made at the Project Company's request if the inaccuracy is found to be within one percent (1%). Following each test, GPA shall ensure that GPA's ULSD metering devices shall be adjusted as required to record centrally and accurately.

(iv) Project Company's ULSD metering devices shall be inspected, tested, and calibrated by Project Company at least once each three (3) years. If GPA at any time desires a special test of any meter or the computer used in the operation of Project Company's ULSD metering devices, it will promptly notify Project Company and the parties will then co-operate to secure a prompt test. All tests of Project Company's ULSD metering devices shall be made at Project Company's expense, except that GPA shall bear Project Company's reasonable cost of special tests made at GPA's request if the inaccuracy is found to be within one percent (1%). Following each test, Project Company shall ensure that Project Company's ULSD metering devices shall be adjusted as required to record centrally and accurately.

(v) Project Company shall, or shall have other party(ies) on its behalf, install and maintain measurement equipment at the ULSD truck delivery stations with the coordination and approval of GPA. The specifications and the location for ULSD Fuel meters and the associated metering system are set forth in Schedule 10. The measurement equipment shall be installed next to the storage tank.

(vi) The Project Company's ULSD metering devices shall be inspected tested and calibrated in accordance with the provisions of Schedule 10.

(b) Adjustment for Inaccurate ULSD Meters.

(i) If, for any reason, GPA's main ULSD meters are out of service or registering outside the specified limits, so that the quantity of ULSD consumed cannot be ascertained or computed from the reading thereof, the ULSD consumed during the period such

meters are out of service shall be determined upon the basis of the best data available, using the first of the following methods which is feasible:

(A) by using the quantity recorded by Project Company's back-up ULSD meters, if accurately registering; or

(B) by adjusting for the error, if the extent of the error is ascertainable by calibration, test or mathematical calculation.

(ii) In the event that 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 shall be the shorter of (x) the last one-half of the period from the last previous test of the ULSD metering device, or (y) the one hundred and twenty (120) Days immediately preceding the test which found the ULSD metering device to be defective or inaccurate.

To the extent that the adjustment period covers a period of deliveries for which payment has already been made by GPA, GPA shall use the corrected measurements as determined in accordance with Article 12.4(b)(i) or (ii) hereof to recompute the amount due for the period of the inaccuracy and shall subtract the previous payments by GPA for this period from such recomputed amount. If the difference is a positive number, the difference shall be paid by GPA to Project Company. If the difference is a negative number, the difference shall be paid by Project Company to GPA, or in the sole discretion of GPA, the difference may take the form of an offset to payments due to Project Company by GPA. Payment of such difference by the owing Party shall be made not later than thirty (30) Days after the owing Party receives Notice of the amount due, unless GPA elects payment via an offset.

ARTICLE 13
BILLING AND PAYMENT

13.1 Invoices

(a) Invoices shall be prepared monthly by Project Company in accordance with this Article 13 for payment by GPA in Dollars, as specified in this Article 13.

(b) GPA and Project Company shall read directly by their representatives or via billing centers the metering devices on the first Day of each Month at 00:00 or 10:00 a.m., commencing with the first Month of the Period of Testing.

(c) Project Company shall render an itemized invoice to GPA by the tenth (10th) Day of each Month of the Term, commencing in respect of amounts due by GPA for deliveries of Net Energy Output (including BESS energy output), and/or Dependable Capacity hereunder, with the first Month immediately following the Month in which the Commercial Operation Date occurs.

(d) Each itemized invoice for amounts due by GPA to Project Company under Article 13.1(c) for deliveries of Net Energy Output (including BESS energy output), and/or Dependable Capacity hereunder in respect of any month from and after the Commercial Operation Date shall show, calculated, where applicable, in accordance with Schedule 4:

(i) Net Energy Output delivered to GPA during each half hour of the previous Month and the total Net Energy Output for such Month;

(ii) the Energy Charge for such Net Energy Output, and the Capacity Charge for the previous Month;

(iii) Supplemental Charges, if any;

(iv) any adjustments or offsets pursuant to Articles 8.6, 12 or 17.2;

(v) any adjustments pursuant to Article 13.3;

(vi) any adjustments pursuant to Article 6.3(c);

(vii) any adjustment pursuant to Articles 3.3.2 or 3.5;

(viii) the total amount in Dollars that is due from GPA to Project Company with respect to such deliveries of Net Energy Output and Dependable Capacity during the preceding Month, including, for the avoidance of doubt, the full Capacity Charge for the Dependable Capacity in the event that the Dependable Capacity is unavailable, in whole or in part, due to a request by GPA in accordance with this Agreement, due to (v) a Scheduled Outage, (w) a Maintenance Outage, (x) a Forced Outage, (y) a condition caused by GPA or by the Grid System, or (z) the unavailability of Fuel during any period during which the Facility is deemed to provide the Dependable Capacity in Article 7 or Article 16.4; and

(ix) Reserved.

13.2 Payment

Each invoice shall be paid within thirty (30) Days of receipt thereof, with those portions of the Price to be adjusted and calculated in accordance with Schedule 4.

13.3 Estimates

In order that invoices may be rendered promptly after the end of each Month, it may be necessary, from time to time, to estimate certain factors involved in calculating the monthly billing. Adjustments for errors in such estimates shall be included in the invoice for the first Month following the time when the information necessary to make such corrections or adjustments becomes available.

13.4 Late Payment

If an invoice is not paid within thirty (30) Days of receipt thereof (the "**Invoice Due Date**"), interest on unpaid amounts shall accrue daily from the Invoice Due Date until the date upon which payment is made at the Bank Rate plus two percent (2%) per annum.

13.5 Disputed Amounts

In the event of any Dispute as to the Capacity Charge, Energy Charge, or the Supplemental Charges, GPA shall notify Project Company of the amount in dispute. In such event, the amounts not disputed shall be paid as described in this Article 13 and GPA shall either deposit in escrow with a commercial bank selected by GPA and reasonably acceptable to Project Company an amount equal to the disputed amounts on the date such amounts, if undisputed, would otherwise be due, or furnish to Project Company an irrevocable and unconditional letter of credit issued by a commercial bank selected by GPA and reasonably acceptable to the Project Company in an

amount equal to the disputed amounts. This letter of credit shall be in a form and substance reasonably satisfactory to Project Company. The Dispute will be settled in accordance with the Dispute resolution procedures set forth in Article 18. The resolution of the disputed amount shall include interest at the rate specified for late payment in Article 13.4. Upon resolution, the funds in the escrow account shall be disbursed in accordance with the resolution of the matter under Article 18.

13.6 Billing Errors

Any claim regarding an error in invoices previously paid shall be made (in accordance with Articles 13.5 or 13.7) within fifteen (15) Business Days from the date of discovery of such error, but in any event no later than the date six (6) Months after the date of issuance of such invoice. If such claim is not made within the six (6) month period referred to in the previous sentence, the original invoice and the calculations therein shall be binding upon the Parties.

13.7 Inaccurate Meters

In the event adjustments to an invoice are required as a result of corrected measurements made with respect to inaccurate meters as described in Article 12.2, the Parties shall use the method of correcting measurements described in Article 12.2 to recompute the amounts due from or to GPA for the Net Energy Output, and, in the event of corrected measurements made in respect of any Dependable Capacity Test, the Dependable Capacity sold under this Agreement during the period of inaccuracy. If the total amount, as recomputed, due from a Party for the period of one (1) inaccuracy varies from the total amount due as previously computed, and payment of the previously computed amount has been made, then, following agreement by the Parties on the amount due as a result of the recomputation, Project Company shall promptly issue an adjusted billing statement. The owing Party shall pay any amount owed as shown on such billing statement within thirty (30) Days of the issuance of the adjusted billing statement.

13.8 GPA Lump Sum Payment

(a) On the Commercial Operation Date and the turnover of the Electrical Interconnection Facilities or the ULSD Supply Infrastructure, GPA shall pay to the Project Company the amount of forty million Dollars (US $40,000,000) (the **"Lump Sum Payment"**). Such payment shall be by wire transfer of immediately available funds to a bank account designated by the Project Company not later than five (5) Days prior to the due date for payment. Upon the Project Company's receipt of the Lump Sum Payment, the Project Company shall deliver to GPA a written receipt confirming the payment by GPA of the Lump Sum Payment.

(b) From the date falling ten (10) Business Days after the date of the Original ECA until GPA makes the Lump Sum Payment, GPA shall retain an amount equal to the Lump Sum Payment in a trustee account that is for the purpose of making the Lump Sum Payment under this Agreement. GPA undertakes not to use the funds standing to the credit of such account for any other purpose. Prior to making the Lump Sum Payment, GPA shall provide to the Project Company such evidence that the Project Company may reasonably request to confirm that GPA is in compliance with the provisions of this Article 13.8(b).

ARTICLE 14
INSURANCE REQUIREMENTS

14.1 Terms and Conditions

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(a) All insurance policies are subject to the jurisdiction and Laws of the United States and Guam.

(b) All insurance policies should be effected through insurers registered in the United States or Guam to the extent required by the Laws of Guam.

(c) Re-insurance of all policies should be in accordance with the effective instructions issued by the insurance commission or any substitute authority and accordingly, insurers should prove that they have implemented the aforesaid instructions.

(d) Insurance will be subject to an insurance and reinsurance assignment agreement and insured shall have the right to claim from either insurers or reinsurers or both of them.

(e) Project Company shall not be obliged to obtain any insurance policies covering sabotage or war risk.

14.2 Maintenance of Insurance Policies

(a) Project Company shall obtain and maintain in force from and after Financial Close and throughout the Term the policies of insurance and the minimum coverage in the amounts set forth in this Article 14.2 (or if not set forth, on terms and conditions, including sub-limits, deductibles and exclusions that are obtained by independent power generators of comparable size, technology and location) and during the periods, provided, however, that such minimum amounts may be changed from time to time with the written consent of GPA, which consent may not be unreasonably withheld or delayed. In addition to the foregoing, the Project Company may obtain any additional coverage required by the Lenders or the Laws of Guam, or deemed necessary by Project Company. Project Company shall not be in breach of its obligations hereunder if and to the extent that any particular insurance policy, or amount of coverage or any particular term of policy is not or ceases to be available on commercially reasonable terms for reasons other than any negligence or default by, or the deterioration of the financial condition of Project Company from the date of execution of the Original ECA.

(b) In the event that any particular insurance policy or amount of coverage required to be maintained hereunder ceases to be available on commercially reasonable terms for reasons other than any negligence or default by, or the deterioration of the financial condition of Project Company from the date of execution of the Original ECA, Project Company shall notify GPA of such occurrence promptly upon becoming aware of it and GPA shall have the option to procure such particular policy or amount of coverage and to require Project Company to reimburse it for the cost thereof up to an amount not exceeding the premium to be paid by Project Company immediately prior to such insurance becoming unavailable on commercially reasonable terms (provided that the terms of such policy and the insurers and reinsurers providing it are otherwise substantially the same as those of the policy that it replaces).

(c) All policies shall be primary and non-contributory, and shall remain in force for the Term.

(d) GPA shall be named as an additional insured.

(e) For all policies, waiver of subrogation shall be endorsed in favor of GPA.

(f) All minimum coverage described herein or the acceptance of GPA of any certificates or binders of insurance, does not waive, limit, or relieve the Project Company of its duties and

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responsibilities to comply with the contract insurance requirements or to place in force prudent coverage in adequate amounts to reasonably insure the Project Facilities.

14.3 Insurance Requirements for the Construction Period

(a) Cargo transportation insurance (imports and re-exported items):

This insurance shall cover all materials, equipment, machineries, spares and other items for incorporation into the Project Facilities against all risks of physical loss or damage while in transit by sea, air, land conveyance and/or sending by post from the country of origin anywhere in the world to the site, or vice versa, from the time the insured items leave the warehouse or the factory and/or place of storage for shipment to the Site (final destination named in the policy), plus war, strikes, riot and civil commotions in accordance with the provisions of institute cargo clause "A", war, strikes, and civil commotions or land transit "All Risks clause".

Coverage shall be in an amount equal to the cost, freight and all other expenses and fees.

In the alternative, Project Company may satisfy its obligations hereunder by requiring the vendor of such items to insure them in the manner specified herein, provided the vendor names Project Company and the other parties and first provides Project Company with evidence of such insurance, a copy of which shall be provided to GPA upon request.

Name of insureds include Project Company, GPA and all other concerned parties.

(b) Delay in start-up following cargo transport insurance:

This insurance shall cover debt service and fixed costs incurred following delays in reaching the Required Commercial Operation Date as a direct result of physical loss or damage to the materials, equipment, machineries and other items in transit by sea, air and/or by motor truck to the Site to the extent covered under the cargo transport insurance.

This insurance shall indicate indemnity period not less than one (1) calendar year as from the date of the occurrence of the risk covered under the transport policy.

14.4 Insurances Required During Construction Period Plus Erection, Trial Testing and Commissioning Period Plus Debt Service and Fixed Operation and Maintenance Costs Loss Due to Delay

(a) Contractors all risks policy ("C.A.R. Policy"):

This insurance shall cover all permanent and temporary works at the Site during the Construction Period, including machinery and equipment for incorporation in the Project Facilities, against all risks of physical loss or damage (other than nuclear risk, penalties, consequential losses, cash, vehicles, vessels and aircraft) and shall include cover for loss or damage caused by faulty design, defective workmanship and defective material. Coverage shall be not less than the probable maximum loss value of the items covered.

Coverage shall also include equipment and machinery used by the concerned parties (excluding construction plant and equipment to be separately insured by the Construction Contractor) plus removal of debris, and third party liability and cross liability during the Construction Period plus one (1) calendar year maintenance period.

(b) Delay in start-up following C.A.R. incidents:

This insurance shall cover debt service and fixed operation and maintenance costs incurred following delays in reaching the Required Commercial Operation Date as a direct result of physical loss or damage to the works to the extent that such loss or damage is covered under the C.A.R. Policy.

(c) Professional indemnity policy:

This policy, which the Project Company shall have the option to obtain and maintain (or require the Construction Contractor to obtain and maintain, if Project Company considers it necessary, taking into account the financial standing of the Construction Contractor), covers any loss or damage due to negligence, errors, mistakes, faults and/or defaults or any other risks covered under P.I. policy which occurred during the Construction Period or erection.

This policy shall include a sum insured equal to the said losses and/or damage.

(d) Reserved.

14.5 Insurances Requirements after Construction Stage

(a) Properties insurance:

Subject to all risks policy to cover buildings, structures, fittings, equipment, machineries, appliances, and/or other items. This insurance shall cover the said properties against:

(i) fire and other allied perils, debt service, and fixed operation and maintenance costs due to fire and/or other allied perils;

(ii) physical loss or damage due to sudden and unforeseen causes; and

(iii) machinery breakdown perils subject to Munich-Re specimen or similar policy wording and also to cover debt service, fixed operation and maintenance costs due to machinery breakdown.

Coverage shall be no less than the probable maximum loss value of the items covered. Indemnity period for debt service, fixed operation and maintenance costs due to fire or due to machinery breakdown is no less than one (1) calendar year as from the date of occurrence of the original risk.

The proceeds of claims against such insurance (except third party liability and workmen's compensation insurance) shall be used by Project Company to reinstate the Project Facilities subject to the terms of any loan agreements provided in connection with the Project.

(b) Workmen's compensation policy for all workers and employees shall be in accordance with the provisions of Guam labor law, and the employer's liability coverage for all temporary workers and other employees.

(c) Motor insurance policy (comprehensive cover) shall include third party liability plus the cars and all vehicles and spares and appliances.

(d) Public liability insurance policy shall cover any legal liability (bodily injuries and damages to property). Such policy should be sufficient to cover, at minimum, ten million Dollars (US$10,000,000) for any one (1) occurrence.

(e) All policies of insurance (except workmen's compensation insurance) required to be obtained by the Project Company shall include GPA and its employees as additional insured as their interests may appear.

(f) Each of GPA and Project Company shall cause its insurers to waive all rights of subrogation against the other party and the other party's employees (and the O&M Contractor and their subcontractors working directly in connection with the Project) in respect of a claim arising under its insurance policies, unless such claim arises from the wilful misconduct or gross negligence of the other party or the other party's employees or contractors.

(g) Certificates of insurance, binders (if applicable), or a letter from a licensed broker or independent insurance consultant certifying compliance or documenting the status of attempts to comply with the requirements shall be submitted prior to Commercial Operation Date and any policy termination or expiration dates which arise during the Term and any extensions. Completed copies of policies, including all declarations, terms, conditions, endorsements and exclusions, shall be made available for inspection by GPA and remain available for inspection by GPA or its insurance consultant as certification of coverage no less than ninety (90) days after the [Commercial Operation Date][2] and any policy expiration dates which arise during the Term and any extensions.

ARTICLE 15
LIABILITY AND INDEMNIFICATION

15.1 Limitation of Liability

Except as expressly provided in this Article 15, without prejudice to any rights to damages that either Party may have as expressly provided for in Articles 4, 8 and 16, neither Party shall be liable to the other Party in contract, tort, warranty, strict liability or any other legal theory for any indirect, consequential, incidental, punitive or exemplary damages or for loss of revenue or loss of profits. In respect of a breach of the provisions of this Agreement, neither Party shall have any liability to the other Party save as expressly stated in this Agreement; provided, however, that this provision is not intended to constitute a waiver of any rights of one Party against the other with regard to matters unrelated to this Agreement or to any activity not contemplated by this Agreement.

15.2 Indemnification

(a) GPA

Subject to Article 15.5, GPA shall indemnify Project Company and Project Company's officers, directors, shareholders and employees against, and hold Project Company and Project Company's officers, directors, shareholders and employees harmless from, at all times after the date hereof, any and all Losses, and any and all actions, claims and demands in respect of such Losses, incurred, suffered, sustained, or required to be paid, directly or indirectly, by, or sought to be imposed upon, Project Company or Project Company's officers, directors, shareholders or employees for personal injury or death to

persons or damage to property arising out of the negligent or intentional acts or omissions of GPA in connection with this Agreement.

(b) The Project Company

Subject to Article 15.5, Project Company shall indemnify GPA and GPA's officers, directors, shareholders and employees against, and hold GPA and GPA's officers, directors, shareholders and employees harmless from, at all times after the date hereof, any and all Losses, and any and all actions, claims and demands in respect of such Losses, incurred, suffered, sustained, or required to be paid, directly or indirectly, by, or sought to be imposed upon, GPA or GPA's officers, directors, shareholders or employees for personal injury or death to persons or damage to property arising out of the negligent or willful default of Project Company in connection with this Agreement.

(c) Joint Negligence

Subject to Article 15.5, in the event that any Loss results from the joint or concurrent negligent or intentional acts or omissions of the Parties, each Party shall be liable under this indemnification in proportion to its relative degree of fault.

15.3 Indemnification for Fines and Penalties

Any fines or other penalties incurred by Project Company for non-compliance with the applicable Laws of Guam or the Government Authorizations shall not be reimbursed by GPA but shall be the sole responsibility of Project Company, except to the extent that such non-compliance is caused by the negligence or intentional acts or omissions of GPA.

15.4 Notice of Proceedings

Each Party shall promptly notify the other Party of any Loss, claim, action, demand or proceeding in respect of which it is or may be entitled to indemnification under Article 15.2. Such Notice shall be given as soon as reasonably practicable after the relevant Party becomes aware of the Loss, claim, action, demand or proceeding. Failure to give such Notice in a timely fashion shall not affect the indemnified Party's rights to indemnification except to the extent that the indemnifying Party is materially prejudiced thereby.

15.5 Limitation on Indemnification

(a) Each Party shall be solely liable, and shall not be entitled to assert any claim for indemnification under this Agreement for any Loss that would otherwise be the subject of indemnification under this Agreement until all Losses of such Party arising during the current Contract Year exceed the equivalent of two hundred thousand Dollars (US$200,000) in the aggregate in which case only the amount of Loss greater than two hundred thousand Dollars (US$200,000) shall be subject to indemnification. For purposes of this Article 15.5, a Loss (or claim for indemnification) shall be deemed to arise in the Contract Year during which the event giving rise to the Loss (or claim for indemnification) occurred or, in the case where the event is continuing in more than one Contract Year, in the Contract Year during which the event ends, provided that a Party shall not be obliged to refrain from making a claim under this Article 15.5 (where it is otherwise entitled to do so) at the end of a given year ("**Year End**") by reason of the fact that the event in question ("**Relevant Event**") is still continuing, and provided further that in the event that such Party does make such a claim at the Year End it shall continue to be able to claim in relation to all remaining Losses arising from the Relevant Event regardless of when they occur.

(b) Neither Party shall be entitled to the indemnity under Article 15.2 if and to the extent that a Party has received payment in respect of a Loss or proceeding under the indemnities contained in the Land Lease Agreement or any other document comprising the Security Package in respect of the relevant act or omission.

15.6 Defense of Claims

(a) The indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding at its expense with counsel of its selection and the indemnified Party shall provide it with a power of attorney if required for this purpose, provided it gives prompt Notice of its intention to do so to the indemnified Party and reimburses the indemnified Party for the reasonable costs and expenses incurred by the indemnified Party prior to the assumption by the indemnifying Party of such defense.

(b) Unless and until the indemnifying Party acknowledges in writing its obligation to indemnify the indemnified Party and assumes control of the defense of a claim, suit, action or proceeding in accordance with Article 15.6(a), the indemnified Party shall have the right, but not the obligation, to contest, defend and litigate, with counsel of its own selection, any claim, action, suit or proceeding by any third party alleged or asserted against the indemnified Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and the reasonable costs thereof shall be subject to the indemnification obligations of the indemnifying Party hereunder.

(c) Upon assumption by the indemnifying Party of the control of the defense of a claim, suit, action or proceeding, the indemnifying Party shall reimburse the indemnified Party for the reasonable costs and expenses of the indemnified Party in the defense of the claim, suit, action or proceeding prior to the indemnifying Party's acknowledgement of the indemnification and assumption of the defense.

(d) Following the acknowledgement of the indemnification and the assumption of the defense by the indemnifying Party, the indemnified party shall have the right to employ its own counsel and such counsel may participate in such claim, suit, action or proceeding, but the fees and expenses of such counsel shall be at the expense of such indemnified Party, when and as incurred, unless (i) the employment of counsel by such indemnified Party has been authorized in writing by the indemnifying Party, (ii) the indemnified Party shall have reasonably concluded that there may be a conflict of interest between the indemnifying Party and the indemnified Party in the conduct of the defense of such action, (iii) the indemnifying Party shall not in fact have employed independent counsel reasonably satisfactory to the indemnified party to assume the defense of such action and shall have been so notified by the indemnified Party, or (iv) the indemnified Party shall have reasonably concluded and specifically notified the indemnifying Party either that there may be specific defenses available to it that are different from or additional to those available to the indemnifying Party or that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement. If clauses (ii), (iii) or (iv) of the preceding sentence shall be applicable, then counsel for the indemnified Party shall have the right to direct the defense of such claim, action, suit or proceeding on behalf of the indemnified Party and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder, subject to the indemnification obligations of the indemnifying Party hereunder.

ARTICLE 16
FORCE MAJEURE

16.1 Definition

For the purposes of this Agreement, a "**Force Majeure**" means a cause or event (i) that is beyond the reasonable control of the affected Party and was not due to the fault or negligence of the affected Party and that prevents such Party's performance of its obligations under or pursuant to this Agreement, and (ii) which the affected Party is unable to prevent, overcome or remedy by the exercise of diligence and reasonable care, or avoid by the exercise of reasonable foresight and mitigation, it being understood and agreed that reasonable care includes the expenditure of reasonable sums of money ("**Mitigating Costs**") to protect the Project Facilities from a casualty event, which sums are reasonable in light of the magnitude of the sum, the likelihood of such event, the probable effect of such event if it should occur, and the likely efficacy of the protective measures.

"**Force Majeure**" shall include the following events and circumstances, but only to the extent that each satisfies the above requirements:

(a) floods, hurricanes, tornadoes, typhoons, cyclones, earthquakes, volcanic eruptions and other natural calamities;

(b) fires or explosions that could not have been prevented by acting in accordance with industry standards or Prudent Utility Practices, as applicable;

(c) war (declared or undeclared), riots, insurrection, rebellion, civil disturbance, acts of the public enemy, acts of terrorism and sabotage, blockades, embargoes or sanctions;

(d) strikes which are widespread within the Territory of Guam, regional and industry-wide labor disputes unless affecting only or caused by Project Company or its Contractors (or their subcontractors of any tier) or their employees;

(e) any Change in Law;

(f) discovery of land mine(s);

(g) military ordnances and archaeological discoveries;

(h) the unavailability of Fuel supply or Fuel delivery/transportation;

(i) the unavailability of Water supply to the Project Facilities from GWA; and

(j) any Pre-Existing Condition that adversely affects the Project.

16.2 Exclusions

Force Majeure shall expressly not include the following conditions, except and to the extent that the conditions listed in subsections (b) through (l) (inclusive) result from a Force Majeure:

(a) the absence of sufficient financial means to perform obligations or the failure to make payments in accordance with this Agreement;

(b) weather conditions that could reasonably be expected to occur by an experienced contractor or electric generator in Guam other than extreme or unusually severe weather conditions that constitute a Force Majeure event in accordance with the clause above;

(c) shortages, unavailability, late delivery, or changes with respect to materials, spare parts, supplies, consumables or components of equipment for the Project;

(d) price fluctuations with respect to materials, spare parts, supplies, consumables or components of equipment for the Project;

(e) late delivery of materials, supplies or components of equipment;

(f) economic hardship;

(g) shortages of manpower;

(h) the delay, default or failure to perform by a contractor or subcontractor;

(i) machinery or equipment breakdown;

(j) customs procedures;

(k) flaws in the final technical specifications prepared by Contractor which require Contractor to re-design or re-engineer any portion of the Project or otherwise change or modify the work; and

(l) normal wear and tear or random flaws in materials and equipment or breakdowns in equipment.

16.3 Payment Obligations

No event, whether or not it constitutes "Force Majeure" will excuse GPA from the obligation to make any payment when due and payable under this Agreement, provided that if the occurrence or effects of a Force Majeure affects the operation of all or a portion of the Project Facilities, GPA shall continue, during the continuance of such Force Majeure or its effects, to pay the Capacity Charge for each MW of Dependable Capacity, after deducting from the Capacity Charge an amount determined by multiplying the Capacity Charge by a fraction, the numerator of which is the capacity that is unavailable due to the Force Majeure, and the denominator of which is the Dependable Capacity. This Article 16.3 is without prejudice to the provisions of Article 16.4.

16.4 Deemed Capacity

In the event that the Project Facilities and associated energy are unavailable, in whole or in part, due to:

(a) (i) GPA failing to deliver Fuel that meets the Fuel Specifications at the times and in the quantities required to satisfy the Fuel Supply Requirement (after the Project Company has utilized available Fuel in the relevant ULSD Storage Facilities), (ii) the delivery of Non-Conforming Fuel, (iii) subsequent to the transfer of the Electrical Interconnection Facilities to GPA, the unavailability of the Electrical Interconnection Facilities or electric transmission or distribution service sufficient to export the entire output of the Project Facilities, or (iv)

the unavailability of Water supply to the Project Facilities from GWA sufficient to effectively operate the Project Facilities;

(b) a condition caused by GPA or the Grid System;

(c) a Change in Law,

then the Project Facilities, to the extent the Project Facilities in whole or in part are unavailable due to the foregoing reasons, shall be deemed available and providing the Dependable Capacity for the purposes of calculating liquidated damages under Article 8 and for the purposes of payments of the relevant Capacity Charges to be made by GPA to Project Company under Article 13 whether such foregoing reasons are due to the effects of Force Majeure or not.

16.5 Notification Obligations

(a) The Party affected by a Force Majeure shall give Notice to the other Party of any event constituting a Force Majeure as soon as reasonably practicable. Any Notice shall include full particulars of the event constituting a Force Majeure, of its effects on the Party claiming relief and the remedial measures proposed, including estimated cost and time to restore the Project, if appropriate. The Party affected by a Force Majeure shall coordinate with the other Party and give the other Party regular reports on the progress of those remedial measures and such other information as the other Party may reasonably request.

(b) The Party affected by a Force Majeure shall give Notice to the other Party of (i) the cessation of the relevant event constituting a Force Majeure, and (ii) the cessation of the effects of such event constituting a Force Majeure on the enjoyment by such Party of its rights or the performance by it of its obligations under this Agreement, as soon as reasonably practicable after becoming aware of each of (i) and (ii) above.

16.6 Duty to Mitigate

The affected Party shall be responsible to use all reasonable efforts to mitigate the effects of a Force Majeure.

16.7 Term Extension

(a) Except for the periods in which (i) the Project Company receives deemed capacity payments under Article 16.4 or (ii) the Facility is deemed Commissioned under Article 7.5, if, during any other period, the Dependable Capacity of the Facility is not available due to the occurrence or effects of a Force Majeure and this Agreement is not terminated earlier than the original Term, the Term of this Agreement and the Land Lease Agreement shall be extended by a number of Days calculated as follows:

$Ex = Y \times (2 - N/25)$

Where:

Ex is the number of Days by which the Term shall be extended;

Y is the number of Days during which the Dependable Capacity is not available due to the occurrence or effects of a Force Majeure; and

N is the Contract Year during which the relevant Force Majeure occurs.

(b) During the period by which the Term shall be so extended, GPA shall, in addition to the Energy Charge and Supplemental Charge, pay the Capacity Charge at the rate prevailing in the relevant Contract Year(s) in which the Force Majeure giving rise to such Term extension occurred.

(c) Reserved.

(d) Reserved.

(e) Reserved.

16.8 Delay Caused by Force Majeure, Excusable Events and GPA Delay Event

Except as otherwise set forth below, neither Party shall be responsible or liable for or deemed in breach hereof because of any failure or delay in complying with its obligations (other than an obligation to make a payment) under or pursuant to this Agreement due to one or more events of Force Majeure or (in the case of the Project Company) one or more Excusable Events or GPA Delay Events, or their effects or by any combination thereof, and the periods allowed or dates required (including the Required Commercial Operation Dates) for the performance by Parties of such obligation(s) shall be extended on a day-for-day basis to account for such event(s), effects or combination thereof; provided that no relief shall be granted to the Party claiming Force Majeure, Excusable Event or GPA Delay Event pursuant to this Article 16 to the extent that such failure or delay would have nevertheless been experienced by that Party had such Force Majeure, Excusable Event or GPA Delay Event not occurred. This Article 16.8 is without prejudice to the provisions of Article 16.4.

16.9 Adjustments for Change in Law

(a) In the event of a Change in Law which is of the type described in the Change in Law definition and has an impact on the Project that is equal or greater than five hundred thousand Dollars (US$500,000) for a Contract Year, GPA shall pay to Project Company (without double recovery) a Supplemental Charge under this Agreement in such amount as is necessary to compensate Project Company for, and make Project Company whole with respect to any such additional costs and/or adverse effect on the expected financial benefit suffered as a result of such Change in Law.

(b) In the event of a Change in Law that has a positive impact on the Project Company that is equal to or greater than five hundred thousand Dollars (US$500,000) for a Contract Year, Project Company shall adjust the Capacity Charge under this Agreement in such amount as is necessary to return the benefit of such increase to GPA.

ARTICLE 17
TRANSFER OF OWNERSHIP

17.1 Project Facilities Transfer

(a) On the Transfer Date, Project Company shall transfer to GPA, free from any lien or encumbrance and without the payment of compensation, all right, title and interest in and to the Project Facilities including all fixtures, fittings, plant and equipment (including all test equipment, special tools, as-built drawings, software, documents, reports, analyses, all relevant files, plant procedures and forms as reasonably required and necessary for GPA to effectively operate the Project Facilities after the transfer) and all improvements

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comprising the Project Facilities (the "**Project Facilities Transfer**"), provided that there is no default in payment obligations by GPA that has not been cured.

(b) Reserved.

(c) Reserved.

(d) Reserved.

(e) Six (6) months prior to the applicable Transfer Date, GPA and Project Company shall meet and agree on the inventories involved and the mechanics of the Project Facilities Transfer, but Project Company shall not be liable for any discrepancies between such inventories and the actual fixtures, fittings, plant and equipment transferred, provided that following agreement on inventories Project Company shall exercise the same care regarding the fixtures, fittings, plant and equipment and all improvements therein as it did prior to agreeing to the same and provided further that GPA shall be entitled to provide a security unit within the Site.

(f) GPA shall be responsible for all costs and expenses (including legal fees and taxes or duties) incurred in connection with the Project Facilities Transfer, and shall at its own cost obtain or effect all Government Authorizations and other approvals, licenses, registrations and filings and take such other action as may be necessary for the Project Facilities Transfer as contemplated in this Article 17, and reimburse Project Company on demand for all such costs and expenses incurred by Project Company in respect thereof.

17.2 Testing Prior to End of Term and Project Facilities Transfer

(a) Unless this Agreement is terminated early, during the last year of the Term, the Project Company shall perform the tests described in Schedule 3 ("**End of Term Tests**") and the final pre-Project Facilities Transfer overhaul described in Schedule 2 (the "**Final Major Overhaul**"). In the event that the End of Term Test results demonstrate that the Project Facilities requires repair and/or replacement of equipment or parts, the Project Company shall carry out such corrective action as is required by Schedule 2.

(b) If the Project Facilities do not satisfy the requirements of Schedule 1, including the performance requirements set forth in Schedule 1, the Project Company shall immediately take such actions as will cause the Project Facilities to comply with the requirements of Schedule 1. If the Project Company fails to cause the Project Facilities to comply with the requirements of Schedule 1 within ninety (90) Days prior to the expiration of the Term, GPA (or its nominee) may take such measures as may be required for the Project Facilities to comply with the requirements of Schedule 1 at the sole expense of the Project Company. In the event that Project Company does not make timely payments for such expenses, GPA shall have the right to draw such amounts from the Transfer Security and/or set off such amounts under Article 13.1(d)(iv).

17.3 Transfer Overhaul

Three (3) years prior to the expiration of the Term, the Project Company shall deliver to GPA a plan that is consistent with Prudent Utility Practices and reasonably acceptable to GPA setting out the anticipated costs and activities associated with the Final Major Overhaul and the Project Facilities Transfer. The Final Major Overhaul shall occur no earlier than eighteen (18) months and no later than six (6) months from the expiration of the Term. In the event that GPA, acting reasonably, does not agree with the costs and activities anticipated by the Project Company in such transfer plan

and the Parties cannot agree on the costs and activities, the Dispute shall be resolved in accordance with Article 18, provided, however, that the Project Company's obligations under the transfer plan shall always be limited to the scope set out in Schedule 1. The plan shall also describe the reserves to be maintained by the Project Company to cover these anticipated costs and activities. The Project Company shall maintain adequate reserves to complete the Project Facilities Transfer obligations required by Schedule 1.

17.4 Transfer Security

On or prior to the date that is four (4) years prior to the scheduled expiry date of the Term, the Project Company shall deliver to GPA a security deposit in the amount of fourteen million three hundred forty seven thousand eight hundred Dollars (US$14,347,800) (the "**Transfer Security**"). The security deposit shall be issued in one of the forms set out in Schedule 9 as security for performance of the Project Company's obligations under this Article 17. The deposit shall remain valid for one (1) year subsequent to the date of Project Facilities Transfer. In the event that Project Company has not delivered the security deposit in favor of GPA by the end of the twenty-first (21st) Contract Year, GPA shall have the right to withhold payments to Project Company (including payment amounts owed pursuant to Article 13) up to the Transfer Security amount.

ARTICLE 18
CHOICE OF LAW AND RESOLUTION OF DISPUTES

18.1 Governing Law

This Agreement and the rights and obligations hereunder shall be interpreted, construed and governed by the laws of Guam and all applicable laws of the United States of America.

18.2 Initiation of Dispute Resolution

(a) In the event that a Dispute arises, the Parties shall attempt in good faith to settle such Dispute by mutual discussions within thirty (30) Days after the date that the disputing Party gives Notice of the Dispute to the other Party, which may include referring the Dispute to the Joint Coordinating Committee for a specified time period, subject to mutual agreement of the Parties in writing.

(b) In the event that the Dispute is not resolved in accordance with Article 18.2(a), either Party may refer the Dispute to the chief executive officer or chief operating officer of Project Company and GPA for further consideration.

(c) In the event that the Parties do not reach agreement on the Dispute within forty five (45) Days after the date that either Party gives notice of the Dispute pursuant to Article 18.2(a), or such longer period as they may agree in writing, then either Party may commence resolution of the Dispute in accordance with 18.4 or, subject to mutual agreement of the Parties in writing, submit the Dispute to mediation pursuant to Article 18.3.

18.3 Mediation

(a) In the event that the Parties mutually agree pursuant to Article 18.2(c) to submit a Dispute to mediation, then such dispute shall be submitted to mediation in accordance with the rules of the American Arbitration Association, subject to the conditions and limitations of this paragraph. This agreement to mediate is authorized under 5 GCA §5427 (b) and 2 GAR §9103 (a)(1). The Parties shall each pay one-half of the mediation expenses.

(b) In the event the Dispute is not resolved through mediation within ninety (90) days of the date on which either Party gave Notice of the Dispute pursuant to Article 18.2(a), either Party may commence resolution of the Dispute in accordance with 18.4.

(c) Any mediation shall be conducted in English.

(d) The place of mediation shall be Guam.

18.4 Arbitration

(a) Any Dispute arising out of or in connection with this Agreement and not resolved following the procedures described in Article 18.2 or Article 18.3 shall be finally settled by arbitration under the Rules of Arbitration of the American Arbitration Association ("**AAA Rules**").

(b) Any arbitration shall be conducted in English, and unless otherwise agreed by the Parties, the number of arbitrators shall be three (3). The arbitrators shall be appointed in accordance with the AAA Rules.

(c) The place of arbitration shall be Los Angeles, CA, USA.

(d) The arbitration tribunal may consolidate an arbitration arising out of or relating to this Agreement with any arbitration arising out of or relating to the Land Lease Agreement if the subject matter of the Disputes arises out of or relates to essentially the same facts or transactions. Such consolidated arbitration shall be determined by the arbitration tribunal appointed for the arbitration proceeding that was commenced first in time.

18.5 Performance of Obligations

Unless otherwise provided in this Agreement, during the conduct of Dispute resolution the Parties shall continue to perform their respective obligations under this Agreement.

18.6 Consent to Jurisdiction

Each Party hereby consents to the jurisdiction of the District Court of Guam for any action filed by the other Party to enforce a judgment entered for the purpose of recognizing any award or decision of any arbitrator(s) who were duly appointed pursuant to this Agreement to resolve any Dispute between the Parties.

18.7 Waiver of Jury Trial

Each Party waives any right to trial by jury of any claim or action under or in connection with this Agreement, regardless of the legal theory. This waiver of right to trial by jury is given knowingly and voluntarily by each Party hereto.

ARTICLE 19
NO LIABILITY FOR REVIEW

No review, non-objection or approval by GPA of any agreement, document, instrument, drawing, specifications or design proposed by Project Company shall relieve Project Company from any liability that it would otherwise have had for its negligence or wilful misconduct (i) in the preparation of such agreement, document, instrument, drawing, specification or design or (ii) the failure to comply with the applicable Laws of Guam with respect thereto.

ARTICLE 20
SHARE TRANSFER AND DISPOSAL OF ASSETS

20.1 Shares Certificate Legend Requirement

With respect to the transfer of the registered ownership of any Shares, Project Company (i) shall include appropriate legends on all share certificates evidencing Shares of Project Company to put prospective purchasers of such Shares on notice of the restrictions in the following provisions and, (ii) to the extent permitted by the Laws, shall not register or give effect to any purported transfer of Shares that is not in compliance with such restrictions or do not bear such legend.

20.2 Transfer Restriction

(a) Prior to the second anniversary of the Commercial Operation Date, none of the Initial Shareholders shall (i) transfer any Shares owned directly or indirectly by them or (ii) merge into or consolidate with any other individual, corporation, company, voluntary association, partnership, joint venture, trust, or (iii) dispose of assets of Project Company at any time, except for:

(i) a transfer required by any Laws, the operation of the Laws, or by order of a court, tribunal, or Government Authority with appropriate jurisdiction;

(ii) a transfer resulting from the enforcement of a pledge or security interest in or over any Shares in accordance with the Security Package;

(iii) a transfer of Shares in accordance with the Lenders' Direct Agreement; or

(iv) a transfer to which GPA has given its prior written approval.

(b) Without prejudice to the foregoing provisions, for the duration of the Term, the Lead Shareholder shall not transfer any Shares owned by it to the extent it would cause the Lead Shareholder's shareholding in the Project Company to be less than thirty five percent (35%) of the Project Company's total issued share capital, except for:

(i) a transfer to which GPA has given its prior written approval, such approval not to be unreasonably withheld, delayed or conditioned (it being agreed that (x) GPA shall provide such approval unless GPA demonstrates based on reasonable, verifiable and documented grounds that the proposed transfer would be materially prejudicial to it and (y) such approval shall be deemed given unless it is refused in writing within thirty (30) Days of GPA's receipt of a written request therefor); or

(ii) a transfer in any of the circumstances listed in Article 20.2(a)(i) to (and including) 20.2(a)(iii).

ARTICLE 21
NOTICES

Except as otherwise expressly provided in this Agreement, all notices, communications, or other documents (together "**Notices**") to be given or made by one Party to the other Party pursuant to this Agreement shall be in English and in writing, shall be addressed for the attention of the person indicated below, and shall be delivered by hand or sent by reputable international express courier by facsimile, or registered mail. Any Notice given by facsimile shall be confirmed by sending a copy of the same by

personal delivery or by registered mail, but the failure to confirm so shall not void or invalidate the original Notice if it is in fact received by the Party to which it is addressed. The addresses for service of the Parties and their respective facsimile numbers are:

Guam Power Authority

Address: Gloria B. Nelson Public Service Building 688 Route 15 Fadian, Mangilao, Guam

Facsimile: (671) 648-3290

Attention: General Manager

Guam Ukudu Power LLC

Address: 105 Inda Street, Suite 107, PMB 1053, Dededo, Guam 96929

Facsimile: (671) 969-4189

Attention: Chief Executive Officer

or such other addresses and facsimile numbers as either Party may have notified to the other Party in accordance with this Article 21.

All Notices shall be deemed delivered (a) when presented personally, (b) when transmitted by facsimile to the receiving Party's facsimile number specified above, (c) one (1) Day after being delivered to a courier for express delivery, addressed to the receiving Party, at the address indicated above (or such other address as such Party may have specified by written Notice), or (d) five (5) Days after being sent by registered mail addressed to the receiving Party, at the address indicated above (or such other address as the receiving Party may have specified by written Notice). Any Notice given by facsimile shall be confirmed in writing delivered personally or sent by registered mail, but the failure to confirm so shall not void or invalidate the original Notice if it is in fact received by the Party to which it is addressed.

ARTICLE 22
MISCELLANEOUS PROVISIONS

22.1 Amendment

This Agreement cannot be amended except by prior written agreement between the Parties.

22.2 Headings

The headings contained in this Agreement are used solely for convenience and do not constitute a part of this Agreement nor shall such headings be used in any manner to aid in the construction of this Agreement.

22.3 Third Parties

This Agreement is intended solely for the benefit of the Parties hereto. Nothing in this Agreement shall be construed to create any duty or any liability to or any right of suit or action whatsoever, to any person not a Party to this Agreement.

22.4 No Implied Waiver

The failure or delay of either Party to enforce at any time any of the provisions of this Agreement, or to require at any time performance by the other Party of any provision hereof, shall neither be construed to be a waiver of such provisions nor affect the validity of this Agreement or any part hereof or the right of such Party thereafter to enforce each and every such provision.

22.5 Relationship of the Parties

This Agreement shall not be interpreted or construed to create an association, joint venture, partnership or agency between the Parties or to impose any partnership obligation or liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party. Nothing in this Agreement shall be construed as creating any relationship between the Parties other than that of independent sale and purchase of capacity and electricity generated at the Project Facilities. Except as otherwise set forth herein, the Parties do not intend to create any rights, or grant any remedies to, any third party beneficiary of this Agreement. Therefore, Project Company shall be solely responsible for the payment of salaries, wages and mandatory and fringe benefits of its employees, which will not have any labor relationship with GPA.

22.6 Rights of Inspection

Project Company shall promptly furnish to GPA such information as GPA may from time to time reasonably request. Subject to Article 6.5, Project Company shall permit representatives of GPA on reasonable notice and during reasonable hours to visit the Project Facilities, such visit to be at the cost of GPA.

22.7 Periodic Reports

(a) Each Party shall, as soon as available but in any event within one hundred and twenty (120) Days after the end of each fiscal year, furnish to the other Party: (a) two (2) copies of its complete financial statements for such fiscal year (which are in agreement with its books of accounts and are prepared in accordance with accounting principles which are generally accepted in Guam and consistently applied), together with an audited report thereon; (b) a copy of any management letter or other communication sent by the auditors to the Party or to its management in relation to the Party's financial, accounting and other systems, management and accounts; and (c) a report by the auditors certifying that, based on its financial statements, the Party was in compliance with its financial obligations as of the end of the relevant fiscal year or, as the case may be, detailing any non-compliance. In addition, each Party shall authorize its auditors (whose fees and expenses shall be for the account of the Party) to communicate directly with the other Party at any time regarding the Party's accounts and operations and shall furnish to the other Party a copy of such authorization.

(b) Each Party shall, as soon as available but in any event within sixty (60) Days after the end of each six (6) Month period of each fiscal year, furnish to the other Party: (i) two (2) copies of balance sheets of such Party, as of the close of that period, and statements of sources and uses of income and retained earnings and changes in the Party's capital accounts and financial position, for the period and for the portion of the fiscal year ending with that period, in each case setting forth in comparative form the figures for the corresponding period for the preceding fiscal year, all in reasonable detail and in accordance with the generally accepted accounting principles in Guam consistently applied and certified as complete and correct, subject to changes resulting from year-end adjustments, by the chief accounting officer of the Party; and (ii) a report on any factors materially and

adversely affecting or that might materially and adversely affect the Project or the Party's business and operations or its financial condition.

22.8 Survival

Articles 1, 2, 5.3, 5.4, 15, 18 and 22 shall survive the cancellation, expiration or termination of this Agreement.

22.9 Language

The language of this Agreement shall be English. All documents, Notices, waivers and all other communication written or otherwise between the Parties in connection with this Agreement shall be in English.

22.10 Entirety

This Agreement and Schedules attached hereto and the LLA and any schedules or annexes thereto, taken together, are intended by the Parties as the final expression of their agreement and are intended also as a complete and exclusive statement of the terms of their agreement with respect to the subject matter of this Agreement and the LLA. All prior written or oral understandings, offers or other communications of every kind pertaining to the sale or purchase of capacity and energy hereunder to GPA by Project Company or to the Project Company by GPA or pertaining to the connection of the Project Facilities to the Grid System are hereby abrogated and withdrawn.

22.11 Assignment

This Agreement may not be assigned by either Party other than by mutual agreement between the Parties in writing. Notwithstanding the foregoing, for the purpose of financing or refinancing the Project Facilities, GPA agrees that Project Company may assign to the Lenders its rights and interest or create security over its rights and interest under or pursuant to (i) this Agreement, (ii) the Project Facilities, (iii) the movable property and intellectual property of Project Company and (iv) the revenues or any of the rights or assets of Project Company. The Parties acknowledge and agree that provisions, which shall be agreed with the Lenders, will be included in the Lenders' Direct Agreement which will provide, inter alia, for the Lenders' security interest and cure and step-in rights in and under this Agreement.

22.12 Successors and Assigns

This Agreement shall be binding upon, and inure to the benefit of, the Parties hereto and their respective legal successors and assigns permitted in accordance with Article 22.11.

22.13 Confidentiality

Each of the Parties shall hold in confidence the agreements relating to the Project and all documents and other information, whether technical or commercial, which is of a confidential nature supplied to it by or on behalf of the other Party relating to the design, construction, insurance, operation, maintenance, management and financing of the Project and shall not publish, disclose or use the same for its own purposes other than as may be required to perform its obligations under this Agreement or as may be required by law.

22.14 Counterparts

This Agreement may be executed in more than one counterpart, each of which shall be deemed to be an original and all of which when taken together shall be deemed to constitute one and the same instrument.

22.15 Severability

If one or more provisions contained in this Agreement are held or found to be invalid, illegal, or unenforceable in any respect, the provision(s) shall be given effect to the extent permitted by law and the invalidity, illegality, or unenforceability of any provisions shall not affect the validity of the remaining provisions of this Agreement.

22.16 PUC Approval

GPA is required by law to obtain prior approval from the Guam Public Utilities Commission before entering into, extending or amending contracts, that could impact rates. This approval process is described in PUC's February 15, 2008 Order, which is available for inspection. GPA certifies that it has complied with this requirement, if applicable, before entering into this contract.

22.17 Cancellation of Reserve Facility

The parties acknowledge and agree this Third Amended and Restated ECA cancels the Reserve Facility from the Project scope and terminates and renders all obligations of the parties as to the Reserve Facility, and any provisions related thereto, of no further force and effect as of the date hereof. Accordingly, the parties further acknowledge and agree that GPA shall have no obligation to deliver possession of Parcel 2, Lot 261-2, Piti (as shown in Exhibit A to the LLA) to the Project Company and that as a result of the cancellation and termination of the obligations and provisions of the ECA as it applies to the Reserve Facility, the parties hereby acknowledge and consent to the termination and cancellation of the LLA as it applies to Parcel 2, as defined and described therein, by the agreement of the parties hereto and by operation of the terms of the LLA, including, without limitation, Articles 2 and 24 of the LLA.

[Signature pages follow]

IN WITNESS WHEREOF, each of the Parties has caused this Third Amended and Restated Energy Conversion Agreement to be executed as of the day and year first above written.

GUAM POWER AUTHORITY

By: _____
JOHN M. BENAVENTE, P.E.
GENERAL MANAGER

APPROVED AS TO FORM:

By: _____
MARIANNE WOLOSCHUK
GPA GENERAL COUNSEL

GUAM UKUDU POWER LLC

By: _____

GUHWA KANG
CHIEF EXECUTIVE OFFICER

SCHEDULE 1
Functional Specifications of the Project Facilities

Schedule 1: Functional Technical Specifications for Facility

Table of Contents

Appendices

PREAMBLE

Project Company shall perform or cause to be performed all work and services and provide all materials, equipment, machinery, tools, labor, utilities, chemicals, transportation, administration and incidentals (the "Work") as may be necessary or appropriate to carry out the functions and purposes indicated in this Agreement including the development, financing, construction, and operation of the Facility designed to meet the performance criteria and all other conditions set forth in this Agreement, whether or not such Work is specifically mentioned or indicated in the Functional Specifications or elsewhere in the Agreement.

The Functional Specifications set forth the minimum criteria for efficiency, reliability, operability, maintainability, quality of equipment, materials, and systems. Where the Functional Specifications are different from the applicable industry codes and standards or applicable standards and Laws in effect, as of September 14, 2018, the more stringent shall apply. Where the Functional Specifications describe portions of the Work in general terms, but not in complete detail, it is understood that, subject to Project Company meeting the requirements of the Agreement and the Functional Specifications; (i) Prudent Utility Practices are to prevail, (ii) only new materials and workmanship of the first quality are to be used, and (iii) such Work shall be fit for the intended purpose.

1 DESCRIPTION OF PROJECT

1.1 Project Description

Guam Power Authority (GPA) is seeking an Independent Power Producer (IPP), hereafter referred to as the Project Company, to develop a green-field power generating plant on the island of Guam. The Project Company will operate under an Energy Conversion Agreement (ECA) with GPA for a 25-year period, with an optional five (5) year extension. The plant site will be located near the existing Harmon Substation. The Project shall provide 180 MW (net at the Point of Interconnection) of base loaded generation to meet GPA electrical demand. Because of the variability of technologies allowed and unit sizes, GPA will consider evaluating proposals that are within ten percent (10%) over or under the preferred range. The size of the Facility's individual units shall be such that a trip of a single Unit will not result in a loss of 45MW. The use of Battery Energy Storage System is allowed to offset the loss for at least fifteen (15) minutes.

The project includes a 115 kV substation and transmission lines to the GPA system. The plant is intended to be utilized in various operating conditions that include, but are not limited to: 1) higher output levels serving evening peak load, and 2) lower output levels (down to 20 MW) during periods of lower load and higher variable renewable generation where the plant still needs to be able to supply adequate system support and short circuit MVA levels. Synchronous condenser capability is required to provide adequate inertia to maintain short circuit MVA levels during lower real power output operating conditions and to provide reactive power to the system as required. The facility shall be capable of providing the full Dependable Capacity at any given time regardless of the weather conditions. The facility shall be capable of withstanding and to continue operating during all naturally occurring events. The Project will be required to be dual fuel capable,

utilizing Ultra Low Sulfur Diesel (ULSD) and natural gas. The natural gas will be delivered to Guam as Liquefied Natural Gas (LNG), and will be regasified prior to pipeline delivery to the facility. The Project Company shall be fully responsible for the financing of the Project, and the design, supply, delivery, erection, commissioning, operation, and maintenance of the complete Facility for the agreed Term. Particulars of the plant performance requirements are given elsewhere in this specification. The Project Company shall coordinate plans and activities with GPA during the design, construction, commissioning, and operation of the Project. GPA is interested in bringing additional power generating capacity on line as early as possible. Where practical this includes partial commissioning of the new generating units. Project Company shall provide their plans for partial commissioning.

See Appendix I KEPCO Proposal Technical Details

1.2 Scope of Supply

The Project Company shall provide a complete Facility of 180 net MW Contracted Facility Capacity, GPA will consider evaluating proposals that are within plus/minus ten percent (10%) of the preferred capacity with all support facilities required for commercial operation. The scope of the Project shall include, but not be limited to the following:

1.2.1 Engineering

The Project Company shall be responsible for the complete engineering and design services for the procurement, construction, and commissioning of the new generation Facility. The Project Company shall provide survey, geotechnical investigation, engineering, design, drawings, specifications and datasheets, databases, construction specifications, commissioning, testing, and operation and maintenance (O&M) procedures, and equipment information that describes all components of the new generation facility and related infrastructure.

1.2.2 Procurement

The Project Company shall be responsible for all aspects of the procurement of equipment, materials, labor, and services for the new fuel supply and plant. Procurement service will include, but not be limited to, purchasing, subcontracting, expediting, inspections, shipping and field services. The Project Company shall comply with Guam Procurement Law to ensure that the Project reflects positively on GPA, the Project Company, contractors and suppliers.

1.2.3 Construction

The Project Company shall be responsible for complete construction of the Facility, including substation, transmission line and interconnections to the Grid System, fuel supply infrastructure if proposing fuel fired plant and water supply infrastructure. The Project Company shall develop a construction plan detailing construction procedure, site safety, site security, subcontractor administration, and start-up and commissioning procedures. The construction plan shall address any interfaces required as defined in this IFB document, including water, sewage, site access, site runoff, and emergency response. The Project Company shall submit the Construction Plan for review and comment no later than three (3) months prior to commencement of construction. The Project Company may use part of the property outside the plant footprint (estimated at 25 acres) during construction if the existing vegetation barrier around plant is not damaged.

1.2.4 Operation and Maintenance

The Project Company shall be responsible for operation and maintenance of the Facility during the Term of the Project.

1.2.5 Detailed Project Scope

A. Scope of Services

The Project Company Services for the project will comprise, but not necessarily be limited to the following:

- Design and procurement
- Construction testing and pre-commissioning
- Commissioning and functional testing
- Performance Tests and Reliability Tests
- Operation and maintenance of the Facility during the Term of the Project
- Other services as specified or necessary to complete the Project
- Temporary construction works and facilities
- Provision of documentation
- Operators' living quarters and facilities, if required

B. Scope of Supply

Facility Fossil fuel fired components will comprise but not necessarily be limited to the following:

- Multiple Combustion Turbine Generators which will be designed, supplied, constructed, and operated in such a manner that the maximum net power output of the Facility lost during an outage of a single Unit is less than 45 MW and would not cause system frequency upsets outside the acceptable range defined in GPA Grid and Reliability standards, and which will be capable of operating on ULSD and Natural Gas
- Heat Recovery Steam Generators
- Steam turbine generator
- Battery Energy Storage System of 25 MW up to 15 MW for at least thirty (30) minutes. The BESS shall provide backup power for losses in excess of 45 MW. The system will be initiated and fully online within 500ms. The BESS shall be available continuously and ready to be utilized at any time
- Capability to operate generators in Synchronous Condenser mode must be provided to facilitate Short Circuit MVA requirements and provide system reactive power.
- Raw water system
- Service water system
- Water and waste water treatment plants

- Closed loop water cooling system, as required
- ULSD Fuel on-site system including storage and conditioning plant
- Fuel transfer facility at the plant site for loading trucks to transport fuel oil to other GPA plants.
- ULSD supply system including modifications to the GPA bulk storage facilities and constructing of ULSD underground pipeline to the Site
- On-site Natural Gas system including LNG metering and natural gas supply line to the Site's regulation and metering
- Auxiliary steam boiler with all auxiliary equipment, if required
- Generator step-up, station, and auxiliary power transformers; and associated protection and control equipment as required
- Generator circuit breakers and/or MV metalclad switchgear as required
- Station electrical distribution system
- DC equipment, batteries, and UPS systems
- Power, control and instrument cabling
- Earthing (grounding) and lightning protection
- Emergency generator plant (for auxiliaries, etc.), if required
- Emergency lighting system
- Cathodic protection, as required
- Lighting and small power services
- Compressed air system
- Cranes and lifting gear
- Maintenance tools and equipment for workshops, stores, and laboratories
- Fire detection and protection system
- Firefighting systems
- Chemical storage tanks
- Chemical feed systems, if needed
- Treated water storage tanks firefighting water integrated, as required. There shall be seven (7) days of water storage for cooling tower makeup if cooling tower is required.
- Main metering systems for fuel, electrical energy export, and electrical energy import
- Backup metering systems for fuel, electrical energy export, and electrical energy import
- Control system for combustion turbine and steam turbine generator units
- Local control equipment for auxiliary plants

- Plant control system
- Security provisions compliant with NERC CIPS and US Navy
- Telecommunication systems within Facility, connection to public network, and connection to GPA private telecommunication networks
- Load dispatch control interface facilities
- Foundations for all plant and buildings
- Civil and structural and building works associated with the plant buildings including, but not limited to:
  - Main structures to house Combustion Turbine Generators, Steam Turbine Generators, Heat Recovery Steam Generators as required
  - Control room, electrical room, administration building
  - Fire protection pump house
  - Maintenance workshop and stores
  - Gatehouse
  - Potable water system and other building services
  - Other structures as required for proper operation of the Facility
- HVAC facilities
- Site lighting
- Construct a new road from the access road initiating from Route 1 through the front of the property to Route 3
- Provisions for optional Natural Gas pressure reduction, metering and treatment station, as required
- All necessary external works including roads, fencing, gates, sewers and drainage within the power plant
- Spare parts required for commissioning, operation, and maintenance
- Special tools and maintenance equipment
- Remote terminal unit (RTU), Substation Control System (SCS) connections, communication protocols, marshalling kiosks, automatic generation control (AGC), etc.
- Switchyard
- Electrical Interconnection Facilities between the Facility and the GPA Harmon substation
- Expansion/modification to the GPA Harmon substation
- Consumables throughout the specified operating period; excluding ULSD and natural gas.

The Project Company shall be deemed to have included in his Proposal any additional plant and equipment necessary to meet the Facility design, performance, operation, and environmental criteria, but which are not specifically identified above, and to form a complete power plant which is fit in all respects for its intended purpose and use.

1.2.6 Rights-of-Way

Obtainment of rights-of-way for the ULSD pipeline and the 115 KV transmission interconnection from the GPA procured property identified in Section 5.0 Site Data to the Harmon substation for the Project will be the provided by GPA. Project Company will provide other rights of way. Project Company will be responsible for rights of way from any locations other than the GPA property identified in Section 5.0 Site Data to the Harmon substation.

1.2.7 ULSD Supply Infrastructure

The design, construction, and commissioning of the ULSD supply infrastructure, including, bulk storage at the plant, fuel truck loading and unloading facilities, new fuel oil and natural gas pipeline to the plant and modifications to existing pumps at the GPA Bulk Fuel Storage Facility Pump Station is the responsibility of the Project Company and will be included in the scope for any Facility which has a fossil fuel fired component. Ownership of the bulk storage, the plant site fuel truck loading facilities and the pipeline will be transferred to GPA after Commercial Operation Date.

The truck unloading / loading station shall be designed with an loading/unloading capacity of 8500 US gallons/1hr for one (1) truck.

There is an existing Bulk Fuel Storage Facility (GPA Bulk Fuel Storage Facility Facility) near the Piti and Cabras plants and an existing 8-inch RFO pipeline from the GPA Bulk Fuel Storage Facility Pump Station to the Tanguisson plant site. Any new equipment required, including storage tanks, pumps, and booster pumps shall be the responsibility of the Project Company. The new pipeline will utilize the existing fuel oil pipeline right of way to the greatest extent possible.

Power Source for outside of Power Plant will be provided by GPA in the nearest existing MCC, UPS.

1.2.8 Natural Gas Supply Infrastructure

The fuel systems provided, the design, construction, and commissioning of the natural gas supply piping infrastructure beginning at an outlet flange after regasification at GPA Bulk Fuel Storage Facility, new natural gas pipeline to the plant will be included in the scope of this Project, and is the responsibility of the Project Company. Construction and ownership of the LNG receipt and storage at GPA Bulk Fuel Storage Facility is by Others.

The new pipeline will utilize the existing fuel oil pipeline right of way to the greatest extent possible.

1.2.9 Environmental Permitting

The Project Company shall be responsible for all environmental permitting required for the construction, ownership and operation of the Facility with associated infrastructure and terminal facilities, including the Air Permit. The Project shall meet all applicable local, state, territory and federal environmental regulations and permit conditions. The permits that will be required include the following:

A. Clean Water Act Sections 401, 402 and 404

B. Section 7 of the Endangered Species Act and Marine Mammal Protection Act (MMPA)

C. Section 106 of the National Historic Preservation Act[1]

D. Federal Coastal Zone Management Act (CZMA)

E. Seashore Clearance Permit

F. GLUC Wetlands Permit, if applicable

G. GEPA Environmental Land Use

H. Air Pollution Source Construction Permit and Major Air Pollution Source Operating Permit

The project may be permitted as a minor source project ONLY if the SOx emissions are less than 100 tpy (for all types of units), and emissions are either:

(1) less than 100 tpy of each NOx, CO, particulates and lead if the source consists of a "fossil fuel-fired steam electric plants" or "fossil fuel boilers" of more than 250 MMBTU/hr heat input (i.e. a combined cycle gas turbine, boiler or other co-generation plant), or

(2) less than 250 tpy of each NOx, CO, particulates and lead for other types of combustion equipment (i.e., IC engine, simple cycle turbine).

If the potential emissions from the proposed project will exceed any of these major source thresholds, then a permit must be obtained from EPA for the major source pollutant and any pollutants with a significant emission increase (as defined in 40 CFR 52.21(b)(23)). The Project Company must provide the necessary emission control system that will meet the requirements for the Minor Source Permit.

I. For ULSD or natural gas, a FERC certificate would not be required.

1.2.10 Grid Study and Analysis

GPA will complete a grid study that will evaluate the impact of the new generating plant on the existing Grid System. The Project Company will reimburse GPA for the cost of the study. Information on the existing island Grid System necessary for completing this study will be supplied by GPA to the successful Project Company.

The Project Company shall provide full steady state and dynamics modeling information of the plant to be used in the grid study. The modeling information shall include all components up to the Point of Interconnection with the GPA system. This shall include, but not necessarily limited to, modeling of generator(s), excitation system(s), governor(s), generation step-up transformer(s) (GSU), and any transmission lines. The tap settings on the GSUs shall reflect the expected settings. Any other components deemed relevant for any analysis that could be performed by GE's PSLF tool, should also be provided. Differences in characteristics of the plant based on the different fuel sources it can operate on shall be provided.

[1] GPA to provide.

The size of the Facility's individual units shall be such that a trip of a single Unit will not result in a loss of 45 MW.

1.3 Terminal Points

1.3.1 Fuel

A. ULSD

If ULSD is selected by Project Company as a fuel source, the Project Company is responsible for the design and construction of ULSD supply infrastructure including any modifications at the GPA Bulk Fuel Storage Facility Bulk Fuel Storage Facility and the new pipeline that will be built to transport ULSD from the GPA Bulk Fuel Storage Facility to the plant site. [The interface point for design and construction will be at the outlet flange of the isolation valve installed in the existing ULSD pipeline supplying ULSD from the GPA's existing bulk storage facilities.] The Project Company shall provide fuel storage at the power generating plant site for a minimum of thirty (30) days of plant operation at full load for the Dependable Capacity and at Site Reference Conditions. The Project Company will provide fuel transfer facility at the plant site for loading trucks to transport fuel oil to other GPA plants.

B. Natural Gas

The Project Company shall design the plant for future natural gas operation. If natural gas is selected by Project Company as a fuel source, the Project Company is responsible for the design and construction of natural gas supply infrastructure beginning at an outlet flange after regasification at GPA Bulk Fuel Storage Facility, and the new pipeline that will be built to transport natural gas from the GPA Bulk Fuel Storage Facility location to the plant site. The interface point for design and construction will be an outlet flange after regasification at the GPA Bulk Fuel Storage Facility location. The Project Company shall provide natural gas throughput and pressure suitable to support the peak Facility demands noted herein.

1.3.2 Substation / Interconnection

The Project Company is responsible for the design and construction of the Electrical Interconnection Facilities. See Sections 3.6 and 3.7 for more detailed information on the requirements of the interconnection. The terminal point for design and construction included in Project Company's scope will be at the interface between the existing GPA Harmon substation and Electrical Interconnection Facilities also known as the Point of Interconnection (POI). The Electrical Interconnection Facilities will be transferred to GPA after Commercial Operation Date.

1.3.3 Water Supply

Water supply to the Facility will be the responsibility of the Project Company. It is preferred that the raw water (Treated effluent from NDWWTP) for cycle makeup and potable water will be supplied from Guam Water Authority.

Guam Water Authority (GWA) will supply grey water to the plant from the nearby Northern District Wastewater Treatment Plant (NDWWTP) to be used for cycle cooling water system if required. Available quantity and analysis of the grey water is included in Appendix A. The Project Company

shall be responsible for determining the water treatment requirements for the water sources. The grey water supply interface point will be at NDWWTP. The precise location of the terminal point will be determined by the Selected Project Company at the detailed design stage.

There will be no sea water makeup utilized.

1.3.4 Wastewater Discharge

Wastewater discharge will be the responsibility of the Project Company. The Project Company will need to determine wastewater pretreatment quality to meet the requirements of GWA. Sanitary sewer may potentially be discharged to the GWA treatment facility. The Project Company shall be responsible for the wastewater discharge permitting, and any contractual agreements with GWA.

2 DESIGN PHILOSOPHY AND PRINCIPLES

2.1 Design Requirements

2.1.1 Engineering

A. General

1. The plant design life shall be thirty (30) years with normal required maintenance. The plant shall be designed for construction and operational safety, as well as ease of maintenance and accessibility. Reliability, availability, and maintainability are prime objectives of this facility.

2. The equipment shall be designed for base load operation with potential frequent and rapid load changes. The Facility will be a primary power source for Guam; therefore, there shall be no single contingency (single mode failure) that could cause a sustained outage or partial outage for the Grid System.

3. Design for the Project shall contain Prudent Utility Practice margins with new components and systems such that the ability of the units to operate continuously shall not be compromised due to normal wear and deterioration of equipment.

4. All construction documents must be stamped by a licensed Professional Engineer registered by the Territory of Guam, in the appropriate discipline, in accordance with Territory of Guam Rules and Regulations.

5. The Facility shall be designed and constructed in accordance with all applicable Federal, Territory of Guam, and local codes and standards including the most applicable sections of the codes, standards and regulations of the following organizations or their acceptable equivalent European, Japanese and South Korean standards. If European, Japanese, or South Korean standards are proposed the Project Company must demonstrate equivalency. This list of organizations is not complete, and does not relieve the Project Company from complying with any other requirements and regulations applicable to this Project. The effective dates of the Codes and Standards of these organizations shall be the most recent edition plus any revisions and supplements prior to September 14, 2018, unless otherwise specified.

In the event conflicts arise between the codes and standards of practice described herein and codes, laws, rules, decrees, regulations, standards, etc., of the locality where the equipment is to be installed, the codes and standards of practice described herein shall govern.

Further clarification shall apply:

- different individual standards can be used for a set of equipment. e.g. for a water pump, its material is according to ASTM while its general design is according to ANSI/HI.
- Asian or international standards shall not be intermingled with US standards unless the Subcontractor design applies multiple standards.
- The gas turbines, steam turbine, generators, HRSGs, cooling tower and relevant auxiliaries are designed, manufactured and tested in accordance with international and proven OEM standards.

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ADA	Americans with Disabilities Act
AFBMA	Anti-Friction Bearing Manufacturers Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
API	American Petroleum Institute
ARI	Air-Conditioning and Refrigeration Institute
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CFR	Code of Federal Regulations

CMAA	Crane Manufacturers Association of America
CRSI	Concrete Reinforcing Steel Institute
EIA	Electronic Industry Association
EJMA	Expansion Joint Manufacturing Association
EPA	Environmental Protection Agency
HEI	Heat Exchange Institute
ICC	International Code Council
IEEE	Institute of Electrical and Electronics Engineers
ISA	International Society for Automation
MBMA	Metal Building Manufacturers Association
MSS	Manufacturers Standardization Society of Valves and Fittings Industry
NAAMM	National Association of Architectural Metals Manufacturers
NACE	National Association of Corrosion Engineers
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
PCI	Pre-stressed Concrete Institute
PFI	Pipe Fabrication Institute
SAMA	Scientific Apparatus Makers Association
SFC	State Fire Code
SMACNA	Sheet Metal and Air Conditioning Contractor's National Association
SSPC	Steel Structures Painting Council
TEMA	Tubular Exchanger Manufacturer Association
UL	Underwriters Laboratory
HIS	Hydraulic Institute Standards
ISO	International Organization for Standardization
JIS	Japanese Industrial Standards
UBC	Uniform Building Codes
IEC	International Electrotechnical Commission
BS	British Standards
EN	European Standards

DIN	Deutsches Institut für Normung e. V.
VDI	German 'Verein Deutscher Ingenieure'
VDE	German 'Verband der Elektrotechnik Elektronik Informationstechnik'
KS	Korean Industrial Standards

B. Drawings and Design Model

1. A complete set of Issue for Construction (IFC) design and vendor shop drawings shall be submitted to GPA at the Commercial Operation Date, in CAD and PDF format. All drawings shall be in English language and Metric units. 3D modeling of power block is carried out by PDS or PDMS and model file submit shall be in NWD or DGN format. ULSD and Natural gas supply lines will be excluded form 3D Modeling. Issue for Construction drawings (IFC) shall not be provided in AutoCAD format if the supplier has not provided these drawings to the Project Company due to confidentiality / intellectual property. In that case the drawings will be provided in PDF format.

C. Documentation and Manuals

1. Operations and maintenance manuals, presented in clear and thorough manner, complete with respect to dimensions, design criteria, materials of construction, and like information, shall be submitted for all equipment. Details shall be identified by reference to sheet and detail shown on Drawings. Manuals shall be written in English. All manuals shall clearly delineate the make, model and options of each piece of equipment or material included in the project.

2. Operations and maintenance manuals shall be submitted to GPA in PDF format at the Commercial Operation date. Operation and maintenance manuals for new equipment purchased after the Commercial Operation date shall also be provided to GPA at the time of purchase.

3. The Project Company shall arrange for all plant Operating and Maintenance Instructions to be kept fully maintained and updated throughout the Term of the Project and be transferred to GPA at the end of the Term of the Project.

D. Specifications

1. The Project Company shall be responsible for development of all procurement, construction, installation, start-up, and commissioning specifications required for construction of the plant. Project Company shall be responsible for developing a QA/QC and testing/commissioning plan approved by GPA. At a minimum the plan must conform to applicable NETA requirements for new facilities and comply with GPAMOD 0025, 0026, 0027. The Project Company shall provide a PDF copy of all the conformed specifications to GPA at the Commercial Operation Date.

E. Tagging System

1. The plant shall utilize a tagging system to be determined by the Project Company. The tagging system shall include all equipment, enclosures, cables, pipes, instruments, control devices, valves, and other equipment. All equipment in the plant

shall be identified with a stainless-steel tag permanently affixed to the equipment and in a location that is easily accessible to plant personnel.

F. As-Built Drawings

1. Record As-Built Drawings, in PDF format, shall be provided to GPA at Commercial Operation Date. Throughout the life of the plant, the Project Company shall update the As-Built drawings in electronic format, to reflect any plant modifications. These updated drawings will be transferred to GPA as the modifications are made, and at the end of the Term of the Project.

2.2 Performance Requirements for Fossil Fired Plants

2.2.1 Capacity

A. The plant net capacity is the net electric output, measured at the Delivery Point / Point of Interconnection. The Contracted Facility Capacity shall be within the range of 180 (net) MW, at Site Reference Conditions specified in Section 5.5 of this Specification. Because of the variability of technologies allowed and unit sizes, GPA will consider evaluating proposals that are within plus/minus ten percent (10%) of the preferred capacity. The size of the Facility's individual units shall be such that a trip of a single Unit will not result in a loss of 45 MW.

B. The Project Company shall also provide the expected generation net output for all combinations of units online, while in compliance with permitted emissions guarantees.

C. The plant shall be capable of providing a minimum level of 700 MVA of Short Circuit energy at the 115 kV POI when operating at 20 MW or higher real power output. This may require some of the generating units not producing real power in such a scenario to be able to operate as synchronous condensers. The 700 MVA requirement must be met during the loss of the largest unit.

D. The plant is expected to provide inertia for the GPA system primarily through the inertia of the plant generators.

2.2.2 Start Up Duration

A. The start-up duration is defined as the time for each unit to reach its full net capacity from initiation of start-up sequence. The Project Company shall provide a startup duration, including from hot and cold conditions. Project Company's offering combined cycle plants shall provide startup times for the simple cycle unit as well as for individual steam generators associated with each combustion Turbine Generators.

2.2.3 Transient Response

A. The governor transient response shall be fast enough such that following a frequency disturbance a change of at least five percent (5%) of a single unit's capability shall be achievable within one (1) second, and at least ten percent (10%) of single unit's capability shall be achievable within two (2) seconds following the disturbance. This

applies to gas turbines; the steam turbine in combined cycle is not expected to meet it. The overall response of operating units shall meet the requirement.

2.2.4 Regulation Performance

A. The plant shall be capable of performing regulation required for renewable projects on the GPA system. The plant shall be capable of providing regulation of at least 25 MW/minute, up- and down-ramp, with equivalent of 66% of the plant real power capacity online.

2.2.5 Availability and Reliability

The Facility shall be designed to achieve the levels of availability and reliability normally expected for similar modern plants of the technology considered.

It is expected that the Facility will operate based on economic dispatch, with an average annual Equivalent Availability Factor during the plant lifetime of no less than 90%.

The Equivalent Availability Factor Formula is defined in accordance with ANSI/IEEE Standard 762-1987, Appendix C, Equation C-7 as follows:

$$EAF + POF + UOF + UDF + SDF = 100$$

where

EAF = equivalent availability factor
POF = planned outage factor
UOF = unplanned outage factor
UDF = unit derating factor
SDF = seasonal derating factor

Equation C-2

The equation shows that there are recognized sources of energy loss due to planned outages (full), unplanned outages (full), Unit deratings, and seasonal deratings. Each energy loss is represented by a separate index, POF, UOF, UDF, and SDF respectively. These indices are defined in such a way as to be additive. Therefore, the total per Unit energy loss is the sum of the four indices, and the remaining per Unit energy not lost is called equivalent availability factor (EAF).

See also ECA Article 8.3, for the approach to liquidated damages to be charged because of "excessive outages" (those beyond the allowable number of outage hours per year for forced, maintenance, and scheduled outages).

2.2.6 Emissions

A. The Project Company is responsible for meeting the environmental permitting requirements.

2.2.7 Noise

A. Noise level at the site boundary shall meet the World Bank Group International Finance Corporation EHS Guidelines – 1.7 Noise. See Appendix I. Project Company must apply appropriate noise control methods to assure compliance. As per international practice, the IFC Noise guidelines shall be interpreted as follows:

- If the average background noise is lower than the applicable limits, the applicable limits set in Table 1.7.1 in the IFC guideline are considered at the site boundary.
- If the average background noise level exceeds the applicable limit, the plant noise level shall not exceed a maximum increase above the background levels of 3 dB at the site boundary.
- The noise level design is based on the existing conditions. Potential new developments near the plot are not foreseen and are therefore out of the Project Companies control.
- Noise Design is based on background noise analysis provided by GPA during bidding period.

B. Noise level of operating equipment inside the plant boundary shall not exceed 85 dB(A) when measured 3 ft (1 meter) in the horizontal plane and at an elevation of 5 ft (1.5 meters) from grade, in accordance with ISO3746 - 'Acoustics -for determination of sound power levels and sound energy levels of noise sources using sound pressure' for the noise measurement.

C. Noise level of any equipment shall not exceed 115 dB(A) measured from a distance of 3 ft (1 meter). Equipment with noise level greater than 85 dB(A) shall have a separate noise enclosure, or meet OSHA hearing protection requirements.

2.3 General Requirements

2.3.1 Procurement Requirements

A. Approved Suppliers

1. Provided equipment and technology must be of proven design which mean that the power generation equipment and technologies specified must have engaged in reliable commercial operation for at least three (3) continuous years at three different sites. (Except for BESS which shall have at least one (1) year operation experience)

2. Equipment and materials shall be new and conform to a recognized standard such as ASTM. Reference Section 3.0, Particular Technical Requirements, for more detail pertaining to specific equipment, materials, and applicable codes.

LAS

2.3.2 Construction Requirements

A. General

1. The Project Company shall be responsible for all construction work on the Project. The construction, erection, and commissioning services shall include all material, labor, supervision, technical advisory services required to make the plant ready for commercial operation. The Project Company shall provide, install, and maintain temporary site facilities for use during construction, including temporary construction offices, trailers, utilities, and power during construction.

B. Safety

1. The Project Company shall establish safety regulations in conformance with OSHA, and adhere to those safety regulations at all times.

A key objective for the Project is to construct safely, with a goal of zero OSHA recordable events throughout construction and start-up activities.

3 PARTICULAR TECHNICAL REQUIREMENTS

3.1 Mechanical Plant and Systems Requirements

3.1.1 Applicable Codes and Standards

A. The design and specification of all mechanical work related to the Project shall be in accordance with all applicable laws and regulations of the federal and state governments and with the applicable local codes and ordinances.

B. The codes and industry standards used for design, fabrication, and construction will be the codes and industry standards, including all addenda, in effect as of September 14, 2018.

C. All mechanical design shall be performed by or done under the supervision of a Professional Engineer registered in Guam.

D. The following are a list of relevant mechanical codes and standards that shall be followed in the design of the plant. Project Company may design to acceptable equivalent European, Japanese and Korean standards. The Project Company must demonstrate equivalency.

ASME	American Society of Mechanical Engineers (ASME)
ASME	Section I Rules for Construction of Power Boilers
ASME	Section V Nondestructive Examination of the ASME Boiler and Pressure Vessel Code
ASME	Section VIII Division 1 Pressure Vessels of the ASME Boiler and Pressure Vessel Code
ASME Code	Section IX Welding and Brazing Qualifications of the ASME Boiler and Pressure Vessel
ASME	B16.1 Cast Iron Pipe Flanges and Flanged Fittings

ASME	B16.3 Malleable Iron Treaded Fittings
ASME	B16.5 Pipe Flanges and Flanged Fittings
ASME	B16.9 Factory Made Wrought Steel Butt Welding Fittings
ASME	B16.11 Forged Fittings, Socket Welding and Threaded
ASME	B16.15 Cast Bronze Threaded Fittings Classes 125 and 250
ASME	B16.20 Metallic Gaskets for Pipe Flanges
ASME	B16.21 Non-Metallic Flat Gasket for Pipe Flanges
ASME	B16.22 Wrought Copper and Copper Alloy Solder Joint Pressure Fittings
ASME	B16.24 Cast Copper Alloy Pipe Flanges and Flanged Fittings
ASME	B16.28 Wrought Steel Butt Welding Short Radius Elbows and Returns
ASME	B16.34 Steel Butt Welding End Valves
ASME	B16.36 Orifice Flanges
ASME	B18.2.2 Square and Hex Nuts Inch Series
ASME	B31.1 Power Piping
AMCA	Air Movement and Control Association
AGMA	American Gear Manufacturers Association
ANSI	American National Standards Institute
ANSI	Z9.2 Fundamentals Governing the Design and Operation of Local Exhaust Systems
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASHRAE	62 Ventilation for Acceptable Air Quality
ASHRAE	Handbook HVAC Applications
ASHRAE	Handbook HVAC Fundamentals
ASHRAE	Handbook HVAC Systems and Equipment
ASHRAE	15 - 2004 Safety Standard for Refrigeration Systems
ASHRAE	52.1 – 1992 Gravimetric and Dust Spot Procedure for Testing Air Cleaning Devices used in General Ventilation for Removing Particulate Matter
ASHRAE	52.2 - 1999 Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency in Particle Size
ASHRAE	70 – 1991 Method of Testing for Rating the Performance of Air Outlets and Inlets
ASHRAE	90.1 Energy Standard for Buildup except Low-Rise Residential Building
ASTM	American Society for Testing and Materials

ASTM A53 Specification for Pipe, Steel, Black and Hot-Dipped, Zinc- Coated, Welded and Seamless
ASTM A105 Specification for Carbon Steel Forgings for Piping Applications
ASTM A106 Specification for Seamless Carbon Steel Pipe for High-Temperature Service
ASTM A182 Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-Temperature Service
ASTM A312 Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
ASTM A234 Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service
ASTM A403 Specification for Wrought Austenitic Stainless Steel Piping Fittings
ASTM B88 Specification for Seamless Copper Water Tube
ASTM D2657 Standard Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings
ASTM D3035 Specification for Polyethylene (PE) Plastic Pipe Based on Controlled Outside Diameter
ASTM D3261 Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
ASTM D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
ASTM F714 Specification for Polyethylene (PE) Plastic Pipe Based on Outside Diameter
AWS American Welding Society
AWS D1.1 Structural Welding Code Steel
AWS QC1 Standard for AWS Welding Inspectors
AWWA American Waste Water Association
AWWA C301 Pre-stressed Concrete Pressure Pipe, Steel-Cylinder Type
AWWA C304 Design of Pre-stressed Concrete Cylinder Pipe
AWWA Manual M9 Concrete Pressure Pipe
AWWA C200 Steel Water Pipe 6 in. (150mm) and Larger
AWWA C207 Steel Pipe Flanges for Waterworks Service. Sizes 4 in. Through 144 in. (100 mm through 3,600 mm)
AWWA C208 Dimensions for Fabricated Steel Water Pipe Fittings
AWWA C504 Rubber-Seated Butterfly Valves
CFR Code of Federal Regulations
CFR 29CFR1910 Occupational Safety and Health Standards
CFR 29CFR1926 Safety and Health Regulations for Construction

CFR Volume 40 Part 60 Standard of Performance for New Stationary Sources
CTI Cooling Technology Institute Standards
HEI Heat Exchange Institute Standards
HI Hydraulic Institute Standards
ACGIH American Council of Government Industrial Hygienists
Industrial Ventilation: A Manual of Recommended Practice
MSS SP-61 Pressure Testing of Steel Valves
MSS SP-84 Steel Valves, Socket Welding and Threaded Ends
MSS SP-58 Pipe Hangers and Supports – Materials, Design, Manufacture, Selection, Application, and Installation
MSS SP-97 Integrally Reinforced Forged Branch Outlet Fittings –Socket Welding, Threaded and Butt Welding Ends
MSS SP-127 Bracing for Piping Systems: Seismic – Wind – Dynamic Design, Selection, and Application
NFPA National Fire Protection Association
NFPA 11 Low Medium and High Expansion Foam
NFPA 12 Standard on Carbon Dioxide Extinguishing Systems
NFPA 13 Standard for the Installation of Sprinkler Systems
NFPA 14 Standard for the Installation of Standpipe, Private Hydrant and Hose Systems
NFPA 15 Standard for Water Spray Fixed Systems for Fire Protection
NFPA 16 Standard for the Installation of Foam-Water Sprinkler and Foam- Water Spray Systems
NFPA 20 Standard for the Installation of Stationary Pumps
NFPA 24 Standard for the Installation of Private Fire Service Mains and Their Appurtenances
NFPA 30 Flammable and Combustible Liquids Code
NFPA 68 Guide for Venting of Deflagrations
NFPA 70 National Electrical Code
NFPA 72 National Fire Alarm Code
NFPA 85 Boiler and Combustion System Hazards Codes
NFPA 90A Standard for Installation of Air Conditioning and Ventilating Systems
NFPA 90B Standard for the Installation of Warm Air Heating and Air Conditioning Systems
NFPA 850 Recommended Practices for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations

NFPA	2001 Clean Agent Fire Extinguishing Systems
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SMACNA	Rectangular Industrial Duct Construction
SMACNA	Round Industrial Duct Construction
SSPC	Society of Protective Coatings
SSPC-PA1	Shop Field and Maintenance Painting of Steel
SSPC-SP3	Power Tool Cleaning
SSPC-SP5/NAC-1	White Metal Blast Cleaning
SSPC-SP6/NACE-3	Commercial Blast Cleaning
UL	Underwriters Labs
API	American Petroleum Institute
ISO	International Organization for Standardization
JIS	Japanese Industrial Standards
TEMA	Tubular Exchanger Manufacturer's Association
BS	British Standards
EN	European Standards
DIN	Deutsches Institut für Normung e. V.
VDI	German 'Verein Deutscher Ingenieure'
VDE	German 'Verband der Elektrotechnik Elektronik Informationstechnik'
KS	Korean Industrial Standards
CMAA	Crane Manufacturers Association of America

3.1.2 Plant Piping Systems

A. See Appendix B for piping systems and pipeline for ULSD supply or Natural Gas supply.

B. General Design and Selection Criteria Except as noted in Appendix B: Piping shall be designed in accordance with the requirements of the Code for Pressure Piping, or ASME B31.1 - Power Piping, as applicable.

C. Piping materials shall be in accordance with applicable ASTM and ANSI standards, or equivalent DIN standards. Materials to be incorporated in permanent systems shall be new, unused, and undamaged. Piping materials will generally be in accordance with the following criteria:

D. Material selection shall generally be based on the design temperature and service conditions in accordance with the following:

1. Carbon steel piping materials shall be used for design temperatures less than or equal to 371 °C (700 °F).

2. One and a quarter percent (1-¼%) or two and a quarter percent (2-¼%) chromium alloy steel piping materials shall be used for design temperatures greater than 371 °C (700 °F). At the client's request field welding of nine percent (9%) chrome shall be avoided where possible.
3. One and a quarter percent (1-¼%) or two and a quarter percent (2-¼%) chromium alloy steel piping materials shall be used where flashing may occur, including heater drains service. Field welding of 9 percent chrome shall be avoided where possible.
4. Stainless steel piping shall be utilized for high resistance to corrosion, and for piping applications requiring a high degree of cleanliness.
5. Fiberglass reinforced plastic piping materials shall be used only in applications requiring corrosion-resistant materials.
6. Underground circulating water piping shall be fiberglass reinforced plastic pipe, that piping at locations under buildings shall be pre-stressed concrete embedded cylinder pipe with concrete encased welded steel pipe. Above ground circulating water piping shall be welded steel.
7. Plastic piping having a high coefficient of thermal expansion shall be used only after a thorough analysis of the piping system thermal expansion parameters.
8. High density polyethylene (HDPE) piping shall be used for underground air service and water service other than circulating water.

3.1.3 Mechanical Installation Requirements

A. Insulation

1. All piping, equipment, or surfaces operating above 140°F near walkways, access points, maintenance areas, or operation areas shall be sufficiently insulated to reduce the surface temperature to 140°F for personnel protection. All piping, equipment, or surfaces where operating temperatures exceed 140°F or where heat conservation is necessary shall be sufficiently insulated to reduce the surface temperature to 140°F. Material containing cold fluids shall receive insulation as required to prevent condensation from forming.

3.1.4 Products

A. Valves

1. Valves shall be provided to control and isolate different systems within the plant. Where possible equipment shall be provided with isolation and bypass valves to allow for equipment maintenance without a plant outage. Valve operators shall include levers, wheels, chain pulley and pneumatic operators as required by the location and service conditions of the valve. Valves shall be arranged for operation from floor level where possible and if required, will have extension spindles, chain operators, or gearing. The location of valves shall be accessible without the use of portable ladders or a man-lift. Hand-actuated valves shall be operable by one person. Valve materials shall be consistent with pipe specifications.

2. The design, fabrication, construction and testing of valves shall conform to the applicable codes and standards in Section 3.2.1.

B. Pumps

1. Pumps shall be designed for ease of maintenance with a removal area for the pump and motor. General service pumps shall be in accordance with the recommendations of the Hydraulic Institute Standards, and shall be suitable for the service and environment for which they are installed.

C. Heat Exchangers

1. Miscellaneous heat exchangers shall be furnished in accordance with:

ASME	Boiler and Pressure Vessel Code, Section VIII
HEI	Heat Exchanger Institute – Standards for Power Plant Heat Exchangers
TEMA	Tubular Exchanger Manufacturers Association
API 661	Air Cooled Heat Exchangers

D. Shop Fabricated Tanks

1. Shop fabricated tanks shall be designed and fabricated in accordance with:

ASME	Boiler and Pressure Vessel Code, Section VIII
AWWA	American Water Works Association
API	American Petroleum Institute

3.1.5 Execution

A. The Project Company shall develop construction specifications for erection, installation, and assembly of mechanical equipment to ensure a high-quality product in accordance with the applicable codes and standards in this Specification. The specifications shall detail equipment assembly, alignment, anchoring, welding procedures, cleaning, erection of piping and equipment, piping system cleaning, piping inspection and testing and acceptable materials.

3.2 Electrical Plant and Systems Requirements

1. Each unit in the Facility shall remain connected to the Grid System from frequency ranges of 57.0 – 63.0 Hz in accordance with GPAPRC-006

2. Voltage range to be withstood by the Facility without disconnecting should be as follows (based on NERC PRC-024-2):

High Voltage Ride-Through Duration		Low Voltage Ride-Through Duration	
Voltage (pu)	Time (sec)	Voltage (pu)	Time (sec)
>1.20	Instantaneous	<0.45	0.15
≥1.175	0.20	<0.65	0.30
≥1.15	0.50	<0.75	2.00
≥1.10	1.00	<0.90	3.00
Ref. additional detail as stated in PRC-0024-2 for voltage ride-through.			

3. Communication (SCADA) requirements shall be specified including the communication protocol, type of the carrier, and a list of signals (information, alarms, etc.) to be communicated to the GPA dispatch center.
4. Automatic Generation Control Facility should not include any AGC system other than unit governors. AGC will be performed by GPA AGC system. Plant control system should not change or modify governor set-point or plant output other than through long-term control. If plant control system has control capability of individual units' real power output, it must include a droop component in the control.
5. Controller ability to mitigate sub-synchronous resonance.
6. Power revenue metering requirements (accuracy class, number of tariffs that can be programmed in the metering system, data logging and storage requirements, software for remote billing requirements, etc.).
7. Information and requirements for the Electrical Interconnection Facilities (voltage level and location of the GPA substation to be used to for power evacuation, one-line diagram and layout of the substation, specifying whether it is single or double circuit).
8. Governor requirements. Unit governors should be droop based governors with a dead band not exceeding 0.025 Hz. Each unit should be controlled by its own governor. Governor set-point should not be altered or changed automatically by plant DCS. Automatic set-point changes should only be made by the GPA SCADA system.

3.2.1 Applicable Codes and Standards

A. Unless noted otherwise, all electrical components, design and construction shall conform to applicable governmental codes, and latest editions of recommended practices and standards of the following organizations: (Project Company may offer acceptable equivalent European, Japanese and Korean standards. The Project Company must demonstrate equivalency.) Only one set of standards shall be applied throughout the Facility.

NFPA 70	National Electrical Code
NFPA 70E	National Electrical Safety Code
NFPA 780	Standard for the Installation of Lightning Protection Systems
IEC	International Electrotechnical Commission
IEEE 100	Authoritative Dictionary of Standard Terms
IEEE C37.1	IEEE Standard for SCADA and Automation Systems
IEEE C37.2	Electrical Power System Device Function Numbers, Acronyms, and Contact Designations
IEEE C37.04	IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers
IEEE C37.06	IEEE Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis Preferred Ratings and Related Required Capabilities
IEEE C37.09	IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis
IEEE C37.12	IEEE Guide for Specifications of High-Voltage Circuit Breakers (over 1000 Volts)
IEEE C37.17	IEEE Standard for Trip Systems for Low Voltage (1000V and Below) AC and General Purpose (1500V and Below) DC Power Circuit Breakers
IEEE C37.20.1	IEEE Standard for Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear
IEEE C37.20.2	IEEE Standard for Metal-Clad Switchgear
IEEE C37.20.3	IEEE Standard for Metal-Enclosed Interrupter Switchgear
IEEE C37.20.7	IEEE Guide for Testing Metal-Enclosed Switchgear Rated Up to 38kV for Internal Arcing Faults
IEEE C37.23	IEEE Standard for Metal-Enclosed Bus
IEEE C37.90	IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus

IEEE C37.90.1	IEEE Standard for Surge Withstand Capability (SWC) Tests for Relays and Relay Systems Associated with Electric Power Apparatus
IEEE C37.91	IEEE Guide for Protecting Power Transformers
IEEE C37.102	IEEE Guide for AC Generator Protection
IEEE C37.110	IEEE Guide for the Application of Current Transformers Used for Protective Relaying Purposes
IEEE C50.12	IEEE Standard for Salient-Pole 50 Hz and 60 Hz Synchronous Generators and Generator/Motors for Hydraulic Turbine Applications Rated 5 MVA and Above
IEEE C50.13	IEEE Standard for Cylindrical-Rotor 50 Hz and 60 Hz Synchronous Generators Rated 10 MVA and Above
IEEE C57.12	IEEE Standard for General Requirements for Liquid-Immersed Distribution, Power and Regulating Transformers
IEEE C57.12.01	IEEE Standard General Requirements for Dry-Type distribution and Power Transformers Including Those with Solid-Cast and/or resin-encapsulated Windings
IEEE C57.12.10	IEEE Standard Requirements for Liquid-Immersed Power Transformers
IEEE C57.12.70	IEEE Standard for Standard Terminal Markings and Connections for Distribution and Power Transformers
IEEE C57.13	IEEE Standard Requirements for Instrument Transformers
IEEE C57.13.3	IEEE Guide for Grounding of Instrument Transformer Secondary circuits and Cases
IEEE C62.11	IEEE Standard for Metal-Oxide Surge Arrestors for AC Power Circuits (>1 kV)
IEEE C62.22	IEEE Guide for the Application of Metal-Oxide Surge Arrestors for Alternating-Current Systems
IEEE C62.23	IEEE Application Guide for Surge Protection of Electric Generating Plants
IEEE 112	IEEE Standard Test Procedures for Polyphase Induction Motors and Generators

IEEE 141	IEEE Recommended Practice for Electric Power Distribution for Industrial Plants
IEEE 142	IEEE Recommended Practice for Grounding of Industrial and Commercial Power Systems
IEEE 242	IEEE Recommended Practice for Protection and Coordination of Industrial and commercial Power Systems
IEEE 386	Standard for Separable Insulated Connector Systems for Power Distribution Systems Rated 2.5 kV through 35 kV
IEEE 399	IEEE Recommended Practice for Industrial and Commercial Power Systems Analysis
IEEE 493	IEEE Recommended Practice for the Design of Reliable Industrial and Commercial Power Systems
IEEE 551	IEEE Recommended Practice for calculating Short-circuit Currents in Industrial and Commercial Power Systems.
IEEE 519	IEEE Recommended Practice and Requirements for Harmonic Control in Electric Power Systems
IEEE 664	IEEE Guide for Generating Station Grounding
IEEE 1547	Standard for Interconnecting Distributed Resources with Electric Power Systems
NEMA MG-1	Motors and Generators
NEMA VE-1	Metal Cable Tray Systems
NEMA VE-2	Cable Tray Installation Standards
NEMA ICS 1	Industrial Control and Systems General Requirements
NEMA ICS 3	Medium Voltage Controllers Rated 2001 to 7200 Volts AC
NEMA WC 74	5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy
UL 44	Thermoset-Insulated Wires and Cables
UL 96	Standard for Lightning Protection Components
UL 96A	Standard for Installation Requirements for Lightning Protection Systems

UL 347	Medium Voltage AC Contactors, Controllers and Control Centers
UL 508	Industrial Control Equipment
UL 508A	Standard for Industrial Control Panels
UL 845	Motor Control Centers
UL 1072	Standard for Medium-Voltage Power Cables
UL 1558	Standard for Metal-Enclosed Low-Voltage Power Circuit Breaker Switchgear

3.2.2 General Design Requirements

A. Power plant shall have an auxiliary electrical system. The auxiliary electrical system shall be supplied from one or more of the following sources:

1. Generator(s) power bussing
2. Generator(s) breaker switchgear
3. GPA 115 kV transmission grid

B. Power plant auxiliary voltages are as follows:

1. Medium Voltage: 5kV to 15kV (or 22kV), 3 phase
2. Low Voltage: 480V, 3 phase
3. House and convenience power 208/120V, 3 phase

C. Medium voltage system

1. Generator(s)
2. Generator power bussing
3. Step up transformer

D. Generator(s) shall be the source of electric power.

1. Mechanical, rotating generator(s) shall be synchronous type of either cylindrical rotor or salient pole type. Generators shall have the following ratings:
   a. To provide increased inertia and short circuit current, generators should be oversized to compensate for lack of inertia for aero-derivative or reciprocal generation. The unit is expected to provide inertia for the GPA system primarily through the inertia of the plant generators. As such, the generators are expected to be oversized relative to the capacity of the units to provide increased inertia. The generators MVA rating must be sized a minimum of one hundred and thirty percent (130%) of the real power capacity of the prime mover
   b. Number of phases: 3
   c. Output frequency: 60 Hz

d. Minimum power factor: 0.80 lagging. The generators full dynamic range should be available at the Point of Interconnection (allowing for offset to reactive losses from generator terminals to the Point of Interconnection), including at full load. Under no circumstances should the dynamic power factor range at the POI be less than +/- 0.85.

e. Winding pitch: 5/6

2. Non-mechanical generator shall interface with the 115 kV grid through a step up transformer and shall have the following requirements:

a. Generate a 3-phase voltage and current from DC or other AC single and poly phase sources as part of the power generation process.

b. Be able to operate through the four power quadrants.

c. Shall have an efficiency of greater than ninety five percent (95%).

d. Shall comply with IEEE 1547.

3. Equipment furnished shall be capable of serving maximum rated output of prime movers at rated power factors, under all ambient and cooling conditions, with minimum additional five percent (5%) capability.

4. Design generator to withstand bolted 3-phase fault at generator terminals without damage per IEEE C50.12 and C50.13 while operating within rated operating frequency range with an excitation value equivalent to maximum rated terminal voltage at rated lagging power factor.

5. Mechanical generator shall be capable of withstanding overspeed following unit trip under full load or in accordance with GPAPRC-006 without mechanical degradation.

6. Power generation and power handling conductors as part of the generator to be of copper construction.

7. Provide partial discharge monitor and control system complete with corporate license software.

8. Provide surge capacitor and surge arresters.

9. Provide neutral grounding equipment in accordance with neutral grounding method specified.

10. Provide generator excitation system complete with equipment, materials, and accessories.

11. Provide voltage regulator that shall be capable of automatic and manual voltage regulation.

E. DC Power System

1. As part of a proposed generating system, DC power system shall have the following requirements

2. No more than 1500 volts DC nominal.

3. System shall be ungrounded and shall have ground detection capability.

4. System shall have overcurrent and over/undervoltage protection per the standards.

F. Battery Energy Storage

1. Any proposed battery energy storage system shall have an integral Battery Management System (BMS).
2. Submit a battery cell maintenance and disposal plan with bid.

G. Medium Voltage Switchgear

1. Switchgear shall handle the distribution and protection of medium voltage power (5 – 15 kV or 22kV) for the plant.
2. Switchgear shall be a complete, coordinated factory assembly ready for installation, connection, and designed for operation at site ambient temperatures and elevations.
3. If arc-resistant gear is specified, manufacturer shall provide complete and coordinated arc chute plenum design including supports and vents. This shall include routing of arc chute to vent location as coordinated with Engineer. If arc-resistant gear is not provided, manufacturer shall include arc-flash mitigation such as differential relays in all zones of protection, arc-detection relays in switchgear where hazard rating exceeds Category 2 without such protection.
4. Switchgear assembly shall consist of individual free-standing vertical sections to form a rigid, metal-clad switchgear assembly.
5. Switchgear main bus shall be copper bar, designed to continuously carry specified load current without exceeding temperature rise requirements.
6. Provide uninsulated copper ground bus with momentary rating at least equal to momentary rating of Switchgear.

H. Medium Voltage Motor Control Centers

1. Motor control centers shall control medium voltage motors or similar single loads by across the line starting methods.
2. Medium-voltage motor control center assembly(ies) complete with accessories including, but not limited to:
   a. Control center structure.
   b. Incoming line enclosure.
   c. Main horizontal and insulated vertical bus.
   d. Fused vacuum contactors.
   e. Main breaker or fused switch.
   f. Isolation and load break switches.
   g. Isolated low-voltage compartments.
   h. Protective relays and metering devices.

i. Communications.

j. Portable racking and lifting devices capable of transporting contactor outside of compartment.

3. MCC structures shall welded steel frame, formed steel doors and side sheets, flat steel top and rear covers forming metal enclosed, dead front freestanding assembly.

4. Each starter shall include, but not be limited to, isolating switch, medium-voltage fuses, contactor, control power transformer, and low-voltage section.

5. Vertical and horizontal buses are to be of copper construction.

I. Step-up and Auxiliary Transformers

1. Transformers shall be provided to provide appropriate voltages for in plant electrical systems and tying to GPA's electrical distribution system.

2. Transformer shall be capable of withstanding without injury mechanical and thermal stresses resulting from short circuit currents.

3. Transformer core and coils shall have circular cross sections.

4. Transformer coils shall be of copper construction.

5. Provide transformer with manufacturer's standard oil conservation system.

6. Provide bushing type CTs with fully distributed windings for relaying or metering service in quantities, ratios, and ratings as required.

7. Provide metal-oxide station class arresters with voltage ratings as required.

8. Provide tap voltages of +/- 2.5% and +/- 5% on the primary winding. Each tap position shall be fully rated and shall not limit kVA rating of transformer. No-load tap change shall be provided.

9. For ventilated, dry type transformers, silicon-resin, vacuum encapsulation or vacuum pressure impregnated (VPI) process shall apply 4-dip protective shield of silicon resin to coils.

J. Isolated Phase Bus

1. Isolated phase bus can be used to transmit electric power at high ampacities (>= 5000 amps).

2. Isolated phase bus duct system includes, but is not limited to:

a. Bus and enclosure.

b. Hardware and components for connections to equipment.

c. Flexible links for all connections.

d. Expansion joints.

e. Vapor barriers and wall penetrations.

f. All necessary bus support structures

i. Isolated phase bus shall be of aluminum construction for both the conductors and the outer duct enclosure.

ii. Design bus duct systems for nominal voltages, BIL, number of poles and rated maximum voltages.

K. Nonsegregated Phase Bus Duct

1. Nonsegregated phase bus can be used to transmit electric power within the plant.

2. Nonsegregated phase bus duct system includes, but is not limited to:

a. Bus and enclosure.

b. Hardware and components for connections to equipment.

c. Flexible links for all connections.

d. Expansion joints.

e. T-tap connections.

f. Vapor barriers and wall penetrations.

g. All necessary bus support structures.

3. Nonsegregated phase bus bar conductors from high-grade, ninety eight percent (98%) pure copper bus bars. Connection areas shall be tinned or silver-plated.

4. Design bus duct systems for nominal voltages, BIL, number of poles and rated maximum voltages.

L. Low Voltage System

1. Low Voltage Switchgear

2. Switchgear shall handle the distribution and protection of low voltage power (600V or less) for the plant.

3. Factory wired switchgear assembly consisting of, but not limited to:

a. Dead-front metal-enclosed compartments containing power buses, neutral bus, ground bus.

b. Power circuit breakers.

c. Safety interlocks and auxiliary control devices.

d. Instrument transformers.

e. Protective relays.

f. Metering.

g. Switches.

4. Switchgear shall be a complete, coordinated factory assembly ready for installation, connection, and designed for operation at site ambient temperatures and elevations.

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5. If arc-resistant gear is specified, manufacturer shall provide complete and coordinated arc chute plenum design including supports and vents. This shall include routing of arc chute to vent location as coordinated with Engineer. If arc-resistant gear is not provided, manufacturer shall include arc-flash mitigation such as differential relays in all zones of protection, arc-detection relays in switchgear where hazard rating exceeds Category 2 without such protection.
6. Entire assembly shall be suitable for 600 volts maximum ac service regardless of operating voltage.
7. Bus system shall have minimum ANSI 4-cycle short-circuit withstand rating.
8. Switchgear main bus and ground bus shall be copper bar, designed to continuously carry specified load current without exceeding temperature rise requirements.

M. Motor Control Centers

1. Motor control centers shall control low voltage motors by across the line starting methods and to distribute low voltage power to other electrical power distribution equipment (switchboards, panelboards, etc.) as well as single loads.
2. Motor control center shall be continuous, coordinated, factory assembly ready for installation, connection, and immediate service designed for operation at site ambient temperatures and elevations.
3. Motor control center may include, but is not limited to:
   a. Horizontal power bus.
   b. Dead-front metal enclosed compartments containing power buses.
   c. Ground bus.
   d. Feeder circuit breakers and combination motor controllers.
   e. Auxiliary and transition compartments.
   f. Auxiliary control devices.
   g. Instrument transformers.
   h. Relays.
   i. Meters.
   j. Control switches.
4. Motor control centers shall be suitable for operation on 3-phase electrical system.
5. Main horizontal bus and vertical bus shall be either tin-plated for corrosive environments or silver-plated at bolted connections. Fabricate from copper. Minimum ampacities shall be as designed at 50°C temperature rise over 40°C ambient in compliance with UL standards.

N. Variable Frequency Drives

1. Variable frequency drives shall be used when the driven load must be controlled over a continuous range of speeds.

2. VFD shall convert incoming fixed frequency 3-phase ac power into variable frequency and voltage for controlling speed of 3-phase ac motor.
3. Motor voltage shall be varied with frequency to maintain desired motor magnetization current suitable for eliminating need for motor derating.
4. VFD shall be sinusoidal PWM type drive with sensor-less torque vector control capability. Control techniques other than PWM, not acceptable.
5. Components:
   a. Full-wave diode rectifier to convert supply ac to fixed dc voltage.
   b. DC link capacitors.
   c. Insulated Gate Bipolar Transistor (IGBT) power section, dual rated for either variable or constant torque applications.
   d. VFD shall be microprocessor-based with LED and LCD display to monitor operating conditions.
   e. Separate control and power terminal boards.
6. VFD installations must meet the requirements of IEEE 519 at the point of common coupling (PCC). The PCC shall be defined as the first motor control center or switchgear bus upstream from the VFD.

O. General Plant Requirements

1. Medium Voltage Power Cable
   a. Cables and accessories shall be in accordance with applicable standards
   b. Medium Voltage power cables shall have copper conductors.
   c. Single and multi-conductor cables shall have shielded conductors.
   d. PVC jacketing not allowed.
2. Low voltage power and control cables
   a. Power and control cables specified are for voltages 600 volts and below.
   b. Instrumentation and thermocouple extension cables specified for voltages of 300 volts or below.
   c. Power, control and instrumentation cables shall have copper conductors.
   d. Power and control cable insulation shall comply with NEC type XHHW-2. On the Steam Turbine Generator (Packaged Unit cables and accordingly certified) UL with XLPE insulation will be used according to OEM standard.
   e. Minimum wire size is:
      i. #14 AWG for control circuits
      ii. #16 AWG for instrumentation circuits
      iii. #12 AWG for power circuits
3. Motors

a. Electric motors ½ hp and larger shall be 3 phase, squirrel cage induction motors.

b. Motors shall be in accordance with applicable requirements.

c. Motor windings shall be copper.

d. Motors driven by VFDs shall be VFD compliant.

4. Grounding

a. Ground and bond all plant electrical, mechanical and structural components to the plant grounding system.

b. Provide a ground grid as the main plant grounding system.

c. Grounding and bonding conductors shall be tinned copper.

5. Lightning Protection

a. Provide a Franklin style lightning protection system.

b. Lightning protection conductors and air terminals shall be of aluminum construction.

6. Cathodic Corrosion Protection

a. Provide cathodic protection for the following:

i. Underground steel, stainless steel, copper, or brass piping using galvanic anodes

ii. Bottoms of pad mounted steel water storage tanks using galvanic anodes

iii. The fuel and natural gas pipelines from GPA Bulk Fuel Storage Facility tank farm to the plant site if fossil fuel is offered.

P. Plant Control System

1. Provide a control system including process controllers, redundant power supplies, chassis, Input/Output (I/O) modules, communications interface modules, and associated hardware. The control system shall meet all NERC CIPS security requirements.

2. Provide a complete and coordinated control system equipment and software package that safely controls all aspects of power plant operations. The control system shall not automatically control the output of individual units or adjust the unit output of any individual unit under AGC and governor control. DCS shall not provide an interface between the GPA AGC system and the unit governor.

3. Control system shall have both discrete and analog input and output signals management capability as well as interpreting HART (Highway Addressable Remote Transducer) signal protocol.

4. Control system software programming shall have a prioritized alarms management system.

5. Control system shall have human-machine interfaces (HMIs) with dual monitors displaying information in a diagrammatic fashion. One-Line Diagrams and Process and Instrumentation Diagrams (P&IDs) shall be used as a basis for graphical screen layouts.
6. Control system shall be capable of the following communications protocols:
   a. Modbus
   b. Modbus TCP
   c. DNP3
   d. Profibus
   e. Devicenet

Q. Dynamic Fault recorder

1. The plant shall include a Tesla 4000 Power System Monitoring Recorder. The recorder shall monitor the voltage and current of each unit, the plant as a whole and each 115 kV transmission line interconnecting to the GPA system. The recorder shall also monitor the breaker status of each unit breaker and each line breaker and fault detection on the 115 kV and generation relays. The generator units shall also monitor the governor set point and any changes made to the governor set-point. All digital or analog inputs shall be accurately reported to the recorder within 8 ms of the actual change.

R. Protective Relaying

1. Plant electrical protective relaying system shall be provided to protect plant personnel and equipment from inadvertent electrical energization.
2. Protective relays shall specifically protect the following equipment:
   a. Generator(s)
   b. Medium voltage switchgear
   c. Low voltage switchgear
   d. Unit auxiliary and step-up transformers
3. Protective relay system shall be designed and set in accordance with the latest Standards. GPA has standardized on utilizing Schweitzer Engineering Laboratories, Inc. protective relays.
4. For electrical equipment not protected by protective relays or trip units, provide thermal-magnetic breakers for overcurrent protection (50/51).
5. All switchgear not designed as arc-resistant gear shall include arc-detection relays and protection.
6. All 115 kV relays shall be SEL type relays.

S. Unit Response Requirements

The unit(s) must meet the GPA Grid and Reliability Standards in Appendix G.

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3.2.3 Electrical Installation Requirements

A. Electrical installation shall conform to NFPA 70 and NFPA 70E.

3.2.4 Execution

A. The Project Company shall develop construction specifications for erection, installation, and assembly of electrical equipment to ensure a high-quality product in accordance with the applicable codes and standards in this Specification. The specifications shall detail equipment assembly, alignment, anchoring, welding procedures, erection of equipment, testing and acceptable materials.

3.3 Civil Requirements

3.3.1 Applicable Codes and Standards

A. Unless noted otherwise, all design and construction shall conform to applicable governmental codes, and latest editions of recommended practices and standards of the following organizations:

American Association of State Highway and Transportation (AASHTO)

American Concrete Institute (ACI)

American Concrete Pavement Association (ACPA)

American with Disabilities Act (ADA)

Asphalt Institute AI)

American Institute of Steel Construction (AISC)

American Iron and Steel Institute (AISI)

American National Standards Institute (ANSI)

American Public Works Association (APWA)

American Road and Transportation Builders Association (ARTBA)

American Society for Testing and Materials (ASTM)

American Society of Landscape Architects (ASLA)

American Traffic Safety Services Association (ATSSA)

American Welding Society (AWS)

American Society of Civil Engineers (ASCE)

American Water Works Association (AWWA)

Concrete Reinforcing Steel Institute (CRSI)

Federal Acquisition Regulations (48 CFR Chapter 1) (FAR)

Federal Highway Administration (FHWA)

Federal Land Highways (FHA)

Federal Specifications and Standards (FSS)

Federal Test Method Standard (FTMS)

Institute of Electrical and Electronic Engineers (IEEE)

Institute of Transportation Engineers(ITE)

National Electrical Manufacturer's Association (NEMA)

Portland Cement Association (PCA)

Prestressed Concrete Institute (PCI)

Post Tensioning Institute (PTI)

Occupational Safety and Health Administration (OSHA)

Guam Department of Public Works Standard Plans

Guidebook to Development Requirements on Guam

Environmental Procedures Guide for Transportation Projects on Guam

3.3.2 General Design Requirements

Project Company shall perform site studies it deems necessary for their design. Studies may include but are not necessarily limited to the following:

- Property maps and boundary surveys
- Topographic surveys
- Hydrological data
- Subsurface utility investigation
- GWA water system model
- Natural resources surveys
- Geotechnical investigation

A. Water supply: The plant potable water supply will originate from the GWA public water supply. Cooling water will be drawn from the effluent of the GWA Northern District Wastewater Treatment Plant. Project Company shall treat the water as necessary for service water, fire water, and boiler makeup.

B. Facility shall be designed for an expected service life of 30 years or greater.

C. The UXO/MEC requirements are not applicable to the GPA's 59-acre parcel. In addition, an investigation for explosive and national historic and cultural properties prior to construction work (Plant area & Fuel Pipe Line) will be executed by GPA.

3.3.3 Products

A. Construction Documents including but not limited to Drawings and Specifications.

3.3.4 Execution

A. Project Company to prepare construction documents for all civil improvements.

3.4 Structural Requirements

3.4.1 Applicable Codes and Standards

A. Unless noted otherwise, all design and construction shall conform to applicable governmental codes of the Territory of Guam, and latest editions of recommended practices and standards of the following organizations or their European, South Korean, or Japanese equivalent: Only one set of standards shall be applied throughout the Facility.

Aluminum Association(AA)

American Architectural Manufacturers Association (AAMA)

American Concrete Institute (ACI)

American Institute of Steel Construction(AISC)

American Iron and Steel Institute (AISI)

American National Standards Institute (ANSI)

American Society for Testing and Materials (ASTM)

American Welding Society (AWS)

American Society of Civil Engineers(ASCE)

APA – Engineered Wood Association

American Society of Safety Engineers (ASSE)

American Wood Council (AWC)

American Wood Protection Association(AWPA)

Concrete Reinforcing Steel Institute(CRSI)

International Code Council (ICC)

Society for Protective Coatings (SSPC)

National Concrete Masonry Association (NCMA)

National Association for Corrosion Engineers (NACE)

National Assoc. of Arch. Metals Manufacturers (NAAMM)

Occupational Safety and Health Administration (OSHA)

Pre-stressed Concrete Institute (PCI)

Post Tensioning Institute (PTI)

Steel Deck Institute (SDI)

The Masonry Society (TMS)

Wire Reinforcement Institute (WRI)

3.4.2 General Design Requirements

A. The construction documents shall contain all information required by the applicable codes and standards.

B. All structures, equipment, tanks, piping and pipe supports, cable tray, conduit, and supports shall be designed to resist the dead, live, test, operating, rain, wind and seismic loads applicable to the plant site.

3.4.3 Design shall be to approved applicable codes and standards and result in producing safe facilities.

3.4.4 Materials

Materials of construction shall be suitable for their intended purpose and longevity. Materials to be used shall be selected from the following standards or their European, South Korean, or Japanese equivalents. Only one set of standards shall be applied throughout the Facility.

A. Steel:

1. Wide Flange and WT Shapes: ASTM A992
2. Channel, Angle, M, MT, S and ST Shapes: ASTM A36, ASTM A992
3. HP Shapes: ASTM A572, Grade 50
4. Rectangular HSS Shapes: ASTM A1085, Fy=50 ksi min., ASTM A500, Grade B, Fy=46ksi min.
5. Round HSS Shapes: ASTM A1085, Fy=50 ksi min.,ASTM A500, Grade B, Fy=42ksi min.
6. Pipe: ASTM A53, Grade B, Fy=35 ksi min.
7. Threaded Rod: ASTM A36
8. Fasteners: High Strength Bolts: ASTM F3125, Grade A325, A490, Heavy Hex. Type 1; ASTM Grade F1852, F2280, Twist-Off. Type 1.
9. Common Bolts: ASTM A307, Grade A
10. Nuts: ASTM A563, Grade C, DH
11. Washers: ASTM A436, or ASTM A959 for direct tension indicators
12. Welded Headed Studs: ASTM A108
13. Anchor Rods: ASTM F1554, Grade 55 or 105
14. Stainless Steel: ASTM A276, Grade 304, 304L, 316, 316L
15. Raised pattern floor plate: ASTM A786
16. Plates and bars: ASTM A36, A572

B. Concrete:

Compressive strength as required for design and exposure per ACI 318.

Reinforcing Steel: ASTM A615, Grade 60, ASTM A706, Grade 60 (Welded reinforcing steel); ASTM A775 (Epoxy coated); ASTM A934 (Epoxy coated prefabricated bars); ASTM A955 (Stainless steel bars); ASTM A1055 (Zinc and Epoxy Dual Coated bars); ASTM A767 (Galvanized bars).

Welded Wire Fabric: ASTM A1064 (carbon steel, plain and deformed); ASTM A1022 (stainless steel plain and deformed); ASTM A884 (epoxy coated); ASTM A1060 (galvanized, plain and deformed).

Prestressing Steels: ASTM A416 (strand), A421 (strand), A722 (bars)

Aggregates: ASTM C33

Portland Cement: ASTM C150

Blended Hydraulic Cements: ASTM C595

Mixing water: ASTM C1602

Admixtures: ASTM C494

C. Masonry:

Hollow Load Bearing Concrete Masonry Units: ASTM C90

Mortar: ASTM C270

Grout: Portland Cement ASTM C150

Hydrated Lime: ASTM C207

Aggregate for Grout: ASTM C404

Joint Reinforcement: ASTM A951

3.4.5 Structural Loads

A. General:

Design loads for all enclosures, structures, structural components and equipment will be determined according to the criteria described below, except where the applicable code requires more severe loading conditions.

Loads shall be determined per the ICC International Building Code (IBC) (2009) and supplemented with ASCE 7 "Minimum Design Loads for Buildings and Other Structures" (2005).

Loads shall include all dead, live, soil, hydrostatic, flood, wind, rain, earthquake, and any special loads.

Where structural design must proceed without certified load data for vendor supplied equipment, estimated load data may be used and loads shall be increased to compensate for the lack of final certified design data. Catalog data or similar previous data for minor equipment may be used, but loads shall be increased by a minimum of twenty percent (20%) to cover anticipated variations and contingencies.

B. Design Loads:

1. Dead Loads - D

In lieu of actual available data, the following dead loads shall be used as minimum loads:

Roof with Metal Deck

Metal Deck	5 psf
Insulation	1 psf
Light Fixtures and Sprinklers	3 psf
Steel Framing (light)	10 psf

Steel Bar Grating

1 ¼" x 3/16"	12 psf
All other types refer to catalog data	

Cast in place Concrete

Formed	150 pcf
On metal deck	
(inches above deck)	12.5 lb/in of thickness

Steel Floor Framing

Light framing	10 psf
Medium framing	18 psf
Heavy framing	25 psf

Partition Walls with normal weight concrete masonry units, ungrouted (psf of wall area)

6"	37 psf
8"	42 psf
10"	47 psf
12"	62 psf

Siding and Girts 10 psf

2. Live Loads - L

In design of floors and floor support structure, the following specified uniform floor design live loads are minimums. Where equipment is located on a floor, the structure shall be designed for the larger of the equipment weight (equipment fixed in place shall be considered as dead load and moveable equipment shall be considered as live load) or the displaced specified floor live load.

a. Ground floor

Heavy Traffic Aisles	400 psf
Light Traffic Zones	250 psf

	Storage Areas	150 psf
	As required for special construction and maintenance	
b.	Office floors	50 psf
c.	Partitions	20 psf
d.	Superstructure floors	
	Main platforms and floors	100 psf
	Auxiliary platforms	70 psf
	Concrete floors	100 psf
	Steam Turbine floors	450 psf
	2000 lb concentrated point load placed on an area 2.5' square, anywhere on a floor	
e.	Electrical Rooms	200 psf
f.	Walkways	60 psf
g.	Stairs, corridors and intermediate landings	100 psf

3. Roof Live Load – Lr 20 psf

4. Roof Rain Load – R Per IBC

   Rainfall Intensity: Per United States Department of Agriculture, Natural Resources Conservation Services, Engineering Technical Note No.3, "Rainfall - Frequency and Design Rainfall Distribution for Selected Pacific Islands", Table 2-1D, 100-year, 1 hour rainfall: 4.7 inches.

5. Wind Loads - W

   Per IBC 2009 Section 1609

   Occupancy Category: IV

   Basic wind speed: 175 mph (3 second gust, Exposure Category C)

   Importance factor, I: 1.15

6. Earthquake Loads - E

   Per IBC 2009 Section 1613 and PPRBC Section RBC302.4.35

   Occupancy Category: IV

   Importance factor, I: 1.5

   Short Period Spectral Response Parameter Ss = 1.50

   1 Second Spectral Response Parameter S1 = 0.60

   Site Class shall be determined by geotechnical investigation

   Seismic Design Category shall be assigned and other parameters calculated upon determination of Site Class

7. Equipment Loads:
    1. Dead Load - D
        a. Refer to vendor equipment drawings
    2. Live Load - L
        a. Refer to vendor equipment drawings
    3. Abnormal Operating Load - L
        a. This condition occurs when equipment, hoppers, vessels, conveyors, etc., are filled to capacity or choked at outlets under abnormal operations.
        b. Consider vibration, impact, and temperature loads as required under abnormal operating conditions.
    4. Impact Loads - I
        a. Per IBC Chapter 16.
    5. Rotating and Reciprocating Equipment Loads - L
        a. 50% of the equipment weight
    6. Piping and Electrical Loads – D,L, W, E
        a. Hanger, guide and anchor loads for piping shall include dead, live, test, wind, and earthquake.
        b. Electrical cable trays, bus ducts, and conduit loads shall include dead, live, wind, seismic.
    7. Hydrostatic Test Loads - F
        a. Hydrostatic test loads shall be considered for piping and equipment.
    8. Vehicular Loads – D,L
        a. Dead Load: Per specific vehicle type.
        b. Live Load: Per specific vehicle type
        c. Fork lift, 6000lb capacity: Use 85% load distribution on front axle, unless noted otherwise.
        d. Truck Live Load: AASHTO HS20 44 load distribution.
    9. Vibration Loads - L
        a. The frequencies of rotating machinery shall be defined by the vendor.
        b. Adequate stiffening, bracing shall be used to produce a satisfactory design for vibration using acceptable design analysis.
        c. Resonant vibration of the foundation shall be avoided. Foundation frequency shall differ from the machine, equipment operating frequency by a minimum of ± 20 percent.
    10. Contingency Loads – D

a. Non-accumulating point loads shall be used on steel beams to account for concentration of hanging loads to individual beams that exceed the area hanging load allowance. (2000 pounds minimum)

3.4.6 Steel Design

A. Codes

1. American Institute of Steel Construction:
   a. "Steel Construction Manual" (Thirteenth Edition).
   b. "Specification for Structural Steel Buildings, including Supplement No. 1, dated 2005" (AISC 360-05).
   c. "Seismic Provisions for Structural Steel Buildings" (AISC 341-05).
   d. "Specification for Structural Joints Using ASTM A325 or A490 Bolts", June 30, 2004.
   e. "Code of Standard Practice for Steel Buildings and Bridges" March 18, 2005 (AISC 303-05).
   f. "Detailing for Steel Construction", Third Edition (AISC 326-09).
2. Steel Deck Institute:
   a. "Design Manual for Composite Decks, Form Decks and Roof Decks-No. 31".

B. Design Guidelines

a. The following guidelines will apply in general and will be superseded only by engineering and design considerations:
b. Elevated concrete floor slabs can be considered as providing horizontal stability by diaphragm action after setup and curing.
c. Grating floors shall not be considered as providing horizontal rigidity.
d. For deflection limits of structural members, see 2009 IBC Section 1604.3 and Table 1604.3.
e. Minimum Sizes:
f. Bracing size minimum - L 3 x 3 x 1/4
g. Wide Flange and Tee shapes and Angles: In areas of high corrosion the web and flange min thickness = 1/4"

3.4.7 Foundation Design

A. Codes and Standards

1. American Concrete Institute:
   a. "Building Code Requirements for Structural Concrete" (ACI 318 08).
   b. "Foundations for Dynamic Equipment" (ACI 351.3-R04)
   c. "Details and Detailing of Concrete Reinforcement" (ACI 315).

d. "Manual of Engineering and Placing Drawings for Reinforced Concrete Structures" (ACI 315R 04).

e. "ACI Detailing Manual–2004, Publication SP-66

2. American Welding Society:

a. "Structural Welding Code-Reinforcing Steel" (AWS D1.4)

B. Design Guidelines

1. All foundation design shall be in accordance with the Project geotechnical report and ACI design codes. Deviations from the recommendations will be resolved with the geotechnical consultants. Analysis of foundations shall follow generally accepted practice. Vibration requirements shall be considered in the design of foundations for equipment where manufacture or working environment requires consideration of operation or human access.

C. Stability - Minimum factor of safety:

1. Overturning: 1.5

2. Stability against sliding: 1.5

3. Uplift 1.0

(100 percent of the dead load shall be used for checking resistance to uplift. Reduced dead load is accounted for in the applicable load combinations in Chapter 16 of IBC 2009.)

4. Lateral forces shall be resisted in accordance with the geotechnical report.

D. Housekeeping Pads

1. Housekeeping pads shall be supplied under all equipment unless noted otherwise. Pads will be nominally 6" thick consisting of 4 ½" thick reinforced concrete and 1½" grout or as shown on drawings.

2. Electrical equipment pads will generally consist of 4½" thick reinforced concrete with leveling channels or as otherwise indicated on the drawings.

3.4.8 Structural Welding

A. Codes:

1. American Welding Society:

a. "Structural Welding Code Steel" (AWS D1.1)

b. "Structural Welding Code – Aluminum" (AWS D1.2)

c. "Structural Welding Code Sheet Steel" (AWS D1.3)

d. "Structural Welding Code Reinforcing Steel" (AWS D1.4)

e. "Structural Welding Code Stainless Steel" (AWS D1.6)

f. "Structural Welding Code – Seismic Supplement" (AWS D1.8)

3.4.9 Surface Preparation and Protective Coatings

A. Surface preparation:

1. Structural steel shapes: "Commercial Blast Cleaning" in accordance with SSPC-SP6.

2. Guardrail, ladders and grating: "Power Tool Cleaning" in accordance with SSPC-SP3 or "Commercial Blast Cleaning" in accordance with SSPC-SP6.

B. Painting:

1. All steel shall be shop primed. Finish color will be selected by Project Company and approved by GPA.

2. Guardrails, ladders and stairs shall be shop finish painted using "Safety Yellow" color for guardrails, handrails, self-closing gates and ladders.

3.5 Substation Requirements

3.5.1 General

A. Materials and equipment shall be furnished in a fully engineered and coordinated design package.

B. The substation shall be designed based on the most recent revision of the following codes and standards as of the date of approval of the design criteria unless otherwise noted:

NFPA 70 National Electrical Code

NFPA 70E National Electrical Safety Code

NFPA 780 Standard for the Installation of Lightning Protection Systems

NEMA C29.7 Wet Process Porcelain Insulators - High Voltage Line Post Type

ANSI C29.9 Wet Process Porcelain Insulators – Apparatus, Post Type

IEEE C37.010 IEEE Application Guide for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis

IEEE C37.04 IEEE Standard Rating Structure for AC High-Voltage Circuit Breakers

IEEE C37.06 IEEE Standard for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis Preferred Ratings and Related Required Capabilities

IEEE C37.09 IEEE Standard Test Procedure for AC High-Voltage Circuit Breakers Rated on a Symmetrical Current Basis

IEEE C37.1 IEEE Standard for SCADA and Automation Systems

IEEE C37.11 IEEE Standard Requirements for Electrical Control for AC High Voltage Circuit Breakers Rated on a Symmetrical Current Basis

IEEE C37.12 IEEE Guide for Specifications of High-Voltage Circuit Breakers (over 1000 Volts)

ANSI C37.32 High Voltage Switches, Bus Supports and Accessories Schedule of Preferred Ratings, Construction Guidelines and Specifications

IEEE C37.90 IEEE Standard for Relays and Relay Systems Associated with Electric Power Apparatus

IEEE C37.90.1 IEEE Standard for Surge Withstand Capability (SWC) Tests for Relays and Relay Systems Associated with Electric Power Apparatus

IEEE C37.110 IEEE Guide for the Application of Current Transformers Used for Protective Relaying Purposes

IEEE C57.13 IEEE Standard Requirements for Instrument Transformers

IEEE C57.19.01 IEEE Standard Performance Characteristics and Dimensions for Outdoor Apparatus Bushings

IEEE C62.11 IEEE Standard for Metal-Oxide Surge Arrestors for AC Power Circuits (>1 kV)

IEEE C62.22 IEEE Guide for the Application of Metal-Oxide Surge Arrestors for Alternating-Current Systems

IEEE 605 IEEE Guide for Bus Design in Air Insulated Substations

IEEE 80 IEEE Guide for Safety in AC Substation Grounding

IEEE 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Grounding System

NEMA SG4 Alternating Current High Voltage Circuit Breakers

NETA ATS Standard for Acceptance Testing Specifications for Electrical Power Equipment and Systems

Guam Power Authority Standard Specifications as applicable.

Project Company may design to equivalent approved European, Japanese or Korean standards. Project Company must demonstrate equivalency. Only one set of standards shall be applied throughout the Facility.

3.5.2 Steel Structures

A. Dimensions:

1. As required to provide structural strength, maintain electrical clearances, and to suit equipment specified and provided.
2. Required clearances and spacings:
   a. Bus and line clearances: NEMA SG6, NESC.
   b. Phase spacing, outdoor switches, and fuses: NEMA SG6.
3. Shielding mast
   a. Type: Self-supporting, continuously tapered tubular; galvanized steel; with welded baseplate; anchor bolts; hand-hole at base; internal damping cable, or equivalent means.

4. Grounding: Provide 2 ground lugs on opposite sides of structures or equipment.

B. Grounding (above-grade):

1. Provide grounding for equipment mounted on structures.
2. Structure ground attachment locations:
3. Provide NEMA 2-hole attachment 12" (300 mm) above each baseplate.
4. Provide single-hole attachment every 4' (100 mm) (maximum) on vertical and horizontal members to structure mounted equipment.
   a. Ground conductor shall be stranded soft-drawn copper.

C. Ground clamps:

1. Provide bolted, NEMA 2-hole, bronze or copper clamp on each structure leg or column 12" (300 mm) above baseplate.
2. Provide bolted, bronze or copper clamp for support of ground cable on vertical and horizontal members.
3. Grounding operator's platforms: 4'-0" x 5'-0" galvanized steel grating. Furnish for each group-operated switch and circuit switcher.

3.5.3 Buses and Conductors

A. Rigid buses: Aluminum tubular bus conductor AA Schedule 40 pipe (standard pipe size), ASTM B429, 6063-T6 alloy.

B. Cable for jumper buses shall be in ASCR accordance with:

1. ASTM B232.

C. Core wire shall be galvanized steel wire, ASTM B245. 1350-H19 (EC) grade aluminum: ASTM B230.

D. Provide damping conductor for horizontal and vertical bus runs of aluminum bus sized appropriately according to the current revision of IEEE 605.

E. Bus design shall be in accordance with the current revision of IEEE 605. Standard tubular aluminum bus pipe sizes shall be used. Each tubing section of shall be provided with midspan drain holes and end caps. All construction of bus systems shall be welded.

F. Bus design shall take expansion into consideration as detailed in IEEE 605 due to ambient temperatures and energized heating. Expansion shall be accounted for, where required, by fixed and slide fit bus clamps or expansion fittings. Expansion fittings shall be used for connections at major equipment.

G. Project Company shall weld all aluminum bus connections.

H. Damping conductor shall be ACSR.

I. Identification tags:

1. Furnish porcelain enamel phase identification tags with black letters on white background mounted to structures at ends and midway of each bus, at each

incoming/outgoing line position, over each PCB position, and at each VT or CCVT.

2. Furnish one tag for each switch and PCB with designations provided later by Owner.
3. Switch identification tags shall be located on steel next to switch operator.

3.5.4 Grounding

A. All structures shall have two connections to ground except single phase devices and bus supports shall have one connection.

B. Ground pads shall be provided for two 2-hole NEMA type compression connectors with 1 3/4" bolt centers.

C. Below grade ground grid including the copper rods and copper cables and short leads to the above ground equipment shall be provided by the Project Company. Project Company shall provide above grade cables, cable supports and NEMA two-hole full compression (indent) type connectors for all structures and equipment located within the substation including, but not limited to bus duct(s), instrument transformers, breakers, switches, lightning arresters and grounding mats. Project Company shall furnish all above-grade ground connectors for all galvanized steel fencing, including but not limited to gates and barbed wire. Grounding connectors and supports shall be tin-plated.

D. The switchyard ground grid system shall be designed in accordance with current revisions of IEEE Standards 665, 80 and 81. An approved program such as CDEGS shall be used for the ground grid design and analysis. Measured step and touch potential shall be identified as well allowable step and touch potentials as specified by IEEE 80. Ground grid model and analysis shall be submitted to GPA and must include all pipes, conductors, water lines etc. within the substation and power plant area.

E. The substation fence shall be grounded in accordance with IEEE Standards 665 and 80.

F. All above and below grade grounding conductors shall be annealed, bare, stranded copper wire conforming to ASTM Specification 88. Conductor size shall not be less than the minimum requirements of NFPA 70.

G. Ground lugs and connectors shall be of bronze or copper, and all hardware such as bolts, washers, and nuts shall be of Durium, Everdur, or silicon bronze. Ground lugs shall be Burndy or Owner approved equal.

H. Grounding system shall provide for permanent grounding of all frames, housings, and support steel of all electrical equipment, panels, lighting protective apparatus, cabinets, wiring devices, electrical metallic raceways, lighting fixtures and boxes.

I. All conduit runs shall be grounded at enclosures of electrical distribution or control equipment at which they originate, and shall provide a conductive path, in compliance with the NEC for grounding of enclosures of all locally mounted electrical equipment.

3.5.5 Surge Arrestors

A. Type: Metal-oxide station class.

B. Standard: ANSI C62.11.

3.5.6 Insulators

A. Conform to NEMA SG6, NEMA C29.7.

B. Color: ANS No.70.

C. Insulators shall be porcelain type. Insulator strength to be determined during detailed design, rated for the required impulse withstand voltage, voltage level, physical dimensions and strength class (compression, cantilever, torsion and tension). All insulators shall have galvanized malleable iron or galvanized forged steel hardware.

3.5.7 Disconnect Switches

A. The disconnect switches shall be three-pole, single-throw, gang-operated, air break, manually operated, rated for outdoor service on a 60 Hz, 3-phase, system. The operating mechanism shall be provided as a factor complete assembly including all necessary shafts, interconnecting rods, linkages, supports and accessories.

B. High pressure type contacts with silver to silver contact surfaces to be used. The contacts to have a wiping and cleaning motion when opened and closed. Switch design to all for the accurate positioning of switch blade tips in the jaw contacts.

C. Disconnect switch operating mechanisms shall be furnished with noncorrosive, greaseless, roller or ball type main bearings. A flexible braided grounding apparatus shall be provided on the operating rod, above the operating crank. The grounding device shall be rated to carry the same short time and momentary currents as the disconnecting switch. Operating mechanisms and linkages to be designed so all blades of the switch will be in the fully opened or completely closed positions when the operating crank is in the fully rotated position. Operating mechanisms shall be provided complete with all fittings required for total switch operation.

D. Threaded clevis type fittings to be provided on all interphase type control pipes and connecting links between gang-operated switch and switch crank arm.

E. Operating mechanisms shall be designed to allow padlocking in either the fully open or fully closed position with one inch shackle clearance.

F. All manual operating type mechanisms shall be marked to indicate the open and closed switch directions.

G. Two separate normally open "a" and two normally closed "b" auxiliary contacts shall be provided for each disconnect switch for remote indication of the open and closed position of the switches.

H. Insulators shall conform to ANSI C29.9, high-voltage post-type apparatus insulators made of wet-process porcelain and used in the transmission and distribution of electrical energy.

I. Operating mechanism:

1. Heavy-duty, gear-operated complete with accessories.
2. Size to eliminate twisting or sag.
3. Switch poles shall be fully coordinated and field adjustable per pole and for alignment and 3-phase timing coordination.
4. Switch contacts to be self-wiping, field-adjustable and have field-adjustable contact pressure.
5. Standards: NEMA SG6 and ANSI C37.32.
6. Longitudinal switches (parallel to switch blades) shall be capable of resisting, without injury or failure, force listed in ANSI C37.32, Table 2.

3.5.8 Coupling Capacitor Voltage Transformers

A. Type: Base-mounted, high-capacitance, coupling capacitor voltage transformer with dual main windings

B. Terminals: Polarity and terminals: ANSI C57.13. Clearly indicate by permanent markings not easily obliterated.

C. Short circuit capability: Capable of withstanding for 1 second mechanical and thermal stresses resulting from short-circuit on secondary terminals with full voltage maintained in primary terminals in accordance with ANSI C57.13 and C93.2.

D. Other ratings and features: NEMA SG 2.

E. Accessories when required:

1. Ferroresonance-suppressing filter. Device shall pass ANSI C93 Ferroresonance test.
2. Potential grounding switch and terminal box for secondary voltage connections with conduit entrance plugs.
3. Provide corona suppression rings if required.
4. Provide lifting hooks or eyes for lifting filled unit by overhead crane.
5. Potential device: Factory calibrated.

F. Transformer oil:

1. Oil furnished with transformer shall be Type 1 mineral insulating oil in accordance with current ASTM standards.

G. Certify that oil being supplied is classified as noncontaminated by PCBs. Standard: ANSI C93.1.

3.5.9 Circuit Breakers Connections

A. Project Company shall provide the necessary bus connection adapters to bolt to the terminal connectors provided in the circuit breaker.

B. Project Company shall assemble all component parts that were initially disassembled for shipment in accordance with the manufacturer's instructions.

3.5.10 Quality Assurance

A. Regulatory requirements: Design, fabricate, and test equipment in accordance with applicable standards of ANSI, NEMA, NFPA 70, IEEE, and shall be in accordance with applicable requirements of OSHA.

3.5.11 Environmental Requirements

A. Design shall comply with any unusual service conditions as outlined in C37.010 and ASTM D1472.

3.5.12 System Description

A. Outdoor, 3-pole, single-throw, SF6 gas-filled, single-tank or 3-tank, frame-mounted on common base.

3.5.13 Control Wiring

A. Wiring:

1. Provide control wiring in accordance with ANSI C37.11 as a minimum.
2. Control voltage ranges for closing and tripping shall be in accordance with ANSI C37.06.

3.5.14 Functional Components

A. Operating mechanism: Pneumatic, hydraulic, or motor-charged spring with features and performance in accordance with NEMA SG4, Section 3.

B. Bushings:

1. Type: Porcelain, in accordance with IEEE C57.19.01.
2. Conform to general requirements of, and test in accordance with IEEE C57.19.00.
3. Use manufacturer's standard dimensions and characteristics. Electrical characteristics shall comply with IEEE C57.19.01.
4. Pressure components and systems:
5. Comply with NEMA SG4, Section 4.
6. Welds on breaker tank assembly shall meet AWS D1.1 Section 5.30.

3.5.15 Current Transformers

A. Accuracy classification, characteristics, and performance data in accordance with IEEE C57.13 and NEMA SG4. At a minimum, multi-ratio Class 400 current transformers shall be specified.

3.5.16 Source Quality Control

A. Each circuit breaker furnished shall be completely assembled and tested at manufacturer's facility.

B. Perform production tests in accordance with NEMA SG4 and ANSI/IEEE C37.09.

C. Operating mechanisms shall be tested for proper operating speed in accordance with ANSI C37.09.

D. Components shall be given dielectric test if applicable, in accordance with ANSI/IEEE C37.09.

E. Furnish certification each type, style, and model bushing has passed test requirements of IEEE C57.19.01.

F. Furnish certification bushing-type current transformers have been tested and meet requirements of ANSI C57.13 for continuous thermal current, thermal short-time and mechanical short-time ratings, and applied potential.

3.5.17 Field Quality Control

A. Perform acceptance test as described in NETA Section 7.6.2 – Circuit Breakers.

3.5.18 Lighting

A. The lighting system shall consist of light emitting diode (LED) type fixtures. A two (2) foot candles of illumination level shall be provided in substation yard area for up lighting of the structures and ground level light. All exterior lights shall be photocell controlled and provided with control switches for manual or automatic operation.

B. All fixtures shall be completely wired in accordance with the latest requirements of the National Electrical Code. All fixtures shall bear the Underwriters' label of approval.

C. Project Company shall furnish and install all associated cables and raceways for the substation lighting.

3.5.19 Lightning Protection

A. Project Company shall provide lightning protection system for the substation against direct lightning strokes. The lightning protection system shall consist of suitable lightning masts installed on concrete footings or on substation dead-end structures to provide zones of protection in accordance with NFPA 780.

3.5.20 Relaying Protection and Control Systems

A. Substation protective relaying design to interface with existing Guam Power Authority substation, generation and transmission line protection and control relaying systems.

B. Substation relaying schemes to include but not limited to line current differential, bus differential, breaker failure, reclosing, synchronizing, distance, overcurrent and instantaneous overcurrent protection types. Vendor shall be responsible for the design, supply and installation of compatible relaying at adjacent interconnected stations on the GPA system. Step-distance relaying without communications assistance is not acceptable. Fault clearing of transmission lines must be accomplished within 5 cycles, inclusive of far end faults. Primary and backup relays shall be provided.

C. Guam Power Authority has standardized on utilizing Schweitzer Engineering Laboratories, Inc. (SEL) protective relays.

3.5.21 Communication Systems

A. Substation communications design to interface and be compatible with existing Guam Power Authority communications and SCADA systems. Communications systems shall meet all NERC CIPS security requirements.

B. Open/closed contacts to be designed to provide status to SCADA system for the following equipment:

C. Circuit breakers

D. Disconnect switches

E. The minimum data required to measure is the following: watts/vars, voltage, kilowatt-hours, power factor, harmonic distortion and historical data logging with minimum and maximum measured levels.

F. Communications mediums to include but not limited to fiber optics and microwave types.

3.5.22 Metering

Add metering requirements including identifying delivery point, the place where meters will be installed, whether the main and backup meters are required, how the data will be transferred to GPA, etc.

3.6 Transmission Requirements

3.6.1 General

A. This section covers the requirements for the transmission interconnection line between Facility's switchyard and the GPA transmission system interconnection at the 115 kV Harmon Substation. Three 115 kV transmission lines are required to connect the new Power Plant to Harmon Substation. Two of the transmission lines will connect to the Harmon 115 kV Substation (H501 (existing) and H503 (new breaker and bus extension), while the third transmission line will intercept the existing Harmon-Tamuning 115 kV transmission line and utilize the existing H501 breaker to connect to the Harmon 115 kV Substation.

B. The transmission interconnection line shall be designed based on the most recent revision of the following codes and standards as of the Bid Date unless otherwise noted:

1. National Electrical Safety Code (NESC-C2)
2. Rural Utilities Service Design Manual (RUS Bulletin 1724E-200)
3. American National Institute (ANSI)
4. National Electrical Manufacturers Association (NEMA)
5. American Society for Testing and Material (ASTM)

6. American Institute of Steel Construction (AISC)
7. American Society of Civil Engineers (ASCE)
8. Structural Engineering Institute (SEI)
9. Institute of Electrical and Electronics Engineers (IEEE)
10. International Electrotechnical Commission (IEC)
11. American Concrete Institute (ACI)
12. Guam Power Authority (GPA)

3.6.2 Design Criteria

A. Project Company shall develop a detailed design criteria memorandum which shall provide the details and design guidance required to perform detailed transmission facility design. Design criteria memorandum shall comply with the latest version of IEEE 1724.

B. Design criteria shall be submitted by Project Company to GPA for review and approval.

C. Purpose of design criteria is as follows:

1. Description of design practices or procedures to be utilized.
2. Use of consistent and common material or types of material and material specifications.
3. Guidelines for consistent approach to design and engineering.
4. Transmission design criteria may be incorporated into larger design criteria documents but should exist as a stand-alone section.
5. Detailed design of transmission facilities shall not deviate from design criteria without prior approval of GPA.

3.6.3 Transmission Route

A. Transmission line route between the GPA procured property described in Section 5.0 Site Data and the Harmon substation shall be selected by Project Company and shall be reviewed and approved by GPA prior to any additional work being performed.

B. Route shall be selected based upon the following criteria:

1. Avoidance of sensitive habitats.
2. Avoidance of potential terrain hazards with the goal of increasing reliability and security.
3. Avoidance of environmentally sensitive areas.
4. Utilizing most direct route with goal of increasing reliability and security.

C. Detailed surveys shall be carried out on the transmission line route selected by Project Company and approved by GPA to support the design and identify the right-of-way (ROW). ROW shall be selected to accommodate insulator swing, structure deflection,

standard electrical clearance and requirements for electrostatic and electromagnetic field strengths.

D. For Project Company offering a site other than the one described in Section 5.0 Site Data; the Project Company will be responsible for Right of Way from proposed alternate site to Harmon Substation.

3.6.4 Geotechnical Investigation

A. Project Company shall perform geotechnical investigation along the transmission line route. Geotechnical investigation shall include a detailed geotechnical report properly reviewed and affixed with a Guam registered professional engineer stamp.

B. Geotechnical investigation shall include sufficient soil borings and soils analysis to meet or exceed the following requirements:

C. Quantity of soil borings shall not be less than four (4) for line lengths of 1.5 miles or less, with at least two (2) soil borings for each additional mile of transmission centerline length.

D. All soil borings will also include soil resistivity measurements made in accordance with standard testing procedures and equipment.

E. Soil boring at each location shall be of appropriate depth required for thorough soil analysis and accurate design recommendations. Appropriate depth is assumed to be the greater of:

1. 1.2 times the anticipated depth of foundation.
2. The anticipated depth of foundation plus two (2) times the anticipated foundation diameter.
3. 30 feet.

F. Soil boring shall be taken close to each dead-end or large angle structure location (within 500 feet). These soil borings count towards the minimum requirement of soil boring quantities.

G. Soil borings shall be taken such that there is no transmission centerline length of greater than 2640 feet between adjacent soil borings.

3.6.5 Transmission Structures

A. Transmission pole structures (single or multi-pole tubular steel structures) shall be designed in accordance with the most current version of ASCE/SEI 48 – Design of Steel Transmission Pole Structures.

B. Transmission lattice structures shall be designed in accordance with the most current version of ASCE 10 - Design of Latticed Steel Transmission Structures.

C. Transmission structures shall be designed at a minimum to withstand the following weather conditions:

1. NESC 2508 Warm Island District – Initial Wire Condition

2. NESC 250C Extreme Wind with a 3-sec gust wind speed of 200 mph at 33 ft above ground – Initial Wire Condition
3. Construction Load(s) – Initial Wire Condition
4. Uplift at 65°F – Initial Wire Condition
5. Camber at 80°F – Final Wire Condition
6. NESC Blowout at 6 psf wind and 80°F – Final Wire Condition
7. Stringing at 4 psf wind at 80°F – Initial Wire Condition
8. Maximum Operating Temperature at 194°F – Final Wire Condition

D. Dead-end transmission structures shall be designed for a broken conductor condition. All phases and shield wire on the ahead span or back span, whichever results in the largest stresses in the structure. Initial wire condition shall be considered for this condition.

E. Transmission structure types, locations, and design shall be selected to minimize long term outage risk from natural hazards (wind, rain, storms, marine conditions, earthquakes, etc.)

F. Foundation design shall be appropriate for the geotechnical conditions and shall be based on recommendations of the geotechnical engineer. Foundation design loading cases shall be included as part of design criteria.

G. Transmission structure design will use a preferred single pole self-supporting structure type. Additional structure types may be considered and approved by GPA based on application, location, permitting and ROW issues.

H. Depths and diameters of all foundation types shall be calculated using industry standard methods. Calculations may be formulated utilizing industry standard software.

I. Foundation deflection and rotation limits shall be as follows for single pole structures:

1. 3-inch ground line deflection (1.5 inch non-recoverable)
2. 2° ground line rotation (1° non-recoverable).

3.6.6 Conductor and Overhead Ground Wires (OHGW)

A. Phase conductor shall be of type and size as is consistent with that used on existing GPA systems. Conductor selection shall be reviewed with GPA prior to procurement.

B. Current conductor types in use by GPA:

1. 336.4/Tulip AAC 19
2. 927.2 Greeley AAAC37

C. Maximum operating temperature of conductor will be limited to 194°F (90°C) in order to prolong the design life of conductor.

D. Overhead ground wire (OHGW) shall be utilized as transmission shielding wire, and shall be installed on full length of the line.

E. OHGW shall be sized to ensure adequate protection based on fault current.

F. Conductor and OHGW installation work shall be done in accordance with manufacturer's recommendations and IEEE 524 'Guide to the Installation of Overhead Transmission Line Conductors'.

G. Ground wire size will be determined through grounding study and fault analysis.

H. Transmission line shall be designed such that galloping ellipses do not overlap.

3.6.7 Electrical

A. Transmission facility shall be designed to accommodate maximum generation outlet loading levels.

B. Transmission facility voltage shall be 115kV.

C. Transmission facility structures shall be designed to meet a grounding resistance of 5 ohms or less.

D. All phase-to-phase and phase-to-ground clearance, including the mid-span ground clearance, shall be designed according to NESC-C2.

E. Mid-span ground clearance shall meet the standard requirements when the conductor is operating at maximum design temperature and maximum sag conditions.

F. All vertical clearances shall assume, as a minimum, that areas under the line are accessible to vehicles and equipment as specified in NESC-C2.

G. Project Company shall assume a tolerance of +5'/-0" shall be used for vertical clearances.

H. Vegetation clearing under the transmission line shall adhere to the following guidelines:

1. 'Phase Zone' is defined as the area between phase conductors on either side of structure plus five (5) feet on outside of either side.
2. Vegetation directly under 'phase zone' with potential to grow high enough to not meet NESC clearances shall be removed in a manner where re-growth is not practical.
3. Vegetation outside of 'phase zone' shall be removed if potential growth height exceeds a height level determined by contact at ground (0' above ground) at spot vertically down from outside edge of 'phase zone' and then extending outward at a 45° angle from outside edge of 'phase zone'.

I. Lightning performance shall have a target performance level of two (2) outages per year for the length of the entire new transmission line.

J. Insulation levels shall be sufficient for continuous operation at 1.1 per unit voltage.

3.7 Architectural Requirements

3.7.1 Building Codes

A. All buildings and structures shall be designed to meet all applicable building, accessibility, and life safety code requirements.

3.7.2 Building Requirements

A. General

1. All buildings designs are to be approved by GPA. In general, building materials and installation of architectural systems or components shall be as follows:

   a. All buildings shall be enclosed and sealed weathertight.

   b. All buildings shall be designed to accommodate the planned level of staffing required to operate the facility. Vehicle parking shall be adequate for the planned level of staffing.

   c. A guard house shall be provided at each entrance to the facility.

   d. Sound attenuation shall be provided for sound absorption as required on walls enclosing equipment.

   e. Interior partitions, including fire-rated partitions, shall be non-load bearing.

   f. Interior finishes shall be compatible with the intended operational use of each building area.

   g. In shop, warehouse and maintenance areas, electrical generating equipment areas, and out buildings, the flooring shall be sealed concrete.

   h. Suspended acoustical ceiling systems shall be used in offices and other finished spaces. Shops, warehouse and other unfinished spaces shall be exposed overhead construction which shall be painted. Moisture resistant materials shall be used in toilet rooms and shower rooms.

   i. Exterior personnel doors shall be heavy duty galvanized hollow metal doors with fully welded galvanized hollow metal door frames.

   j. Interior personnel doors shall be full flush painted hollow metal doors with painted hollow metal door frames.

   k. Overhead service doors shall be overhead coiling type of galvanized steel, factory assembled, with factory painted slats and motor operators with manual override operation feature with weather seals and wind locks.

   l. Fire exits shall be provided at outside walls as required by code. Exit signs shall be of opening and rating for door, frame, and hardware. Doors shall conform to hollow metal door requirements and have fillers adequate to meet fire rating.

   m. Commercial grade standard heavy-duty butts, locksets, latches, panic hardware, closers, thresholds and other miscellaneous hardware items shall be provided as appropriate to the function of the doors. Hinges with non-

removable pins and weather seals shall be used for exterior doors. All locks shall have removable cores.

n. The Administration building shall have pass card entry hardware on exterior doors and interior security doors. The interior security doors shall control open public access to the building during meetings.

o. Buildings and building openings (windows, doors) shall be designed to resist airborne debris impact under high wind (typhoon) conditions.

p. Interior windows shall be fixed hollow metal frames with double pane glazing for sound deadening.

q. Signs and graphic designs for identification and directions shall be incorporated into the interior finishes of each area. All exit signs shall follow the applicable building code. All signage shall comply with ADA requirements.

r. Fire extinguishers shall be multi-purpose, surface mounted type. Fire extinguishers shall be provided at locations in accordance with the applicable building and fire codes.

s. Each office, conference room or work area shall be provided with wiring infrastructure including wall mounted jacks for both data and voice communications. Voice communications shall utilize Voice over Internet Protocol (VOIP) technology. The wiring infrastructure shall be extended back to the central communications switching room located in the Administration building. The Project Company shall be responsible for installation of network switching and computer equipment in this room and for data connections to the outside world.

The communications network shall include as a minimum the Administration Building, warehouse, shop, and maintenance areas or building(s), the power generation building, and the entrance guard house(s). Provisions shall be included for integration of the communications network with the plant paging system. Fiber optic cabling shall be utilized for network wiring between buildings.

B. Power Generation Building

1. The Project Company shall provide dedicated space required for operation of the plant including, but not limited to, an electrical generating equipment (prime mover) area, a control room, a control system equipment storage room, and a low voltage electrical room. The final size and design of the building shall be based on the Project Company's layout of all equipment and equipment foundations that are housed within the building. The layout shall account for adequate clearance requirements for the removal and/or normal maintenance of all equipment contained within the building.

2. The main plant control room, control system equipment room, and SCADA control room shall be located on a 12-inch raised floor.

C. Administration Building

SS

1. The Project Company shall provide reasonable administrative office space for support of the plant.
2. The Administration Building shall be designed in accordance with Americans with Disabilities Act (ADA) regulations.
3. The Administration Building shall include as a minimum the following rooms:
   a. Project managers office
   b. Operations superintendent's office.
   c. Maintenance superintendent's office.
   d. Visitor/spare office.
   e. Entrance lobby/waiting area.
   f. Office supply/storage room.
   g. Conference room.
   h. Reference library/file storage room.
   i. Break room with kitchenette.
   j. Men's restroom.
   k. Women's restroom.
   l. Janitors closet.
   m. Mechanical equipment room.
   n. Electrical equipment room.
   o. Communications/telephone equipment closet.
   p. Printer/Plotter room.

D. Warehouse / Maintenance Building(s)

1. The Project Company shall provide dedicated space required for operations and maintenance of the plant including, but not limited to, a warehouse, mechanical maintenance area and office, electrical maintenance area and office, instrumentation and controls shop and office, welding shop, tool crib, Unisex toilet room, janitors closet, and warehouse supervisor/receiving office.

E. Building Aesthetics

1. All buildings shall utilize an architectural style, colors, and finishes that are compatible with Guam's island heritage. Exterior colors and finishes shall be selected to blend in with the surrounding countryside and approved by GPA.
2. All exterior and interior exposed surfaces, except factory finished items, shall be painted. Environmentally-friendly products shall be used.
3. Low rise construction shall be used for all buildings except where equipment or operational requirements require structures of greater height.

F. Visitors Learning Center

Project Company will negotiate in good faith to develop and build a Visitor/Learning Center just outside the secured access to the plant and construct/install the required communications systems and infrastructure. The Visitor/Learning Center will provide virtual plant tours and general energy conversion information. GPA will take video/photos of the plant for use in the visitor center and on a website. GPA and Project Company will negotiate details of providing virtual access while still maintaining plant security. The intent is to show how a power plant works to students, customers and the public. IPP will coordinate with GPA on the design details, manufacturers, wired or wireless access, etc. to create programs, models or fact sheets on the power plant and the technology. GPA shall be responsible for the cost.

4 QUALITY ASSURANCE, INSPECTION, COMMISSIONING, AND TESTING

4.1 Quality Assurance

4.1.1 General Quality Requirements

A. For products or workmanship specified by association, trade, or Federal Standards, comply with requirements of standard, except when more rigid requirements are specified or are required by applicable codes.

B. Conform to reference standard by date of issue current on date for receiving bids, except where a specific date is established by code.

C. When required by individual Specifications Section, obtain copy of standard. Maintain copy at job site during submittals, planning, and progress of specific work, until Completion.

D. Abbreviations used in Drawings and Specifications are as specified in ANSI Y1.1 and IEEE 260.

4.1.2 Industry Standards

A. Welding

1. Welding shall be performed by qualified welding operators using procedures which have been qualified in accordance with applicable codes and standards, including but not limited to:

   a. ASME B31 Code for Pressure Piping – Power Piping

   b. ASME Boiler and Pressure Vessel Code.

   c. AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.6, AWS D1.8 Structural Welding Codes.

B. Welding Procedure Qualification

1. Seller, Subcontractor, or fabricator performing welding under jurisdiction of referenced codes shall be responsible for obtaining and qualifying welding

procedures. Structural welding procedures conforming to AWS D1.1 are prequalified as defined in AWS D1.1, Clause 3. Project Company shall maintain records certifying successful completion of procedure qualification tests.

C. Performance Qualification

1. Seller, Subcontractor, or fabricator performing welding under jurisdiction of referenced codes shall be responsible for testing and qualifying its welding operators in accordance with applicable codes, using qualified procedures.

2. Welding operator's qualification as specified in code shall be considered as remaining in effect indefinitely unless welder has not engaged in given process of welding for which welding operator is qualified for period of 6 months.

D. Submittals

1. Except for procedures exempted by AWS D1.1, Clause 3, maintain copies of each welding procedure with certificate demonstrating successful qualification of welding procedures for each welding process performed at Sellers facilities: AWS D1.1 - Form N-1, or ASME QW-483.

2. Prior to execution of any manual shop welding, maintain copies of welder qualification form for each individual performing welding: AWS D1.1 Form N-4 or ASME QW-484.

4.2 Testing

4.2.1 General

A. Scope of Tests

1. This section includes quality assurance testing to be completed during construction, during manufacture of equipment, and plant performance tests on completion of construction.

2. After system or equipment necessary for operation is in operating condition, the Project Company shall supervise operation of the plant for a period sufficient to assure the proper functioning, and make necessary observations, investigations, and adjustment.

3. The Project Company is responsible for coordination of testing with local, state, and federal environmental authorities as required.

4. The tests mentioned in this section are not intended to form a complete list of the numerous tests which the Project Company would normally perform to ensure equipment quality and Facility reliability.

5. The Project Company shall be responsible for the submission of test certificates and reports to GPA for all the tests described here.

6. GPA or its representatives shall witness tests at the manufacturer's works as agreed with the Project Company. All testing on Site shall be witnessed by GPA or its representative.

7. The Project Company shall notify GPA in writing when tests are to be performed. Unless otherwise specified in the ECA, twenty one (21) days notice shall be given for tests in manufacturer's works, and ten (10) days notice shall be given for tests to be performed on Site.

4.2.2 Tests During Construction and Erection

Testing and inspections during construction shall comply with the requirements of the International Building Code. The Project Company shall satisfy GPA that the construction materials are of the specified quality and that the design figures are being followed. GPA must also be satisfied that electrical and mechanical equipment after erection are still up to the required standard and have not suffered because of storage, handling, construction, or erection.

4.2.3 During Manufacture

A. Equipment Factory Acceptance Tests

1. The Project Company shall be responsible for ensuring the quality of products to be installed in the plant. Reports of factory acceptance tests shall be provided to GPA within thirty (30) days of completion of the test.

4.2.4 Tests During Construction and Erection

A. Compaction

1. Conduct compaction testing in accordance with ASTM D1556 and D1557 for each type and source of material.

B. Welding

1. Welding materials and procedures for piping shall conform to ASME B31.1 and applicable state regulations.
2. Employ certified welders in accordance with Section IX ASME Boiler and Pressure Vessel Code and AWS D1.1.
3. Piping connected to pressure parts under jurisdiction of "Boiler and Pressure Vessel Code": ASME "Boiler and Pressure Vessel Codes."
4. Piping not covered by "Boiler and Pressure Vessel Code": ASME B31.1, "Code for Pressure Piping."
5. The Project Company shall maintain copies for each person, by name, assigned to do field welding of materials installed under this Agreement for review by GPA. Show on certificates that each person has passed tests specified by AWS.

C. Electrical

1. The following electrical systems and components shall be tested in accordance with the standards listed in section 3.2.1:
    1. Electrical ground grid
    2. Electric generator(s) and ancillaries (automatic voltage regulator, excitation system, generator governor, surge capacitors and MOV's, etc.)

3. Electrical switchgear, motor control centers, switchboards and panel boards
4. All medium voltage cable and buses
5. All low voltage cable and buses
6. Protective relay system shall be designed and set in accordance with the latest Standards. GPA has standardized on utilizing Schweitzer Engineering Laboratories, Inc. protective relays.
    a. Plant Control System
    b. All control system hardware
    c. All control system software

4.2.5 Tests on Completion

A. General

On completion of construction, the Project Company shall undertake a series of tests to demonstrate that the Facility operational capability, performance and reliability are within the limits agreed in the ECA. These tests shall be witnessed by GPA, and as a minimum requirement these tests shall include:

a. Functional Tests
b. Energy Conversion Agreement Tests
c. Performance and Facility Reliability Tests

B. Test Procedures

1. The Project Company shall develop specific test procedures for each test, and shall be provided to GPA for review at least one hundred twenty (120) days prior to the start of the tests.
2. The test procedures shall include, but not be limited to, the following information:
    a. Administrative Procedures
    b. Test Equipment
    c. Test Instrumentation to be installed
    d. Station Instrumentation to be used
    e. Test Methods
    f. Test Standards to be followed
    g. Sample Data Sheets
    h. Test Calculation Methods
    i. Instrument Calibration Sheets
    j. Pre-test Uncertainty Calculation

C. Test Results Calculations

1. The Project Company shall be responsible for providing the final test calculations. The test results calculations shall follow the methods as described in the test procedures.

D. Test Measurement Uncertainty

1. The Project Company shall be responsible for pre-test and post-test uncertainty analysis to verify the quality of the test performed. The uncertainty analysis is not to be applied as a commercial test tolerance, allowance, or margin to the test results. No tolerances in calculating Facility performance test results will be permitted for measurement uncertainty.

E. Test Reports

1. The Project Company shall submit to GPA a Preliminary Test Report after completion of each test. Within five (5) business days, GPA shall state whether it concurs, or disputes the results of the test. If GPA disputes the results, it shall provide in detail the reasons for dispute. The test reports shall include the test results, calculations, uncertainty analysis results, and shall also include as an appendices the raw test data, and test procedure that was followed.

2. Within fifteen (15) business days after receiving the fuel analysis data, the Project Company shall submit a Final Test Report, or a notification of a retest in the event of a dispute.

F. Functional Tests

1. The Project Company shall perform the following tests:

   a. Test and start-up of auxiliaries

   b. Control systems tests

   c. Synchronizing checks

   d. Electrical Protective devices tests

   e. Mechanical protective device tests

   f. Stability tests – AVR, Stable minimum load, minimum load while in compliance with emissions, full load rejection test and step load change rejection tests

   g. Automatic startup and loading time tests for hot and cold starts

G. Environmental Compliance Tests

1. The environmental compliance test including the air emission, effluent water quality, noise level, and other applicable tests will be performed to demonstrate compliance with the requirements of environmental permits and shall be completed in accordance with the applicable EPA test procedures.

2. For the Fossil Fuel Fired Component, the Project Company shall test the plant for emissions on both ULSD and Natural Gas, when it becomes available, to ensure that it meets the air permit requirements.

H. Heat Rate

The Heat Rate and some other test requirements below are only applicable to the Facilities including Fossil Fuel Fired Component. The specification will be adjusted based on the Facility configuration and technology proposed by the Project Company. For the Facilities including Fossil Fuel Fired Component, the Heat Rate and Initial Dependable Capacity Tests shall be conducted on both ULSD and Natural Gas, when it becomes available.

1. A Heat Rate to establish benchmark for the end of term tests and Initial Dependable Capacity Test shall be completed prior to Commercial Operation.
2. The tests shall be done in accordance with the ASME PTC-46 Performance Test Code on Overall Plant Performance, as well as the applicable ASME Performance Test Code relevant to the generation technology.
3. The Project Company shall demonstrate the ability of the plant to achieve the Contracted Facility Capacity established in the ECA and provide to GPA information about the Facility Heat Rate. The performance test results shall be corrected to Site Reference Conditions using the correction curves included in the approved test procedure using the calculation methods provided in such test procedure. Tested Dependable Capacity and Heat Rate corrections shall be allowed for:
   a. Ambient dry bulb temperature
   b. Ambient relative humidity
   c. Barometric Pressure
   d. Generator Power Factor
   e. C/H ratio of the fuel
   f. Wet bulb temperature
   g. GPA shall have the right to request that the Facility's heat rate be tested concurrently with any Dependable Capacity Test and Project Company shall be obligated to comply with such request.
4. Plant capacity shall be tested at normal maximum capacity without exceeding any manufacturers limitations. The plant must comply with all local, state, and federal environmental permits throughout the duration of the tests. The uncorrected net power output of the plant, in kWh, will be measured at the Delivery Point.
5. The initial Dependable Capacity (DC) Test shall be undertaken during the Reliability Test, and shall form the basis of the declared Dependable Capacity as defined in the ECA.
6. The duration of the DC Test shall be no less than 6 hours, during which time the plant will operate at its normal Dependable Capacity while supplying the normal station auxiliary power demand. The Facility DC in MW will be determined by dividing the sent out power in MWh (as determined by the revenue meter readings at the start and end of the test and corrected to Site Reference Conditions) by the test duration period in hours.

7. All costs for performance tests will be borne by the Project Company.
8. The Project Company shall perform testing to ensure that the Facility meets functional requirements including Dependable Capacity for Natural Gas and benchmark heat rate test for end of term tests.

H. Startup Duration Test

1. The Project Company will determine the startup duration, from initiation to full Plant Net Capacity, both cold and warm starts.

I. Reliability Test

1. The Project Company shall conduct a Reliability Test for a continuous seven (7) day (168 hour) test period. During this time the Facility shall operate continuously at Dependable Capacity for at least 72 hours, and for the rest of the period at any other load as may be required by GPA.
2. The equipment is considered available when the generator breaker is closed and the generator is producing positive net power output. Should the equipment become unavailable due to fault of the Project Company, the 7-day time period will restart at GPA's convenience and the to-date demonstrated availability will be lost.
3. Should any failure occur in any portion of the Facility, due to or arising from faulty design, material, workmanship, or operation which requires or causes the Facility available capacity to be reduced, a new Reliability Test shall be undertaken after rectification has been completed.
4. The Facility capacity and reliability tests shall be carried out while the Facility is operating in compliance with the specified environmental requirements.
5. All costs associated with equipment repair or correction shall be borne by the Project Company.

J. Partial Commissioning

1. Project Company shall perform tests to demonstrate that generating units can be partially commissioned and operated without negatively impacting site safety and the ongoing construction efforts if required.

4.2.6 Tests Required Throughout the Life of the Plant

A. Annual Dependable Capacity Test

1. The Project Company shall perform an annual Dependable Capacity Test, to demonstrate the Facility Dependable Capacity. The performance shall be corrected to base conditions by the correction curves, as described in the calculation methods provided in the test procedure. Output and heat rate corrections shall be allowed for:
   a. Ambient dry bulb temperature
   b. Ambient relative humidity

c. Barometric Pressure

d. Generator Power Factor

e. C/H ratio of the fuel

f. Wet bulb temperature

g. GPA shall have the right to request that the Facility's heat rate be tested concurrently with any Dependable Capacity Test and Project Company shall be obligated to comply with such request.

2. The Project Company shall submit a Test Report in accordance with Section 4.2.5. E. Test Reports

4.2.7 Tests and Inspections Prior to Facility Turnover to GPA in the End of the Term

1. Project Company shall perform tests one year prior to End of Contract Term to demonstrate the condition and performance of the plant. Tests shall include Dependable Capacity, heat rate, emissions and startup duration.

2. Project Company will allow GPA, or their designated agent, access to inspect and evaluate the plant, facilities and equipment.

3. Project Company shall correct, repair or replace deficiencies found during the turnover tests and inspections. Deficiencies shall be items only which reduce the functionality of the plant. Minor deficiencies due to plant aging no impacting the plant functionality or performance shall not be considered. Dependable Capacity shall be overhauled to correct deficiencies. The tests prior to Facility Transfer will have to meet minimum performance requirements in the ECA. The Dependable Capacity of the Facility to be demonstrated prior to Facility Transfer shall not be lower than ninety two and a half percent (92.5%) of the initial Dependable Capacity and the Heat Rate shall not be higher than one hundred and seven and a half percent (107.5%) of the Heat Rate demonstrated during Facility Commissioning.

5 SITE DATA

5.1 Site Location

The land identified as Lot 5010-1NEW, Lot 5042-1 and Lot 5042-R1 in the Municipality of Dededo will be used for the new Guam Power Authority GPA power generation plant. The property was recently approved to be rezoned to M1 by the Guam Legislature. The property site is deemed appropriate for the proposed use barring unforeseen geotechnical issues or other site unknown issues identified in testing.

5.2 Description of the Plot

The property is unimproved with native vegetation existent throughout.

5.3 Site Size and Layout

Property consists of 60 plus acres near Harmon substation in Dededo. The estimated plant footprint is 25 acres. Project Company shall not build in the area outside the plant footprint other than for utility access temporary site facilities and laydown during construction, as approved. Project Company will locate the plant on the property to maintain a vegetation barrier while preserving as much of the remaining acres for future development.

5.4 Climate Data

1. See Appendix D for ASHRAE Guam Climate information
2. The climate of Guam is tropical, with warm weather and little seasonal temperature variation. Generally, low dry bulb temperatures are not below 70 °F. The potential for tropical storms and typhoons is common during the wet season.

5.5 Site Reference Conditions

1. The following are the site reference conditions, to be used for the basis of the plant guarantees:
   a. Ambient Dry Bulb Temperature (°F): 88.9
   b. Barometric Pressure (psia): 14.57
   c. Wet Bulb Temperature (°F): 78.1

5.6 Geotechnical Conditions

GPA will complete a preliminary geotechnical survey to be provided during this procurement period.

5.7 Raw Water Analysis

To be provided in Appendix E

5.8 ULSD Analysis

To be provided in Appendix F

6 PROJECT ADMINISTRATION

6.1 Design and Construction Progress

6.1.1 Monthly Reports

A. The Project Company shall submit to GPA a Monthly Project Report, commencing at the award of Contract, and concluding after the Commercial Operation Date. The Monthly Report shall include the following information:
   1. Executive Summary of overall progress, significant issues, etc.
   2. List of activities completed in prior month

3. Anticipated activities to be completed in month ahead
4. Updated Project schedule with critical path analysis
5. Engineering report detailing status of Project engineering
6. Construction report detailing status of construction, including generation plant, fuel pipeline, and switchyard.

6.1.2 Schedule Updates.

A. The Project Company shall submit an updated Project Schedule, to be included in the Monthly Project Report. The Project Schedule shall include all Project activities, including status of permits, engineering, procurement, equipment shipment and delivery, construction activities, and commissioning and start-up activities.

6.1.3 Meetings

A. The Project Company shall hold a progress meeting at least once per month with GPA. Until construction begins, the meetings can be held at the Project Company's office, GPA's office, or via teleconference. Once construction on site begins, the meeting to be held on site. The Progress Meeting shall include a review of safety information, schedule updates, review of potential problems and risks, and any coordination issues required with GPA.

B. The Project Company shall submit to GPA meeting minutes, within five (5) business days of the meeting. The minutes shall include an action item list with expected date of closure, person requesting, responsible person, status, and actual closure date.

Appendix A: Grey Water Quantity and Analysis

GPA will work with GWA to establish the grey water quality provided by GWA to the Project Company.

Appendix B: ULSD Storage and Pipeline Structure and/or Natural Gas Pipeline Structure

Appendix B ULSD and/or Natural Gas Storage and Pipeline Structure

DESCRIPTION OF THE WORK

1.1 Existing Systems

The Guam Power Authority (GPA) Bulk Fuel Storage Facility or GPA Bulk Fuel Storage Facility is located in the Municipality of Piti between the Atlantis Submarine and the former Navy power unit on the Piti Channel. See Appendix C. The bulk storage facility is owned by GPA but operated by another company on behalf of GPA.

There are four separate and distinct petroleum handling activities which are conducted at the GPA Bulk Fuel Storage Facility:

1. Storage of fuel oil in bulk storage tanks;
2. Pipeline transfer of fuel oil to and from tanks;
3. Pumping and valve transfer areas; and
4. Storage and processing of oil/water emulsions.

The bulk fuel storage tanks are steel above ground storage tanks with fixed dome roofs. The site contains two tanks with a design capacity of 268,000 barrels, each.

There are several product transfer pipes that connect to both tanks. Except where passing through earthen containment berms, all product transfer piping is located above ground on supports. Secondary containment systems for both tanks consist of an earthen bermed area.

There are two pump transfer areas located at the facility. The Diesel Pump Station controls fuel coming into the facility from the Shell/Navy tie-in. The GPA Fuel Transfer Station delivers fuel going out of the facility to three GPA power generation units: Cabras (to be retired), Piti-MEC and Tanguisson (retired).

Two pipelines connect the GPA Fuel Transfer Station to the power plants. A 6" pipeline connects to the Cabras and Piti-MEC plants and an 8" line connects to the Tanguisson power plant. Internal and external lines are either buried underground or supported aboveground on concrete supports with metal fasteners for thermal expansion.

The 8" fuel oil pipeline extends approximately 17.2 miles from the GPA Fuel Transfer Station to the Tanguisson power plant site. *See Exhibit X (insert overall pipeline routing plan).* The 8" RFO pipeline and the Tanguisson plant have both been de-activated.

1.2 ULSD Scope of Supply

The Project Company will design, permit and construct a pipeline to transport ultra-low sulphur diesel (ULSD) from the Guam Power Authority (GPA) Bulk Fuel Storage Facility located in Piti, Guam to the new power generation plant site identified in Section 5.0 Site Data.

The ULSD pipeline is to be constructed, as much as is reasonably possible, in the existing 8" RFO pipeline easement. The existing 8" pipeline is no longer active and the Project Company is to remove and replace with the new ULSD pipeline. Additional easement will need to be acquired to route the pipeline to the new power generation plant site. New

pipeline routing shall follow existing pipeline corridors and access roads where possible. GPA will assist the Project Company with acquisition of all new easements for the pipeline.

The Fuel Transfer Station is located at the GPA Bulk Fuel Storage Facility Facility. The Fuel Transfer Station is comprised of eight (8) rotary screw pumps, three (3) of which are dedicated to the 8" RFO pipeline system. The Project Company shall review the pump equipment data and station design to validate that the existing pumps have the capability to meet the design conditions of the pipeline. If the existing pumps are not viable, then the Project Company shall be responsible for the design, permitting and construction of new transfer pumps, booster pumps and other associated equipment.

If natural gas is selected as a fuel source, the Project Company will design, permit and construct a pipeline to transport natural gas from the Guam Power Authority (GPA) Bulk Fuel Storage Facility located in Piti, Guam to the new power generation plant site.

The natural gas pipeline is to be constructed, as much as is reasonably possible, in the existing 8" RFO pipeline easement. As with the ULSD pipeline, the existing easement shall be utilized to the extent physically possible. Additional easement will need to be acquired to route the pipeline to the new power generation plant site. New pipeline routing shall follow existing pipeline corridors and access roads where possible. GPA will assist the Project Company with acquisition of all new easements for the pipeline. Project Company will have ultimate responsibility and assumes associated risks.

A new marine LNG receipt and storage facility will be constructed by Others at the GPA Bulk Fuel Storage Facility Facility. Project Company shall assume sufficient storage and supply will be available to support natural gas demand at the Facility. Project Company is responsible for natural gas system beginning at a flange after regasification.

1.2.1 Engineering

The Project Company will be responsible for the complete engineering and design services for the procurement, construction, and commissioning of the new fuel pipeline and any associated transfer equipment as required for ULSD throughput. The Project Company shall provide engineering, design, drawings, specifications, databases, construction specifications, and equipment information that describes all components of the new generation facility.

1.2.2 Procurement of Equipment

The Project Company will be responsible for all aspects of the procurement of material, equipment, labor, and services for the new pipeline and any new pump equipment. Procurement service will include, but not be limited to, purchasing, subcontracting, expediting, inspections and factory testing as applicable, shipping and field services. The Project Company shall maintain a high standard of ethics to ensure the Project reflects positively on GPA, the Project Company, contractors and suppliers.

1.2.3 Construction

The Project Company will be responsible for complete construction of the new ULSD pipeline, including any ULSD supply infrastructure needed to transport ULSD from the GPA Bulk Fuel Storage Facility to the green-field power generating plant. The Project Company shall develop a construction plan detailing construction procedures, site safety, site security, subcontractor administration, and start-up and commissioning procedures. The construction plan shall address any interfaces necessary at the GPA Bulk Fuel Storage Facility and new power plant site boundary. GPA shall have an opportunity to review and comment on

the construction plan no later than six (6) months prior to commencement of construction.

1.2.4 Right-of-Ways

Obtainment of any additional right-of-ways necessary for the pipeline(s) will be the responsibility of the Project Company. However, GPA will assist the Project Company.

1.2.5 ULSD

GPA will procure and supply ULSD to the bulk storage tanks at the GPA Bulk Fuel Storage Facility. GPA will be responsible for the conversion of the two bulk storage tanks from RFO to ULSD.

ULSD shall be defined as meeting the specifications of ECA Schedule 6.

If Project Company determines that drag reducing, lubricity, or other additives are desirable for the operation of the pipeline and terminal, and do not present negative consequences in the operation of the plant, they shall provide at their own cost.

1.2.6 Natural Gas

If natural gas is selected as a fuel source, GPA will procure and supply LNG to the regasification station at the GPA Bulk Fuel Storage Facility.

Natural Gas shall be defined as meeting the specifications of ECA Schedule 7.

1.2.7 Environmental Permitting

The Project Company will be responsible for procurement of all environmental permits required for construction and operation of the new terminal facilities and pipeline systems, including the Air Permit RMP, Vapor Dispersion modelling, and Heat Flux for the facilities to be constructed by Project Company. The Project shall meet all applicable local, state, and federal environmental regulations and permit conditions.

2.0 DESIGN PHILOSOPHY AND PRINCIPLES

2.1 Design Requirements, Pipeline

2.1.1 Engineering

A. General

The design life shall be thirty years with normal required inspection and maintenance. The systems shall be designed for construction and operational safety, as well as ease of maintenance and accessibility.

All design documents must be stamped by a licensed Professional Engineer registered in the Territory of Guam, in the appropriate discipline, in accordance with the Territory of Guam Rules and Regulations.

B. Applicable Codes and Standards

The pipeline shall be designed and constructed in accordance with all Federal, State, and local codes and standards including the most applicable sections of the codes, standards and regulations of the following organizations. This list of organizations is not complete, and does not relieve the Project Company from complying with any other requirements and regulations applicable to this Project. The effective dates of the Codes and Standards of these organizations shall be the most recent revision

prior to the Contract date. Project Company's may offer equivalent European, Japanese and Korean standards. The Project Company must demonstrate equivalency. Only one set of standards shall be applied throughout the Facility.

ACI	American Concrete Institute
AGA	American Gas Association
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ANSI	American National Standards Institute
API	American Petroleum Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWS	American Welding Society
CFR	Code of Federal Regulations
CRSI	Concrete Reinforcing Steel Institute
EIA	Electronic Industry Association
EPA	Environmental Protection Agency
ICC	International Code Council
IEEE	Institute of Electrical and Electronics Engineers
ISA	International Society for Automation
MSS	Manufacturers Standardization Society of Valves and Fittings Industry
NACE	National Association of Corrosion Engineers
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
OSHA	Occupational Safety and Health Administration
SSPC	Steel Structures Painting Council
UL	Underwriters Laboratory

C. Drawings

A complete set of Issue for Construction (IFC) design drawings shall be submitted to GPA at the Commercial Operation Date, in PDF format. All drawings shall be in Metric units.

D. Documentation and Manuals

Prior to and during construction operations, the Project Company shall submit construction documentation for GPA review/approval. As a minimum, the Project Company shall submit the following documentation:

- Permit applications and/or approvals
- Calculations for temporary works, buoyancy, etc.
- Construction drawings
- Method Statements for the following activities:
    - Pre-Construction Survey
    - Clearing and Grading of ROW
    - Pipe Handling, Storage, Hauling and Stringing
    - Cold Bending
    - Lining Up and Welding
    - Field Joint Coating
    - NDT
    - Trench Excavation and padding
    - Pipeline Lowering-in
    - Backfilling and Berming
    - Tie-ins and Hot Taps
    - Special Crossings
    - Auger Bore
    - Thrust Bore
    - Pipework Fabrication and Installation of Appurtenances
    - Cathodic Protection Facilities
- Procedures for the following operations:
    - Cleaning and Gauging
    - Hydrostatic Testing
    - Cleaning/Swabbing
    - Drying
    - Commissioning
    - Baseline Intelligent Pigging Survey
- Radiography weld maps
- Pipe and welding book
- NDT reports (radiography, ultrasonic and MPI)
- Material test results (coating, welding, painting, etc.)
- Material certificates, material receipts, etc.
- Vendor drawings
- Water sample analysis results

Operations and maintenance manuals shall be submitted for all equipment and presented in clear and thorough manner, complete with respect to

dimensions, design criteria, materials of construction, and like information to enable reviewer to review information as required. Details shall be identified by reference to sheet and detail shown on Drawings.

Operations and maintenance manuals shall be submitted to GPA in PDF format at the Commercial Operation date. Operation and maintenance manuals for new equipment purchased after the Commercial Operation date shall also be provided to GPA at the time of purchase.

E. Specifications

The Project Company shall be responsible for development of all procurement, construction, installation, start-up, and commissioning specifications required for the construction of the pipeline and pump equipment. The Project Company shall provide a PDF copy of all the conformed specifications to GPA at the Commercial Operation Date.

F. Tagging System

The pipeline shall utilize a tagging system to be determined by the Project Company. The tagging system shall include all equipment, enclosures, cables, pipes, instruments, control devices, valves, and other equipment.

G. As-Built Drawings

As-Built Drawings shall be provided to GPA at the date of Commercial Operation.

2.2 Performance Requirements

2.2.1 Capacity

For ULSD systems the pipeline shall be designed to meet the Contracted Facility Capacity matched with associated storage at the plant.

For natural gas systems, the pipeline and related equipment shall be designed to meet the Contracted Facility Capacity.

2.2.2 Leak Detection and Integrity Management

For ULSD systems, Leak Detection systems and integrity management shall be utilized for the pipeline via line volume balancing, which shall be implemented in accordance with API RP 1130, and shall meet the requirements of 49 CFR 195.

For natural gas systems, integrity management systems shall be implemented for the pipeline via requirements of 49 CFR 192.

3.0 PIPELINE DESIGN

3.1 Codes and Standards

Pipeline shall be design, constructed, tested, and operated in accordance with the following at a minimum, including those regulations, standards, and recommended practices included by reference in each:

49 CFR 192 *For PHMSA jurisdictional portions of the gas system*

49 CFR 195 *For PHMSA jurisdictional portions of the system*

40 CFR 112

ASME B&PV Section VIII

ASME B31.3 *For non-PHMSA jurisdictional portions of the system*

ASME B31.8 *For PHMSA jurisdictional portions of the gas system*

ASME B31.4 *For PHMSA jurisdictional portions of the system*

ASME/API STD 1104

API STD 2610

API Manual of Petroleum Measurement Standards (MPMS) Chapter 5 "Metering"

API 650

API 5L

API 6D

API RP 500

API RP 651

API RP 1102

API RP 1110

API RP 1162

API RP 2350

NFPA 1

NFPA 30

NFPA 58

NFPA 59

NFPA 70 (NEC)

NFPA 70E

OSHA 1910

ANSI B16.5

ANSI B16.34

International Building Code (IBC) as adopted and modified by the Guam Code Annotated

International Fire Code (IFC) as adopted and modified by the Guam Code Annotated

Project Companies may offer equivalent European, Japanese and Korean standards. The Project Company must demonstrate equivalency. Only one set of standards shall be applied throughout the Facility.

3.2 ULSD Hydraulics and Pipeline Design

Pipeline shall be designed in accordance with design pressures and material properties per 49 CFR 195 and ASME B31.4, and shall be constructed of AP 5L-PSL2 steel line pipe.

Pipeline throughput shall be designed to operate max. 12 fps based on use of API 5L materials, with an MAOP consistent with the existing tank/pump systems. Project Company shall consider optional pump station upgrades at the GPA Bulk Fuel Storage Facility where this cost may be capitalized for improved plant economics.

Pipeline wall thickness shall be calculated in accordance with ASME B31.4 as a minimum thickness, and stresses shall not exceed 100% of SMYS at any point along the pipeline.

including during hydrostatic testing. Pipeline wall thicknesses will be required to be calculated for external pressures and stresses where the pipeline is installed via HDD or under transportation features (roads, rail).

Appropriate features shall be included in the design of the pipeline system to limit potential surge to those within the allowable stress calculations of the system, at no point exceeding 110% of MOP. Hydrostatic testing of all B31.4 systems shall be performed in accordance with 49 CFR 195 and B31.4, including a minimum of 1.25 times the maximum operating pressure (MOP) at the high point elevation for each test section. Note that multiple test sections may be in the best interest of the Project Company based on pipe line fill, water availability and allowable discharge points.

Non-PHMSA portions of the systems shall be hydrostatically tested per ASME B31.3. Pneumatically testing shall not be allowed without written consent of the GPA.

3.3 Natural Gas Pipeline Design

Pipeline shall be designed in accordance with design pressures and material properties per 49 CFR 192 and ASME B31.8, and shall be constructed of AP 5L-PSL2 steel line pipe.

Pipeline throughput shall be designed to operate between 15 – 60 fps based on use of API 5L materials, with an MAOP consistent with a Class Location study of the pipeline route.

Pipeline wall thickness shall be calculated in accordance with ASME B31.8 as a minimum thickness, and stresses shall not exceed SMYS as required by a Class Location study along the pipeline, including during testing. Pipeline wall thicknesses will be required to be calculated for external pressures and stresses where the pipeline is installed via HDD or under transportation features (roads, rail).

Appropriate features shall be included in the design of the pipeline system to limit potential surge to those within the allowable stress calculations of the system. Testing of all B31.8 systems shall be performed in accordance with 49 CFR 192 and B31.8. Note that multiple test sections may be in the best interest of the Project Company based on pipe line fill, test medium and allowable discharge points.

Non-PHMSA portions of the systems shall be hydrostatically tested per ASME B31.3. Pneumatically testing shall not be allowed without written consent of the GPA.

Pipeline shall be adequately protected against corrosion even if not in use.

3.4 Pipeline Routing and Construction Considerations

New pipeline routing shall follow existing pipeline corridors and access roads where possible. For construction and maintenance of new pipelines, it shall be done in the existing right of way for the old pipeline and alongside the road for the section to the new plant from the existing pipeline right of way. Due consideration shall also be taken for ease of construction, expansion, commissioning, maintenance, and operation of the facilities.

According to international standard practice fiber optic cables of armored type shall be installed underground along the pipe routing without conduits or concrete encasement. For road crossings and each ULSD pipeline endpoint (pump station side and new power plant side) two 4-inch PVC conduits (NEMA TC 8) encased in concrete shall be installed.

The route alignment sheets shall contain detailed information with respect to:

route layout, ground profile, topography, soil condition/characteristics, class location (for natural gas), location of existing above ground and buried pipelines, location of existing power cables, overhead lines and other services, and soil resistivity measurement for Cathodic Protection Design.

The route alignment sheets shall also include all construction related details of the pipeline comprising of: line pipe material, grade and wall thickness, design factors, surface/terrain details, road crossings, coating type, burial depth, special items (valves, fittings, hot bends, insulation joints, etc.), type of construction, crossing location, type and reference drawing, hydrostatic test sections, cathodic protection and markers, etc.

Pipeline shall be constructed to allow in-line inspection tool runs, with a minimum bend radius of 3R and utilizing barred tees between pig traps. This shall apply at a minimum for all piping located outside of the fence lines of the GPA Bulk Fuel Storage Facility terminal and the plant facility.

Visual inspections shall be done on all welds. All welding of PHMSA-jurisdictional pipeline shall be per AP 1104, and shall be ultrasonically or radiographically inspected for 100% of their circumference. Any welds that do not meet specifications will be repaired immediately. All welding of non-PHMSA-jurisdictional piping shall be per API 1104 or ASME B31.3, and no less than 10% of pipe welds for aboveground piping shall be radiographically inspected.

Before the pipe will be lowered into the ditch, coatings will be visually inspected and checked with a holiday detector to ensure there is no damage to the coated pipe.

3.5 ULSD Tank Design and Construction Considerations

Civil features shall provide features to ensure the requirements of SPCC and CWA are met at a minimum. The site shall include spill containment in accordance for 40 CFR 112 and NFPA 30, and at a minimum shall provide 100% containment plus a 25-year/24-hour storm event for the single largest vessel. However, Project Company may propose a less stringent requirement, providing Project Company will take measures during storm event to drain the dike area. Site shall be designed to ensure post-development storm water flows do not exceed pre-development. If the site is located within a floodplain, measures shall be taken in accordance with FEMA guidelines.

The facility shall include fire detection and suppression systems. Fire detection shall be provided at areas of rotating equipment or where personnel may be present during operations. Fire suppression shall be provided per NFPA 30 at a minimum. Hydrants with suitable flowrate shall be strategically located throughout the facility as negotiated with the local first responders.

Tanks shall be provided with overfill protection compliant with API RP 2350 allowing for unmanned facility operation. Tanks shall also be provided with cathodic protection, a leak prevention barrier (with tell tales), and appropriate gaging, grounding, water draw-off, and access to allow operations and maintenance.

Piping shall be aboveground as a standard. Buried piping systems within the tank terminal shall be avoided. Piping systems and related equipment shall be adequately supported against movement or damage due to weather or seismic activities.

The facility shall include the ability to receive ULSD by tank truck in emergency situations. These facilities shall continue to meet the minimum regulatory requirements.

Terminal shall include space, access, and utilities to all allow a 3rd party testing agency to perform fuel quality testing and record-keeping.

Underground storage shall be avoided wherever possible.

3.6 Pipeline Separation

Pipeline(s) shall be separated from existing parallel pipelines within the right-of-way, and from each other between existing and new pipelines by no less than 5 feet outside-to-outside to allow for location and for future access/construction.

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Pipelines and utilities crossing perpendicular to the pipeline(s) shall be separated by no less than 2 feet outside-to-outside.

3.7 Pipeline Depth of Cover

In standard open trenching, pipeline cover shall be no less than 36" at a minimum. Where pipeline is crossing a roadway, the cover shall be increased to no less than 48" at a minimum. Water bodies greater than 100ft wide shall have a cover no less than 15 ft, while dry creeks, ditches, and gullies shall have cover no less than 48".

Pipeline markers shall be placed along route in a line of sight fashion (one marker is always visible from another).

3.8 Pipeline Coating, Corrosion Protection and Monitoring

Pipeline coatings for buried pipelines shall be appropriate for the installation type. At a minimum, open trench installation will be factory coated with 3M Company, Scotchkote fusion bonded epoxy or equivalent, with field joints and coating repairs using the same manufacturer's recommended repair and joint kits. Pipeline which will be installed using trenchless methods (slick bore or HDD) shall be factory coated with epoxy based polymer concrete coating or equivalent. All pipeline coatings shall be inspected upon receipt of the piping and as the pipeline is installed. The pipe shall be 100% holiday tested in accordance with the referenced specification.

Aboveground piping will be painted in accordance with industry practice, and shall be no less than 16mil TFT 2-part epoxy.

The pipeline exterior will be protected with impressed current cathodic protection systems located along the route of the pipeline. The design shall be based upon maintaining electrical isolation of the pipeline from power neutral using isolation kits with surge protection at pump stations and block valve locations (if applicable). Cathodic protection design shall account for existing CP systems in the same right-of-way and at crossings, and shall include test stations.

3.9 Electrical Power &Telecommunications

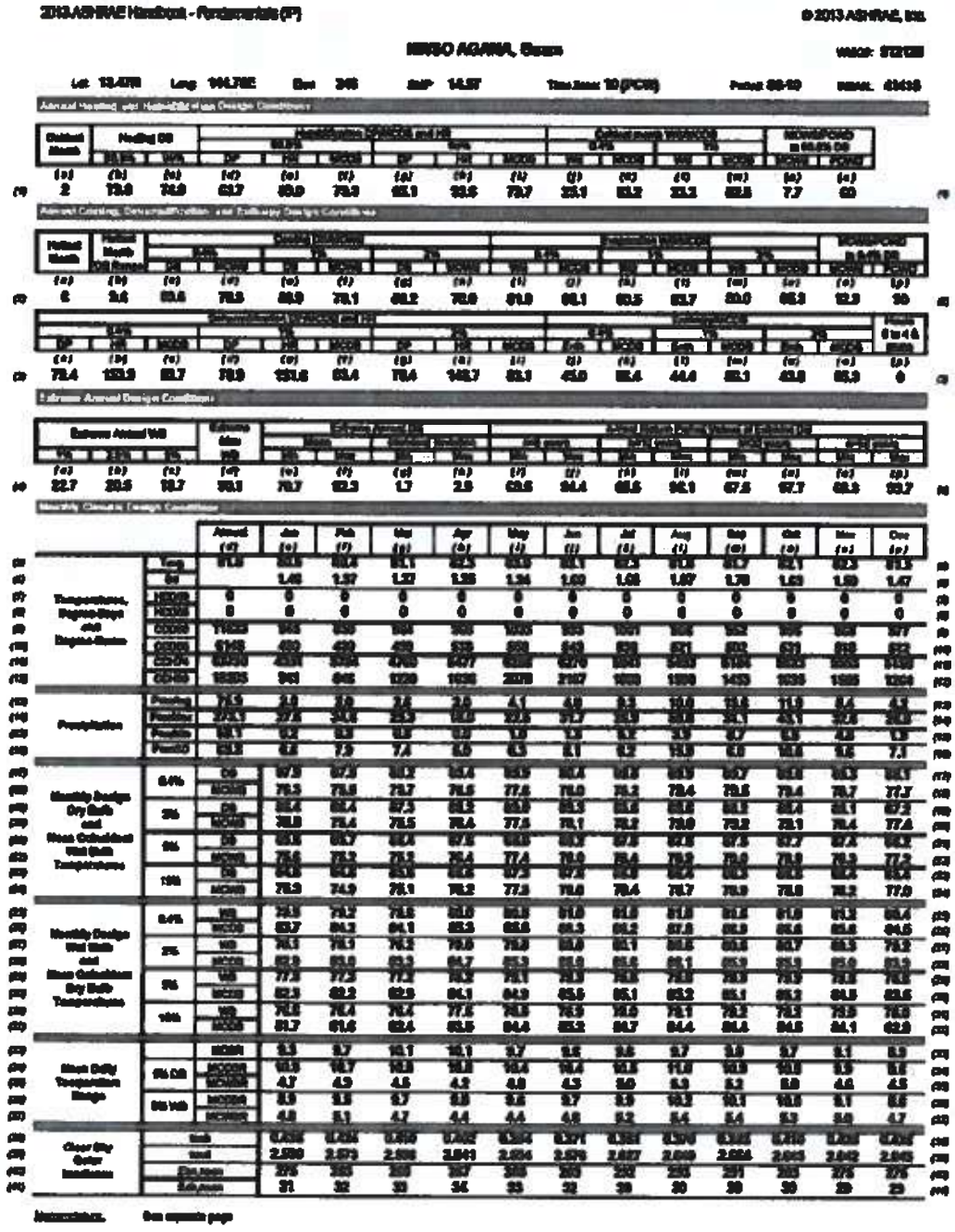
All electrical systems shall be design and installed in accordance with NFPA 70 (NEC), NFPA 70E (Arc Flash), and API RP 500 for hazardous area classifications. Grounding shall be accomplished using standard practice per NEC. The grounding shall serve as both power grounding and static grounding. Transient voltage surge suppression (TVSS) shall be provided to protect electrical equipment from damage due to lightning strikes or other voltage surges. Lightning protection on tankage is not anticipated.

Project Company shall develop and install a Supervisory Control and Data Acquisition (SCADA) system to provide remote monitoring and control of the PHSMA-jurisdictional portions of the ULSD system, as well as inventory control and automation of the terminal facilities. The remote monitoring and control signals will be to and from the control at the plant. A local virtualized historian shall be utilized to keep instrumentation and other important operational data for technician and engineering troubleshooting and regulatory compliance.

It shall meet the recommendations developed in the National Transportation Safety Board Study NTSB/SS-05/02 "SCADA in Liquid Pipelines" including following API RP 1165. The SCADA system shall manage the leak detection system per the applicable provisions of API RP 1130 Computational Pipeline Monitoring for Liquid Pipelines, including data validation and auditable data recordkeeping. In general, the scan rate shall be fast enough to minimize overpressure conditions, provide responsiveness to abnormal operations, and detect small leaks within the technology limitations of volumetric line balancing.

Appendix C: ULSD Pipeline Drawings

Appendix D: ASHRAE Guam Climate Information



Appendix E: Raw Water Analysis

Refer to previously provided water quality in IFMSB.

Appendix F: USLD Analysis

Refer to ECA Schedule 6.

Appendix G: GPA Grid Stability and Reliability Standards

Refer to previously provided standards in IFMSB.

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Appendix H:World Bank Group International Finance Corporation EHS Guidelines 1.7 Noise

General EHS Guidelines [Complete version] at: **www.ifc.org/ehsguidelines**

IFC International Finance Corporation

Environmental, Health, and Safety (EHS) Guidelines
GENERAL EHS GUIDELINES: ENVIRONMENTAL

NOISE MANAGEMENT

WORLD BANKGROUP

1.7 Noise

Applicability

This section addresses impacts of noise beyond the property boundary of the facilities. Worker exposure to noise is covered in Section 2.0 on Occupational Health and Safety.

Prevention and Control

Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception.[52] The preferred method for controlling noise from stationary sources is to implement noise control measures at source.[53] Methods for prevention and control of sources of noise emissions depend on the source and proximity of receptors. Noise reduction options that should be considered include:

- Selecting equipment with lower sound power levels
- Installing silencers for fans
- Installing suitable mufflers on engine exhausts and compressor components
- Installing acoustic enclosures for equipment casing radiating noise
- Improving the acoustic performance of constructed buildings, apply sound insulation
- Installing acoustic barriers without gaps and with a continuous minimum surface density of 10 kg/m² in order to minimize the transmission of sound through the barrier. Barriers should be located as close to the source or to the receptor location to be effective
- Installing vibration isolation for mechanical equipment
- Limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas
- Re-locating noise sources to less sensitive areas to take advantage of distance and shielding
- Siting permanent facilities away from community areas if possible
- Taking advantage of the natural topography as a noise buffer during facility design
- Reducing project traffic routing through community areas wherever possible
- Planning flight routes, timing and altitude for aircraft (airplane and helicopter) flying over community areas
- Developing a mechanism to record and respond to complaints

Noise Level Guidelines

Noise impacts should not exceed the levels presented in Table 1.7.1, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

[52] A point of reception or receptor may be defined as any point on the premises occupied by persons where extraneous noise and/or vibration are received. Examples of receptor locations may include: permanent or seasonal residences; hotels / motels; schools and daycares; hospitals and nursing homes; places of worship; and parks and campgrounds.

[53] At the design stage of a project, equipment manufacturers should provide design or construction specifications in the form of *"Insertion Loss Performance"* for silencers and mufflers, and *"Transmission Loss Performance"* for acoustic enclosures and upgraded building construction.

Table 1.7.1- Noise Level Guidelines[54]		
	One Hour L_{Aeq} (dBA)	
Receptor	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00
Residential; institutional; educational[55]	55	45
Industrial; commercial	70	70

Highly intrusive noises, such as noise from aircraft flyovers and passing trains, should not be included when establishing background noise levels.

Monitoring

Noise monitoring[56] may be carried out for the purposes of establishing the existing ambient noise levels in the area of the proposed or existing facility, or for verifying operational phase noise levels.

Noise monitoring programs should be designed and conducted by trained specialists. Typical monitoring periods should be sufficient for statistical analysis and may last 48 hours with the use of noise monitors that should be capable of logging data continuously over this time period, or hourly, or more frequently, as appropriate (or else cover differing time periods within several days, including weekday and weekend workdays). The type of acoustic indices recorded depends on the type of noise being monitored, as established by a noise expert. Monitors should be located approximately 1.5 m above the ground and no closer than 3 m to any reflecting surface (e.g., wall). In general, the noise level limit is represented by the background or ambient noise levels that would be present in the absence of the facility or noise source(s) under investigation.

[54] Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, World Health Organization (WHO), 1999

[55] For acceptable indoor noise levels for residential, institutional, and educational settings refer to WHO (1999).

[56] Noise monitoring should be carried out using a Type 1 or 2 sound level meter meeting all appropriate IEC standards.

Appendix I: KEPCO Proposal Technical Details

The following information is from KEPCO's proposal dated April 2, 2019, including provided clarifications. The information is subject to detail design.

KEPCO proposes a combined cycle unit with three Siemens ST 800-57 combustion turbines with individual HRSGs feeding a steam turbine. There are SCR in the HRSGs. KEPCO also proposes a 25 MW BESS.

There would be no synchronous condenser support in the event of all units being off line at the same time.

1. Plant System and Equipment
    a. 3x1 Combined Cycle
        i. Gas Turbines (3 total)
            1. Siemens
                a. SGT-800-57 (At new and clean conditions)
                    i. Gross Output
                        1. ULSD44,943 kW at facility (198,000 kW)
                        2. NG 44,450 kW at facility (198,000 kW)
                    ii. Heat Rate
                        1. ULSD9,708 Btu/kWh
                        2. NG 10,015 Btu/kWh
                    iii. RPM
                        1. 6600 RPM
                    iv. Air Flow
                        1. ULSD954,361 lbm/hr
                        2. NG 894,375 lbm/hr
                    v. Fuel Consumption
                        1. ULSD22,203 lbm/hr
                        2. NG 18,981 lbm/hr
                    vi. Fuel Pressure Required
                        1. ULSD37 psig
                        2. NG 479 psig
                    vii. Inlet Filter Type
                        1. Static filter
                    viii. Turbine/Compressor Water Wash
                        1. Turbine: N/A
                        2. Compressor: required
                    ix. Fire Protection
                        1. CO2 System
                        2. Temperature and IR (infrared) detectors included
                        3. Smoke and UV detectors not included
                    x. Inlet Silencer
                        1. Camfil Power Systems / Faist Anlagenbau
                    xi. Governor
                        1. IEEE model GG0V1
                    xii. Minimum synchronized (hot, warm, cold start)

1. 5 mins from ignition

xiii. Normal Ramp Rate (hot, warm, cold start)
1. 6.6 MW/min

xiv. Emergency Ramp Rate (hot, warm, cold start)
1. ULSD 10 MW/min @ 50%-100% load
2. NG 12.5 MW/min @ 50%-100% load

xv. Combustion Turbine Unit Full Load (hot, warm, cold start)
1. 10 min

xvi. ULSD Annual Maintenance Outage Schedule
1. Duration 8.5 days average
2. Cycle Every 7,500 EOH (4,166 op. hrs)

xvii. Natural Gas Annual Maintenance Outage Schedule
1. Duration 5.9 days average
2. Cycle Every 15,000 EOH (15,000 op. hrs)

2. Turbine exhaust gas outlet temp at turbine exhaust and stack outlet at RSC, 100% load ULSD firing is 563 °C
3. Turbine exhaust gas outlet temp at turbine exhaust and stack outlet at RSC, 100% load NG firing is 578 °C
4. Each includes Control & Lube Oil System, Air Intake System, Ventilation System, Fire Protection and Detection System, Turbine Control System
5. Exhaust Gas System
   a. Bypass Stacks (3 total)
   b. Diverter Dampers (3 total)

ii. HRSG (3 total, at new and clean conditions)
1. Curo, BHI, etc
   a. Horizontal, drum, natural circulation, 3P, Reheat
   b. Duct burner not included
   c. Gas Temperature at stack
      i. NG CC100% 219 °F
   d. HP Steam Flow
      i. NG 100% 96,907 lbm/hr
   e. HP Steam Pressure
      i. NG CC100% 1,747 psig
   f. IP Steam Flow
      i. NG 100% 122,086 lbm/hr
   g. IP Steam Pressure
      i. NG CC100% 355 psig
   h. LP Steam Flow
      i. NG CC100% 8,519 lbm/hr
   i. LP Steam Pressure
      i. NG CC100% 52 psig
2. SCR
   a. Honeycomb or corrugated type catalyst
3. Includes Blowdown System, HRSG stack

4. Includes HP Bypass System (3), HRH Bypass System (3), LP Bypass System (1), HP Letdown System to Aux Steam System (1)

iii. Steam Turbine (1 total)
1. Siemens
a. SST-700/900
i. Gross output (at generator terminals, new and clean)
1. ULSD CC100% 68,842 kW
2. NG CC100% 69,849 kW
ii. RPM
1. 7100/3600 rpm
iii. Steam Flow
1. NG CC100% HP 290,721 lbm/hr
iv. Steam Pressure
1. NG CC100% HP 1,722 psig
v. Steam Temperature
1. NG CC100% HP 1050 °F
vi. Exhaust Pressure
1. NG CC100% HP 2.4 in Hga
2. Includes Lube Oil System, Control Oil System, Gland Steam Condenser, Drain System, Turbine Gland Steam System, Turbine Control System

iv. Feedwater System
1. HP/IP HRSG Feedwater Pumps (3x50%)

v. Condensate System
1. Surface Condenser (1x100%)
2. Condenser Vacuum Pumps (2x50%)
3. Condensate Extraction Pumps (3x50%)
4. Clean Drain System

vi. Circulating Water System
1. Cooling Tower (1)
a. Paharpur Cooling Towers Limited.
i. Mechanical induced draft type
ii. # of Cells 4
iii. Water Flow Rate Approx. 47,755 gpm
iv. Heat Load Approx. 445 MMBtu/hr
v. Design wet bulb temperature 78 °F
vi. Approach temperature 5.4 °F
2. Circulating Water Pumps (3x50%)
3. Tube Cleaning System
4. Wastewater will not exceed US EPA NPDES permit No. GU002014

vii. Closed Cooling Water System
1. CCW Pumps (2x100%)
2. CCW Coolers (2x100%)
3. Expansion Tank (1)
4. Chemical Injection Skid (1)

viii. Chemical Dosing Systems
1. For HRSG, and Cooling Tower

ix. Chemical Laboratory
x. Compressed Air System
    1. Air Compressors with Motors (3x50%)
    2. Air Receiver (1)
    3. Desiccant heatless dual tower dryers (2x100%)
xi. Sump System
    1. Sump Pumps (10 total)
xii. Cranes and Hoists
xiii. Fire Protection System
    1. Motor Driven Fire Water Pump (1x100%)
    2. Engine Driven Fire Water Pump (1x100%)
    3. Motor Driven Jockey Pumps (2x100%)
xiv. HVAC Systems
xv. Workshop
xvi. Service Gas System
    1. N2 gas bottles and racks
xvii. ULSD & Natural Gas Pipeline
xviii. Ammonia Storage and Handling System for SCRs
xix. Distributed Control System (DCS)
    1. Siemens, ABB, Emerson, Valmet, Yokogawa, Hollsys, Schneider Electric, Honeywell
        a. SPPA-T3000, Symphony+, Ovation, ValmetDNA, Centum VP, Hollysys MAC-K, Foxboro Evo, Experion
xx. Generators (4 total)
    1. Manufacturers
        a. GTG (3) ABB
        b. STG (1) Siemens
    2. Rated Voltage at generator terminal (kV)
        a. GTG 13.8
        b. STG 13.8
    3. Frequency Range
        a. GTG 60 ± 2% continuous, 60 ± 5% conditional
        b. STG 60 ± 2% continuous, 60 ± 5% conditional
    4. Rated Power Factor
        a. GTG Lagging 0.8
        b. STG Lagging 0.8
    5. Insulation Class
        a. GTG F
        b. STG F
    6. Cooling Type
        a. GTG TEWAC
        b. STG TEWAC
    7. Design Standard
        a. GTG NEMA MG1
        b. STG IEEE C50.13
    8. Efficiency at PF 0.8 & 100% load
        a. GTG 97.74%

b. STG 98.30 %

9. Short Circuit Ratio
   a. GTG 0.53
   b. STG 0.65

xxi. Neutral Earthing Equipment (4 total)
1. Transformer
   a. Rating
      i. GTG (3) 80kVA/10s
      ii. STG (1) 79.67kVa 10sec
   b. Voltage ratio
      i. GTG
      ii. STG 31.8kV: √3/500V
2. Secondary Resistor
   a. Type
      i. GTG Punched grids type HPR grid
      ii. STG 0.72/3kV
   b. Resistance
      i. GTG 0.1807 ohm
      ii. STG 3.14 ohm
   c. Current rating
      i. GTG 10 A, 10 s
      ii. STG 159.3 A 10 sec

xxii. Generator Circuit Breakers (4 total)
1. Manufacturer
   a. GTG (3) Siemens
   b. STG (1) Siemens
2. Rated voltage
   a. GTG 15 kV
   b. STG 15 kV
3. Rated frequency
   a. GTG 60 Hz
   b. STG 60 Hz
4. Continuous Current Rating
   a. GTG 3,000 A
   b. STG 4,500 A
5. Maximum interrupting current rating
   a. GTG 35 kA
   b. STG 50 kA
6. Maximum interrupting time (cycles)
   a. GTG Under 5
   b. STG Under 5
7. Maximum closing time (cycles)
   a. GTG 55 ± 5 ms
   b. STG 55 ± 5 ms
8. BIL rating
   a. GTG 110 kV
   b. STG 110 kV

9. Interrupting medium
    a. GTG Vacuum
    b. STG Vacuum

xxiii. Generator Step-Up Transformers (4 total)

1. Manufacturer
    a. GTG (2) Hyosung
    b. GTG (1) Hyosung
    c. STG (1) Hyosung
2. Models/Voltage Ratio
    a. GTG (2) 115/13.8kV YNd1 NLTC(HV)
    b. GTG (1) 115/13.8/11(22)kV YNd1d1 NLTC(HV)
    c. STG (1) 115/13.8/11(22)kV YNd1d1 NLTC(HV)
3. Maximum Continuous Rating
    a. GTG (2) 61 MVA
    b. GTG (1) H-X: 61 MVA, H-Y: 68 MVA
    c. STG (1) H-X: 95 MVA, H-Y: 68 MVA
4. Rated temperature rise
    a. GTG (2) Winding: 65 °C
    b. GTG (1) Winding: 65 °C
    c. STG (1) Winding: 65 °C
5. Basic Insulation Level (HV winding, neutral of HV winding, LV winding, neutral of LV winding)
    a. GTG (2) 550 kV, 110 kV, 110 kV,
    b. GTG (1) 550 kV, 110 kV, 110 kV,
    c. STG (1) 550 kV, 110 kV, 110 kV,
6. Type of tap changer and no./ratio of taps
    a. GTG (2) NLTC ±2 x 2.5%
    b. GTG (1) NLTC ±2 x 2.5%
    c. STG (1) NLTC ±2 x 2.5%
7. Type of Cooling
    a. GTG (2) ONAN/ONAF/ODAF
    b. GTG (1) ONAN/ONAF/ODAF
    c. STG (1) ONAN/ONAF/ODAF
8. Type of Connection
    a. GTG (2) HV: Overhead wire, LV: NSPB
    b. GTG (1) HV: Overhead wire, LV: NSPB
    c. STG (1) HV: Overhead wire, LV: NSPB
9. Vector Group
    a. GTG (2) YNd1
    b. GTG (1) YNd1d1
    c. STG (1) YNd1d1

xxiv. Medium Voltage Switchgears (11 & 6.9 kV)

1. Manufacturer
    a. 11 kV LS VINA
    b. 6.9 kV LS VINA
2. Standard
    a. 11 kV IEC 62271-200

b. 6.9 kV IEC 62271-200

3. Rated voltage
   a. 11 kV 12/11 kV
   b. 6.9 kV 7.2/6.9 kV
4. Rate insulation level, low frequency/impulse
   a. 11 kV 28/75 kV
   b. 6.9 kV 20/60 kV
5. Momentary asymmetrical current rating
   a. 11 kV 31.5 kA
   b. 6.9 kV 31.5 kA
6. Breaker interrupting time
   a. 11 kV 78.75 kA
   b. 6.9 kV 78.75 kA
7. Breaker closing time
   a. 11 kV ≤60 ms
   b. 6.9 kV ≤60 ms
8. Bus material and rating
   a. 11 kV Cu & 1250A
   b. 6.9 kV Cu & 1250A
9. Type of enclosure
   a. 11 kV Solution Power S24
   b. 6.9 kV Solution Power S24
10. Breaker Type
    a. 11 kV VH-20H
    b. 6.9 kV VL-06H
11. Short time current rating, 3 sec
    a. 11 kV 31.5 kA/ 3s
    b. 6.9 kV 31.5 kA/ 3s

xxv. 115kV Overhead Transmission Line to Harmon substation
xxvi. Unit Aux Transformers (2)
xxvii. Non-Segregated Phase Bus Duct (NSPB)
xxviii. UPS System
xxix. Electrical Protection System
xxx. Lighting Systems
xxxi. Cathodic Protection Systems
xxxii. Sampling and Analyzing System
xxxiii. Vibration Monitoring System (VMS) for GTG and STG
xxxiv. Weather Station

b. Battery Energy Storage System (25 MW)
   i. Siemens, Hyosung, Hyundai Electric
      1. SIESTARTTM/PCS & Li-ion Battery
         a. Storage type Chemical batteries and PCS
         b. Battery chemistry Li-ion Type
         c. Life Cycle 30 years (Replacement of the ESS might be required at the end of its operating life to ensure that the ESS remains fully functional and operational thought the entire 30-year period)

ii. Inverter
1. Power Electronics
a. FP2500K

i.	DC voltage	708-1310 VDC
ii.	AC voltage	500 VAC
iii.	# of Phases	3
iv.	MVA Capacity	2.5 MVA
v.	Power factor range	(Later)
vi.	IEEE 1547 compliant	Yes
vii.	Total harmonic distortion (THD% voltage, open circuit	
1.	<3% per IEEE519	

iii. Capable to support an increase in system load up to 15 MW for up to 30 mins.
iv. If single unit trips, BESS will provide backup power up to 25 MW. Will be online in less than 500 ms. Minimum duration of 30 mins.
v. Will be available continuously and available at any time.

c. 115 kV Switchyard

i.	Supplier	GE
1.	Standard	IEC
2.	Rated voltage	115 kV
3.	Rate insulation level, low frequency/impulse	260kV/550kV
4.	Momentary asymmetrical current rating	100 kA
5.	Breaker interrupting time	≤60 ms
6.	Bus material and rating	Al or Cu, 2000A
7.	Breaker type	Dead tank
8.	Breaker supplier	GE
9.	Short time current rating, 3 sec	40 kA, 3sec

d. SCADA
i. Provided between substation and Harmon substation with voice, data and protection of 115kV and all major electrical equipment and turbine generators.
ii. Includes monitoring and leak detection of entire ULSD pipeline

e. Water Treatment Plant
i. Primary Treatment
1. Dissolved air flotation unit
a. 2 x 50% steams
b. Rate capacity of each steam 494.7 gpm (112.3 m^3/hr)
ii. Demineralized Water Treatment
1. UF + RO + MBP
a. 2 x 100% steams
b. Rated capacity of each steam 17.6 gpm (4 m^3/hr)
iii. Water Quality Assumptions
1. TDS: 600 mg/L
2. Hardness: 300 mg/L as CaCO3

f. Storage Tanks
i. Treated Water Storage Tanks (2)
1. 5,090,000 gal each (19,300 m^3)

ii. Demineralized Water Tanks (2)
1. 13,000 gal each (50m^3)
iii. Fuel (Ultra Low Sulfur Diesel) Storage (2)
1. 83,000 bbl each (13,300 m^3)
a. Fixed cone roof
b. 30 day capacity at 100% load at RSC
iv. Fuel (Ultra Low Sulfur Diesel) Day Tank (1)
v. Acid
1. 3 m^3
vi. Caustic
1. 3 m^3

g. Fuel (ULSD) Handling
1. Unloading Pump (1x100%)
2. Pumps for Gas Turbine (2x100%)
3. Pump for BOP (1X100%)
4. Pumps at GPA Fuel Storage Facility

h. Natural Gas System

i.	Maximum fuel gas required	8,500 scfm per GT (30 ton/hr for Facility)
ii.	Maximum flow rate required during startup	1,900 scfm per GT
iii.	Minimum flow rate at ignition	460 scfm per GT
iv.	Minimum pressure for base load at terminal point	60 bar @ 40°C
v.	Allowable % variation in supply pressure	
1.	Steady state	±0.5 bar (±7.252 psi)
2.	Load changing	±0.1 bar (±1.45 psi)
vi.	Allowable temperature range	5-392°F and 36°F above dew pt
vii.	Piping Material	CS or equal
viii.	Corrosion allowance	1 mm

ix. Filter per GT (1)
1. Vertical
x. Gas Treatment and Pressure Reducing Skids (2)
1. Located outdoors
xi. Drains Vessel for Facility (1)
1. ASME w/ 1mm corrosion allowance
xii. Metering System
1. Flow meters (2 per GT, total and pilot)
xiii. Chromatograph

i. Waste Water Treatment System
i. Oil Water Separator (1x100%)
ii. Ponds (4 total)
iii. Pumps (6 total)
iv. Vacuum Pump
v. Chemical Dosing Tanks and Pumps (4 total)

2. Emissions Guarantees (from 50%-100% GT Load)
a. Combined Cycle Natural Gas

i.	NOx	5 ppmvd
ii.	SO2	n/a

iii. CO 5 ppmvd
iv. PM 6 mg/Nm^3
v. VOC (CH4) 5 ppmvd

b. Combined Cycle ULSD
i. NOx 5 ppmvd
ii. SO2 3 ppmvd (max 14 ppm sulfur in fuel)
iii. CO 5 ppmvd
iv. PM 10 mg/Nm^3 (70%-100% GT load), 12 mg/Nm^3 (50%-70% GT load)
v. VOC (CH4) 12 ppmvd

3. Plant Performance
a. Plant Availability
i. Annual Availability (Guarantee) 96.11%
ii. Maintenance Outages 0%
iii. Scheduled Outages 1.89%
iv. Forced Outages (Guarantee) 2%

b. Heat Rates
i. Unit ULSD
1. Combustion Turbine in Simple Cycle
a. Power Level % and Heat Rate (HHV) MBtu/kWh
i. 100% 9.836
ii. 85% 10.246
iii. 65% 10.027
iv. 50% 10.751
v. 25% 11.331
vi. 10% 17.963
vii. Minimum Load 17.963

ii. Facility ULSD
a. Power Level % and Heat Rate (HHV) MBtu/kWh
i. 100% 6.663
ii. 85% 6.784
iii. 65% 6.780
iv. 50% 6.994
v. 25% 7.801
vi. 10% 11.443
vii. Minimum Load 11.443

iii. Facility Natural Gas
a. Power Level % and Heat Rate (HHV) MBtu/kWh
i. 100% 6.799
ii. 85% 6.936
iii. 65% 6.934
iv. 50% 7.186
v. 25% 8.001
vi. 10% 11.700
vii. Minimum Load 11.700

c. Performance (at new and clean conditions)
i. Facility ULSD

1. Plant Gross Output 203,750 kW
2. Aux Power & Losses 4,935 kW
3. Step-Up Transformer Losses 815 kW
4. Total Losses 5,750 kW
5. Net Power Output at Delivery Pt 198,000 kW

ii. Noise Level No more than 3 dba above the measured ambient noise level at property boundary.

iii. Facility Natural Gas

1. Plant Gross Output 203,270 kW
2. Aux Power & Losses 4,460 kW
3. Step-Up Transformer Losses 810 kW
4. Total Losses 5,270 kW
5. Net Power Output at Delivery Pt 198,000 kW
6. Noise Level No more than 3 dba above the measured ambient noise level at property boundary.

iv. Facility General

1. Maximum emergency generation level capacity that may be available during system declared emergencies
   a. 201 MW net (ULSD), 208 MW net (NG)
2. Minimum emergency level used during system declared emergencies (emissions not compliant)
   a. 20 MW net
3. Net capability maximum level that the facility could be dispatched during normal system conditions
   a. 198 MW net
4. Interim operating level at which the facility operates the most efficiently, lowest heat rate
   a. 198 MW net
5. Minimum operating level that the facility could be dispatched during normal system conditions, must run level
   a. 40% of 198 MW complying with environmental requirements

d. Fuel Composition

i. ULSD

1. Composition
   a. Carbon (C) 86.7 wt%
   b. Hydrogen (H) 13.3 wt%
2. Higher heating value 43.321 Btu/kg
3. Higher heating value (836.3 kg/m^3) 5.76 MMBtu/bbl as per ASTM D240-02
4. Lower heating value 40.671 Btu/kg
5. HHV/LHV ratio 1.065

ii. Natural Gas

1. Composition
   a. Methane 89.3 vol%
   b. Ethane 7.7 vol%
   c. Propane 2.3 vol%
   d. I-Butnae 0

e.	N-Butane	0.5 vol%
f.	N-Pentane	0.010 vol%
g.	Hexane	0
h.	Heptane	0
i.	Carbon Dioxide	0
j.	Carbon Monoxide	0
k.	Hydrogen	0
l.	Hydrogen Sulfide	0
m.	Oxygen	0
n.	Nitrogen	0.19 vol%
o.	Sulfur contents	0
p.	Argon	0
q.	Helium	0
r.	Water	0
s.	Other	0

2. Higher heating value 51.704 Btu/kg
3. Higher heating value 41.652 MJ/SCM
4. Lower heating value 46.712 Btu/kg
5. HHV/LHV ratio 1.107
6. Fuel gas temperature at terminal point min 40 °C
7. Fuel gas pressure at terminal point min 60 barg

4. Site Conditions
   a. Ambient air temperature 88.9 °F (31.6 °C)
   b. Barometric pressure 14.57 psia (1005 mbara)
   c. Wet bulb temperature 78.1 °F (25.6 °C)
   d. Rainfall intensity (Return period =100 yr) 119.38 mm/hr
   e. Basic wind speed 78.2 m/s (IBC 2009)
   f. Seismic condition Short period spectral response parameter Ss: 1.5 (IBC 2009). 1 second period spectrual response parameter S1: 0.6 (IBC 2009)

Reserved

SCHEDULE 2
Technical Limits and Contracted Characteristics of the Project Facilities

SCHEDULE 2

TECHNICAL LIMITS AND CONTRACTED CHARACTERISTICS OF PROJECT FACILITY

TABLE OF CONTENTS

LOS

1 CHARACTERISTICS OF THE FACILITY

The Facility is designed to produce the Contracted Facility Capacity at the Reference Site Conditions.

The Facility consists of three (3) SGT-800 gas turbines and generators, three (3) heat recovery steam generators, one (1) steam turbine and generator, a distributed control system (DCS), and mechanical and electrical support system.

The gas turbines are single shaft industrial type with modular design and burns natural gas and ULSD.

Heat recovery steam generators (HRSG) are of drum type, horizontal, triple pressure, reheat.

The steam turbine is modular constructed. A single flow HP turbine is connected with another single flow IP/LP turbine. The steam turbine is of a tandem compound design.

The exhaust gas from the gas turbine will be passed through the HRSG. Gases exiting from the HRSG will be discharged to the atmosphere through the main stack.

The steam generated from the HRSG will be delivered to the steam turbine of reheat condensing type. Exhaust steam leaving from the steam turbine will be condensed in the condenser.

Cooling water for condenser comes from closed circuit circulating water system with cooling tower.

Electricity produced by each generator is delivered to the Guam grid via step-up transformers.

A battery energy storage system (BESS) shall be provided to support the spinning reserve, single unit trip loss requirement, regulation performance and transient response.

2 CONTRACTED CAPACITY IN RESPECT OF THE FACILITY

Contracted Capacity for ULSD Operation: 198 MW

Contracted Capacity for Natural Gas Operation: 198 MW

3 DELIVERY POINT

3.1 Electrical

The generated power from GTG and STG will be connected to Harmon substation and

LOS

Tamuning substation via overhead transmission line. Two (2) lines will be connected to Harmon substation which is around four hundred (400) meters from Power plant substation and one line will be connected to Tamuning substation after intercept existing transmission line between Harmon substation and Tamuning substation.

3.2 Fuel (ULSD and Natural Gas)

The delivery point for ULSD and Natural gas supply shall be at the power plant fence

4 POWER FACTOR RANGE

Minimum power factor of Generator will be 0.8 Lagging.

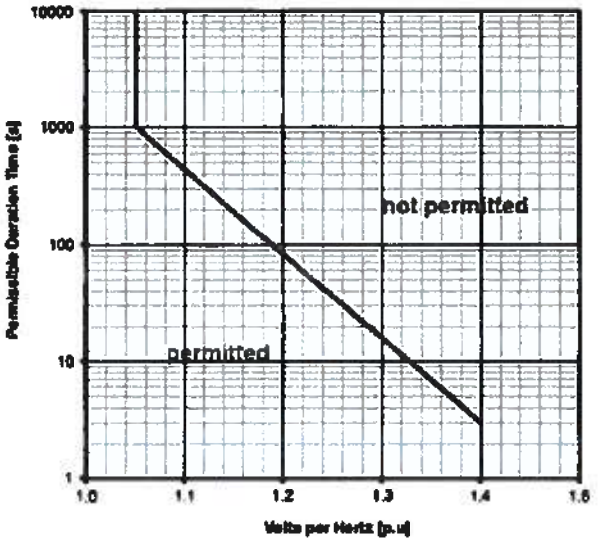
5 TECHNICAL LIMITS

5.1 Frequency Limit

GTG & STG shall remain connected to the Grid System from frequency ranges of 57.0 – 63.0 Hz in accordance with GPAPRC-001

(1) GTG
Below 58.2 Hz: max 90 min
Between 61.2 and 61.8 Hz: max 90 min
Between 61.8 and 63 Hz: max 30 min, max total 120 min.

(2) STG
Continuous operation: +2% ~ -2% / Others condition: As below;



5.2 Regulation Performance

A single combustion turbine is capable of ramping up/down as follows.

Fuel Type	Ramp rate of single Unit	Remark
ULSD	10.0 MW/min	at 50~100% GT load (@RSC)
Natural Gas	12.5 MW/min	at 50~100% GT load (@RSC)

If a ramping up operation is necessary beyond GT output capability, BESS will be in operation within its charged capacity.

If a ramping down operation is necessary below GT 50% load, emission limit may not be compliant.

An emergency shutdown of a unit may be necessary to meet ramping down rate.

Expected ramping rates for each operating case are as follows.

Fuel Type	Operating Case	Ramp Rate	Remark
ULSD	1GTG + 1STG	> 25MW /min	BESS operation is necessary for ramping up.
	2GTG + 1STG	> 25MW /min	BESS operation is necessary for ramping up.
	3GTG + 1STG	> 25MW /min	
Natural Gas	1GTG + 1STG	> 25MW /min	BESS operation is necessary for ramping up.
	2GTG + 1STG	> 25MW /min	
	3GTG + 1STG	> 25MW /min	

5.3 Transient Response

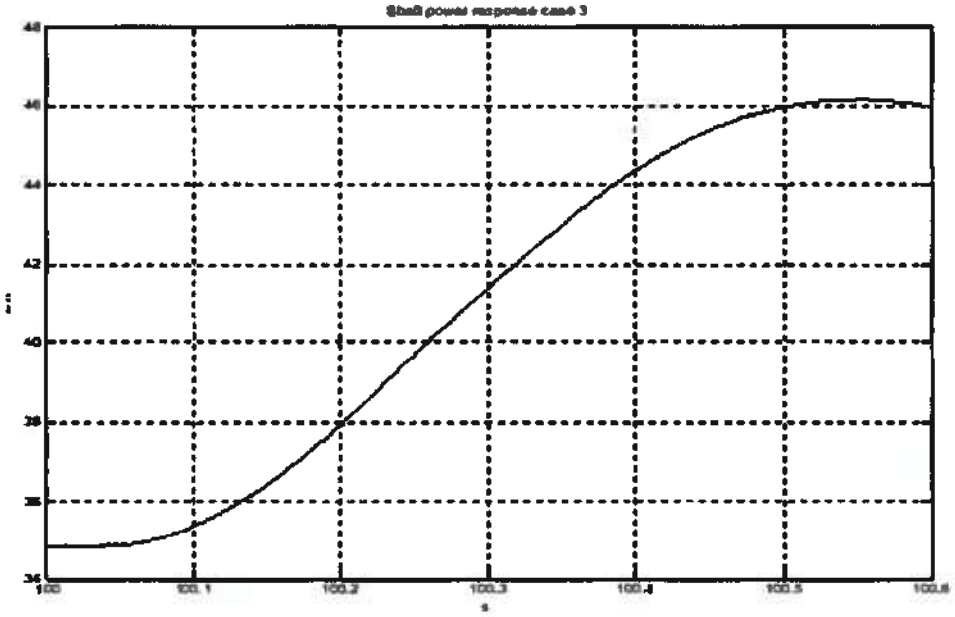
A simulation for the transient frequency response for SGT-600 has been performed with a minus (–) 3 Hz frequency disturbance with conditions as stated below.

The result is the simulation shows that the specification requirements are fulfilled based on the conditions as stated.

5.3.1 Conditions

The following conditions are valid for the simulations:

- The SGT-800 runs in Isochronous Operation Mode on an island grid.
- Full load (100%) rating is 49.8 MW.
- The resulting shaft power responses when controlling back to the nominal frequency of 60 Hz is simulated.
- From a load of 70% (34.86 MW) a frequency step disturbance of -3 Hz is applied to the Frequency Controller
- The graph shows compliance with that the required 5 % in 1 second and 10 % in 2 seconds (graph shows about 30% in 0.6 s)



As the above simulation result is based on the isochronous mode, BESS could be necessary to achieve 5% in 1 second and 10% in 2 seconds in reality.

5.4 Short Circuit Energy

Proposed plant has 3-3-1 configuration for combine cycle with three (3) GTGs and one (1) STG. This plant will operate one (1) GTG and one (1) STG as a minimum operation mode. During this operation, the minimum short circuit of 700MVA is

available at the 115kV POI and additional synchronous condenser is not required at all time for this plant.

Even the loss of the largest point of failure within the plant, the STG unit, the resulting after the outage still maintains more than 700MVA short circuit requirement from three (3) operating GTG units. In this case, proposed plant can supply active and reactive power for grid requirement at all condition without synchronous condenser. (In this case, more than 20MW active power and more than 700MVA short circuit capacity can be supplied to grid of Guam.)

For the calculation sheet as follows:

Scenario if 1 GT + 1 ST operating on grid

Equipment	Synchronized to grid	Rated MVA	Generator Subtransient reactance Xd" (sat) %	Step up transformer impedance Usc %	Fault level, HV side MVA
GTG 1	Yes	61	11.3%	10.0%	286
GTG 2	No	61	11.3%	10.0%	286
GTG 3	No	61	11.3%	10.0%	286
STG	Yes	95	12.0%	10.0%	432
Total					718

Note : Indicative figures, to be decided for the case design

5.5 Fuel Specifications

The Facility should be operated in accordance with the Fuel Specifications specified in Schedule 6 and 7.

5.6 Gaseous Emission Limits (during combined cycle operation)

Pollutant	NOx (ppmdv)	CO (ppmdv)	Particulate Matter (mg/Nm3)	SO2 (ppmdv)	VOC (ppmdv as CH4)	Lead (ppmdv)
Concentration (NG/ULSD)	4 / 4	4.5 / 4.5	4.5 / 10.3	NA / 0.6	5 / 10	**N/A

Note 1: ppmdv is at 15% reference O2, dry condition

Note 2: mg/Nm3 is at 15% reference O2, 1 atm, 0 Deg.C, dry condition

Note 3: max. sulfur content ULSD 14ppm

Note 4: **Lead is not predictable but less than 100 tons per year is expected

Note 5: Combustion turbine load is higher than 50%.

5.7 Aqueous Emission Limits

Cooling tower effluent quality is limited to US EPA/NDPES permit No. GU0020141 "Table 1". Details of table 1 is as following:

Parameter	Maximum allowable discharge limit			
	Concentration and loading			
	Average Monthly	Average Weekly	Maximum Daily	Units
Flow rate	12	(1)	(1)	MGD
Biochemical Oxygen Demand (5-day)	30	45	-	mg/L
	3002	6760	-	lbs/day
	Not applicable			%
Total Suspended Solids	30	45	-	mg/L
	3002	6760	-	lbs/day
	Not applicable			%
pH (hydrogen ion)	Within 6.5 and 8.5 at all times			pH units
Settleable solids	1	-	2	mL/L
Oil and grease, total recoverable	10	-	15	mg/L
Enterococcus	35	-	104	CFU/100ml
Chlorine, total residual (TRC)	1.5	-	2.46	mg/L
Temperature	(1)	-	(1)	°C
Ammonia	(1)	-	(1)	mg/L
Chronic toxicity	(1)	-	(1)	Pass/Fail
Priority Pollutant scan	(1)	-	(1)	-
Ambient Monitoring	(1)	-	(1)	-

LOS

Note (1): No effluents limits are set at this time, but monitoring and reporting is required. Other wastewater from power plant such as Water treatment rejection, drain, Oily wastewater, Domestic Sewage, Blow-down from HRSG will be discharged to sewer connection for further treatment by GWA.

5.8 Step-up Transformer Ratings

Step-up Transformer for GTG: 13.8kV / 115kV, 61MVA*, ONAN/ONAF/ODAF

Step-up Transformer for GTG: 11(or 22)kV / 13.8kV / 115kV, H-X : 61MVA*, H-Y : 68MVA, ONAN/ONAF/ODAF

Step-up Transformer for STG: 11(or 22)kV / 13.8kV / 115kV, H-X : 95MVA*, H-Y : 68MVA, ONAN/ONAF/ODAF

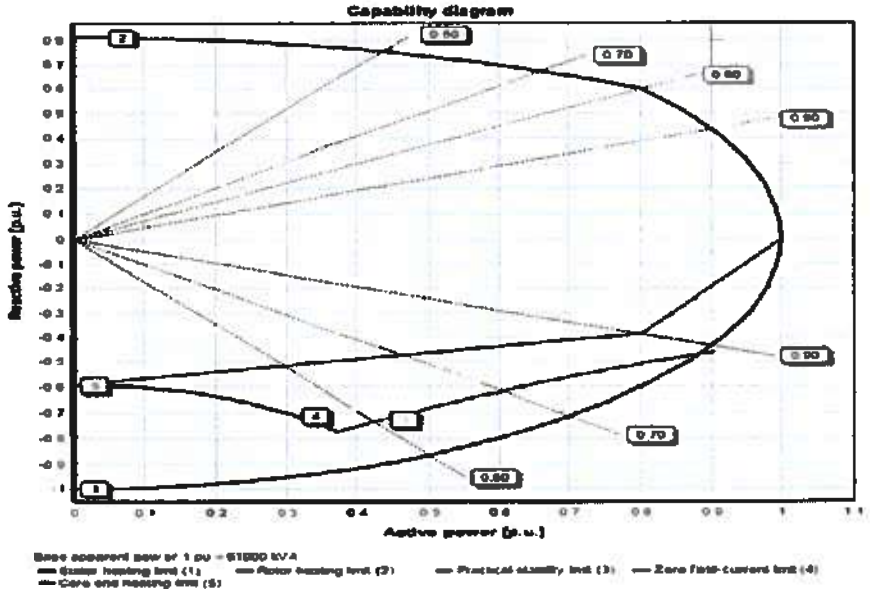
Note*: Rating will be decided greater than generator output at detail design stage.

5.9 Black-start Capability

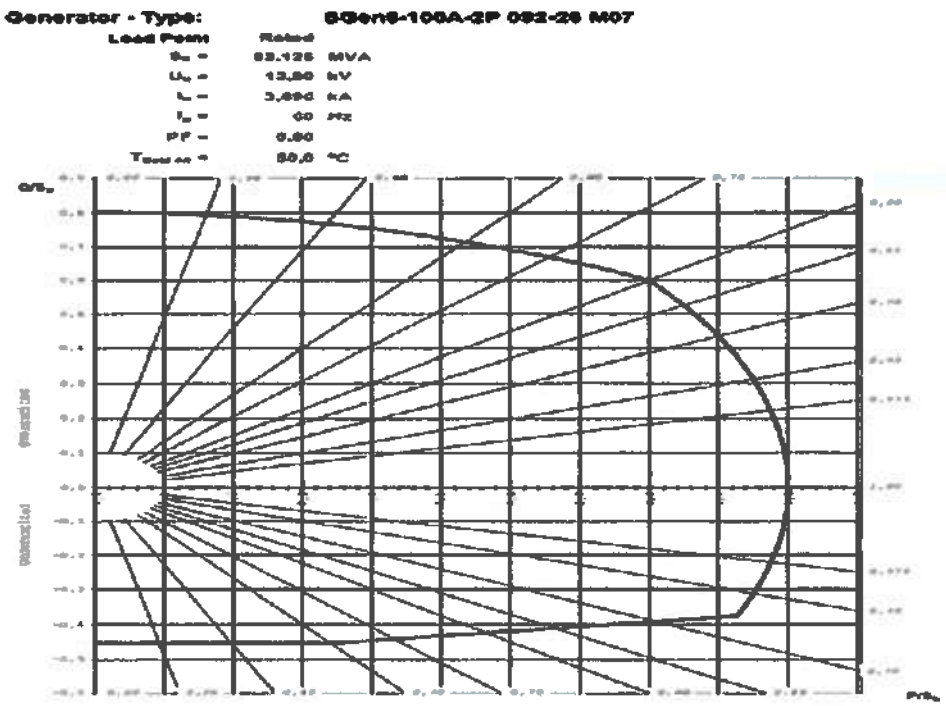
Black-start capability will be via operation of the BESS

5.10 Generator Capability Curves

GTG Capability Curves



STG Capability Curves



6 MAJOR OVERHAUL

Major Overhaul for the Facility shall be any A, B, or C Level inspection as defined by the manufacturer Based on three (3) years ULSD operation and NG operation for the remaining term. The Final End of the Term inspection before handover is a Level A inspection for all generation units.

Inspection per Unit	Level – A	Level – B	Level - C
Periodicity	15,000 EOH	30,000 EOH 500 EOC	60,000 EOH 1,500 EOC
Duration	3days	18days	23days

* EOH: Equivalent Operating Hour as defined by the manufacturer
* EOC: Equivalent Operating Cycle as defined by the manufacturer

SCHEDULE 3
Commissioning and Testing

Equation 4.1: VOMC

VOMC (US$) = VOMCn x En

Where:

$$\text{VOMCn} = \left(\frac{I_n}{I_o} \times VOMC_o\right)$$

Where:

E_n = Net Energy Output (kWh) in the n-th period.

$VOMC_n$ = VOMC component defined above for the n-th period of payment (US$/kWh)

$VOMC_o$ = Escalatable VOMC component as of the Reference Date (US$/kWh)

I_n, I_o = Index, prevailing at n-th period of payment and on Reference Date respectively.

4.2 Fuel Charge

The fuel charge adjusts the consumption of fuel at the Guaranteed Heat Rate (GHR) at Site Reference Conditions (SRC) and various loads (percentages of the Facility Dependable Capacity) using ULSD and Natural Gas and the heat rate correction curves to account for changes in ambient dry bulb temperature, ambient pressure, ambient humidity, average power factor, average carbon to hydrogen (C/H) ratio of Fuel and wet bulb temperature. The need for correction for changes in the wet bulb temperature will be confirmed at the detailed design stage and during the process of GPA's review and approval of Facility Performance Test procedure. In the event that it is determined that correction for changes in relative humidity also accounts for changes in wet bulb temperature, this Schedule 4 will be amended by deleting the wet bulb correction factors Kwt_m from Equations 4.2 and 4.3 below and deleting the wet bulb correction curves from this Schedule 4. The Guaranteed Heat Rate shall not be corrected for degradation at any time during the ECA Term. However, in the event that a switch to Natural Gas takes place at a date later than beginning of Contact Year 4, Guaranteed Heat Rate shall be corrected to reflect the potential for additional degradation due to prolonged ULSD operation as set forth in Schedule 11, Section 3.

All the costs of startups and shutdowns will be borne by the Project Company regardless of whether startups or shutdowns were requested by GPA or initiated by the Project Company. The Project Company shall be responsible for the quantity of Fuel (expressed in MMBtu) used for start-ups, shut downs, load limitations and/or Guaranteed Heat Rate compliance.

The Fuel Charge for ULSD and Natural Gas will be calculated as follows:

4 Energy Charge

The Energy Charge component of the Tariff in respect of the Facility is composed of two parts and charged for each kWh of Net Energy Output: (1) the Variable Operation and Maintenance Charge, and (2) the Fuel Charge (if any). The Energy Charge in respect of the Facility will commence on the Commercial Operation Date and shall be payable by GPA (pursuant to the terms and conditions set forth in the ECA) on a monthly basis until the end of the Term.

4.1 Variable Operation and Maintenance Charge

The Variable Operation and Maintenance Charge (VOMC) is stated for each period in Table A.4.

The VOMC shall be adjusted annually for inflation by comparing the Index on the Reference Date to the Index at the time that the adjustments are being made.

The calculation for the VOMC will be as follows:

Equation 3.2: FOMC

$FOMC\ (US\$) = FOMC_n \times CFL_n \times DC_n \times DCCF_n$

Where:

$FOMC_n$ = Where, $\left(\frac{I_n}{I_o} \times FOMC_o\right)$

Where:

DC_n	=	Dependable Capacity (kW) in the n-th period.
$FOMC_n$	=	FOMC component defined above for the n-th period of payment (US$/kW/Month)
$FOMC_o$	=	FOMC as of the Reference date (US$/kW/Month)
I_n, I_o	=	Index prevailing at the n-th period of payment and on Reference Date, respectively.
$DCCF_n$	=	Dependable Capacity Correction Factor for the n-th period as set out in Clause 2 of Schedule 11 to compensate additional capacity degradation for prolonged ULSD operation of the Facility in the event that the switch to Natural Gas takes place at a date later than the date falling on the Day following the date of the third anniversary from the Day upon which the Facility is Commissioned
CFL_n	=	Correction Factor Load for Fixed O&M component for the n-th period as set out in Clause 4 of Schedule 11 to compensate additional O&M cost for prolonged ULSD operation of the Facility in the event that the switch to Natural Gas takes place at a date later than the date falling on the Day following the date of the third anniversary from the Day upon which the Facility is Commissioned.

3.1 Fixed Capacity Charge

The Fixed Capacity Charge (FCC) is stated for each period in USD/kW/month Table A.2.

Equation 3.1 sets forth the application of the FCC as applied to the Dependable Capacity of the Facility. In the event that a switch to Natural Gas takes place at a date later than the beginning of Contact Year 4, , the Dependable Capacity shall be corrected as set forth in Schedule 11, Section 2.

Equation 3.1: Fixed Capacity Charge

Fixed Capacity Charge (US$) = FCC_n x DC_n x $DCCF_n$

Where:

FCC_n =	The FCC (US$/kW/month) for the n-th period of payment stated on Table A.2.
DC_n =	Dependable Capacity (kW) in n-th period provided that, if different levels of Dependable Capacity are applicable during such period, DC_n shall be the weighted average of such levels reflecting the time periods (in hours) during which each level shall have applied during the n-th period.
$DCCF_n$ =	Dependable Capacity Correction Factor for the n-th period as set out in Clause 2 of Schedule 11 to compensate additional capacity degradation for prolonged ULSD operation of the Facility in the event that the switch to Natural Gas takes place at a date later than the date falling on the Day following the date of the third anniversary from the Day upon which the Facility is Commissioned.

3.2 Fixed Operations and Maintenance Charge

The Fixed Operations and Maintenance Charge (FOMC) in USD/kW/month is set forth in Table A.3.

FOMC, as specified in Table A.3 shall be adjusted monthly for inflation by comparing the Index on the Reference Date to the Index at the time that the adjustments are being made. In the event that the switch to Natural Gas takes place at a date later than the beginning of Contact Year 4, the FOMC values specified in Table A.3 will also be corrected for certain high load operation as described in Schedule 11, Section 4. Thus, the Fixed Operations and Maintenance Charge will be calculated as follows:

b) Energy Charge, which is comprised of the Fuel Charge (FC) plus the Variable Operation and Maintenance Charge (VOMC) as set out in Section 4; and

c) Supplemental Charge (SC), which includes the charges set forth in Section 5 that are not included in the Capacity Charge or the Energy Charge.

3 Capacity Charge

The Capacity Charge component of the Tariff in respect of the Facility is composed of two parts: (1) the Fixed Capacity Charge and (2) the Fixed Operations and Maintenance Charge, in each case for each kW of Dependable Capacity. The Capacity Charge in respect of the Facility will commence on the Commercial Operation Date and shall be payable by GPA (pursuant to the terms and conditions set forth in the ECA) on a monthly basis until the end of the Term.

SCHEDULE 4

DETERMINATION OF TARIFF

1 Introduction and Definitions

1 This Schedule 4 shall be read in conjunction with, and is subject to, the provisions of the ECA of which this Schedule 4 is a part. To the extent that any provision of this Schedule 4 is inconsistent with any provision of the ECA, the provision of the ECA shall prevail. References to Articles and Sections are to Articles and Sections of this Schedule 4 unless indicated otherwise. References to Tables and Annexes are to the Tables and Annexes to this Schedule 4.

2 Payments to be made under the ECA shall be calculated in accordance with this Schedule 4 and adjusted as provided herein.

3 The procedures for the presentation and payment of invoices as set out in Article 13 of the ECA shall apply to all invoices referred to in this Schedule 4.

1.1 Definitions -

Capitalized terms used and not defined herein shall have the meaning set forth in the ECA. Without prejudice to the generality of Section 1.1, for the purposes of this Schedule 4 the following words and phrases shall bear the meanings ascribed thereto:

"Capacity Charge" has the meaning set forth in Section 3 below.

"Energy Charge" has the meaning set forth in Section 4 below.

"Fixed Capacity Charge" means the charge in respect of the Facility calculated in accordance with paragraph 3.1 of Section 3 below

"Fixed Operations and Maintenance Charge" means the charge in respect of the Facility described in Section 3.2 below.

"Fuel Charge" means the charge calculated in accordance with paragraph 4.2 of Section 4 below.

"Variable Operations and Maintenance Charge" means the charge calculated in accordance with paragraph 4.1 of Section 4 below.

"Supplemental Charge" has the meaning set forth in Section 5 below.

"Index" means the US Bureau of Labor Statistics, Current Employment Statistics, transportation and public utilities, average hourly wages of production workers, CES4422000008. The index to be used for preparing invoices in accordance with Article 13 of the ECA in any Contract Year shall be the index published closest to the date preceding third month.

"Index on Reference Date" means 36.84.

"Reference Date" – is the Bid Date which is April 2nd 2019.

2 Tariff components

The Tariff charges in respect of the Facility consist of three components:

a) Capacity Charge, which is comprised of the Fixed Capacity Charge (FCC) plus the Fixed Operations and Maintenance Charge (FOMC) as set out in Section 3;

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SCHEDULE 4
Determination of Tariff

Test and start-up of auxiliaries	O	O
Control system tests	O	O
Synchronizing checks	O	
Electrical protective devices tests	O	
Mechanical protective device tests	O	
Stability tests	O	
Automatic startup and loading time tests	O	
Environmental compliance tests		
Air emission	O	O
Effluent water quality	O	
Noise level	O	
Initial dependable capacity test	O	O
Benchmark heat rate tests	O	O
Reliability test	O	

a. Ambient dry bulb temperature

b. Ambient relative humidity

c. Barometric Pressure

d. Generator Power Factor

e. C/H ratio of the fuel

f. Wet bulb temperature

g. GPA shall have the right to request that the Facility's heat rate be tested concurrently with any Dependable Capacity Test and Project Company shall be obligated to comply with such request.

2) Plant capacity shall be tested at normal maximum capacity without exceeding any manufacturers limitations. The plant must comply with all local, state, and federal environmental permits throughout the duration of the tests. The uncorrected net power output of the plant, in kWh, will be measured at the Delivery Point.

3) The duration of the DC Test shall be for one (1) hour, during which time the plant will operate at its normal Dependable Capacity while supplying the normal station auxiliary power demand. The Facility DC in MW will be determined by dividing the sent out power in MWh (as determined by the revenue meter readings at the start and end of the test and corrected to Site Reference Conditions) by the test duration period in hours.

4) All costs associated with equipment repair or correction shall be borne by the Project Company.

3. Tests and Inspections Prior to Facility Turnover to GPA in the End of the Term

1. Project Company shall perform tests one (1) year prior to End of Contract Term to demonstrate the condition and performance of the plant. Tests shall include Dependable Capacity, heat rate, emissions and startup duration.

2. Project Company will allow GPA, or their designated agent, access to inspect and evaluate the plant, facilities and equipment.

3. Project Company shall correct, repair or replace deficiencies found during the turnover tests and inspections. All identified deficiency items during the turnover test must be agreed and documented.

4. Detail tests for each phase

Project Company shall perform following tests per each phase.

DESCRIPTION	ULSD PHASE	Natural Gas PHASE
Functional tests		

4) Plant capacity shall be tested at normal maximum capacity without exceeding any manufacturers limitations. The plant must comply with all local, state, and federal environmental permits throughout the duration of the tests. The uncorrected net power output of the plant, in kWh, will be measured at the Delivery Point.

5) The Initial Dependable Capacity (IDC) Test shall be undertaken during the Reliability Test, and shall form the basis of the declared Dependable Capacity as defined in the ECA.

6) The duration of the IDC Test shall be for six (6) continuous hours, during which time the plant will operate at its normal Dependable Capacity while supplying the normal station auxiliary power demand. The Facility DC in MW will be determined by dividing the sent out power in MWh (as determined by the revenue meter readings at the start and end of the test and corrected to Site Reference Conditions) by the test duration period in hours.

7) All costs for performance tests will be borne by the Project Company.

8) The Project Company shall perform testing to ensure that the Facility meets functional requirements including the Dependable Capacity, and benchmark heat rate test for end of term tests.

9) The Project Company will determine the startup duration, from initiation to full Plant Net Capacity, both cold and warm starts (Startup Duration Test).

1.9 Reliability Test

1) The Project Company shall conduct a Reliability Test for a continuous seven (7) day (168 hour) test period. During this time the Facility shall operate continuously at Dependable Capacity for at least 72 hours, and for the rest of the period at any other load as may be required by GPA.

2) The equipment is considered available when the generator breaker is closed and the generator is producing positive net power output. Should the equipment become unavailable due to fault of the Project Company, the seven (7) day time period will restart at GPA's convenience and the to-date demonstrated availability will be lost.

3) Should any failure occur in any portion of the Facility, due to or arising from faulty design, material, workmanship, or operation which requires or causes the Facility available capacity to be reduced, a new Reliability Test shall be undertaken after rectification has been completed.

4) The Facility capacity and reliability tests shall be carried out while the Facility is operating in compliance with the specified environmental requirements.

5) All costs associated with equipment repair or correction shall be borne by the Project Company.

2. Tests Required Throughout the Life of the Plant

2.1 Annual Dependable Capacity Test

1) The Project Company shall perform an annual Dependable Capacity Test, to demonstrate the Facility Dependable Capacity. The performance shall be corrected to base conditions by the Facility correction curves attached to Schedule 4, as described in the calculation methods provided in the test procedure. Output and heat rate corrections shall be allowed for:

* The total response time to produce 100% capacity of BESS shall be taken less than 500ms

i. Short Circuit energy checks

* A minimum level of 700 MVA of Short Circuit energy at the 115 kV POI when operating at 20 MW or higher real power output.

1.7 Environmental Compliance Tests

1) The environmental compliance test including the air emission, effluent water quality, noise level, and other applicable tests will be performed to demonstrate compliance with the requirements of environmental permits.

2) For the Fossil Fuel Fired Component, the Project Company shall test the plant for emissions on both ULSD and Natural Gas, when it becomes available, to ensure that it meets the air permit requirements.

1.8 Initial Net Dependable Capacity Test and Heat Rate

The Heat Rate and some other test requirements below are only applicable to the Facilities including Fossil Fuel Fired Component. For the Facilities including Fossil Fuel Fired Component, the Heat Rate and Initial Dependable Capacity Tests shall be conducted on both ULSD and Natural Gas, when it becomes available.

1) A Heat Rate to establish benchmark for the end of term tests and Initial Dependable Capacity Test shall be completed prior to Commercial Operation.

2) The tests shall be done in accordance with the ASME PTC-46 Performance Test Code on Overall Plant Performance, as well as the applicable ASME Performance Test Code relevant to the generation technology.

3) The Project Company shall demonstrate the ability of the plant to achieve the Contracted Facility Capacity established in the ECA and provide to GPA information about the Facility Heat Rate. The performance test results shall be corrected to Site Reference Conditions using the Facility correction curves attached in Schedule 4 included in the approved test procedure using the calculation methods provided in such test procedure. Tested Dependable Capacity and Heat Rate corrections shall be allowed for:

a. Ambient dry bulb temperature

b. Ambient relative humidity

c. Barometric Pressure

d. Generator Power Factor

e. C/H ratio of the fuel

f. Wet bulb temperature

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1.4 Test Measurement Uncertainty

1) The Project Company shall be responsible for pre-test and post-test uncertainty analysis to verify the quality of the test performed. The uncertainty analysis is not to be applied as a commercial test tolerance, allowance, or margin to the test results. No tolerances in calculating Facility performance test results will be permitted for measurement uncertainty.

1.5 Test Reports

1) The Project Company shall submit to GPA a Preliminary Test Report after completion of each test. Within five (5) business days, GPA shall state whether it concurs, or disputes the results of the test. If GPA disputes the results, it shall provide in detail the reasons for dispute. The test reports shall include the test results, calculations, uncertainty analysis results, and shall also include as an appendices the raw test data, and test procedure that was followed.

2) Within fifteen (15) business days after receiving the fuel analysis data, the Project Company shall submit a Final Test Report, or a notification of a retest in the event of a dispute.

1.6 Functional Tests

1) The Project Company shall perform the following tests:

a. Test and start-up of auxiliaries

b. Control systems tests

c. Synchronizing checks

d. Electrical Protective devices tests

e. Mechanical protective device tests

f. Stability tests – AVR, Stable minimum load, minimum load while in compliance with emissions, full load rejection test and step load change rejection tests

g. Automatic startup and loading time tests for hot and cold starts

h. BESS function test (Single unit trip)

1. Capacity in MW and MWH
2. Response time as specified in Schedule 1 during a simulated system event
3. Charge rate
4. Discharge Rate
5. Round trip efficiency
    a. As measured from the high side of the step-up transformer

SCHEDULE 3
COMMISSIONING AND TESTING

1. Tests on Completion for Facility

1.1 General

On completion of construction, the Project Company shall undertake a series of tests to demonstrate that the Facility operational capability, performance and reliability are within the limits agreed in the ECA. These tests shall be witnessed by GPA, and as a minimum requirement these tests shall include:

a. Functional Tests

b. Energy Conversion Agreement Tests

c. Performance and Facility Reliability Tests

1.2 Test Procedures

1) The Project Company shall develop specific test procedures for each test, and shall be provided to GPA for review at least one hundred twenty (120) days prior to the start of the tests.

2) The test procedures shall include, but not be limited to, the following information:

a. Administrative Procedures

b. Test Equipment

c. Test Instrumentation to be installed

d. Station Instrumentation to be used

e. Test Methods

f. Test Standards to be followed

g. Sample Data Sheets

h. Test Calculation Methods

i. Instrument Calibration Sheets

j. Pre-test Uncertainty Calculation

1.3 Test Results Calculations

The Project Company shall be responsible for providing the final test calculations. The test results calculations shall follow the methods as described in the test procedures.

Equation 4.2: ULSD Fuel Charge

$FC_n = PCFR_n \times FP_n$

Where:

$PCFR_n = TFC_n - GPAF_n - REF_n - GPAT_m$

Where:

$GPAF_n \text{ (in MMBtu)} = \sum_{m=1}^{M} [GHR_m \times GHRCF_n \times E_m \times Kdt_m \times Kbp_m \times Krh_m \times Kpf_m \times KC/HRatio_m \times Kwt_m)] \times [MMBtu / 10^6 Btu]$

Where:

FC_n	=	Fuel Charge in n-th billing period
n	=	Monthly billing period
$GPAF_n$	=	GPA Fuel consumption in n-th billing period by Combined Cycle Units
$GPAF_{on}$	=	GPA other Fuel consumption in n-th billing period
$GPAT_m$	=	Quantity of Fuel Removed by GPA from the on-Site ULSD storage by Trucks expressed in MMBtu
$PCFR_n$	=	Project Company Fuel Responsibility in n-th billing period
TFC_n	=	Total Fuel consumed at the Facility in n-th billing period expressed in MMBtu
FP_n	=	Fuel Price in n-th billing period (US$/MMBtu)
m	=	Dispatch metering interval (30 minutes)
M	=	Total number of intervals (m) during a billing period (n), which will vary from month to month depending on the actual dispatch that period.
GHRm	=	Guaranteed Heat Rate (Btu/kWh) for the applicable Facility in Simple Cycle or Combined Cycle mode, as the case may be, when operating on ULSD, corrected for actual load conditions existing during interval (m) that are due to GPA's Dispatch Instructions as shown in Table A.5 and Table A.7. For load conditions that are less than per GPA's Dispatch Instructions due to inability of Facility to meet GPA load requirements up to Dependable Capacity after the Facility has exceeded its Allowable Total Outages Energy for the applicable Contract Year pursuant to ECA Article 3.5, GHR_m shall be the Guaranteed Heat Rate for the load per the Dispatch Instructions.
$GHRCF_n$	=	Guaranteed Heat Rate Correction Factor during n-th billing period as set out in Clause 3 of Schedule 11 to compensate additional heat rate degradation for prolonged ULSD operation of the Facility in the event that the switch to Natural Gas takes place at a date later than the third anniversary of the Day upon which the Facility is Commissioned.
E_m	=	Net Energy Output during the m-th interval (kWh)
Kdt_m	=	GHR Correction factor of each operation mode for average ambient dry bulb temperature during the m-th interval (based on Figure A.1 or Figure A.7)
Krh_m	=	GHR Correction factor of each operation mode for average relative humidity during the m-th interval (based on Figure A.8)
Kpf_m	=	GHR Correction factor of each operation mode for average power factor during the m-th interval (based on Figure A.2 or Figure A.9)
KC/H $Ratio_m$	=	GHR Correction factor for average ULSD C/H ratio during the m-th interval (based on Figure A.3 or Figure A.10)
Kwt_m	=	GHR Correction factor for cooling tower performance of each operation mode for average wet bulb temperature during the m-th interval (based on Figure A.11)

The Fuel Charge will be calculated and payable on an annual basis. When the sum of the monthly Fuel Charges calculated in accordance with Equation 4.2 above results in a positive number for a

Contract Year, such amount will be deducted from the amount otherwise payable by GPA in the first invoice that is due for payment in the next Contract Year.

Equation 4.3: Natural Gas Fuel Charge in respect of the Facility

$FC_n = PCFR_n \times FP_n$

Where:

$PCFR_n = TFC_n - GPAF_n$

Where:

$GPAF_n$ (in MMBtu) $= \sum_{m=1}^{M} [GHR_m \times GHRCF_n \times E_m \times (Kdt_m \times Krh_m \times Kpf_m \times KC/HRatio_m \times Kwt_m)] \times [MMBtu / 10^6 Btu]$;

FC_n	=	Fuel Charge in n-th billing period
n	=	Monthly billing period
$GPAF_n$	=	GPA Fuel consumption in n-th billing period by Combined Cycle Units
$PCFR_n$	=	Project Company Fuel Responsibility in n-th billing period
TFC_n	=	Total Fuel consumed at the Facility in n-th billing period expressed in MMBtu
FP_n	=	Fuel Price in n-th billing period (US$/MMBtu)
m	=	Dispatch metering interval (30 minutes)
M	=	Total number of intervals (m) during a billing period (n), which will vary from month to month depending on the actual dispatch that period.
GHRm	=	Guaranteed Heat Rate (Btu/kWh) for the Facility of each operation mode when operating on Natural Gas, corrected for actual load conditions existing during interval (m) that are due to GPA's Dispatch Instructions as shown in Table A.6 and Table A.8. For load conditions that are less than per GPA's Dispatch Instructions due to inability of Facility to meet GPA load requirements up to Dependable Capacity after the Facility has exceeded its Allowable Total Outages Energy for the applicable Contract Year pursuant to ECA Article 3.5, GHR_m shall be the Guaranteed Heat Rate for the load per the Dispatch Instructions.
$GHRCF_n$	=	Guaranteed Heat Rate Correction Factor during n-th billing period as set out in Clause 3 of Schedule 11 to compensate additional heat rate degradation for prolonged ULSD operation of the Facility in the event that the switch to Natural Gas takes place at a date later than the date following the Day of the third anniversary from the Day upon which the Facility is commissioned.
E_m	=	Net Energy Output during the m-th interval (kWh)
Kdt_m	=	GHR Correction factor of each operation mode for average ambient dry bulb temperature during the m-th interval (based on Figure A.4 or Figure A.12)
Krh_m	=	GHR Correction factor of each operation mode for average relative humidity during the m-th interval (based on Figure A.13)
Kpf_m	=	GHR Correction factor of each operation mode for average power factor during the m-th interval (based on Figure A.5 or Figure A.14)
KC/H Ratio $_m$	=	GHR Correction factor of each operation mode for average Natural Gas C/H ratio during the m-th interval (based on Figure A.6 or Figure A.15)
Kwt_m	=	GHR Correction factor for cooling tower performance of each operation mode for average wet bulb temperature during the m-th interval (based on Figure A.16)

The Fuel Charge will be calculated and payable on an annual basis. When the sum of the monthly Fuel Charges calculated in accordance with Equation 4.3 above results in a positive number for a Contract Year, such amount will be deducted from the amount otherwise payable by GPA in the first invoice that is due for payment in the next Contract Year.

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5 Supplemental Charges

(a) Supplemental Charges include any costs due under Article 16 of the ECA.

(b) The Supplemental Charge (i) below is applicable in respect of the installation of the phosphate removal facility resulting from a Change in Law.

(c) The Supplemental Charges (ii) through (v) below are for costs associated with the cancellation of the Reserve Facility and delays in permitting, the installation of the back-up potable waterline, and the addition of performance incentives.

(d) For the avoidance of doubt, the Supplemental Charges (i) through (v) listed in this Section 5 shall be based on 198,000kW for the calculation of total payment of Capex(FCC) and Opex(FOMC) in the monthly invoice.

Item	Capex(FCC)	Opex(FOMC)	Opex(VOMC)
(i) Phosphate removal system	$0.0994/kW-Month	$0.009816/kW-Month	$0.000056/kWh
(ii) Cost associated with the cancellation of the Reserve Facility and delays in permitting	$0.2320/kW-Month		
(iii) Back-up Potable Waterline	$0.0639/kW-Month		
(iv) Performance Incentive, if COD is on or before the Required Commercial Operation Date	$0.1244/kW-Month		
(v) Additional Performance Incentive, if COD is on or before 15 days prior to the Required Commercial Operation Date	$0.0311/kW-Month		

Appendix A Annual Availability, Tariffs and Guaranteed Heat Rates

Annual Availability of the Facility (Guarantee)

Table A.1: Annual Availability of the Facility (Guarantee) Table -

Agreement Period	Annual Availability (%)	Guaranteed Maximum Forced Outage Hours	Guaranteed Maximum Total Outage Hours (h)
Contract Year 1	96.61	175.2	296.95
Contract Year 2	92.50	175.2	656.95
Contract Year 3	96.61	175.2	296.95
Contract Year 4	97.98	175.2	176.95
Contract Year 5	91.68	175.2	728.95
Contract Year 6	97.98	175.2	176.95
Contract Year 7	97.16	175.2	248.95
Contract Year 8	97.98	175.2	176.95
Contract Year 9	93.05	175.2	608.95
Contract Year 10	97.16	175.2	248.95
Contract Year 11	97.98	175.2	176.95
Contract Year 12	91.68	175.2	728.95
Contract Year 13	97.98	175.2	176.95
Contract Year 14	97.16	175.2	248.95
Contract Year 15	93.05	175.2	608.95
Contract Year 16	97.98	175.2	176.95
Contract Year 17	97.16	175.2	248.95
Contract Year 18	97.98	175.2	176.95
Contract Year 19	91.68	175.2	728.95
Contract Year 20	97.98	175.2	176.95
Contract Year 21	97.16	175.2	248.95
Contract Year 22	93.05	175.2	608.95
Contract Year 23	97.98	175.2	176.95
Contract Year 24	97.16	175.2	248.95
Contract Year 25	97.98	175.2	176.95
Average	96.11	175.2	341.11

* Note: This Table A.1 above for years with the steam turbine major overhaul is calculated based on the shutdown for maintenance of all gas turbines and steam turbines at the same time. If the maintenance scheme is changed at the request of GPA, the availability guarantee for a year with steam turbine maintenance shall be decreased by 0.67% if one 1 gas turbine is operated in simple cycle during steam turbine major overhaul and by 1.34% if two gas turbines are operated in simple cycle during the steam turbine major overhaul.

A.1.1 Annual capacity factor

Notwithstanding Article 9.2(b) of the ECA, GPA's right to issue Dispatch Instructions is subject to compliance with environmental Laws and any applicable environmental Government Authorizations, including air permits (collectively "**Emission Limits**"). The annual capacity factor for the Facility shall be limited to the extent restricted by the Emission Limits:

- 85% on both ULSD and NG operation for Contract Years without steam turbine maintenance
- From 58% through 64% on ULSD, 83% on NG for Contract Years with steam turbine maintenance depending on the number of startups/shutdowns and other operation conditions affecting emissions from the Facility, which is subject to GEPA's approval at the time of the application for relevant Emission Limits.

For avoidance of doubt, the unavailability of Dependable Capacity in whole or in part due to such Emission Limits shall not be considered as Outage Hours.

A.1 Capacity Charge

A.1.1 Fixed Capacity Charge

Table A.2: Fixed Capacity Charge

Agreement Period	Fixed Capacity Charge (USD/kW/month)
Contract Year 1	16.0265
Contract Year 2	16.0265
Contract Year 3	16.0265
Contract Year 4	16.0265
Contract Year 5	16.0265
Contract Year 6	16.0265
Contract Year 7	16.0265
Contract Year 8	16.0265
Contract Year 9	16.4195
Contract Year 10	18.0615
Contract Year 11	19.8676
Contract Year 12	21.8544
Contract Year 13	24.0397
Contract Year 14	24.0397
Contract Year 15	24.0397
Contract Year 16	24.0397
Contract Year 17	24.0397
Contract Year 18	24.0397
Contract Year 19	24.0397
Contract Year 20	24.0397
Contract Year 21	24.0397
Contract Year 22	24.0397

Agreement Period	Fixed Capacity Charge (USD/kW/month)
Contract Year 23	24.0397
Contract Year 24	24.0397
Contract Year 25	24.0397

A.1.2 Fixed Operation and Maintenance Charge

Table A.3: Fixed Operation and Maintenance Charge

Agreement Period	FOMC on ULSD (USD/kW/Month)	FOMC on Natural Gas (USD/kW/Month)
Commercial Operation Date through end of the Term (Facility)	11.5246	7.5735

A.2 Energy Charge

A.2.1 Variable Operation and Maintenance Charge

Table A.4: Variable Operation and Maintenance Charge

Agreement Period	VOMC on ULSD (USD/kWh)	VOMC on Natural Gas (USD/kWh)
Commercial Operation Date through end of the Term (Facility)(VOMC)	0.0016	0.0015

A.2.2 Fuel Charge for Simple Cycle Operation Mode

A.2.2.1 Guaranteed Heat Rates for Simple Cycle Operation on USLD

Table A.5: Guaranteed Heat Rate for Simple Cycle Operation on ULSD at Site Reference Conditions

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
100%	9,836
95%	9,928
90%	10,063
85%	10,246
80%	10,452
75%	10,718
70%	11,011
65%	9,947
60%	10,112

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
55%	10,405
50%	10,762
45%	11,230
40%	11,768
35%	13,052
30%	10,668
25%	11,348
20%	12,406
15%	14,389
10%	18,009
Minimum Load	18,009 (at 10% of Dependable Capacity)

A.2.2.2 Guaranteed Heat Rates for Simple Cycle Operation on Natural Gas

Table A.6: Guaranteed Heat Rate for Simple Cycle Operation on Natural Gas at Site Reference Conditions

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
100%	10,651
95%	10,747
90%	10,903
85%	11,104
80%	11,338
75%	11,619
70%	11,919
65%	10,797
60%	11,008
55%	11,302
50%	11,701
45%	12,203
40%	12,775
35%	13,620

LDS

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
30%	11,276
25%	11,993
20%	13,073
15%	15,175
10%	19,090
Minimum Load	19,090 [at 10% of Dependable Capacity]

* Use Linear Interpolation when the load values fall between the stated percentages

A.2.3 Fuel Charge for Combined Cycle Operation Mode

A.2.3.1 Guaranteed Heat Rates for Combined Cycle Operation on ULSD

Table A.7: Guaranteed Heat Rate for Combined Cycle Operation on ULSD at Site Reference Conditions

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
100%	6,648
95%	6,657
90%	6,684
85%	6,750
80%	6,790
75%	6,877
70%	6,985
65%	6,694
60%	6,727
55%	6,811
50%	6,949
45%	7,149
40%	7,449
35%	8,041
30%	7,434
25%	7,754
20%	8,313
15%	9,367
10%	11,352
Minimum Load	11,352

* Use Linear Interpolation when the load values fall between the stated percentages

A.2.3.2 Guaranteed Heat Rates for Combined Cycle Operation on Natural Gas

Table A.8: Guaranteed Heat Rate for Combined Cycle Operation on Natural Gas at Site Reference Conditions

Percent of Dependable Capacity	Guaranteed Heat Rate (HHV) (Btu/kWh)
100%	6,771
95%	6,810
90%	6,840
85%	6,902
80%	6,962
75%	7,058
70%	6,776
65%	6,836
60%	6,881
55%	6,988
50%	7,137
45%	7,348
40%	7,644
35%	8,240
30%	7,600
25%	7,945
20%	8,529
15%	9,593
10%	11,647
Minimum Load	11,647

* Use Linear interpolation when the load values fall between the stated percentages

[All the correction curves below might be modified before submission of Performance Test Procedure based on detail design from OEM]

A.2.4 Heat Rate Correction for Simple Cycle Operation Mode

A.2.4.1 Correction Curve for Simple Cycle (SC) Operation on USLD

Figure A.1: ULSD SC Kdt Correction Factor

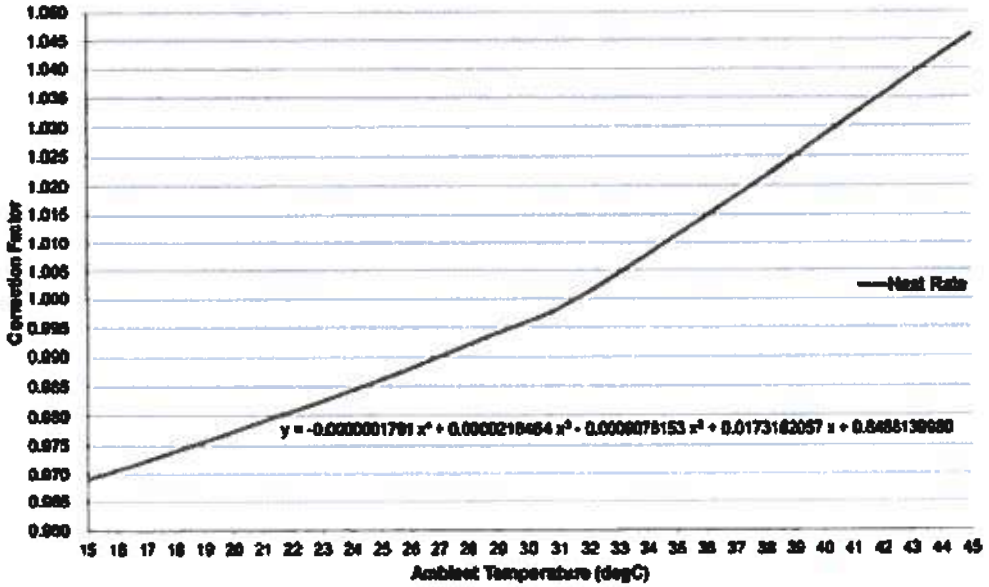


Figure A.2: ULSD SC Kpf Correction Factor

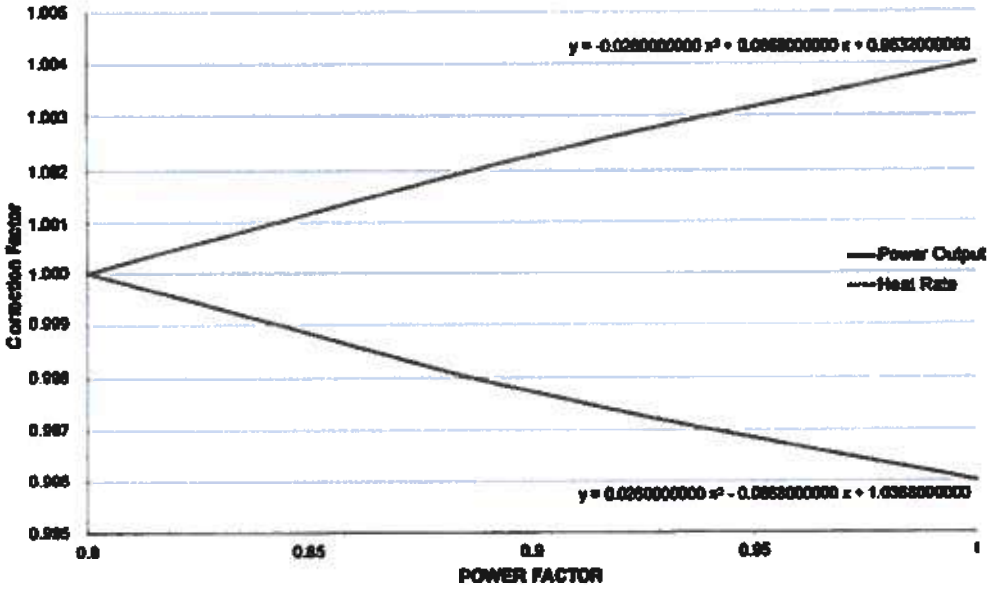
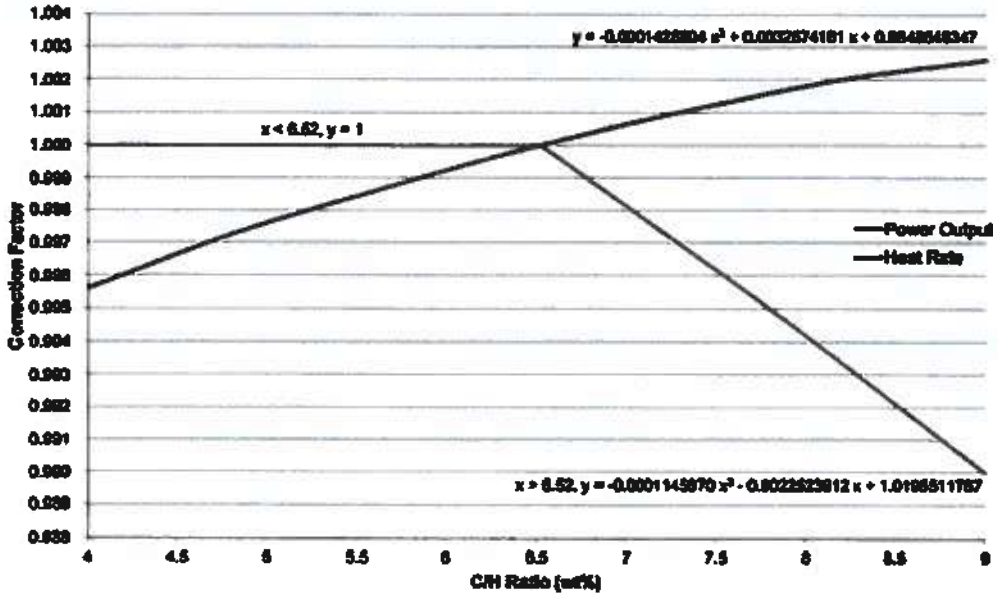


Figure A.3: ULSD SC $K_{C/H}$ Ratio Correction Factor



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A.2.4.2 Correction Curve for Simple Cycle (SC) Operation on Natural Gas

Figure A.4: Natural Gas SC Kdt Correction Factor

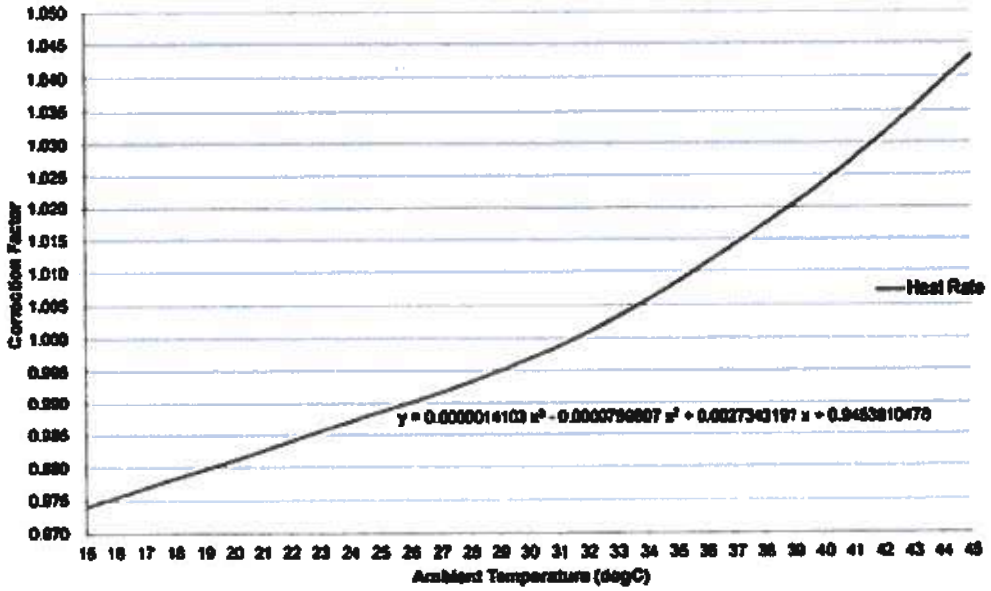


Figure A.5: Natural Gas SC Kpf Correction Factor

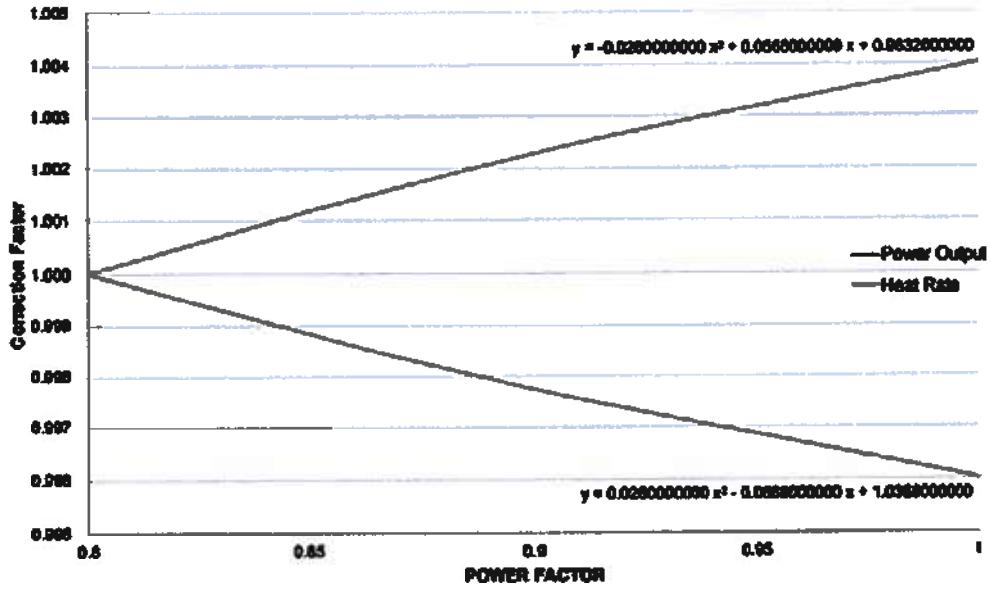
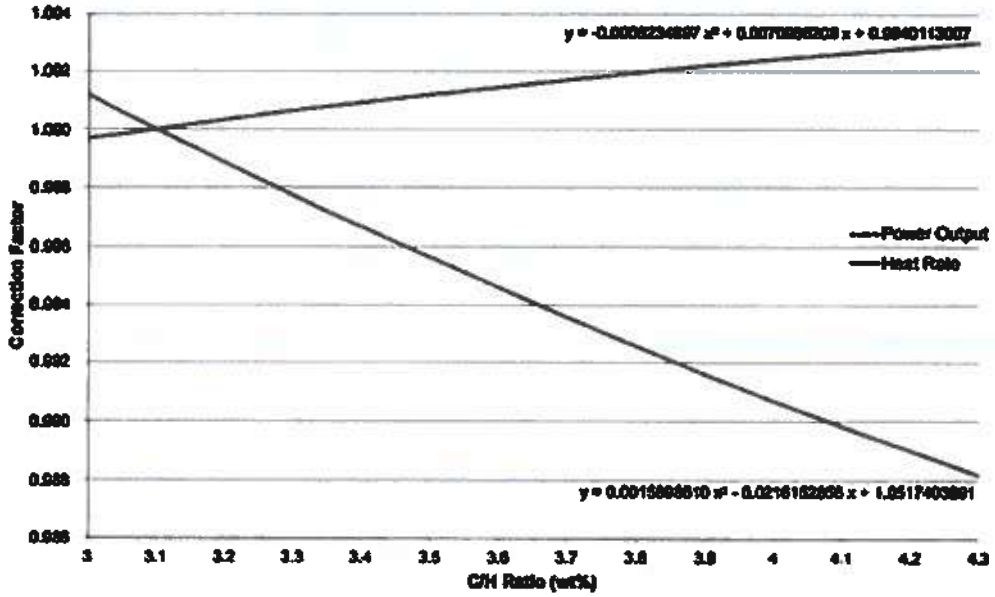


Figure A.6: Natural Gas SC Kc/H Ratio Correction Factor



A.2.5 Heat Rate Correction for Combined Cycle (CC) Operation Mode

A.2.5.1 Correction Curve for Combined Cycle Operation on USLD

Figure A.7: ULSD CC Kdt Correction Factor

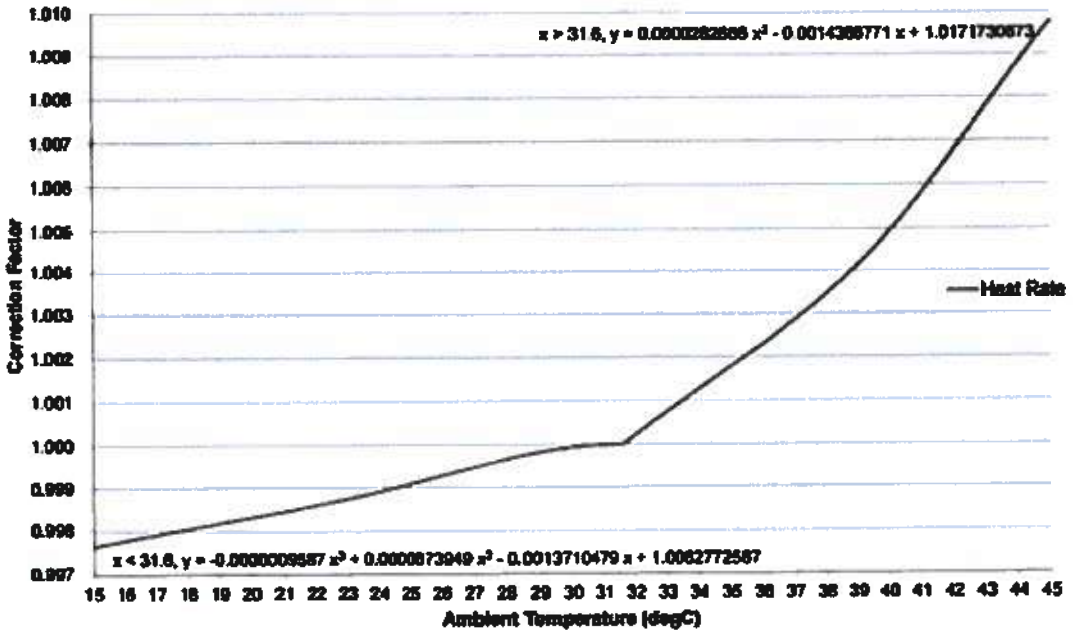


Figure A.8: ULSD CC Krh Correction Factor

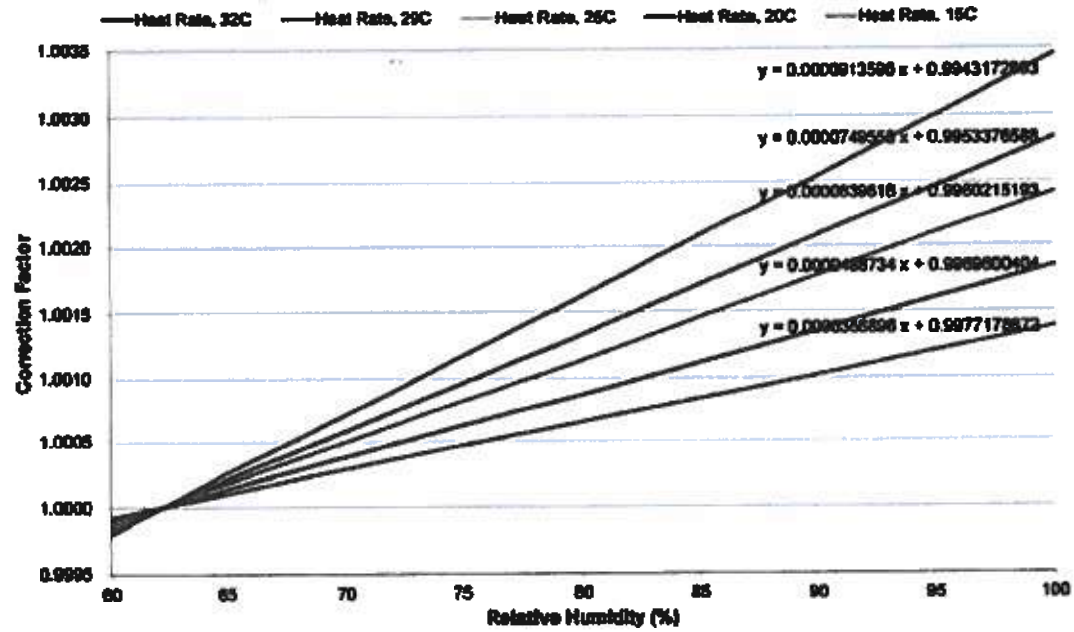


Figure A.9: ULSD CC Kpf Correction Factor

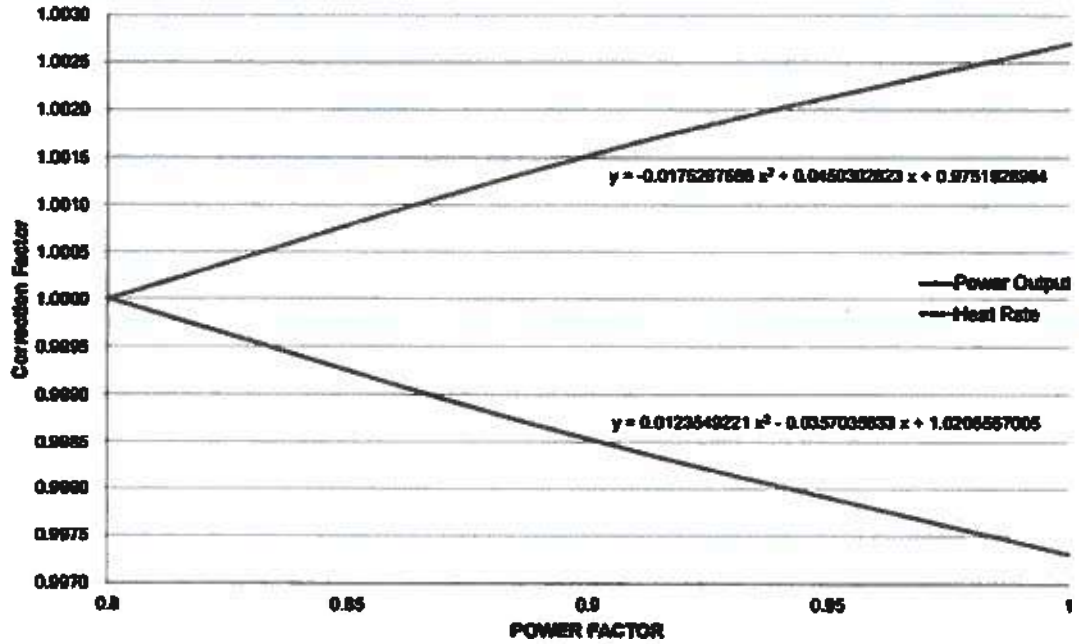


Figure A.10: ULSD CC $K_{C/H}$ Ratio Correction Factor

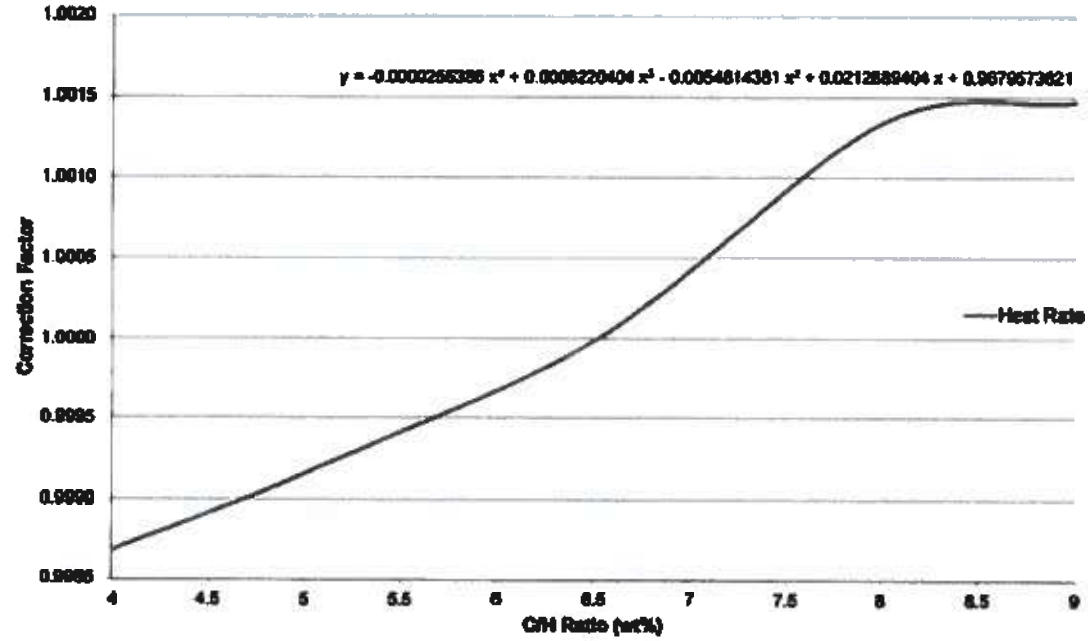
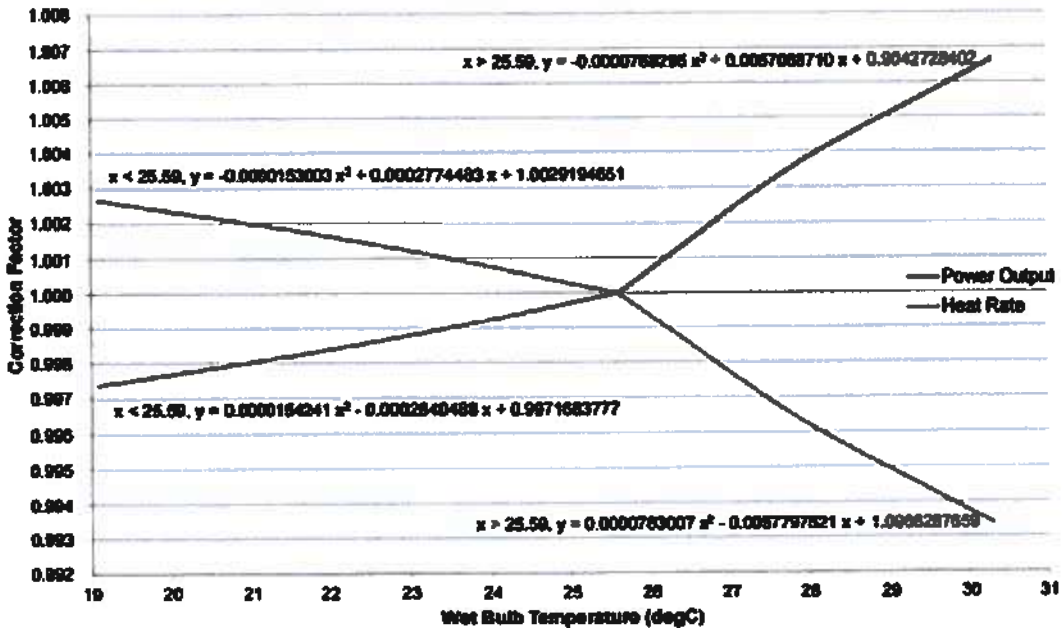


Figure A.11: ULSD CC Kwl Ratio Correction Factor



A.2.5.2 Correction Curve for Combined Cycle Operation on Natural Gas

Figure A.12: Natural Gas CC Kdt Correction Factor

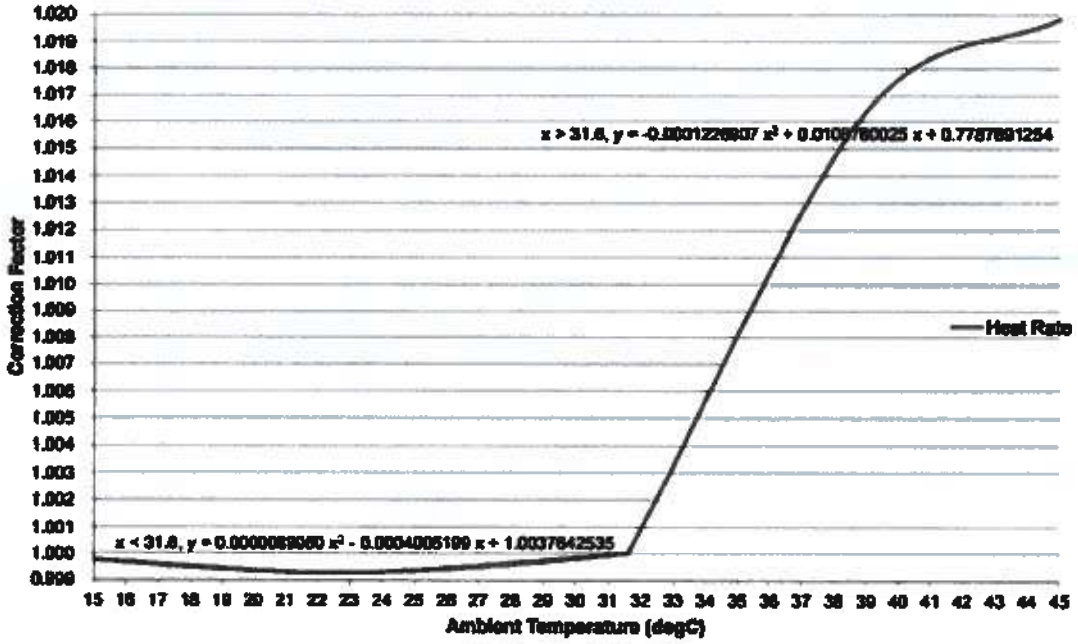


Figure A.13: Natural Gas CC Kth Correction Factor

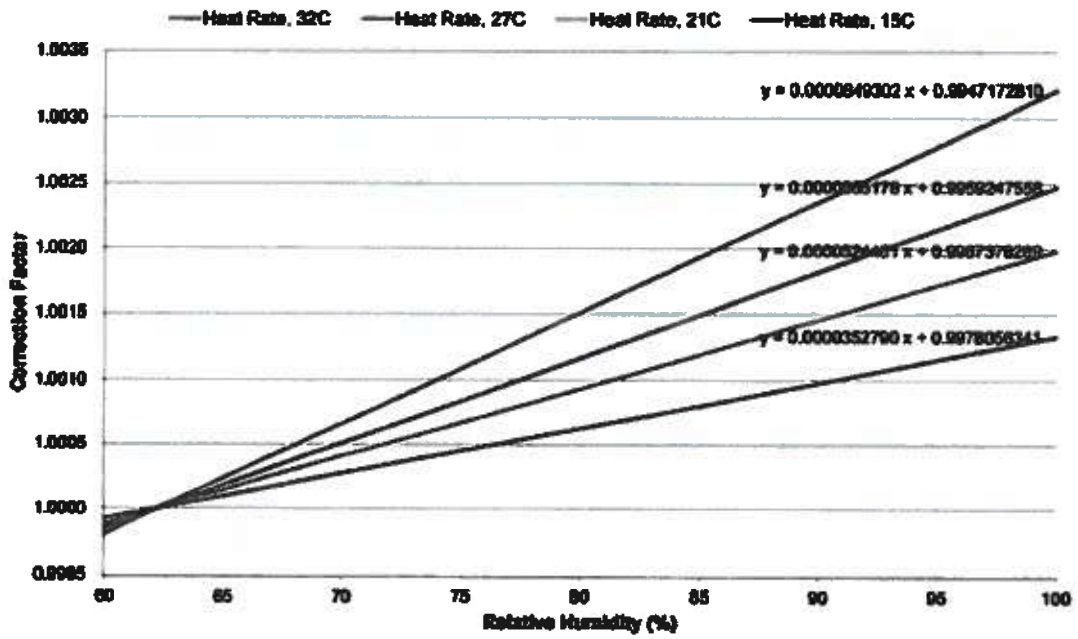


Figure A.14: Natural Gas CC Kpf Correction Factor

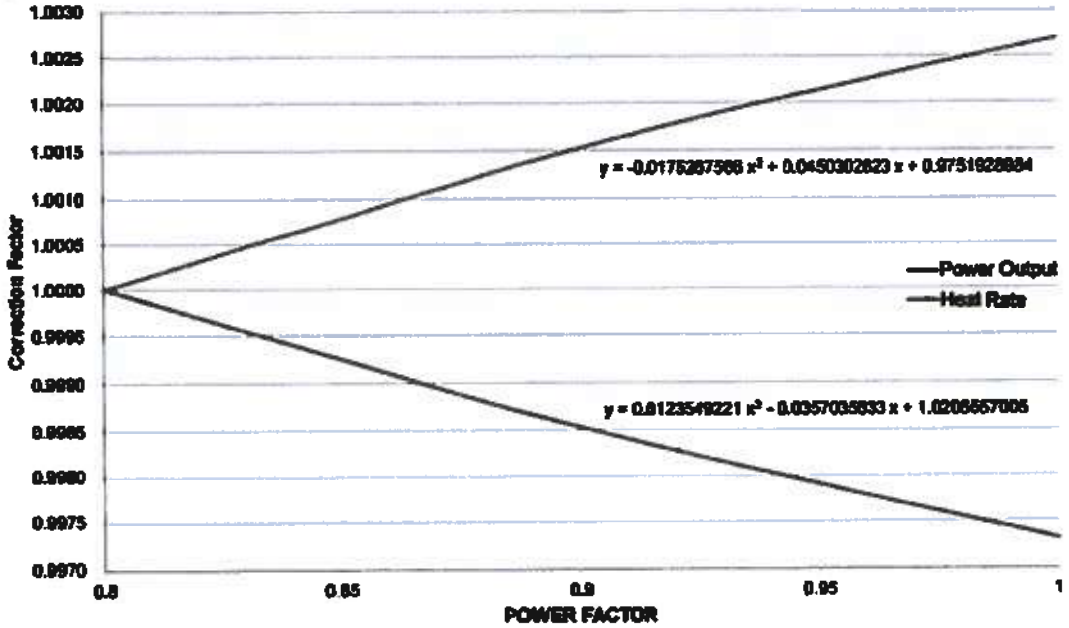


Figure A.15: Natural Gas CC Kc/H Ratio Correction Factor

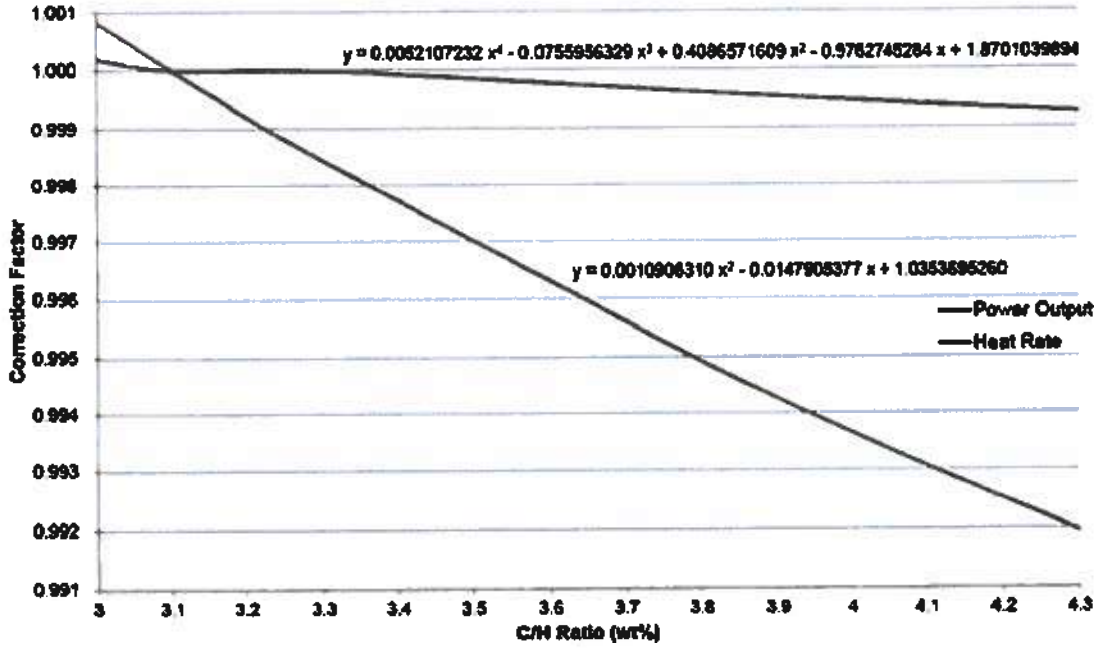


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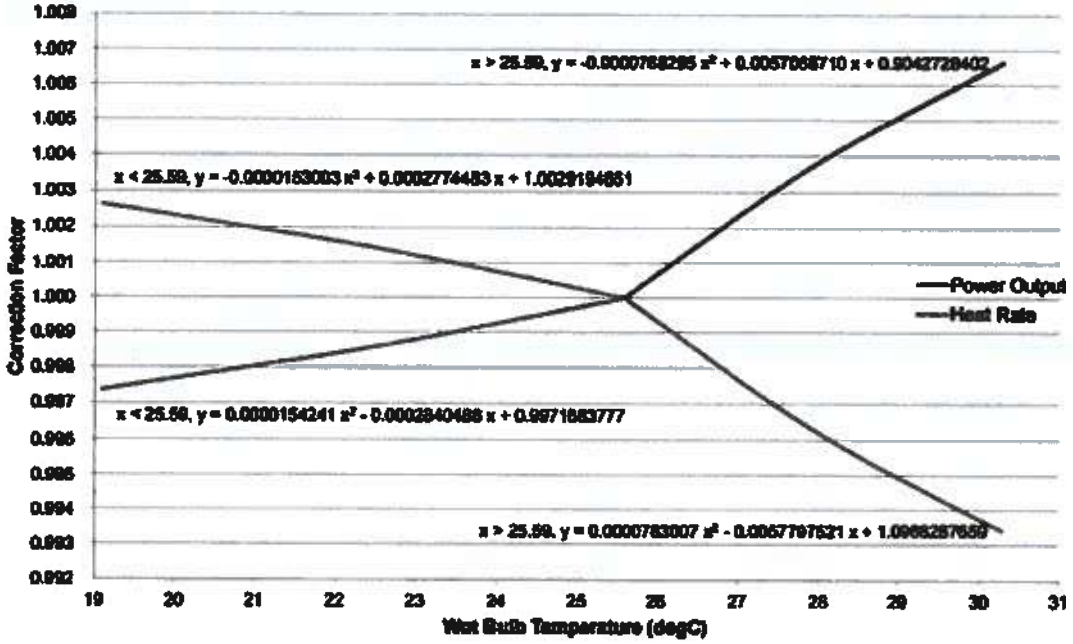
Figure A.16: Natural Gas CC Kwt Correction Factor



A.2.6 Power Output Correction for Simple Cycle Operation Mode

A.2.6.1 Correction Curve for Simple Cycle Operation on USLD

Figure A.17: ULSD Kdl Correction Factor

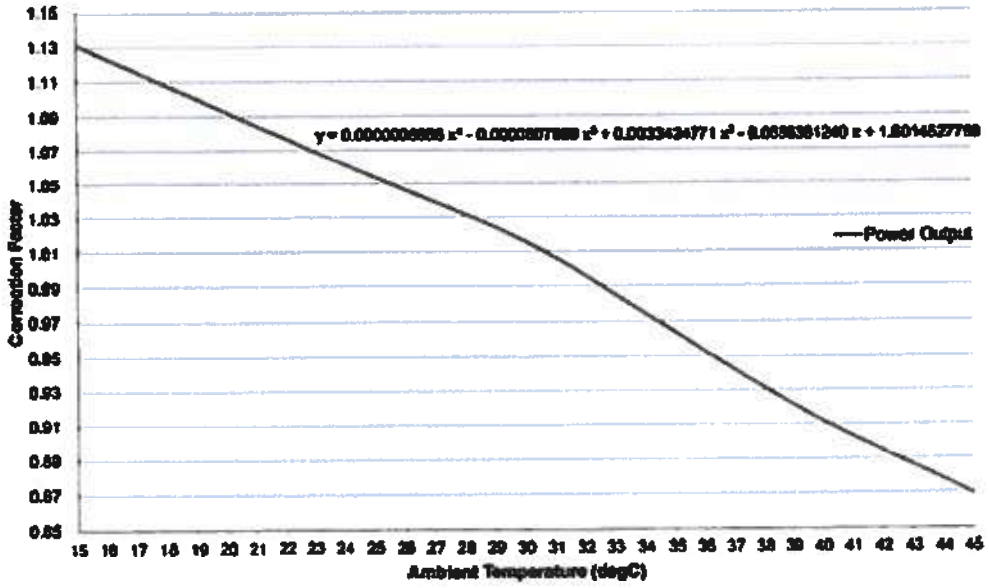


Figure A.18: ULSD Kbp Correction Factor

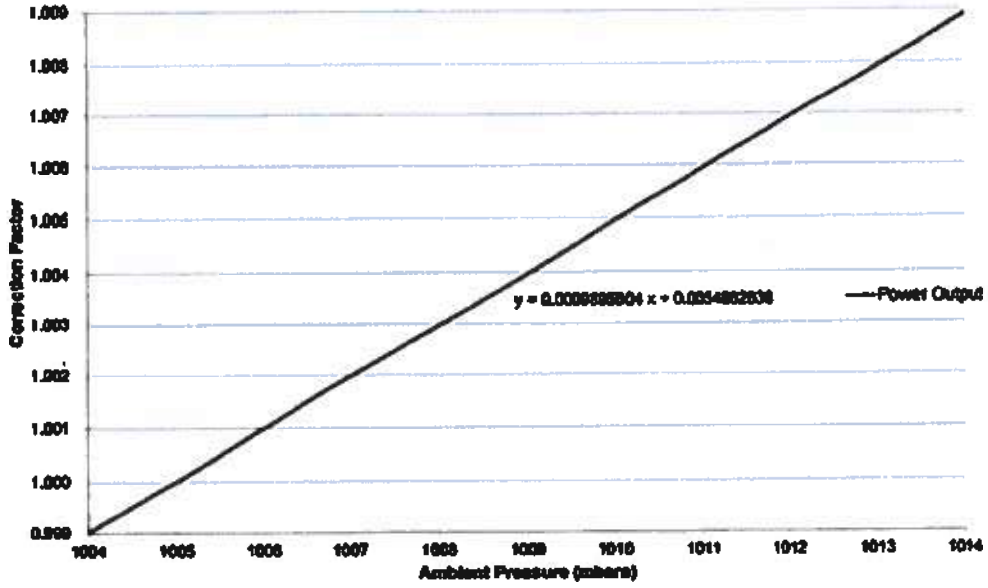


Figure A.19: ULSD Krh Correction Factor

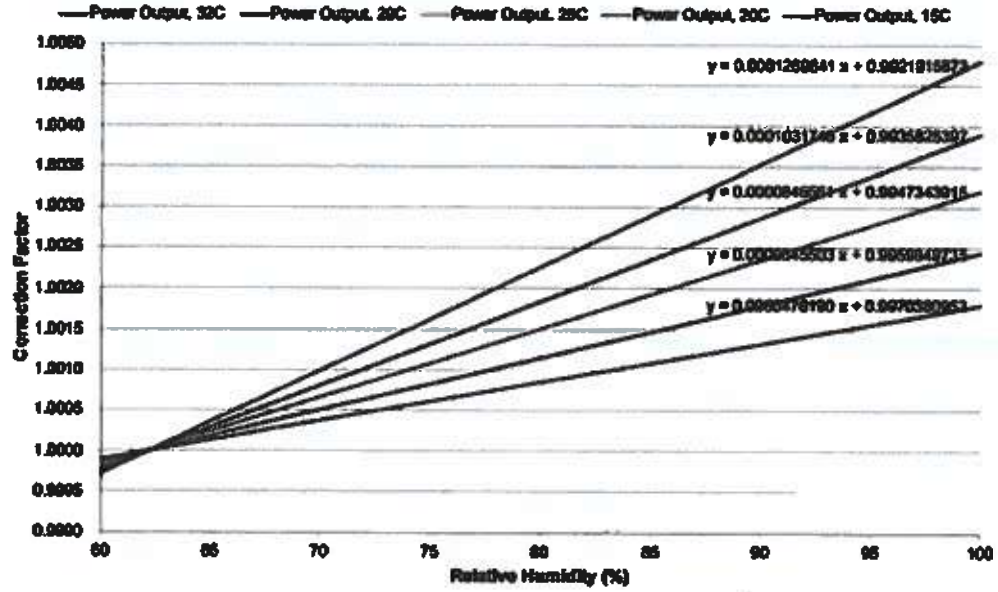


Figure A.20: ULSD Kpf Correction Factor

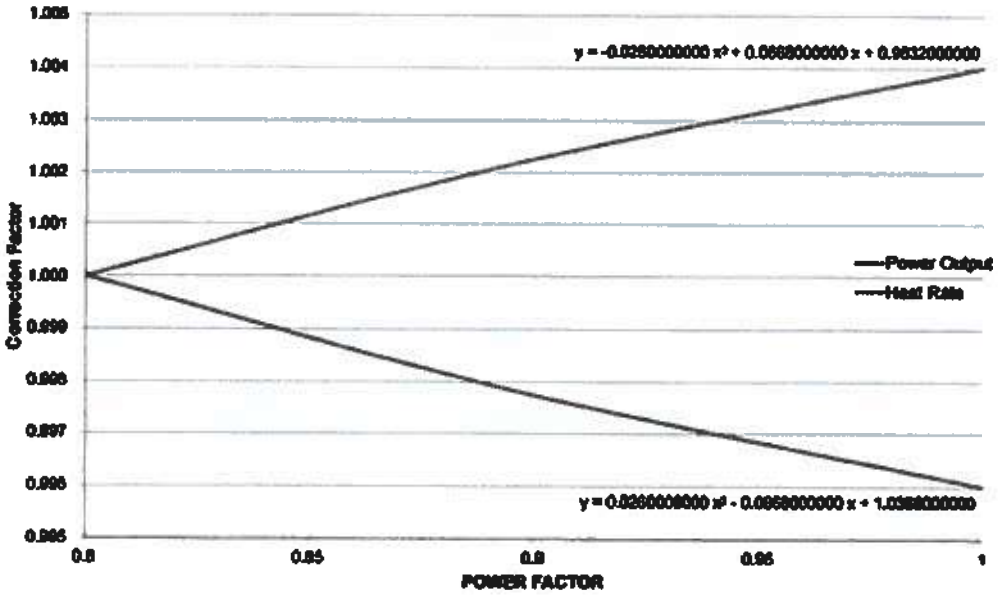
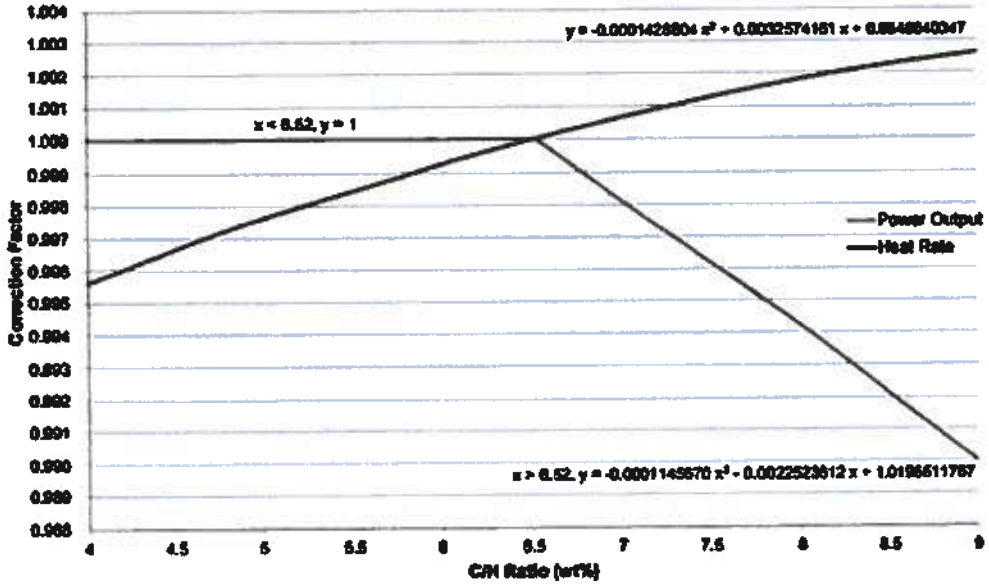


Figure A.21: ULSD Kc/H Ratio Correction Factor



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A.2.6.2 Correction Curve for Simple Cycle Operation on Natural Gas

Figure A.22: Natural Gas Kdt Correction Factor

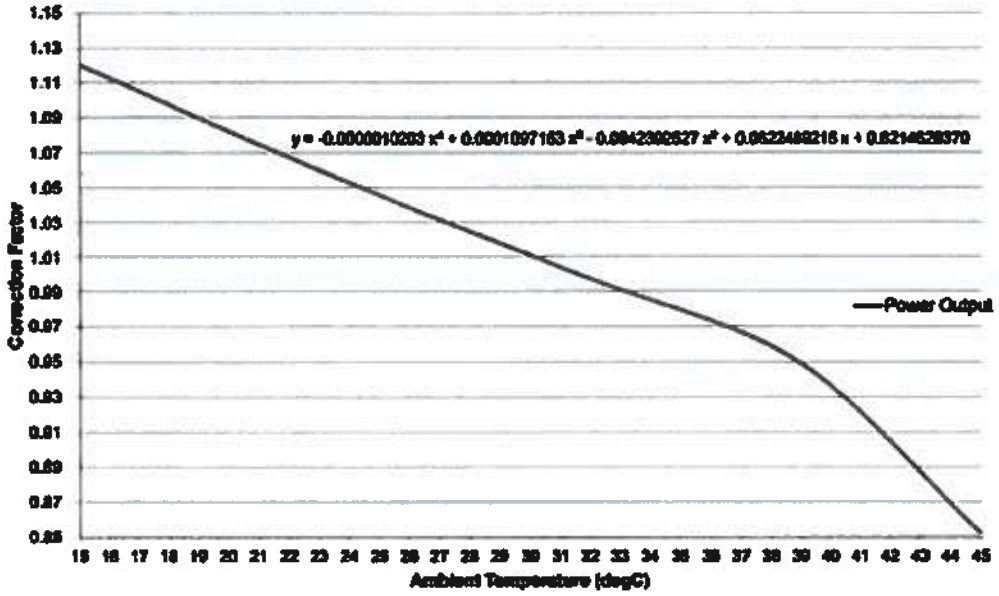


Figure A.23: Natural Gas Kbp Correction Factor

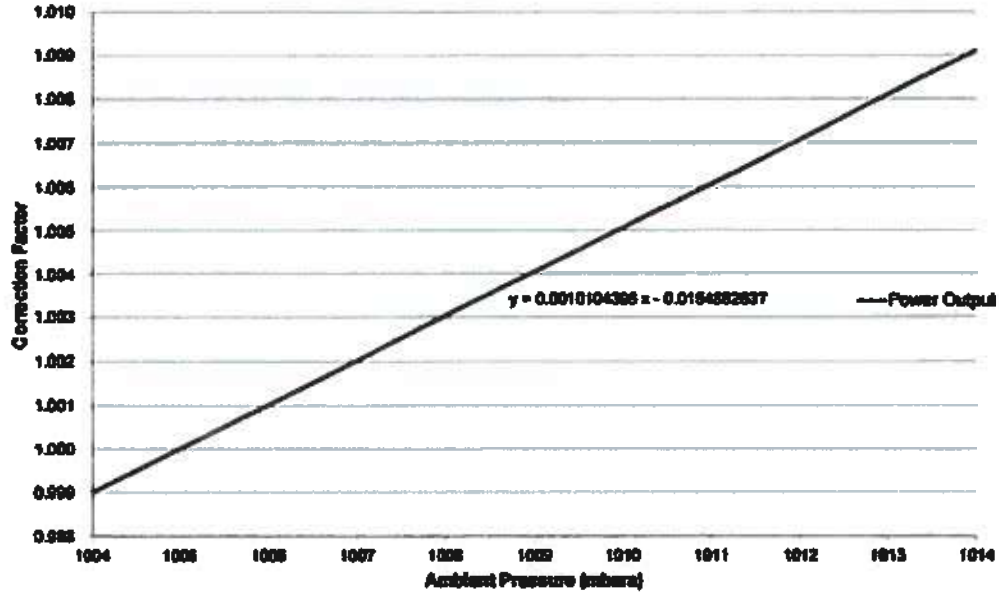


Figure A.24: Natural Gas Krh Correction Factor

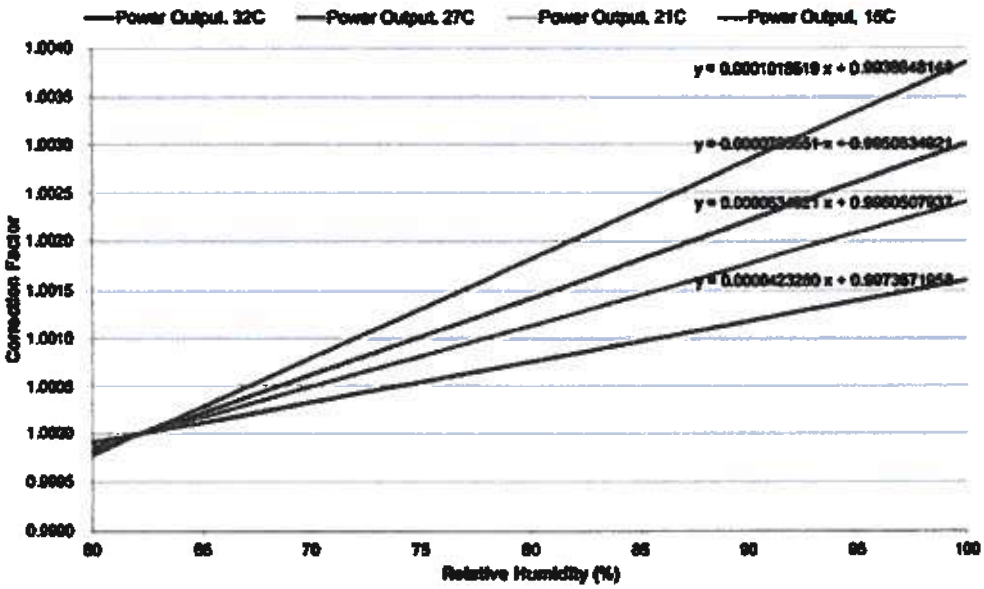


Figure A.25: Natural Gas Kpl Correction Factor

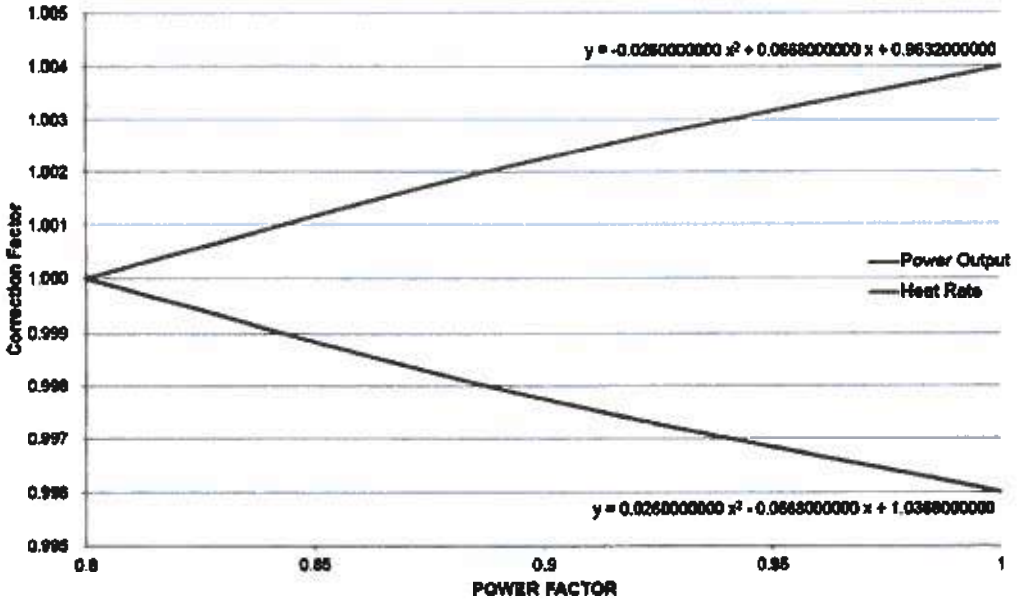
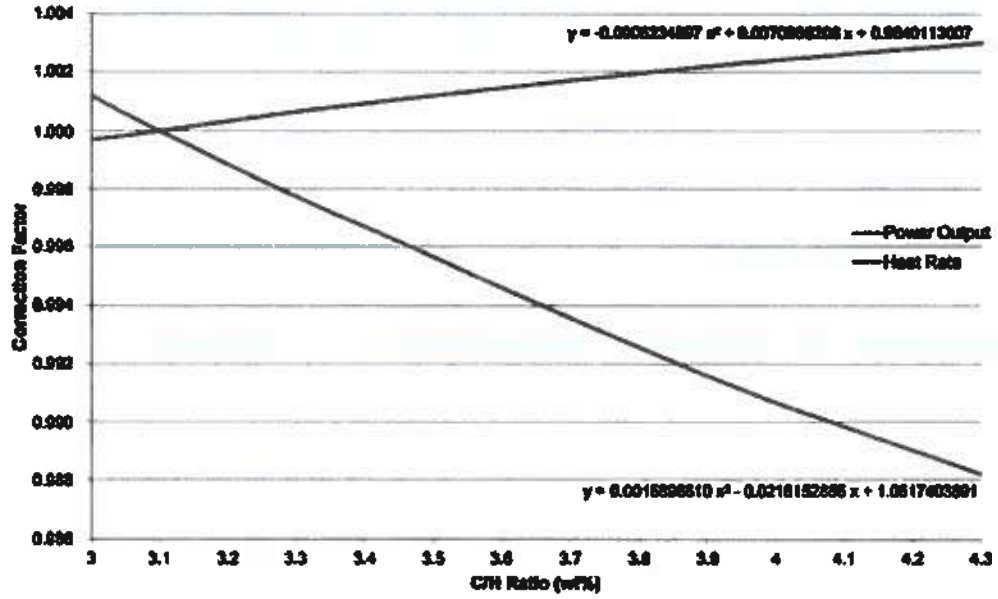


Figure A.26: Natural Gas $K_{C/H}$ Ratio Correction Factor



A.2.7 Power Output Correction for Combined Cycle Operation Mode

A.2.7.1 Correction Curve for Combined Cycle Operation on USLD

Figure A.27: ULSD Kdl Correction Factor

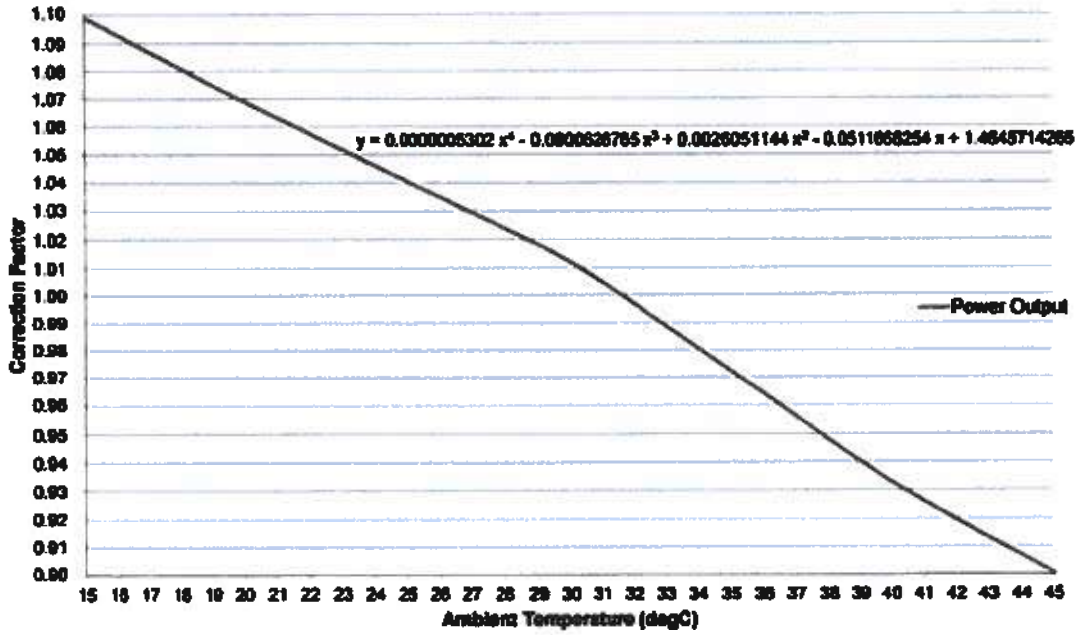


Figure A.28: ULSD Kbp Correction Factor

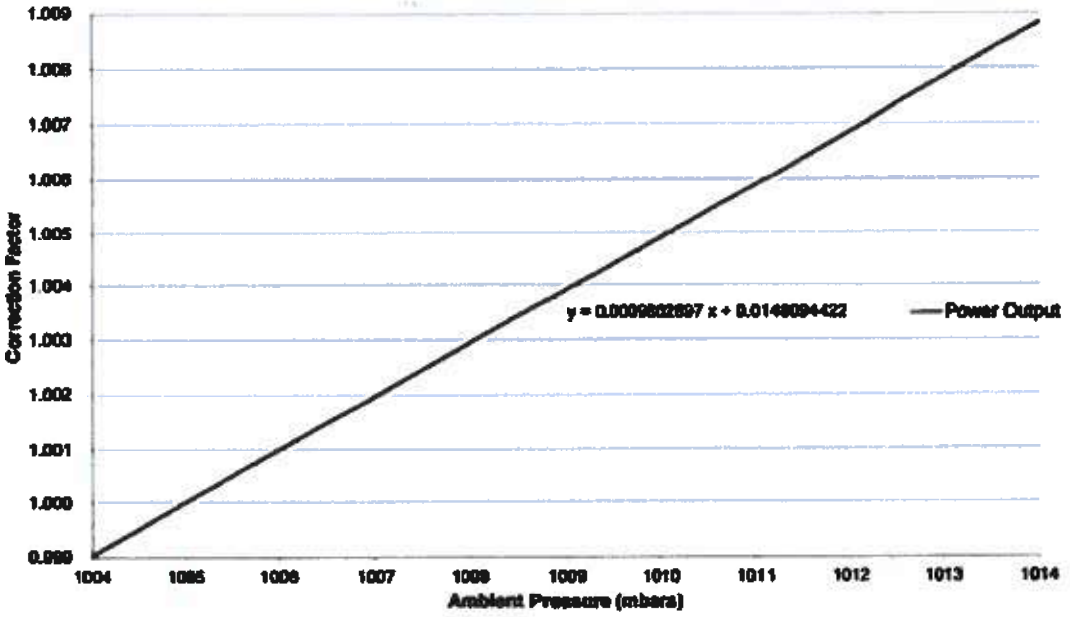


Figure A.29: ULSD Krh Correction Factor

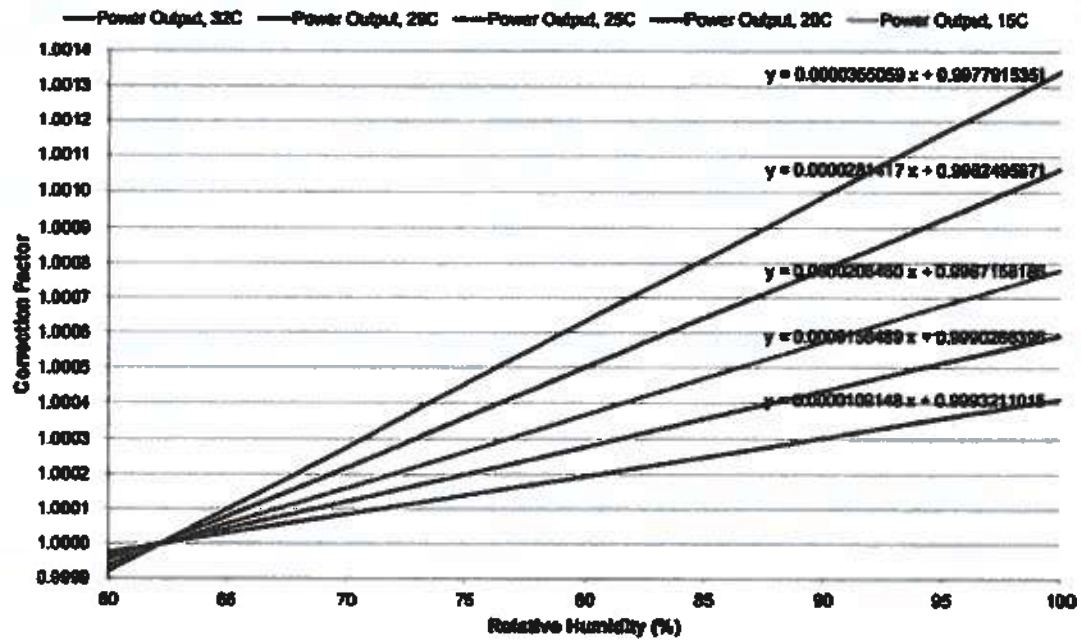


Figure A.30: ULSD Kpf Correction Factor

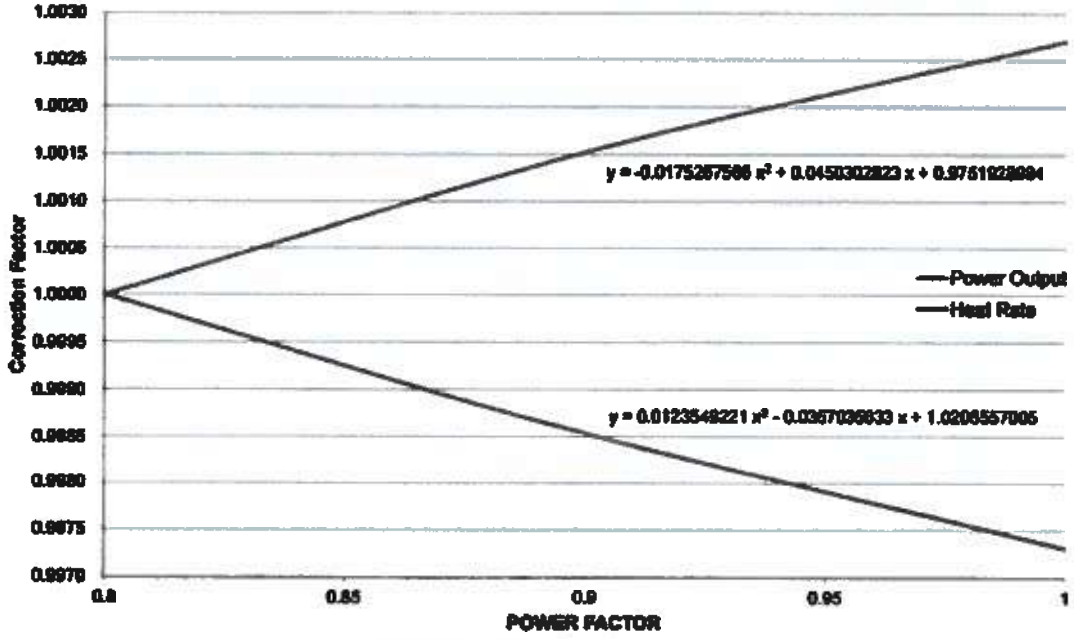


Figure A.31: ULSD Kc/H Ratio Correction Factor

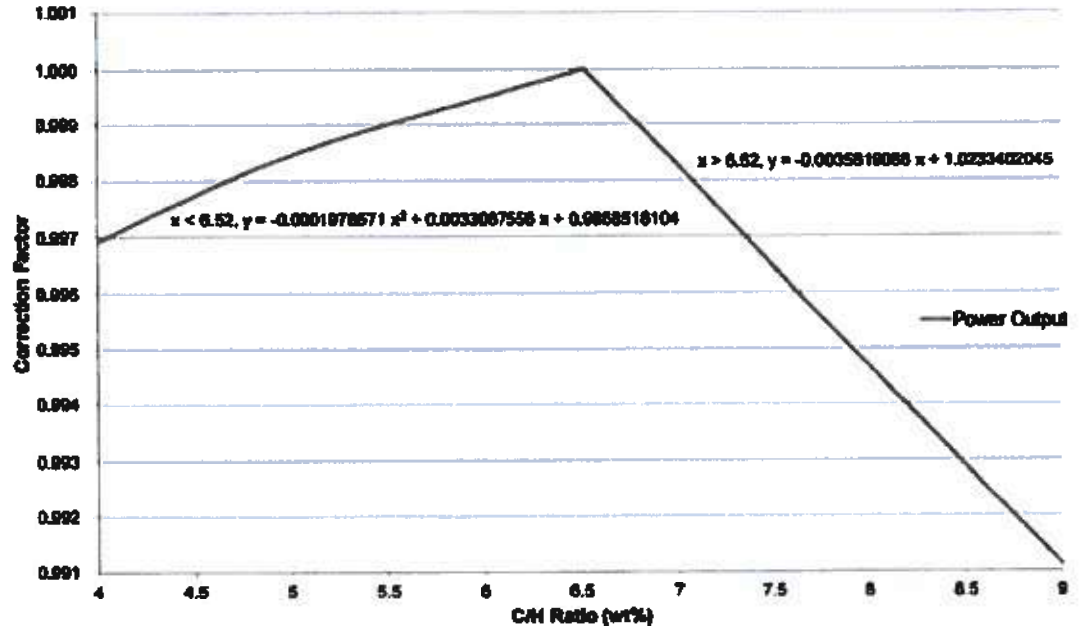
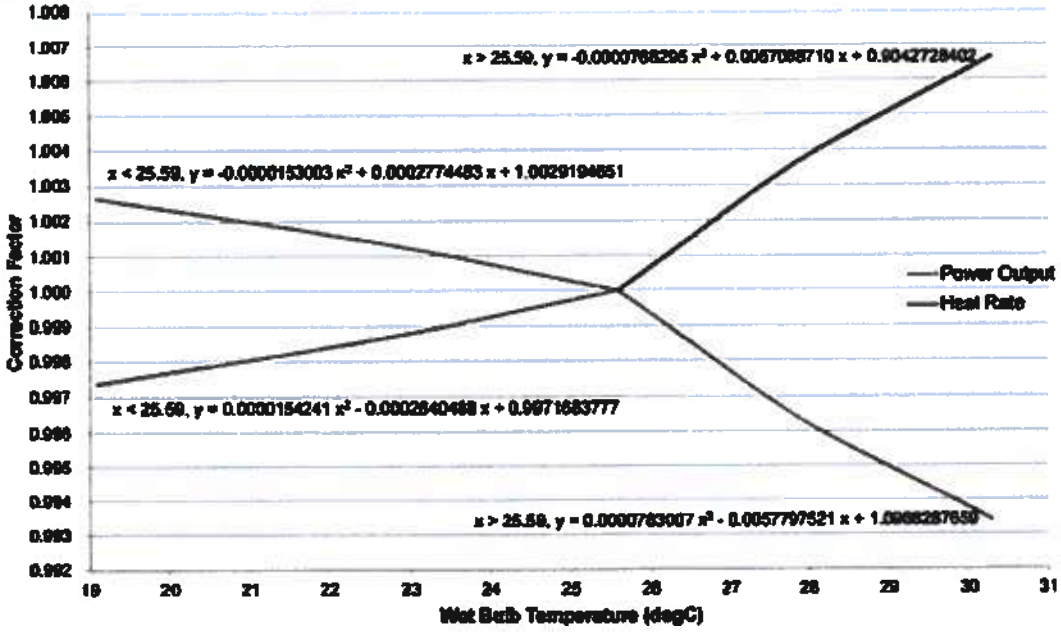


Figure A.32: ULSD Kwi Ratio Correction Factor



A.2.7.1 Correction Curve for Combined Cycle Operation on Natural Gas

Figure A.33: Natural Gas Kdt Correction Factor

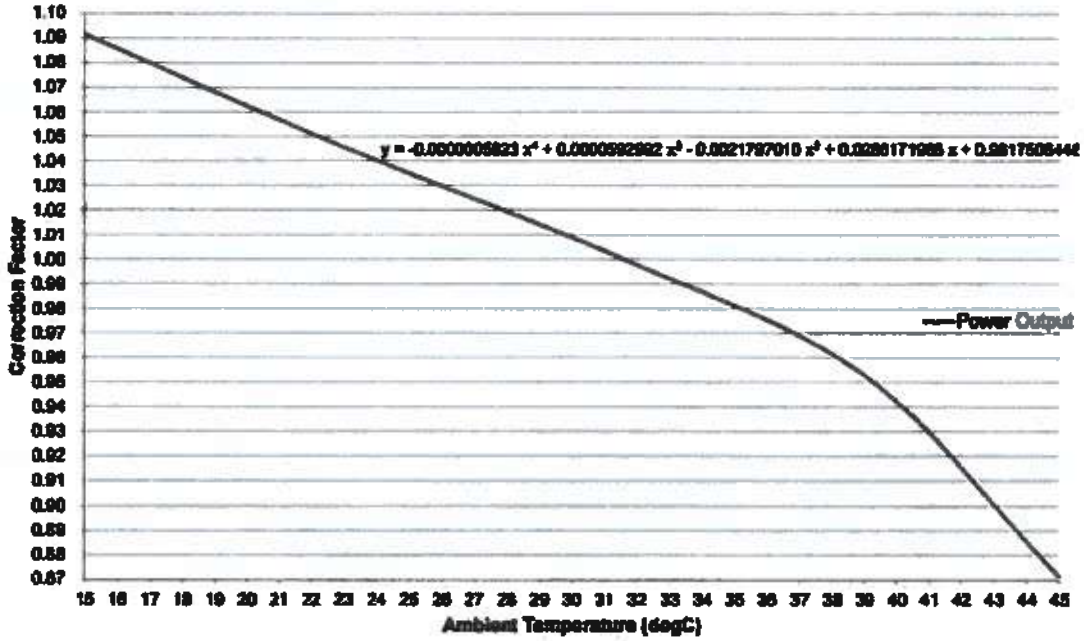


Figure A.34: Natural Gas Kbp Correction Factor

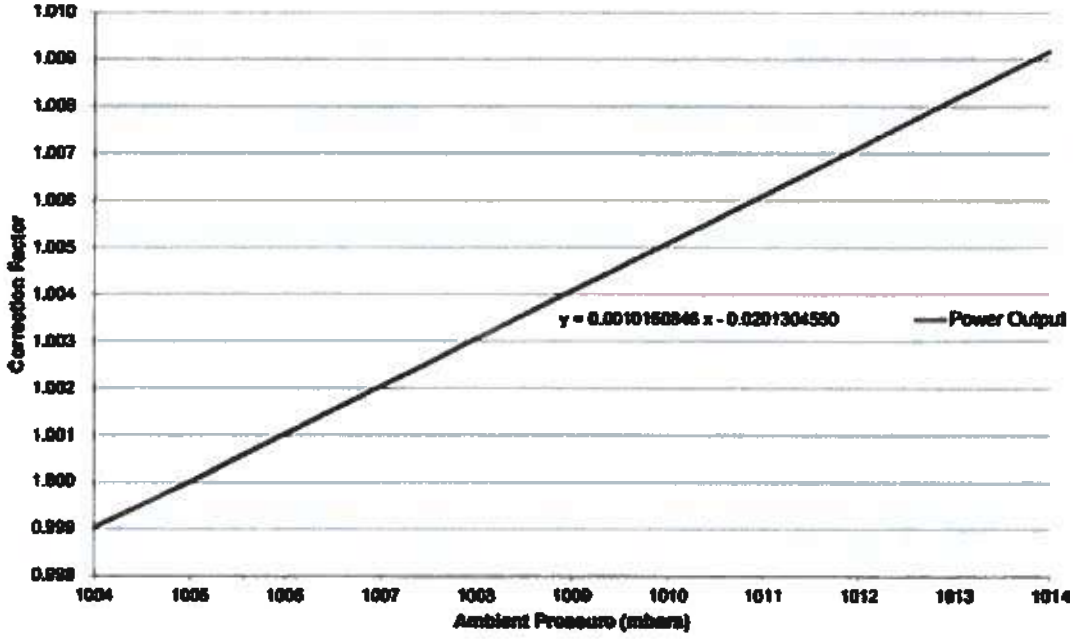


Figure A.35: Natural Gas Krh Correction Factor

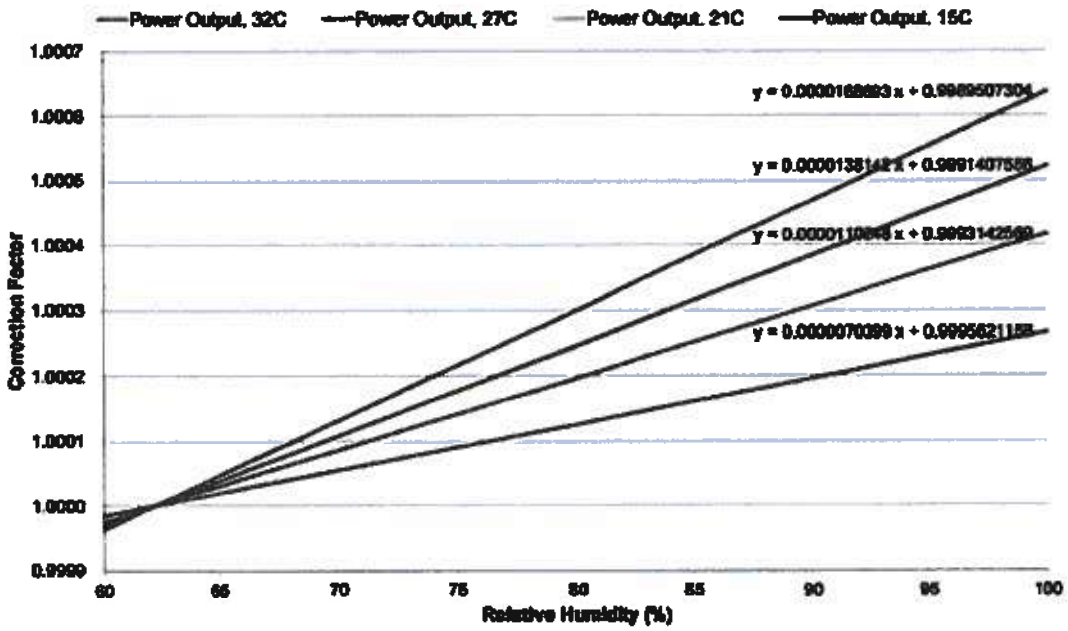


Figure A.36: Natural Gas Kpf Correction Factor

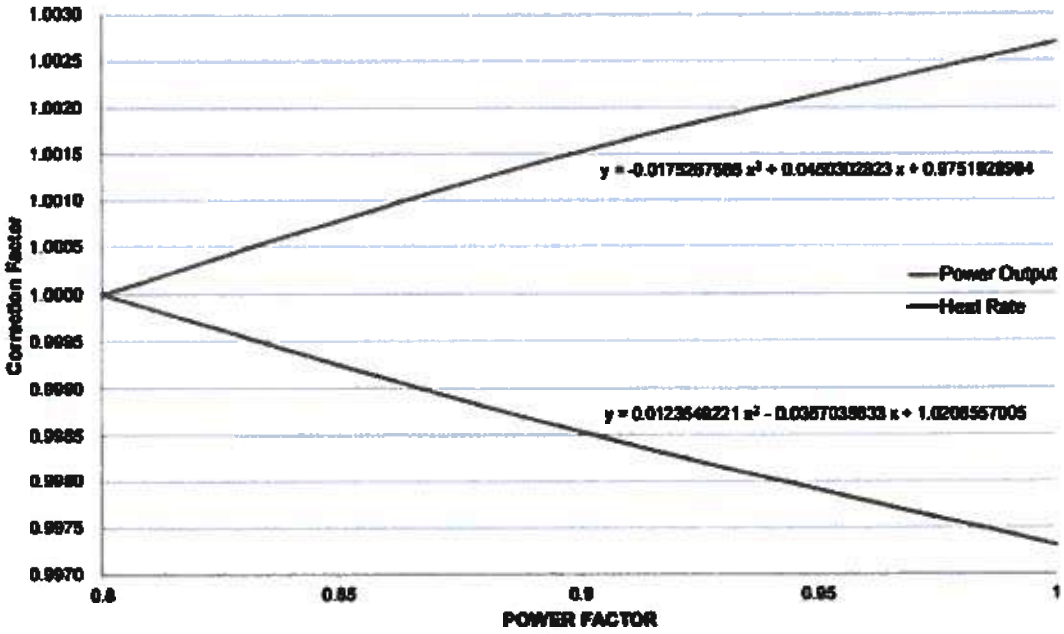


Figure A.37: Natural Gas Kc/H Ratio Correction Factor

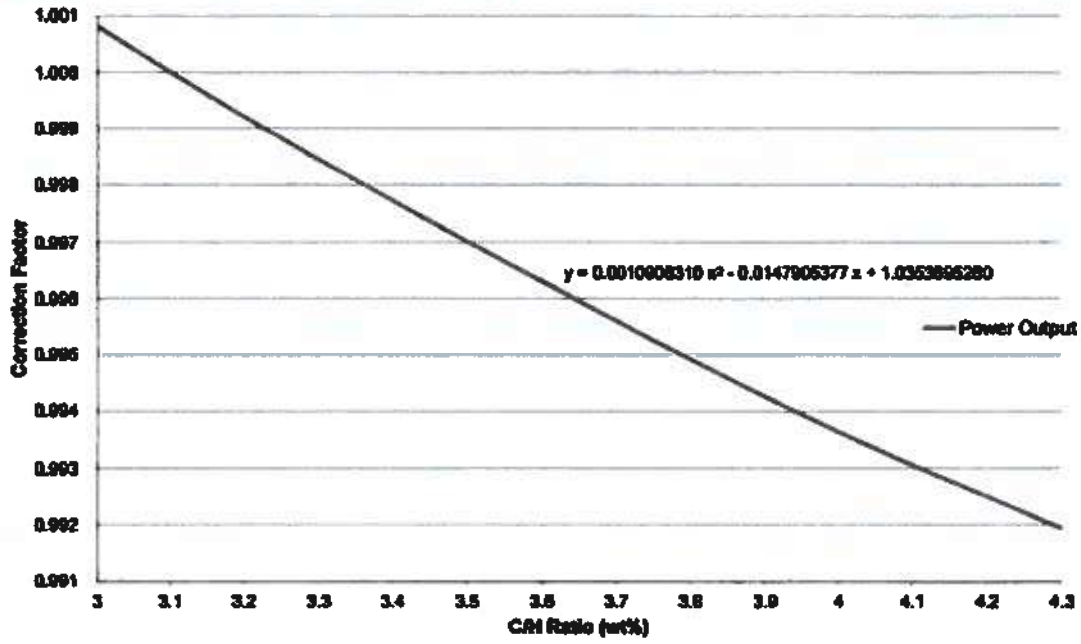
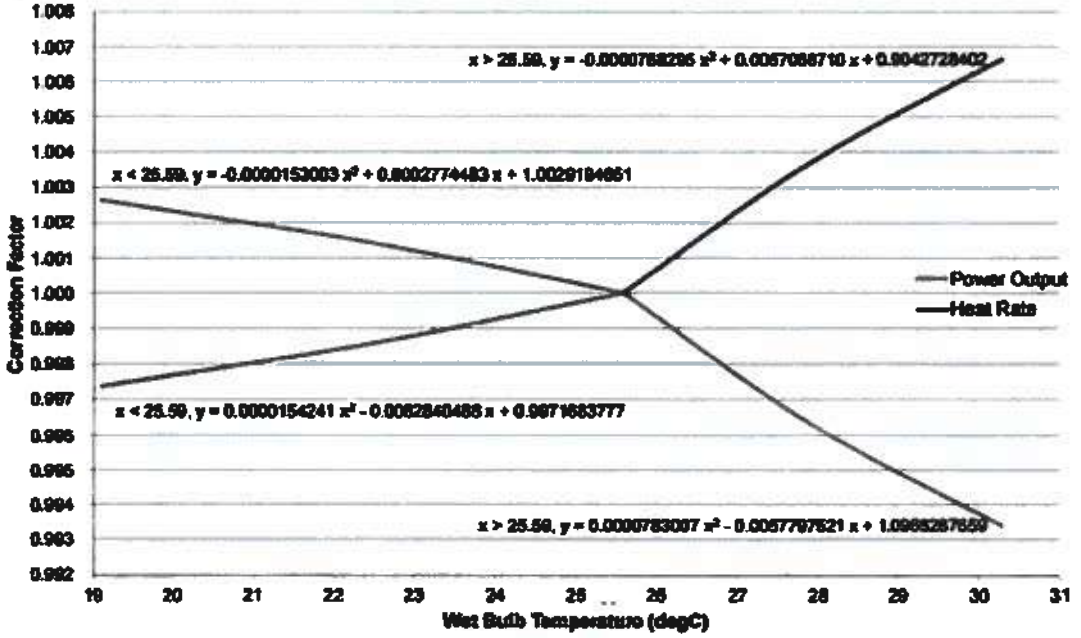


Figure A.38: Natural Gas Kwf Ratio Correction Factor



SCHEDULE 6
ULSD Specification

SCHEDULE 6

ULSD Specification

DESCRIPTION	ASTM TEST METHOD	VALUE
Flash Point	D93	Min. 60 degC
Cloud Point	D2500	Max. 5 degC
Water & Sediment	D2709	Max. 0.05 vol%
Distillation Temp, 10% recovered	D86	180 - 270 degC
Distillation Temp, 50% recovered	D86	230 - 310 degC
Distillation Temp, 90% recovered	D86	282 - 360 degC
Distillation Temp, 95% recovered	D86	300 - 370 degC
Kinematic Viscosity	D445	1.9 ~ 4.1 mm2/s at 40 degC
Total Aromatic Hydrocarbons	D6591 or IP391	Max. 30 wt%
Dicyclic Aromatic Hydrocarbons	D6591	Max. 5 wt%
Tricyclic and higher Aromatic Hydrocarbons	D6591	Max. 1 wt%
Olefin Content	D1319	Max. 5 vol%
Ash	D482	Max. 0.01 wt%
Sulfur	D4294 or D5453 or D7039	Max. 14 ppmw
Sulfur Mercaptan	D3227	Max. 3 ppmw
Copper Strip Corrosion Rating (3hrs min at 50oC)	D130	Max. No. 1
Cetane Index	D613 or D976-80 or D4737	Min. 46
Carbon Residue on 10% distillation residue	D189 or D524 or D4530 or D6371	Max. 0.2 wt%
Lubricity, HFRR @ 60oC	D6079	Max. 400 micron
Conductivity	D2624 or D4308	Min. 100 pS/m Max. 600 pS/m
Density @ 15oC	D4052 or D1298	820 - 850 kg/m3
Gravity, API @ 60oF	D1295 or D4052	35 ~ 41
Color	D1500	Max. 2.0
Hydrogen Sulfide in Liquid	IP 570A	Max. 2.0 mg/kg
Strong Acid No.	D974	Nil
Total Acid No.	D974	Max. 0.2 mg KOH/g
Stability (Oxidation), 16Hrs	D2274	Max. 25 mg/L
Appearance @ ambient temp	D4176	Clear, bright and free from particulates and water

LO5

Haze Rating	D4176	Max. 1
Particulate Matter	D6217	Max. 10 mg/L (Max. 10 micron)
Water content	D6304	Max. 100 mg/kg
Filter Blocking Tendency (FBT)	D2068 or IP387	Max. 1.35
Fatty Acid Methyl Ester (FAME)	7371-14 or EN14078	Max. 0.1 vol%
Guaranteed Heating Value (HHV)	D240	Min. 5.70 MMBTU/bbl
Static Dissipation Additives (Stadis 450)	Declared	Report
Lubricity Additive	Declared	Report
Na	D7111	Less than 0.5 ppmw[1]
K	D7111	Less than 0.5 ppmw[1]
Ca	D7111	Less than 0.1 ppmw
V	D7111	Less than 0.1 ppmw[2]
Pb	D7111	Less than 0.1 ppmw
Ni	D7111	Less than 0.1 ppmw
Zn	D7111	Less than 0.1 ppmw
Cu	D7111	Less than 0.1 ppmw
Ba	D7111	Less than 0.1 ppmw
Others	-	Report to OEM[3]

[1] GPA shall use reasonable efforts to deliver less than 0.1 ppmw of Na and K to meet the Fuel Specification.

[2] A maximum of 0.2 ppmw of V is permitted for a limited operation period of 500 hours per generation unit per Contract Year.

[3] Other contaminants, such as metals, additives, waste oil, lube oil, biodiesel and microorganisms, etc shall be reported to OEM for evaluation

SCHEDULE 7
Natural Gas Specifications

SCHEDULE 7

Natural Gas Specification

DESCRIPTION	VALUE
Nitrogen, N2	0.014 - 0.32 %
Methane, CH4	87.8 - 91.2 %
Ethane, C2H6	4.2 - 8.6 %
Propane, C3H8	1.6 - 3.0 %
n-Butane, C4H10	0.24 - 0.7 %
n-Pentane, C5H12	0.01 - 0.02 %
Hydrogen sulfide, H2S and elemental sulfur, S	Nil
Trace metals (Na, K, etc.)	Nil
Others (carbon monoxide, alkenes, etc.)	Nil
HHV	1115 - 1142 BTU/scf
HHV	41.5 - 42.5 MJ/scm
Wobbe index, WI0 = LHV / (gas density / air density)0.5	22 - 75 MJ/Nm3
Temperature corrected Wobbe index, WIT = WI0 x (273 / gas temperature)0.5	±5 % variation for start-up
WIT variation rate	±0.1 MJ/m3/s
Pressure at terminal point	58~60 barg
Temperature at terminal point (at outlet flange of regasification facility)	[40 - 55] degC
Water dewpoint at 60 barg	-5 degC

SCHEDULE 8
Transfer Price

SCHEDULE 8
Transfer Price

Part A of Schedule 8 – Transfer Price

Reason for Termination Price to be Paid by GPA	Transfer Price
Project Company Event of Default	**Project Company Default Transfer Price** will be equal to the Outstanding Debt.
GPA Event of Default	**GPA Default Transfer Price** will be calculated as the present value of future Fixed Capacity Charge payments from the date of termination of the Agreement until the end of the Term of the Agreement, calculated at a discount rate of five percent (5%) per year, plus Termination Payments, provided that in no event shall such amount be less than the Outstanding Debt plus Termination Payments.
Termination by GPA for convenience	**Early Transfer Price** will be calculated as the present value of future Fixed Capacity Charge payments from the date of termination of the Agreement until the end of the Term of the Agreement, calculated at a discount rate of five percent (5%) per year, plus Termination Payments, provided that in no event shall such amount be less than the Outstanding Debt plus Termination Payments.
Termination due to Prolonged Force Majeure	**Force Majeure Transfer Price** will be equal to the Outstanding Debt plus fifty percent (50%) of the projected equity investment determined as of Financial Close.

In this Schedule:

"Outstanding Debt" means, as of the date of termination:

(a) the lesser of (x) the aggregate principal amount of the Project Company's outstanding debt (including accrued interest and the Project Company's liability to a Lender in respect of any amounts drawn under a letter of credit for debt service reserve, up to an amount, for such amounts drawn under such a letter of credit, not exceeding thirty million Dollars (US$30,000,000) issued by or on behalf of the Project Company and excluding all amounts drawn under an Equity Bridge Loan), (y) after the Commercial Operation Date, the then applicable Outstanding Debt Cap, and (z) the principal amount of the Project loan/s committed by

Lenders pursuant to the Financing Documents as of Financial Close, excluding all amounts drawn under an Equity Bridge Loan (the "**Initial Debt Amount**");

(b) applicable swap breakage cost under the Financing Documents; plus

(c) accrued commitment fees and prepayment and make-whole premiums and penalties (including interest period breakage costs) payable under the Financing Documents.

"**Outstanding Debt Cap**" means for any period, the amount set forth next to such period in Part B of this Schedule 8, provided that such amount shall be increased by the amount of any actual delayed payment or actual non-payment of debt or increased amount of debt arising from a GPA Event of Default or the occurrence of an event of Force Majeure or an Excusable Event or a GPA Delay Event.

"**Termination Payments**" means:

(a) all income, receipts, sales, value added, transfer, property or other taxes and any other costs imposed on the Project Company by any Government Authority as a result of termination of the Agreement or the transfer of the Project Facilities to GPA or payment of the purchase price therefor;

(b) all reasonable and documented amounts payable by the Project Company with respect to each of the Contractors' termination costs for the termination of subcontracts entered into by a Contractor for the engineering, procurement and construction, or the operation and maintenance of the Project Facilities (including, for the avoidance of doubt, the provision of technical services or any other long-term programme or service for the Project Facilities);

(c) all reasonable and documented amounts outstanding and payable by the Project Company to a Contractor upon termination of the Construction Contract or an O&M Contract with respect to work completed or performed by each of the Contractors and not yet paid for by the Project Company and for which no amount of principal of debt or drawing of equity has been incurred; and

(d) all costs and expenses (including any redundancy or severance payments) payable by the Project Company or a Contractor arising from the termination, retrenchment or retirement of their respective employees or contractors in connection with the termination of the Agreement.

Notwithstanding the above, the following costs shall be excluded from the definition of Termination Payments:

(i) costs applicable to the early termination of the LTPA with the LTP Contractor that are in excess of the amounts set forth in the table below. Defined terms in the table below have the meanings given to them in the LTPA with the LTP Contractor:

Milestone	Cancellation Amount per Combustion Turbine
Prior to the first scheduled Level C Inspection	$9,113,466

After the first Level C Inspection and prior to the second scheduled Level C Inspection	$6,126,153
After the second Level C Inspection and prior to the third scheduled Level C Inspection	$3,912,073
After the third Level C Inspection	$1,737,993

(it being acknowledged that GPA shall not be obliged to pay termination costs in respect of the termination of the LTPA to the extent that GPA elects to assume the LTPA pursuant to Article 4.5(h)(iii) of this Agreement);

(ii) costs applicable to the early termination of the Construction Contract that are in excess of the Discretionary Termination Payment (as such term is defined in the Construction Contract) (it being acknowledged that GPA shall not be obliged to pay termination costs in respect of the termination of the Construction Contract to the extent that GPA elects to assume the Construction Contract pursuant to Article 4.5(h)(iii) of this Agreement); and

(iii) costs applicable to the early termination of any other LTPA unless such costs have been previously approved by GPA (it being acknowledged that GPA shall not be obliged to pay termination costs in respect of the termination of such other LTPA to the extent that GPA elects to assume such other LTPA pursuant to Article 4.5(h)(iii) of this Agreement).

LOS

Part B of Schedule 8 - Outstanding Debt Cap

Period	Outstanding Debt Cap (% of Initial Debt Amount)
1	100
2	100
3	100
4	99.4
5	98.3
6	97.3
7	96.1
8	94.9
9	92.6
10	90.1
11	86.6
12	82.7
13	78.4
14	72.6
15	66.6
16	60.3
17	54.0
18	47.8
19	42.3
20	36.7
21	30.7
22	24.5
23	18.0
24	9.3
25	0

SCHEDULE 10
USLD and NG Metering System and Settlement

SCHEDULE 10

ULSD AND NATURAL GAS METERING SYSTEM AND SETTLEMENT

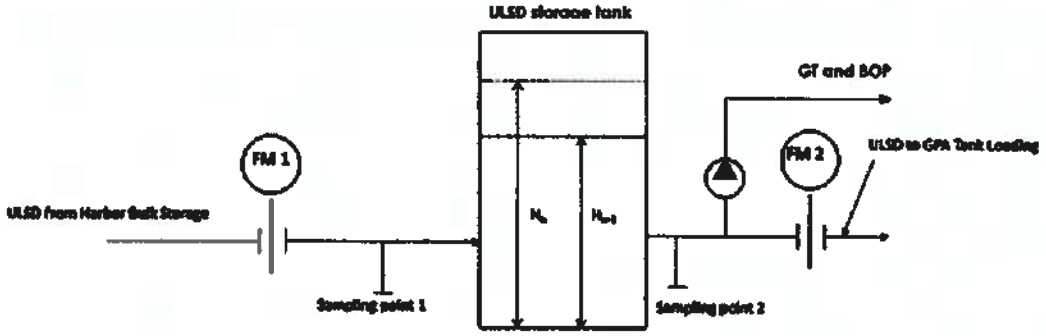
1.1 ULSD Fuel Metering System

The Liquid Fuel Metering System is used to determine the actual total quantity of ULSD Fuel (in MMBtu) consumed by the Facility during the billing period. ULSD metering system will include the following component:

- Flow Metering System
- Storage Tank Level Metering System
- ULSD Sampling System

Schematic of the ULSD Fuel Metering System is presented on Figure 1.

Figure 1: ULSD Metering System Schematic for the Facility



The Flow Metering System shall be capable of obtaining and interpreting readings and performing the adjustments, if required, to comply with the pertinent information concerning ULSD consumption and shall be installed, operated and maintained in accordance with the OMIL R 117-1. The Flow Metering System shall be part of the Facility's control and measurement installations.

1.2 Liquid to be Measured

Measuring systems that are addressed in Schedule 10 shall be used for ULSD as specified in Schedule 6 of the ECA.

The transfer point to the Project Company of the ULSD shall be where the ULSD supply pipeline supplying ULSD from the Bulk Storage located in the ULSD Bulk Storage crosses the Site boundary.

1.3 ULSD Fuel Flow Metering System

1.3.1 ULSD Flow Meter Location (Fuel Measurement Point)

1. Upstream of the ULSD Storage Facilities: A flow meter shown on the above Figure 1 as FM1 shall be located in the ULSD supply line at the boundary of the Facility. The primary meter shall be supplied and installed by the Project Company and the Project Company may supply and install the backup meter.

2. Downstream of the ULSD transfer pumps: A flow meter shown on the above Figure 1 as FM2 shall be located in the line supplying ULSD to GPA truck loading facility. The primary meter shall be supplied and installed by the Project Company and the Project Company may install the backup meter.

1.3.2 Required Meter Class

Turbine meters are subject to bearing wear, fouling, and sensitive to viscosity changes. Ultrasonic meters are sensitive to air pocket entrainment. Coriolis mass flow meters measures mass flow directly with no need to convert from volumetric flow using density. Coriolis mass flow meters have no moving parts and are resistant to fouling.

The following type of metering is required, and to be approved by GPA:

Coriolis mass flow meters with accuracy class and performance meeting the requirements of International Organization for Legal Metrology (OIML) R117-1. Accuracy class for meters shall be 0.3 each in accordance with OIML R 117-1 Section 2.4 Table 1.

1.3.3 Meter Accuracy

The metering system reading accuracies are to be within the tolerances required by OIML R 117-1 Section 2.7 for temperature, pressure, or density. Meters shall be calibrated according to applicable API standards at least every three years in accordance with the ECA Section 13.4 to meet the accuracy class requirements of OIML R117-1.

1.3.4 Data Logging and Transmittal

Mass flow of fuel shall be transmitted to a data log that indicates time and date of the measurement as well as ambient conditions. Each set of primary and backup meters shall be totalized with totalized outputs available for data logging and transmittal.

1.3.5 Security and Redundancy

Flow meters shall be supplied in a set of primary and backup meters for each meter location. Each party to the ECA shall have the right to have one representative present to witness all tests, meter calibration, and measurements.

1.4 ULSD Sampling

The Project Company shall take ULSD samples [minimum of one sample during each billing period if ULSD has been delivered] at the sampling points next to the locations of the flow meters FM1 and FM2 shown on Figure 1 to determine ULSD higher heating value, density, and other characteristics required to calculate ULSD consumption for the purposes of Fuel Charge and to determine ULSD compliance with the ULSD quality requirements specified in Schedule 6. For avoidance of doubt, ULSD heating value for the purposes of calculating Fuel Charge will be determined based on the samples taken from sampling point 2 as shown on the above diagram. All measurements and tests for quality shall be made in accordance with applicable American Society for Testing and Materials (ASTM) test methods, as called for in Schedule 6. ULSD testing must be performed by a third party laboratory. GPA is responsible to ensure that the required testing facilities are locally available in Guam to determine ULSD compliance with the ULSD quality requirements specified in Schedule 6. The cost of testing of all samples at FM1 and heating value at sampling point 2 will be at Project Company's cost and testing of all samples at FM2 at GPA cost. The laboratory shall provide a copy of the results of the test to

both the GPA and the Project Company. A quality assurance system shall be in place for any laboratory facility involved in testing of samples, meter accuracy and meter calibration. Notification of any defect of quality of the ULSD shall be made in writing immediately after such apparent defect is discovered.

1.5 Storage Tank Level Measurement System

Each of the storage tanks installed as part of ULSD Storage Facilities must be equipped with electronic level metering system with accuracy acceptable to both parties to the ECA. The level metering system for each storage tank shall include two sets of meters – primary and backup.

1.6 Storage Tank Drainage

At the bottom of the storage tank water and sludge will accumulate over time which need to be drained periodically by the Project Company. The amount of any such sludge and water shall be determined by measuring the tank level difference before and after the drainage procedure by the Storage Tank Level Measurement System. The drainage amount shall be deducted from the total mass flow calculations of ULSD consumption by the Facility as set out in clause 1.7 of this Schedule. The drainage of the tank shall be performed under witness of GPA's. The timing and coordination with respect to tank draining shall be agreed by the Joint Coordinating Committee and GPA shall always have the right to witness tank draining and be provided with reasonable prior notice thereof.

1.7 Calculating ULSD Consumption by the Facility

The actual monthly ULSD quantity supplied to the ULSD Storage Facilities for n-th billing period shall be calculated using the following formula:

$$TFC_n = TMF_{Fn} \times HHV_{SF2} / 10^6$$

$$TMF_{Fn} = ULSD_{MFM1n} - (FS_n - FS_{n-1}) - FD_n$$

Where

$$FS_n = H_n \times A \times DEN_{SF2n}$$

$$FS_{n-1} = H_{n-1} \times A \times DEN_{SF2(n-1)}$$

$$FD_n = \Delta H \times A \times DEN_{SF2n}$$ and where

TFC_n - total ULSD quantity supplied to the ULSD Storage Facilities during the n-th billing period (in MMBtu)

TMF_{Fn} - total ULSD quantity supplied to the ULSD Storage Facilities during the n-th billing period (in kg)

FS_n - total quantity of ULSD in the ULSD Storage Facilities as measured by the level metering system at the end the n-th billing period (kg)

FS_{n-1} - total quantity of ULSD in the ULSD Storage Facilities as measured by the level metering system at the end of the (n-1)-th billing period (in kg)

FD_n - total quantity of Drainage of the ULSD Storage Facilities as measured during the n-th billing period (in kg)

$ULSD_{MFM1n}$ - total quantity of ULSD as measured by the flow meter 1 during n-th billing period, kg

HHV_{SP2} – ULSD average higher heating value during the n-th billing period as determined at the sampling point 2, Btu/kg

H_n – ULSD level in the ULSD Storage Facilities' storage tank(s) in the end of the n-th billing period, m

H_{n-1} – ULSD level in the ULSD Storage Facilities' storage tank(s) in the end of the (n—1)-th billing period, m

ΔH – ULSD level difference in the ULSD Storage Facilities' storage tank(s) when Storage Tank Drainage is performed

A – ULSD Storage Facilities' storage tank cross-section area, m^2

DEN_{SP2n} - ULSD average density during the n-th billing period as determined at the sampling point 2, kg/m^3

$DEN_{SP2(n-1)}$ - ULSD average density during the (n-1)-th billing period as determined at the sampling point 2, kg/m^3

The actual monthly ULSD quantity taken by GPA from the ULSD Storage Facilities for n-th billing period shall be calculated using the following formula:

$$GPAF_{Tn} = ULSD_{MFFM2n} \times HHV_{2n} / 10^6$$

where

$GPAF_{Tn}$ – ULSD quantity taken by GPA from the ULSD Storage Facilities by truck, MMBtu

$ULSD_{MFFM2n}$ - total quantity of ULSD as measured by the flow meter 2 during n-th billing period, kg

HHV_{2n} - ULSD average higher heating value during the n-th billing period as determined at the sampling point 2, Btu/kg

2 Natural Gas Metering System and Natural Gas Settlement

The Natural Gas Metering System is used to determine the actual total quantity of Natural Gas (in MMBtu) consumed by the Facility during the billing period. The Natural Gas metering system will include the following components:

- Flow Metering System
- On-line Gas Analyzer System

2.1.1 Gas to be Measured

The Natural Gas Metering System that is addressed in this Schedule 10 shall be used for Natural Gas as specified in Schedule 7 of the ECA.

The transfer point to the Project Company of Natural Gas shall be when the NG Fuel Pipeline supplying Natural Gas to the Facility crosses the Facility Site boundary.

2.1.2 Natural Gas Flow Metering and Gas Analyzer System

2.1.2.1 Natural Gas Flow Meter and Gas Analyzer System Location (Fuel Measurement Point)

- The Natural Gas flow meter shall be located within the Facility Site boundary near the location where the NG Fuel Pipeline crosses the Facility Site boundary. The primary meter must be supplied, installed, owned and maintained by GPA Project Company may install Natural Gas backup measurement equipment downstream of GPA's measurement equipment for Natural Gas. In such case, Project Company shall be responsible for installing and maintaining the Natural Gas backup measurement equipment.
- The Natural Gas on-line analyzer system shall be installed near the Natural Gas flow meter location: The primary Natural Gas analyzer monitoring Natural Gas composition and heating value must be installed, owned and maintained by GPA. Project Company may install a backup Natural Gas analyzer downstream of GPA's Natural Gas analyzer. In such case, Project Company shall be responsible for installing and maintaining the backup Natural Gas analyzer.

2.1.2.2 Required Meter Class and Accuracy

The required class and accuracy of the Natural Gas metering system will be determined and agreed by the Parties during the Project design stage.

2.1.2.3 Data Logging and Transmittal

Mass flow, composition, and heating value of Natural Gas shall be transmitted to a data log that indicates time and date of the measurement as well as ambient conditions. Each set of primary and backup meters and analyzers shall be totalized with totalized outputs available for data logging and transmittal.

2.1.3 Right to Witness

Each party to the ECA shall have the right to have one representative present to witness all tests, meter calibration, and measurements.

2.1.4 Natural Gas Settlement

The Natural Gas Fuel consumption by the Facility during the n-th billing period will be determined as follows:

$TFC_n = NG_{MFn} \times NG_{HHVn}$, where

TFC_n = Total Fuel consumed at the Facility in n-th billing period expressed in MMBtu

NG_{MFn} = Total mass flow of Natural Gas measured by the Natural Gas Metering System during the n-th billing period expressed in kg (or lbs)

NG_{HHVn} = Natural Gas average higher heating value measured by the Natural Gas analyzer during the n-th billing period expressed in Btu/kg (of Btu/lb)

SS

LOS

Anthony Camacho, Esq.

From: Anthony Camacho, Esq. <acamacho@guampuc.com>
Sent: Thursday, April 9, 2026 1:46 PM
To: 'Marianne Woloschuk'
Subject: Second Request for Information for GPA Docket No. 26-10

Dear Marianne,

In your petition for the above referenced docket, you stated that the $6,148,441 lump-sum payment to GUP: "is calculated using the same formulas for FOMC and VOMC as were used in Schedule 3-1 to Amendment No. 1, as well as actual energy supplied by Ukudu during the relevant time period according for figures supplied by GUP, plus related services." Please provide me with those actual calculations used to develop the lump sum payment so that I can verify them. Please provide this information to me no later than 5pm on April 10, 2026 so that I can complete my report.

Sincere

ly,

Anthon

y R. Camacho, Esq.

Guam

PUC Legal Counsel
Anthony R. Camacho, Esq.
Legal Counsel
GUAM PUBLIC UTILITIES COMMISSION
Suite 807, DNA Building
238 Archbishop F.C. Flores Street
Hagatna, Guam 96910
Telephone: (671) 472-1907
Email: acamacho@guampuc.com

Outlook

Fw: Second Request for Information for GPA Docket No. 26-10

From Marianne Woloschuk <mwoloschuk@gpagwa.com>
Date Wed 4/8/2026 10:45 PM
To anthony camacho <arcesq@hotmail.com>

1 attachment (54 KB)
GUP Calculation Additional Testing Hours from Oct 1_Dec 14.xlsx;

Good afternoon, Anthony!

Please see attached spreadsheet and explanation from our engineer, below. First tab of spreadsheet contains numbers from the plant and calculations, second tab has information re the technical assistance component of the lump-sum.

If this is unclear, please let me know and I will provide clarification. If you need further information, please let me know that, too?

Thanks very much,

-Marianne

From: Juliana Maria Baza
Sent: Thursday, April 9, 2026 2:37 PM
To: Marianne Woloschuk
Cc: Jennifer Sablan
Subject: Re: Second Request for Information for GPA Docket No. 26-10

Hi Marianne,

Please find the attached excel from GUP.
This excel explains in the table and in the equations:

1. How GUP calculated their hours times the FOMC rate of $1308/hr/unit
2. How GUP calculated their hours times the VOMC rate of $00.20/kWh
3. GPA verified these calcs and agreed to the costs after negotiations.

Here is a snapshot of the table:

[Cost Calculation]

Subject	Case1	
Unit Cost	FOMC $1,308/hr/unit VOMC $0.0020/kWh Doosan-Siemens TA Cost	
FOMC($)	4,121,813	Using FOMC of $1308/hr/unit * 3151.14 hrs/unit
VOMC($)	209,061	Using VOMC of 104,530390 kwH * $0.0020/kWh
Siemens TA	1,817,577	TA Fee for technical assistance (next sheet)
Total($)	6,148,451	TOTAL

Juliana Flores Baza
Guam Power Authority
Engineer III, Operations
jmfbaza@gpagwa.com
W:671-300-8358
C:671-787-6515

From: Marianne Woloschuk
Sent: Thursday, April 9, 2026 2:18 PM
To: Juliana Maria Baza
Subject: Fw: Second Request for Information for GPA Docket No. 26-10

Hi, Juliana! See below. Can you please provide a response to this RFI from PUC LC Anthony Camacho? Thanks very much, -Marianne

---

From: Anthony Camacho, Esq. <acamacho@guampuc.com>
Sent: Thursday, April 9, 2026 1:45 PM
To: Marianne Woloschuk
Subject: Second Request for Information for GPA Docket No. 26-10

Dear Marianne,

In your petition for the above referenced docket, you stated that the $6,148,441 lump-sum payment to GUP: "is calculated using the same formulas for FOMC and VOMC as were used in Schedule 3-1 to Amendment No. 1, as well as actual energy supplied by Ukudu during the relevant time period according for figures supplied by GUP, plus related services." Please

provide me with those actual calculations used to develop the lump sum payment so that I can verify them. Please provide this information to me no later than 5pm on April 10, 2026 so that I can complete my report.

Sincerely,

Anthony R. Camacho, Esq.

Guam PUC Legal Counsel

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Date	GT#1 Gen. Time	GT#1 Grid Support	GT#1 Total Net kWh	GT#1 Support kWh	GT#2 Gen. Time	GT#2 Grid Support	GT#2 Total Net kWh	GT#2 Support kWh	GT#3 Gen. Time	GT#3 Grid Support	GT#3 Total Net kWh	GT#3 Support kWh	ST Gen. Time	ST Grid Support	ST Total Net kWh	ST Support kWh	Plant Total Net kWh	Plant Total Support kWh	Remark
10/1/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	1,003,270.00	1,003,270.00	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/2/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/3/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/4/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/5/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/6/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/7/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/8/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/9/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/10/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/11/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/12/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/13/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/14/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/15/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/16/2025	24:00	24:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/17/2025	24:00	24:00	[illegible]	[illegible]	8:10	8:10	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	09:10H GT#2 Stop for maintenance / GT#1,ST : Grid Support
10/18/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/19/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/20/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/21/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/22/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/23/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/24/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/25/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/26/2025	20:53	20:53	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	20:53	20:53	[illegible]	[illegible]	[illegible]	[illegible]	20:53H GT#1&ST Trip
10/27/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Outage
10/28/2025	9:25	9:25	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	6:33	6:33	113,780.00	113,780.00	444,120.00	444,120.00	GT#1 14:35H, & ST 17:27H Synch and Grid Support
10/29/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/30/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
10/31/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/1/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/2/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/3/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/4/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/5/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/6/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/7/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/8/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/9/2025	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/10/2025	4:01	4:01	[illegible]	[illegible]	0:00	0:00	-	-	0:00	0:00	-	-	4:01	4:01	[illegible]	[illegible]	260,110.00	260,110.00	04:01H GT#1&ST Trip
11/11/2025	0:00	0:00	-	-	3:59	3:59	135,110.00	135,110.00	0:00	0:00	-	-	0:00	0:00	-	-	135,110.00	135,110.00	22:01H GT#2 Synch and Grid Support
11/12/2025	2:58	0:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	8:41	8:41	[illegible]	[illegible]	[illegible]	[illegible]	15:19H ST Synch and Grid Support / GT#1 Comm. SC mode
11/13/2025	1:48	0:00	[illegible]	[illegible]	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support / GT#1 Comm. SC mode
11/14/2025	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/15/2025	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/16/2025	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/17/2025	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	0:00	0:00	-	-	24:00	24:00	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support
11/18/2025	0:00	0:00	-	-	[illegible]	[illegible]	[illegible]	[illegible]	0:00	0:00	-	-	7:39	7:39	[illegible]	[illegible]	[illegible]	[illegible]	Grid Support / CC stop for outage
11/19/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Grid Support
11/20/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Outage
11/21/2025	0:00	0:00	-	-	0:00	0:00	-	-	8:41	0:00	87,560.00	-	0:00	0:00	-	-	87,560.00	-	Outage / GT#3 Commissioning
11/22/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Outage
11/23/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Outage
11/24/2025	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	0:00	0:00	-	-	-	-	Outage
11/25/2025	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	0:00	0:00	-	-	[illegible]	-	Commissioning - Status CHK of GTs after maintenance
11/26/2025	0:00	0:00	-	-	[illegible]	0:00	-	-	[illegible]	0:00	[illegible]	-	0:00	0:00	-	-	[illegible]	-	Commissioning - Cold startup started at night
11/27/2025	0:00	0:00	-	-	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	-	Commissioning - Cold startup and HRSG#3 BFP changeover test
11/28/2025	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	0:00	[illegible]	-	[illegible]	-	Commissioning - Cold startup and all shut down for warm startup
11/29/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	APR warm start up test until first GT Synch(11:00), then grid support
11/30/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Grid support until 18:30, then commissioning at night
12/1/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~08:00 Grid Support, then commissioning until 24:00
12/2/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~08:00 GT#1,3 Grid Support, then commissioning until 24:00
12/3/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~09:00 GT#1,3 Grid Support, then commissioning until 23:00, 23:00~ GT #2,3, ST Grid Supporting
12/4/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~08:00 GT #2,3, ST Grid Supporting / 20:00~ GT#1,2,3 Grid Supporting after commissioning
12/5/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~07:30 GT#1,2,3 Grid Support
12/6/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~12:00 GT #1,2,3 Grid Support / 16:00~24:00 GT#1,3,ST Grid Support
12/7/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~10:00 GT#1,3,ST Grid Support / 13:00~24:00 All Grid Support
12/8/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~18:00 All Grid Support / 23:00~24:00 All Grid Support
12/9/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~11:40 All Grid Support / 22:00~24:00 GT#1,2, ST Grid Support (GT#3 S/D)
12/10/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2,723,940.00	[illegible]	00:00~18:00 GT #1,2,ST, 18:00~18:30 [illegible] Grid Support / 22:00~24:00 All Grid Support
12/11/2025	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1,418,340.00	00:00~18:00 All Grid Support / 22:40~24:00 All Grid Support
12/12/2025	21:38	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	00:00~08:30 All Grid Support
12/13/2025	3:31	2:58	[illegible]	[illegible]	0:00	0:00	-	-	3:52	2:58	[illegible]	[illegible]	2:58	2:58	110,270.00	110,270.00	304,730.00	304,730.00	00:00~02:58 GT#1,3,ST Grid Support
12/14/2025	8:13	0:00	203,860.00	-	8:29	0:00	[illegible]	-	7:32	0:00	157,820.00	-	3:49	0:00	[illegible]	-	[illegible]	-	ST start~
Total	[illegible]	1060:17	[illegible]	[illegible]	677:15	[illegible]	[illegible]	[illegible]	380:57	[illegible]	[illegible]	3,121,380.00	[illegible]	1187:18	[illegible]	[illegible]	124,247,[illegible]	104,630,[illegible]	

Operation Hours	Total Synch. Operation	Grid Support Operation
	3799:24	3151:14
Net Generation	**Total Net Generation (kWh)**	**Grid Support Generation (kWh)**
	124,247,399	104,530,389

[Cost Calculation]

Subject	Cost	
Unit Cost	FOMC $1,308/hr/unit VOMC $0.0020/kWh Doosan-Siemens TA Cost	
FOMC($)	4,121,913	Using FOMC of $1308/hr/unit * 3151.14 hrs/unit
VOMC($)	209,061	Using VOMC of 104,530389 kwH * $0.0020/kWh
Siemens TA	1,517,577	TA Fee for technical assistance (next sheet)

	Draft GPA Offer	FINAL OFFER
	GPA New Offer includes December	GUP Original Ask
FOMC($)	$ 4,121,813.20	$ 4,121,913.20
VOMC($)	$ 209,060.78	$ 209,060.78

Operation Days	Total Synch. Operation	Grid Support Operation
	89	83

Total($)	[illegible]	TOTAL
GMP	937,623	15% Payment Split suggestion
Owners	5,211,029	85% Payment Split suggestion

* LTP Price	Onshore	84.33
	Offshore	158.51
	Subtotal	322.84
Escalation Index for Nov 2023		46.82
Total after Index		385.21

Siemens TA	1	[illegible]	0	1,917,577.39
Total($)	1	[illegible]	0	6,148,491.22

Siemens TA

Exapcted period : 3 month

	No	System	Item	Unit	Q'ty	On/Off	Hour	Unit Price (USD)	Price Amount (USD)
1	Direct Cost								
	1) Material Supply								
	A	Materials (Consummable cost included on Indirect Cost)		Lot	1	On		-	-
	Sub total (Material Supply)								-
	2) Commissioning Work_additioanl assigned people for operation								
	A	Labor and Equipment for Subcontractor (KEPS)_Operation purpose	3 Person x 4 Month	Lot	3	On		-	-
	B	Labor and Equipment for Doosan Commissioning Dept.(Maintemance)	Normal	Lot	3	On		-	-
	C	Labor and Equipment for Doosan Commissioning Dept.(Maintemance)	O/T	Lot	3	On		-	-
	Sub total_(Commissioning Work)								-
	3) Engineering Work								
	A	Engineering work		Lot	1	On		-	-
	Sub total_Engineering Work								-
	4) Additional Commissioning Field Service Specialist Fee for Siemens (Gas Turbine Supplier)						Hour	Rate Fee/Hour	
	A	Siemens TA Fee (Normal Working Day) 5pm-7pm, 7am-8am	2 Person x 3 Month(92 Days x 5/7)	Person	2	On	789	246	387,882
	B	Siemens TA Fee (Normal Working Day) 7pm-7am (30% Premium)	2 Person x 3 Month(92 Days x 5/7)	Person	2	On	789	320	503,960
	C	Siemens TA Fee (Saturday) 5pm-7pm,7am-8am	2 Person x 3 Month(92 Days x 1/7)	Person	2	On	156	344	108,602
	D	Siemens TA Fee (Saturday) 7pm-7am (30% Premium)	2 Person x 3 Month(92 Days x 1/7)	Person	2	On	156	448	141,183
	E	Siemens TA Fee (Sunday) 5pm-7pm, 7am-8am	2 Person x 3 Month(92 Days x 1/7)	Person	2	On	156	467	147,368
	F	Siemens TA Fee (Sunday) 7pm-7am (30% Premium)	2 Person x 3 Month(92 Days x 1/7)	Person	2	On	156	607	191,579
	G	Overtime(Holiday, Sunday)	15% of TA rate	Lot	1	On	-	-	222,053
	H	Siemens TA Fee (Holiday) 5pm-7pm and 7am-8am total 5 Days, (5/26 Memorial Day, 6/19 Juneteenth, 7/4 Independence Day, 7/21 Liberation Day, 9/1 Labor Day)	2Person X 5Days	Person	2	On	-	467	-
	I	Siemens TA Fee (Holiday) 7pm-7am (30% Premium), total 5 Days, (5/26 Memorial Day, 6/19 Juneteenth, 7/4 Independence Day, 7/21 Liberation Day, 9/1 Labor Day)	2Person X 5Days	Person	2	On	-	607	-
	J	Adjustment (from Normal Working day to Holiday)_Normal Time	2Person X 5Days	Person	2	On	-	- 246	-
	K	Adjustment (from Normal Working day to Holiday)_Premium Time	2Person X 5Days	Person	2	On	-	- 320	-
	L	Mobilization Fee_SE Engineer Only (Inc. Flight Ticket)	4 Person x 2 Time	Lot	1	On		150,000	150,000
	M	Lump Sum Expenses_SE Engineer Only	4 Person x 3 Month(92 Days)	Lot	1	On		138,368	138,368
		Details shbmitted shall not be submitted due to NDA (Non-Disclosure Agreement) between Doosan and Siemens							
	Sub total_Other Work								1,990,775
	5) Additional Commissioning Field Service Specialist Fee for Skoda (Steam Turbine Supplier)						Hour	Rate Fee/Hour	
	A	Skoda TA Fee (Normal Working Day)		Person	1	On	-	-	-
	B	Skoda TA Fee (Saturday/Sunday)		Person	1	On	-	-	-
		Details shbmitted shall not be submitted due to NDA(Non-Disclosure Agreement) between Doosan and Doosan Skoda							
	Sub total_Other Work								-
Sub total_Direct Cost						1) +2) +3) +4) +5)			1,990,775
2	Indirect Cost (Including Overhead)								
	1)	A	Indirect Cost (Except SE's fee, but Including Overhead, Chemical, EHS, accomodation, Car, the othe consumable spare part, etc.)	10% of Direct Cost	Set	1	On			199,077
Sub total_Indirect Cost									199,077
Grand Total									2,189,852
83% of Grand Total									1,817,577