BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:	)	GPA Docket 23-17
	)	
LIQUIFIED NATURAL GAS (LNG)	)	**CERTIFICATION OF CHIEF**
	)	**ADMINISTRATIVE LAW JUDGE**
	)	
	)	
	)	

COMES NOW FREDERICK J. HORECKY, Chief Administrative Law Judge of the Guam Public Utilities Commission ["ALJ"], and hereby certifies and declares as follows:

1. On November 14, 2023, the Guam Power Authority ["GPA"] requested review and approval by the Guam Public Utilities Commission ["PUC"] of "GPA's Updated Phase I Liquified Natural Gas Pre-Development Study."

2. The Petition sought PUC approval only for Phase I of the LNG Pre-Development Study.

3. The Phase I Study will provide a cost-benefit analysis as to whether GPA should be authorized to implement LNG infrastructure and obtain an LNG supply source for the Ukudu Power Plant and possibly other customers.

4. On November 30, 2023, the PUC issued an Order conditionally authorizing Stanley Consultant, Inc. to proceed with the Phase I Study. A true and correct copy of the PUC Order is attached hereto as Exhibit "1". The Phase I Study was approved upon the condition that Stanley Consultant's, Inc. comply with all the requirements of the Order. Stanley was required to revise its Phase I Study and to incorporate various issues that the ALJ had raised in his Report dated November 21, 2023.

5. On December 29, 2023, GPA Counsel submitted the Updated LNG Phase I Cost-Benefit Study proposal. A true and correct copy of the Updated Phase I Study proposal is attached hereto as Exhibit "2".

6. The Revised Phase I LNG Pre-Development Study will contain a cost-benefit analysis of whether an LNG infrastructure should be built in Guam. It is only a cost-benefit analysis and will not authorize GPA to proceed ahead with implementation of LNG infrastructure or fuel supply without the express approval of the PUC.

7. Stanley Consultant's, Inc. has revised its Phase I Study to incorporate issues raised in the ALJ Report to reference in the PUC Order.

8. As requested by the ALJ, Stanley will provide an economic cost-benefit analysis which compares project scenarios with and without LNG (ULSD only), and whether a transition from ULSD to LNG is justified in terms of cost-benefit.[1]

9. The Phase I Study will include an analysis of the legal framework governing the development and operation of an LNG import terminal in Guam and of an LNG or natural gas resale business in Guam or the region. The legality of GPA'a selling or franchising the distribution of LNG to customers in Guam or for regional transshipment will also be addressed.[2]

[1] Stanley Consultants Revised Scope and Price for Phase 1 LNG, Exhibit "2" at pgs. 1-1, 1-2, 1.4, and 1.9.
[2] Id. at pgs. 1-10 and 1-11.

10. LNG demand, LNG sourcing and shipment options, and the least cost LNG Terminal Site and Configuration for Guam will also be addressed. There will be cost estimates developed for all selected solutions.

11. There will be an economic cost/benefit and Ratepayer Impact Analysis, which will assess if the transition from ULSD to LNG is cost-benefit justified. Stanley will estimate the impact to ratepayers of either transitioning from ULSD to LNG or continuing to burn ULSD. The base case scenario will assume that the Ukudu Plant is the only LNG consumer in Guam.[3]

12. In addition to analyzing whether the transition to LNG is cost-benefit justified, Stanley will analyze the impact that this transition could have on ratepayers, including changes to the Fuel Recovery Charge.

13. Regarding LNG demand, Stanley will also consider in the Ukudu Plant dispatch "the impact of the Renewable Portfolio Standards mandated by 12 GCA §8311 and the increase in renewable penetration."[4]

14. At the end of the Phase I Study, Stanley will prepare a Report summarizing the results of Phase I and present them to GPA. If the results of Phase I show that implementing the LNG project is expected to result in economic benefits to GPA and ratepayers, GPA will seek CCU and PUC approval for proceeding with Phase II and will only proceed with the next phase after obtaining such approvals.[5]

[3] Id. at pgs. 1-6, 1-7, and 1-8.
[4] Id. at pg. 1-6.
[5] Id. at pgs. 1-13 and 1-14.

15. The ALJ finds that Stanley's Updated LNG Pre-Development Study, Phase I, complies with the PUC Order dated November 30, 2023.

16. No other Phase of the proposed Study, or the contents therein, have been approved by the PUC.

17. Based upon this Certification, Stanley Consultants Inc. is authorized to proceed with the Updated Phase I Study. GPA is authorized to expend up to the sum of $1,720,000.00 for the Updated Phase I of GPA's LNG Pre-Development Study with Stanley Consultants.

I declare under penalty of perjury that the foregoing is true and correct.

Dated this 9th day of February, 2024.

Frederick J. Horecky
Chief Administrative Law Judge

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:	)	GPA Docket 23-17
	)	
LIQUIFIED NATURAL GAS (LNG)	)	**ORDER**
	)	
	)	
	)	
	)	

INTRODUCTION

This matter comes before the Guam Public Utilities Commission ["PUC"] upon the Petition of the Guam Power Authority ["GPA"] for review and approval of GPA's Updated Phase 1 Liquified Natural Gas Pre-Development Study.[1] The study would be conducted by Stanley Consultants Inc. ["Stanley"].

At the present time, GPA only seeks approval for Phase I of the LNG Pre-Development Study ["the Study"], at an estimated cost of $1,720,000.00.

BACKGROUND

GPA originally filed a request for PUC approval for Phase 1 of GPA's LNG Pre-Development Study on May 29, 2023.[2] On June 26, 2023, the Administrative Law Judge filed his Report recommending that the PUC deny GPA's Petition. The primary objections of the ALJ were that the Study and its 4 Phases indicated a predetermination by GPA that it would proceed ahead with the LNG project. The ALJ report stated: "Before the PUC takes any action in this matter, there must be a study/presentation to

[1] GPA Petition for PUC Review and Approval of GPA's Updated Phase I Liquified Natural Gas Pre-Development Study, GPA Docket 23-17, dated November 14, 2023.
[2] GPA Petition for Review and Approval of the EPCM, Phase I, Liquified Natural Gas (LNG) Pre-Development Study, GPA Docket 23-17, dated May 29, 2023.

the PUC that justifies proceeding ahead with the implementation and construction of the LNG infrastructure. Such should include cost estimates, cost benefit analysis, justifications, and consideration of various questions raised in the ALJ report… The study/presentation should also address the option of not proceeding ahead with implementation of the LNG infrastructure."[3]

GPA, after receipt of the ALJ Report, requested that its Petition not be considered at the June 29, 2023, PUC meeting.

In July, 2023, GPA Assistant General Manager John Cruz requested that he and representative Mike Spooner from Stanley Consultants meet with the ALJ to discuss the proposal. At the meeting the ALJ indicated that GPA could file an amended proposal with the PUC to address the ALJ's concerns.

On November 14, 2023, GPA filed its updated Phase 1 Liquidated Natural Gas Pred-Development Study. In its Petition, GPA noted certain changes in its updated study:

(a) Renewable Integration (new bids/RPS) would be considered in LNG projections;
(b) The approval process in the overall LNG scope as Phase 1 would focus on providing a cost benefit analysis for LNG and evaluate options for fuel sourcing, infrastructure, and business models; and
(c) Identifies a PUC approval requirement after Phase 1 if the LNG project is to proceed ahead to the other identified phases.[4]

[3] ALJ Report, GPA Docket 23-17, dated June 26, 2023, at pgs. 19-20.
[4] GPA Updated Proposal, p. 1.

DETERMINATIONS

1. Introduction.

The Introduction to the Stanley Study Plan indicated the understanding of the Stanley Project Team that "under the current terms of the Ukudo project ECA, GPA's capacity and energy payments shall increase if the Ukudo power plant does not switch from USLD to LNG before the fifth anniversary of the IPP project's commercial operation date.[5] No information concerning the amounts of payment increases has been provided to the PUC.

In the Phase 1 Study, Stanley will provide a "Cost-Benefit Analysis."[6] At the completion of Phase 1, Stanley will review the results with GPA to determine if bringing LNG to Guam will result in a cost reduction to the cost of electricity generated by the Ukudo Power Plant. If the cost benefit analysis demonstrates that bringing LNG to Guam is beneficial, GPA, after approval by the CCU and PUC, would proceed with performing Phase 2.[7]

Phase I would include the following 6 tasks:

(1) Evaluation of indicative LNG demand;

(2) Undertaking of an LNG Fuel Procurement Study, including evaluating LNG sourcing and shipment options;

(3) Identification of the LNG infrastructure location and configuration options in Guam;

[5] GPA Petition at EX-A-003.
[6] Id.
[7] GPA Petition at EX-A-005.

(4) Preparation of a Business Model Analysis and Economic/Financial Analysis;
(5) Consultation with the industry, Guam stakeholders, and Guam and federal regulatory agencies; and
(6) Environmental, Cultural, and Construction Permit Survey.[8]

The updated Proposal also includes the same additional phases as the original proposal: Phase 2: LNG Infrastructure Procurement; Phase 3: LNG Infrastructure Implementation: and Phase 4: LNG/CNG Transshipment.[9] There will be a "GO-NO GO POINT NO. 1: DECISION TO PROCEED WITH PHASE 2".[10]

2. The Updated Study Proposal does not include several issues that the ALJ previously raised in his Report.

(1) The cost-benefit analysis should not only calculate the cost of proceeding with LNG as opposed to continuing solely with ULSD. The PUC requests a comprehensive cost-benefit analysis to determine the overall cost of the LNG project over the entire period of its operation and the anticipated cost savings of using LNG over the entire period of its operation. Before the LNG project can proceed ahead, Stanley must provide a comprehensive justification.
(2) The previous ALJ Report pointed out that there are serious questions about the legality of GPA selling or franchising the distribution of LNG to customers in Guam or for regional transshipment. As indicated in the ALJ Report, 12 GCA §8104(k) "empowers GPA to control, operate, improve, equip, maintain, repair, renew, replace, reconstruct, alter and to insure **the electric system...**". The GPA

[8] GPA Petition at EX-A-006.
[9] GPA Petition at EX-A-003.
[10] GPA Petition at EX-A-014.

Enabling Act clearly refers to the electric system in Guam ("the Island Wide Power System"). GPA could possibly supply LNG to the Ukudo or other IWPS generation facilities, if approved by the PUC. However, there is no apparent authority in GPA's enabling statute for GPA to enter the fuel market as a private competitor, to sell or franchise the sales of LNG to other third-parties, to be involved in the intra-island sale of LNG or the transshipment of LNG to other islands, or to exercise monopolistic control as sole off-taker for all LNG services and fuel supply. None of the functions referenced in the prior sentence are necessarily within GPA's authority to control, operate, maintain and repair the island-wide electric power system. When an agency attempts to undertake functions that are not within its statutory mandate, a court may hold that such functions are invalid and illegal, without authority. Carlson v. Guam Telephone Authority, 2002 Guam 15. This issue is of considerable importance. If GPA does not have the power to act as a fuel distributor or franchisee for on-island and regional transshipment of LNG, the use for LNG on Guam could be limited to the supply of the Ukudo Plant. In its Phase 1 Study, Stanley/GPA should arrange for a comprehensive legal opinion as to whether intra-island sale of LNG and regional transshipment are activities that GPA can legally enter. Stanley should also address in its study the issue of whether supply of LNG to Ukudo alone would create a large enough volume of LNG to justify the LNG infrastructure.

(3) GPA's Petition states that renewable integration (new bid/RPS) will be considered in LNG projections. Unless something has been overlooked, there does not appear to be anything in Stanley's Phase 1 Study to indicate that renewable integration will be considered. At pages 18-19 of the prior ALJ Report, the ALJ questioned how implementation of LNG is compatible with statutory mandates for conversion to renewable energy pursuant to 12 GCA

§8311. Stanley originally estimated that LNG could not be delivered to the Ukudo Plant until 2028. Now the commercial operation date for the new plant is not likely to occur until 2026. This further extends the earliest date upon which LNG could even be delivered to the plant until at least 2030-2031. Yet, by 2035 GPA is legislatively mandated to have 50% renewable power and 100% renewable by 2045. The underlying question is whether implementation of the LNG Plan is consistent with GPA's current plan to implement 100% renewables by 2045. This is no longer only the Guam Legislature's plan—GPA has adopted renewable integration as its own plan. Attached to the ALJ Report as Exhibit "1" is GPA's projection of renewable integration into the system. By 2040, GPA projects that all its generation will be renewable. The system would then be comprised of 1,383.5 MW of solar power, with most of that total including load shifting capacity during nighttime hours. What will be the need for the Ukudo plant and LNG when this renewable integration is accomplished? It also brings into question the length of the time that the Ukudo plant will be needed for island generation. If the Ukudo plant will be obsolete in 2040, why should LNG infrastructure be implemented for a time of ten years (2030 to 2040)? The Study must show that there is sufficient time during which the costs of the LNG infrastructure can be recaptured through savings.

(4) Stanley's Phase 1 Study should specifically address the option of not proceeding ahead with the LNG infrastructure plan, and the advantages/disadvantages that would result for Guam and the ratepayers by not proceeding ahead.

(5) Stanley's Phase 1 Study should be revised to include all the above issues. As part of an Order in this matter, the PUC will require that Stanley revise its Study to include all the issues raised in the ALJ Report. Stanley should further submit its revised Study plan to the PUC.

3. Whether a Phase 1 Study should be approved by the PUC is an open question.

After disapproving any plan for proceeding with LNG in GPA Docket 15-05, the PUC later indicated in the same docket that GPA, in procurements for new generation, could entertain and consider LNG proposals that provided efficient, reliable and least-cost baseload capacity.[11] In addition, on August 30, 2018, in GPA Docket 18-02, the PUC required that the Ukudo Power Plant "must be capable of dual firing for ultra-low sulfur diesel (ULSD) **or natural gas**...".[12] For the new Ukudo Plant, GPA is already having a pipeline constructed for the delivery of LNG to Ukudo that is estimated to cost in the range of $20M.

These prior PUC actions suggest that LNG should be at least considered by the PUC as a possible option. PUC has previously indicated that there should be a determination as to whether LNG is an "efficient, reliable and least-cost baseload capacity."

On the other hand, there are numerous concerns about the LNG project, including cost, feasibility, complexity, legality, environment and others, as outlined in the prior ALJ Report. The Stanley Updated Proposal indicates that the LNG project is truly daunting—there are many complex issues that must be resolved before the other phases could be implemented. The prior RW Beck Report in 2013 indicated the high amount of risk that could be entailed in an LNG project.

4. The PUC should allow Stanley to proceed ahead with the Phase 1 Study upon compliance with certain conditions.

If a Phase 1 Study is completed, the PUC will have a more accurate record upon

[11] Supplemental Order, GPA Docket 15-05, April 27, 2017, at p. 2.
[12] PUC Order, GPA Docket 18-02, dated August 30, 2018, at p. 2.

which to base its decision as to whether to proceed with any additional phases of the project. Also, in the meantime, PUC can hire its own consultant for a complete and extensive review of any study prepared by Stanley. Only Phase 1 of the Study will be approved at this time, upon satisfaction of certain conditions.

ORDERING PROVISIONS

After review of the record herein, including GPA's Petition for PUC Approval of the Updated Phase 1 Liquified Natural Gas Pre-Development Study, and the ALJ Report, for good cause shown, on motion duly made, seconded and carried by the undersigned Commissioners, the Guam Public Utilities Commission **HEREBY ORDERS** that:

1. The PUC conditionally authorizes Stanley Consultant Inc. to proceed with its Phase 1 Study upon further certification by the ALJ that Stanley has complied with the requirements of this Order. Stanley is first required to incorporate the issues raised in this ALJ Report in its Phase 1 Study proposal. Stanley must then submit the further revised Study proposal to the PUC. Upon determination/certification by the ALJ that the further revised Study proposal incorporates the required issues and complies with the PUC Order, Stanley will be authorized to proceed with the Phase 1 Study.
2. Upon certification by the ALJ that all conditions in the PUC Order have been complied with, GPA is authorized to expend up to the sum of $1,720,000.00 for Phase I of GPA's LNG Pre-Development Study with Stanley Consultants.
3. GPA is ordered to pay the Commission's regulatory fees and expenses, including, without limitation, consulting and counsel fees and the fees and expenses of conducting the hearing proceedings. Assessment of PUC's regulatory fees and expenses is authorized pursuant to 12 GCA §§12103(b)

and 12125(b), and Rule 40 of the Rules of Practice and Procedure before the Public Utilities Commission.

[SIGNATURES TO FOLLOW ON NEXT PAGE]

Dated this 30th day of November, 2023.

Jeffrey C. Johnson
Chairman

Rowena E. Perez-Camacho
Commissioner

Joseph M. McDonald
Commissioner

Michael A. Pangelinan
Commissioner

Peter Montinola
Commissioner

Doris Flores Brooks
Commissioner

Pedro S.N. Guerrero
Commissioner

Stanley Consultants inc.
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303.799.6806
stanleyconsultants.com

December 14, 2023

Guam Power Authority
688 Route 15
1st Floor, Room 101
Mangilao, Guam 96913

Attn: Jennifer Sablan

Subject: Updated LNG information for GPA Docket No 23-17.

Thank you for the opportunity to present Stanley Consultants' revised proposal to Guam Power Authority for the Phase 1: Cost-Benefit Analysis scope and pricing for LNG. The Phase 1 scope of work has been revised to reflect the PUC determinations for Docket No. 23-17 dated November 30, 2023, including the recommendations made by the Administrative Law Judge's (ALJ) report dated June 26, 2023.

The scope of work is included below for the complete duration of the LNG project which is made up of four phases. Phases 2 thru 4 are provided as reference to illustrate future scopes of work should switching to LNG be deemed in the best interest of rate payers and if approved by GPA and the PUC.

Please contact me or Chuck Spooner if you have any questions.

Sincerely,

Larry Johnson
Vice President
Stanley Consultants, Inc.

Attachments: Updated LNG Scope of Work and Price

EXHIBIT "2"

Stanley Consultants Revised Scope and Price for Phase 1 LNG

WORK GROUP 100: LNG PROJECT

WORK PACKAGE 101: PHASE 1: COST-BENEFIT ANALYSIS

Introduction

The Stanley Project Team understands that under the current terms of the Ukudu project Energy Conversion Agreement (ECA), GPA's capacity and energy payments will increase if the Ukudu power plant does not switch from USLD (Ultra Low Sulfur Diesel) to LNG (Liquefied Natural Gas) before the fifth anniversary of the IPP project's commercial operation date. Furthermore, switching from USLD to LNG can potentially lower GPA's generation costs as the fuel component of the Ukudu power plant's electricity charge could be reduced. This is because the delivered cost of LNG/natural gas may be lower than the cost of ULSD. Phase I of this consulting assignment will analyze in detail the cost and benefits to ratepayers of switching from ULSD to LNG and recommend whether or not the transition to LNG is cost-benefit justified.

Stanley has assembled a highly qualified team of experts to assist GPA with this analysis. This Team will be led by K&M and will include COWI and CH-IV as subcontractors to K&M. These three companies have worked together successfully, advising other island utilities considering a transition to LNG. K&M will focus on the economic and financial cost-benefit analysis, COWI will provide LNG marine infrastructure cost inputs, and CH-IV will contribute LNG storage and processing cost information.

Scope of Work for the LNG Component

The LNG infrastructure development work to be performed by the Stanley Project Team during this assignment will be performed in four phases as follows:

Phase 1: Cost-Benefit Analysis

The main objective of this Phase is to determine whether or not switching from ULSD to LNG is cost-benefit justified for ratepayers. A project kick-off meeting will be held with key members of the Stanley Project Team traveling to Guam to meet with GPA and key stakeholders. As part of the kick-off meeting effort, the Team will visit prospective Project sites on the island and collect relevant information for the Project. The Stanley Project Team will start performing Phase 1 by estimating the LNG demand over a 25-year period, —including the impact of achieving the Renewable Portfolio Standards mandated by 12 GCA § 8311. The Stanley Project Team will then identify LNG sourcing and shipping options, obtain indicative quotes from LNG suppliers, and estimate LNG shipping costs. In parallel, the Stanley Project Team will identify and analyze LNG terminal options, including marine and LNG handling infrastructure, develop cost estimates, and identify the least-cost siting and configuration options. The Stanley Project Team will also estimate the economic benefits of reduced emissions resulting from a transition to natural gas. The Team will integrate the previous work into an economic cost-benefit analysis that compares with and without LNG (ULSD only) project scenarios and determines whether or not a transition from ULSD to LNG is justified in terms of cost-benefit. This Phase will also include an analysis of the legal framework governing the development and operation of an LNG import terminal in Guam, and of an LNG or natural gas resale business in Guam or the region. Based on this legal review, the Stanley Team will identify a potential business model for GPA's review. GPA and the Staney Project Team will only proceed to Phase 2 with CCU and PUC review and approval.

Phase 2: LNG Infrastructure Procurement

During this Phase, the Stanley Project Team will prepare the tender document and assist GPA in running a competitive bid process to develop the LNG infrastructure. In addition, the project team will assist GPA with bid negotiations with the winning bidder.

Phase 3: LNG Infrastructure Implementation

During this Phase, the Stanley Project Team will assist GPA in managing the contract with the selected Contractor responsible for implementing the LNG infrastructure. The focus will be on such issues as monitoring and supporting Project permitting activities, schedule, and change orders. The Stanley Project Team will also assist GPA in managing the scope of activities related to the LNG development undertaken by GPA following the terms of the agreement.

Phase 4: LNG/CNG Transshipment

Building on the initial findings of Phase 1, as part of this Phase, the Stanley Project Team will analyze the legal, regulatory, and commercial feasibility of LNG transshipment, including regional transshipment, LNG bunkering, and LNG or natural gas distribution to other customers in Guam.

The Stanley Project Team understands that GPA will require two GO/NO GO decision points before proceeding with the LNG infrastructure implementation:

- ***Decision point No.1: At the completion of Phase 1 the results of Phase 1 will be reviewed with GPA to determine if bringing LNG to Guam will result in a cost reduction to the cost of electricity generated by the Ukudu Power Plant.***

- ***Decision point No. 2: At the completion of Phase 2 the LNG prices proposed by the bidders as part of Phase 2, LNG Infrastructure Procurement, will be reviewed with GPA to determine if they result in lowering the cost of electricity generated by the Ukudu plant. Phase 2 will validate the inputs to the financial model from the Phase 1 study by soliciting pricing from qualified bidders.***

GPA will only proceed with Phase 2 of the LNG project if the results of the Phase 1 analysis demonstrate economic benefit to GPA, the ratepayers and PUC approves moving to Phase 2 of the LNG project development.

GPA will only proceed with LNG infrastructure contracting and implementation if the results of the financial evaluation of the LNG infrastructure and supply bids conducted as part of Phase 2 demonstrate that, based on actual prices proposed by the bidders, the LNG project will provide economic benefits to GPA, it's ratepayers and PUC approves GPA's entering into the LNG infrastructure and LNG supply contracts.

The following sections provides a more detailed description of the Stanley Project Team's approach and methodology to perform the LNG component.

PHASE 1 COST-BENEFIT ANALYSIS

The primary objective of the LNG Cost-Benefit Analysis phase is to determine if switching from ULSD to LNG is economically cost-benefit justified. Since the logistics of LNG delivery to Guam and the capital and operating costs of the LNG infrastructure have major impacts on the total cost of natural gas delivered to the Ukudu plant and resulting electricity cost, the Phase 1 scope will require conducting significant LNG market, shipment options, and LNG infrastructure options analysis, which will allow the development of the necessary cost estimates to be used as input to the cost-benefit analysis.

Phase 1 will also answer the following strategic questions set in the IRP implementation strategy document of 2013.

1. Proceed with LNG or continue with current oil-based fuel (ULSD) for power generation?
2. What is the optimal LNG project structure?
3. How to proceed with the LNG infrastructure implementation?

Specifically, the major steps in performing Phase 1 will include the following:

- Estimate LNG demand.
- Evaluate possible LNG sources of supply and obtain indicative quotes for LNG FOB prices.
- Evaluate LNG shipping options and estimate LNG shipping costs to Guam.
- Identify viable LNG terminal siting and configuration options, estimate lifecycle (CAPEX and OPEX) costs, and identify the least-cost option.
- Perform economic cost-benefit and ratepayer analysis.
- Perform legal analysis of LNG terminal and LNG resale operations.
- Identify viable business models, perform financial analysis, and select a preferred business model.
- Preliminary evaluation of environmental and social impacts.

During Phase 1, the Stanley Project Team will also assist GPA in consultations with Guam stakeholders, regulatory authorities, and the LNG industry.

If the economic cost-benefit analysis demonstrates that bringing LNG is beneficial, GPA, after approval by CCU and PUC, would proceed with performing Phase 2.

Figure 1 below presents the Phase 1 task diagram. The following sections provide a more detailed description of the Phase 1 tasks.

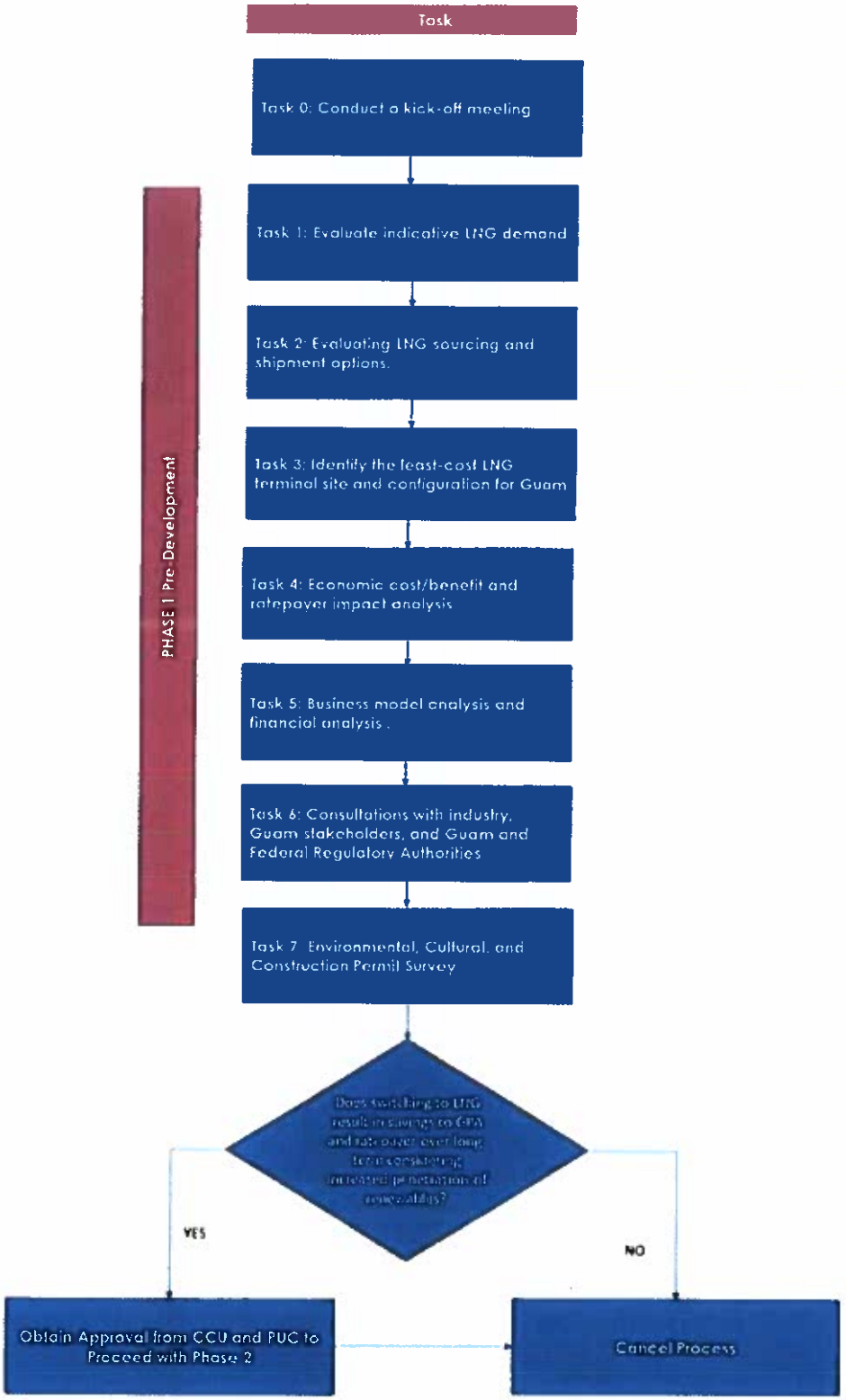

Figure 1 - Phase 1 Tasks Diagram

Task 0: Kick-off Meeting

Within two weeks from the commencement of the Phase 1 work, the Stanley Project Team will organize a formal kick-off meeting. Key members of the Stanley Project Team will travel to Guam to meet with their GPA counterparts and other project stakeholders, to visit prospective sites for the onshore terminal facilities, and to collect relevant information. The key aspects that will be addressed at this meeting will include the following:

- To introduce key personnel from all parties & provide contact details.
- Establish communication protocol and points of contact.
- Alignment of common objectives for both GPA and the Stanley Project Team.
- Identify any additional information required to be provided to the Stanley Project Team to commence work.
- Agree on reporting requirements.
- Identify and, if possible, meet with the key project stakeholders.

Task 1: Evaluate Indicative LNG Demand

This Task will establish the potential LNG demand. LNG demand will impact the type of LNG ship, terminal, and infrastructure and the cost of natural gas delivered to the Ukudu plant.

The LNG demand for the Ukudu plant will be determined based on the combined cycle plant's capacity, guaranteed heat rates specified in the ECA, and assumed dispatch (capacity factor). The Ukudu plant dispatch analysis will consider the impact of the Renewable Portfolio Standards mandated by 12 GCA § 8311 and the increase in renewable penetration. The Stanley Team will work with GPA and other relevant authorities to develop realistic scenarios on how fast and how much renewable energy and battery energy storage systems (BESS) will be added to GPA's grid over the next 20 to 25 years. In addition, the Team will identify if there are any large users of diesel, LPG, or other fuels in Guam who could be interested in switching to LNG or natural gas. Based on this analysis, the Team will develop viable LNG demand scenarios for the next 20 - 25 years.

Task 2 Evaluate LNG Sourcing and Shipment Options

This task will identify potential sources of LNG supply for Guam, including regional LNG export terminals capable of loading mid/small-scale LNG ships, regional LNG import terminals capable of reloading mid/small-scale ships, and partial ex-ship deliveries on large-scale LNG ships transiting the Pacific. The Team will then identify the practical options for small-scale shipping from regional terminals to Guam. Should the results of Task 1 show that Guam's LNG demand is relatively small, this task will also review LNG transport options in ISO containers in containerships.

The Stanley Team will request budgetary quotes for FOB LNG prices (USD/MMbtu) from the owners or operators of identified LNG sources or terminals. FOB prices are typically expressed as an oil-indexed price formula, i.e. A% x Brent + B. The Team will also ask these LNG suppliers for their views on viable LNG sourcing and shipping options for Guam and their interest in supplying LNG to GPA.

The Team will then identify the type of LNG carriers that could be used to transport LNG from each of the sources identified to an LNG terminal in Guam. Using market information on charter rates, fuel consumption, fuel costs, and other assumptions, the Team will estimate the unit freight costs (USD/MMbtu) for shipping LNG from selected potential regional terminals to a Guam LNG terminal.

The price of LNG delivered in Guam (or Guam LNG ex-ship price) is the sum of the FOB LNG price and the unit freight cost.

Based on the shipping options identified in this task, the Team will make recommendations for the physical characteristics of the Guam LNG terminal configuration that will enable deliveries by the most competitive (least-cost) and most interested LNG suppliers.

Task 3 Identify the Least-Cost LNG Terminal Site and Configuration for Guam

The main objective of this task is to find the least-cost option for siting and configuring the terminal that will receive and handle LNG in Guam. To this end, this task includes an initial analysis of all technically viable sites and terminal configuration options, screening these options to select a subset of 3 to 5 options, developing cost estimates (CAPEX and OPEX) for this subset, and selecting the option with the least lifecycle cost to ratepayers.

As the LNG import terminal market has matured, many innovative companies have stepped up with proprietary solutions to lower the cost of the terminal infrastructure while maintaining LNG's long-standing commitment to safety. The approach outlined herein seeks to take advantage of these innovative solutions. The Stanley Project Team will identify potential sites and configurations that facilitate permitting.

The Stanley Project Team assumes that "cost" is the primary criterion to use to select a terminal configuration option. Environmental impact and timing will also be weighed as part of this analysis.

Subtask 3.1 Identify Technically Viable LNG Terminal Options

The Stanley Project Team will identify alternative configurations for LNG import terminals. These solutions will be screened to a shortlist of 3 to 5 that are considered likely to be optimal for the given site and scale of the terminal. The key variables when selecting a potential terminal configuration will include:

- Throughput – the scale of the terminal has a significant impact on the configuration selected
- Distance from shore – often dictated by water depth or proximity to populated areas or industrial areas
- Storage scheme – may be floating storage, onshore storage, or a combination of the two
- Regasification scheme – may be floating, platform-based or onshore
- Exposure – the configuration must allow for sufficient uptime for transfers and must also provide survivability in extreme weather events
- Transfer from LNGC – the transfer from the delivery carrier can be to an FSRU, FSU, or an onshore storage tank. Options to consider include ship-to-ship transfer, cross-dock transfer, loading arms, cryogenic aerial hoses, and cryogenic floating hoses
- Transfer to shore – for an FSRU, which sends gas to shore, the alternatives include a subsea pipeline, trestle-mounted piping, or floating hoses. When storage is onshore, the alternatives typically include trestle-mounted cryogenic piping and floating hoses

The Team will identify technically viable terminal configuration alternatives and develop conceptual configurations/layouts.

The Team will develop up to four (4) options at each of the three (3) potential sites to investigate. The configuration for each site will consider the following variables:

- Water depth available (with or without dredging)
- River sedimentation, if applicable, could affect minimum water depths
- Exclusion zones and safety distances

- Proximity to populated areas and existing facilities that could be impacted
- Navigation and vessel maneuvering
- Hydrographic conditions, including wind, waves & currents under both operational and extreme design conditions
- Mooring system
- Transfer of LNG from the LNG carrier to the terminal
- Transfer of LNG and/or high-pressure gas to shore via trestle, subsea pipeline, floating pipeline or shuttle barge/carrier
- Location of regasification – either onshore or on a vessel
- Available shore access and property considerations
- Onshore pipeline route to the power plant
- Impact on seabed and shorelines (mangroves, seagrass, etc.)

Conceptual configuration/layout sketches will be prepared for each of the alternatives and sites.

Subtask 3.2 Develop Cost Estimates for Selected Solutions

A conceptual design, including parametric cost estimates for CAPEX and OPEX, will be prepared for the 3-5 selected options. The conceptual designs will include the most significant items anticipated to have the most influence on project costs. In addition, a preliminary assessment of the anticipated performance of each alternative will be prepared. Preliminary deck elevations will be established for the significant structures, considering the tidal range, sea-level rise over the Project's design life, and the storm surge wave run-up. In addition, the designs will also consider the construction equipment and resources anticipated to be available in the regional market.
The cost estimates will include the following:

- Marine infrastructure: mooring (including options analysis and identification of optimal mooring solution based on reducing cost and minimizing downtime), berthing facilities, including any required platforms and mooring systems, loading platforms and access trestles, etc.
- Subsea pipeline (hydraulic/sizing calculations by others), riser, PLEM, and shore crossing (if needed)
- Foreshore infrastructure, including earthwork, access, and parking
- Topside marine equipment (transfer systems, gangways, QRHS, fender, berthing aids, etc.)
- Dredging requirements, as applicable to the Technical Options
- Navigation aids (if needed)
- Operations and maintenance costs for the marine infrastructure
- LNG offloading systems
- LNG storage tanks
- LNG regasification and gas sendout pipeline

Subtask 3.3 Develop Indicative Implementation Schedule

The Stanley Project Team will develop an indicative schedule for each option to estimate the total time required from the date this study is completed to the first gas. This schedule will assume that the Project will be developed under a Public-Private Parentship (PPP) structure. This schedule will include procurement and selection of the LNG infrastructure developer, capital raising and financial close, Front End Engineering Design (FEED), and procurement, construction, and commissioning.

Subtask 3.4 Conduct Least-Cost Comparative Analysis

This Task will prepare a matrix that compares all the options across the criteria agreed with GPA. The matrix will present the levelized cost of gas ($/MMBtu) for each alternative, as well as the months to first gas and a qualitative assessment of permitting and technical risks. It will also show the total capital investment and the breakdown of this investment. Based on this analysis, the Stanley Team will identify the least-cost option that will be used in the rest of the work on this phase.

Task 4: Economic Cost/Benefit and Ratepayer Impact Analysis

The main objective of this task is to assess if the transition from USLD to LNG is cost benefit justified. To this end, this task will calculate the economic benefits of this transition. In addition to performing a traditional economic cost-benefit analysis, the Stanley Team will also estimate the impact to ratepayers of both scenarios.

Subtask 4.1 Economic Cost-Benefit Analysis

The Stanley Team will perform a standard economic cost-benefit analysis as shown in the table below. Two scenarios will be considered. One scenario will assume that the Ukudu plant will continue to burn ULSD. The second scenario will assume that the plant will switch to LNG/natural gas. The direct economic benefit under both scenarios is essentially the same sales of electricity generated under each scenario. The base case scenario for the analysis will assume that the Ukudu plant is the only LNG consumer in Guam. The LNG scenario will also include the case analyzing possible positive externalities. The availability of LNG or gas in Guam could give large energy users that currently use LPG, diesel, or other fuels access to a lower-cost fuel that will result in cost savings.

Two types of economic costs will be considered under each scenario, direct costs and negative externalities. Direct costs under the ULSD scenario include the cost of the ECA when operating with ULSD (including higher capacity payments) and the cost of ULSD (including higher ULSD consumption caused by heat rate degradation). Direct costs under the LNG scenario will also include ECA costs when operating on LNG, as well as the cost of gas delivered at the Ukudu plant, which includes the LNG FOB, shipping, and terminal costs estimated in Task 1, 2, and 3.

Both scenarios will also have negative externalities that will be included in the economic cost-benefit analysis. These externalities include the economic cost of CO_2 and local emissions caused by ULSD or natural gas.

	ULSD Scenario	LNG Scenario
Economic Benefits		
Direct	Electricity generation (kWh/year)	Electricity generation (kWh/year) for base case analysis.
Externalities		Cost savings from other large energy users in Guam switching to gas/LNG (additional case).
Economic Costs		
Direct	ECA costs (including penalties for not switching to LNG), USLD cost (heat rate degradation)	ECA costs, LNG cost (including LNG sourcing, shipping and terminal costs)
Externalities	Economic cost of ULSD CO_2 and local emissions	Economic cost of LNG CO_2 and local emissions

The Stanley Team will forecast the economic benefits and costs for each scenario over 25 years and discount these future flows at an appropriate social discount rate. The Team will use these results to calculate the economic net present value (NPV) and the benefit-cost ratio (BCR) of each scenario. If the NPV and BCR of the LNG scenario are higher than the ULSD scenario, it will be clear that switching from ULSD to LNG could be cost benefit justified. The Stanley Team will perform a sensitivity analysis to understand how these results change when key assumptions are changed.

Subtask 4.2 Ratepayer Impact Analysis

In addition to analyzing whether or not the transition to LNG is cost benefit justified, the Stanley Team will also analyze the impact that this transition could have on ratepayers. The change from ULSD to LNG will affect the Fuel Recovery Charge (FRC) in GPA's rate structure. The Team will analyze how the FRC will change with a change from ULSD to LNG, and how the FRC will change over time based on publicly available fuel price indices that are commonly used in the Pacific region for ULSD and LNG prices.

The results of this analysis will be documented in a report that will be presented and discussed with GPA.

Task 5: Business Model Analysis and Financial Analysis

The objectives of this Task are to:

- review the applicable legal framework governing the development and operation of an LNG terminal and an LNG resale business
- review relevant business models (including the underlying contracting options) for the proposed LNG terminal,
- compare such business model options
- recommend an optimal business model considering the Project's characteristics and GPA's capabilities and preferences,
- develop a Project implementation plan and detailed project implementation schedule based on the preferred business model approved by GPA, and
- develop project financial model and perform sensitivity runs.

The business models to be considered in this task will include Engineering, Procurment and Construction (EPC) and various Public-Private Partnerships (PPP) models (e.g. BOO, BOOT, BOT, BTO).

Subtask 5.1 Legal Analysis and Business Model

To effectively identify and subsequently evaluate the business model options, the Stanley Project Team will perform the following work:

- Review the legal framework governing the development of an LNG import terminal in Guam, and of GPA selling or franchising the distribution of LNG or natural gas to customers in Guam and the region,

- Identify relevant business model options that may be considered valid and viable.

LNG resale, franchising, or the transshipment legal analysis

Before developing a business model for the resale, franchising, or transshipment of LNG or natural gas to customers in Guam or the region, the Stanley Team, in consultation with local legal advisors, will determine which entity has the legal basis to act as a fuel distributor or franchisee for LNG resale or transshipment. If, based on the economic analysis, it is determined that LNG or natural gas resales in Guam, or the region could be in the best interest of the Guam and electricity ratepayers, the Stanley Team will use the results of the legal analysis to identify the optimum contractual or corporate structures that are permitted by existing laws and regulations and that would enable the development of such a LNG or natural gas resale business in Guam.

LNG terminal legal analysis

The Stanley Project Team will work with GPA's legal advisor to review relevant laws and regulations and their impact on the development, construction and operation of an LNG terminal. This will include a review and analysis of the following legal and regulatory aspects:

- Constraints arising under applicable company law, foreign investment law, land law, environmental law, planning and construction law, and securities law
- Constraints arising under the fiscal regime relevant to the LNG terminal (in particular, taxation, import duties, and exchange control issues)
- Legislation of relevance to the gas supply and transport or other legislation that is likely to have a bearing on the LNG terminal
- Site ownership and availability issues, including land claims, servitudes, land leases, and other legal constraints
- Legal and practical requirements related to supply and transport contracts, off-take contracts, construction and engineering contracts, corporate organization documents, shareholder agreements, and other LNG Supply Project documents.

Identify Business Model Options

To develop business model options, the Stanley Project Team, in consultation with GPA, will:

- Identify critical project risks that, based on our experience, could impact the evaluation of the business model options
- Assess the nature of those risks and how they might be allocated to ensure, that the Project is financeable
- Conduct industry outreach as described in detail in Task 5
- Consider GPA's capacity to manage and monitor the implementation of the LNG terminal once operational
- Consider GPA's and other stakeholder preferences, precedents, and familiarity.

Subtask 5.2 Compare Business Model Options

This task will develop an initial set of evaluation criteria designed to compare the benefits and drawbacks of the various business model options. These initial criteria will be presented to GPA along with descriptions and justifications.

The task will conduct a comparative evaluation of the shortlisted business model options based on the evaluation criteria established. This evaluation will incorporate a multi-stakeholder perspective. This task will develop and use a financial model and incorporate results into the evaluation. The task will evaluate and rank business model options against the criteria considering the results of financial modeling, the industry consultations conducted in Task 5, and an experience-based assessment.

Subtask 5.3 Conduct Financial Analysis

For the Preferred Business Model, the Stanley Project Team will develop a financial model to perform financial analysis and sensitivity runs to determine the estimated price of electricity generated by the Ukudu plant and other relevant project financial parameters. The inputs to the model will include the estimated LNG terminal CAPEX and OPEX, LNG ex-ship price, project capital structure (debt and equity contributions), interest rates, project implementation schedule, estimated project life, and assumed target return on equity investments. The model will estimate the project's internal rate of return, debt-service cover ratio, and other financial parameters to assess bankability. The model will also show the all-inclusive price of gas per MMBtu to be paid by GPA, and the cost of electricity generated by the Ukudu plant.

Task 6: Consultations with Industry, Guam Stakeholders, and Guam and Federal Regulatory Authorities

The Stanley Project Team will organize consultation discussions with potential LNG market participants, including, but not limited to, LNG terminal developers, EPC contractors, operators, equity investors, and lenders. The conclusions drawn from these consultation meetings shall be considered in evaluating the business models described in Task 4.

The methodology for conducting the industry consultations will include the following steps:

- Develop an industry consultation approach and present it to GPA via teleconference or videoconference for approval
- Prepare an industry consultation document including an overview of the LNG terminal project (scope, division of responsibilities, prospective procurement modalities, and prospective project structure/s), a description of the industry consultation process, a list of questions to be responded to by the relevant stakeholders, indicative project schedule and the process for face to face sessions
- Identify a list of companies that will be consulted. Obtain GPA's approval on this list
- Reach out to a list of companies in the list, sending them a copy of the consultation document and inviting them to a virtual meeting
- Prepare an industry outreach report with summaries of each meeting and the main findings relative to the LNG terminal.

The Stanley Project Team will assist GPA in identifying the regulatory agencies and project stakeholders, determining their roles during the project planning and implementation, and developing the regulatory and stakeholder consultation plan. As the next step, the team will work with the GPA staff to assist GPA in the implementation of the consultation plan. The activities would include developing necessary presentation materials, documents, assisting in logistics, and other items that GPA may request.

Task 7: Environmental, Cultural, and Construction Permits Survey

This Task assumes that obtaining the permits required for implementing the LNG infrastructure project will be the responsibility of the selected Build-Operate-Transfer (BOT) company. From the risk allocation perspective, it would be desirable for GPA not to take responsibility for obtaining any permits or performing any surveys required for obtaining environmental, cultural, and construction permits. However, considering that selecting the BOT company may take up to 18 months, it could be beneficial for GPA to carry out some of the required surveys in parallel with the LNG infrastructure procurement process. This process could start as soon as GPA decides on a site for locating the LNG infrastructure and obtains PUC approval to proceed with Phase 2. The pros and cons of GPA taking

responsibility for conducting environmental, cultural, and contraction permit surveys and assisting GPA in deciding on this issue will be discussed as part of this task.

The Team will also compile a list of potential federal and local Guam permits that could be required for the LNG infrastructure project. This list will be included in the bidding document for the BOT company's information. The following table presents the preliminary list of the permit that has been assumed to be required for the Project:

	Lead Agency	Permit(s) / Review(s) / Approval(s)
Federal	NOAA-National Marine Fisheries Service	ESA and Marine Mammal Protection Act (MMPA)
	USFWS	ESA and Migratory Bird Treaty Act
	USACE	CWA, Sections 402 and 404
	USEPA	CWA
	USDA-Wildlife Services	Invasive and non-native animal interdiction
Guam	Guam Land Use Commission (GLUC)	Wetlands Permit
	GLUC/Guam Seashore Protection Commission	Seashore Clearance Permit
	Guam DPW	Flood Hazard Permit
		Clearing and Grading Permit
		Building Permit
		Construction Permit
	Bureau of Statistics and Plans	Coastal Zone Consistency Determination
	Guam EPA	Environmental Land Use Permit
		Environmental Protection Plan
		Environmental Impact Assessment
		Environmental Impact Study
		Erosion Control Permit
		Aquifer Protection Review
		Spill Prevention Control and Countermeasure Plan
	Guam Department of Parks and Recreation Historic Resources Division	Historic Preservation Determination

Figure 2 - Preliminary List of Permits

GO-NO GO POINT NO.1: DECISION TO PROCEED WITH PHASE 2

THE STANLEY PROJECT TEAM WILL PREPARE A REPORT SUMMARIZING THE RESULTS OF PHASE 1 AND PRESENT THEM TO GPA. IF THE RESULTS OF PHASE 1 SHOW THAT IMPLEMENTING THE LNG PROJECT IS EXPECTED TO RESULT IN ECONOMIC BENEFITS TO GPA AND RATE PAYERS, GPA WOULD SEEK THE CCU AND PUC APPROVAL FOR PROCEEDING WITH

PHASE 2 AND WILL ONLY PROCEED WITH THE NEXT PHASE AFTER OBTAINING SUCH APPROVALS.

PHASE 2 - LNG INFRASTRUCTURE PROCUREMENT

After GPA obtains the PUC approval to proceed, the Stanley Project Team will start working on Phase 2 of the Project. The Phase 2 task diagram is presented on Figure 2 below:

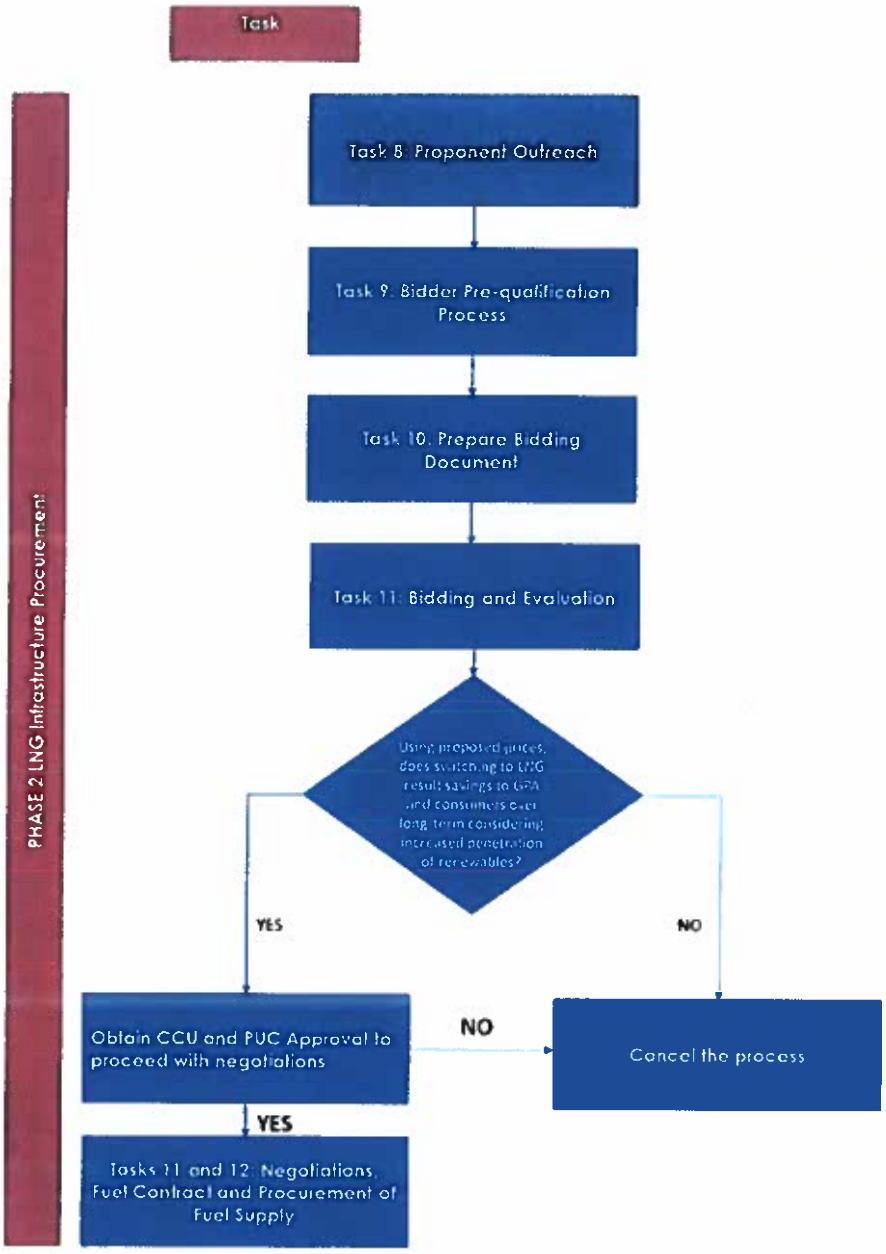

Figure 2 - Phase 2 Tasks Diagram

For this scope of work, it has been assumed that the LNG infrastructure will be implemented using a BOT contract procured via international competitive bidding. Procurement support of the BOT will include the following activities:

- Proponent Outreach
- Bidder prequalification process
- Draft bidding documents
- Draft BOT and other project agreements, as applicable
- Bidding, evaluation, and award support
- Assist during negotiations with the selected bidder

The methodology that we will use in each of these tasks is described below.

Task 8: Proponent Outreach
Proponent outreach work will be an ongoing process rather than a discrete task. We will continue contacting the prospective bidders and lenders identified during Task 5 to get their additional feedback on the transaction structure. The Team will conduct meetings before the start of the official procurement process to get their feedback on any adjustments to the transaction structure based on the latest decisions made by GPA. The results of those discussions will be summarized in periodic memos submitted to GPA. The findings will be discussed with GPA, and necessary adjustments to the project structure and draft tender documents will be made, as required.

Task 9: Bidder Pre-qualification Process
The Team will assist GPA in prequalifying bidders. This assistance includes drafting a request for qualifications (RFQ) and support for project advertisement, launching the prequalification process, and prequalifying prospective bidders. The RFQ document will be used to prequalify bidders interested in the Project and who meet the required technical and financial requirements. The Stanley Project Team will work with GPA to prepare an RFQ and the prequalification evaluation criteria.

In conjunction with GPA, the Stanley Project Team will also draft the advertisement for issuance by GPA announcing the RFQ. The Team will identify publications where GPA can place advertisements to reach qualified bidders. The Team will also develop a list of firms that we believe are qualified and interested and will send a copy of the advertisement to them.

With GPA's endorsement, the Stanley Project Team will distribute the RFQ to firms that have responded to the advertisement. The Team will be available to assist in providing clarifications, if needed, to prospective bidders during the response period.

The Stanley Project Team will review the statements of qualifications received and assess them against the criterion agreed with GPA. The Team will then prepare a report for GPA with the evaluation results and a recommendation on which firms to prequalify.

Task 10: Prepare Draft Bidding Documents
The Team will prepare an Invitation for Bid (IFB) document. The technical section will be a functional specification for the LNG infrastructure that will cover the project components, including marine infrastructure, onshore storage and regasification, LNG truck or ship-loading facilities required for LNG transshipment, and a gas pipeline connecting the regasification facilities to the gas pipeline that is being built as part of the Ukudu IPP. The specification will set the output parameters of the Project, project interfaces and applicable technical and environmental standards but not prescribe specific designs of different systems and equipment, thus leaving more flexibility to the bidders to come up with the most cost-effective technical solutions.

GPA may decide to conduct a topographic survey of the selected site and perform a preliminary geotechnical survey. These surveys would serve as inputs to the functional technical specification to

be included in the bidding documents. Bathymetric information is likely available for developing the functional designs of marine works.

The Team will assist GPA in conducting the topographical and preliminary geotechnical surveys of the selected sites using local Guam subcontractors.

Details of the submission requirements will include the bidder's technical information on proposed EPC and O&M contractors and equipment datasheets, project implementation plan, financing capability, and a project financing plan.

Subtask 10.1 Prepare IFB

The Stanley Project Team will develop the draft IFB document and submit it to GPA for review and approval. The Stanley Project Team expects that GPA will engage a separate legal advisor to advise them on the BOT procurement legal aspects. The Stanley Project Team will communicate with the legal advisors during the development process of the IFB document. Upon obtaining the necessary approvals from GPA, the Stanley Project Team will proceed with preparing the final IFB.

Subtask 10.2 Prepare Draft Project Agreements

Under this task, the Team will provide technical and commercial inputs to the draft agreements, which will be included in the IFB documents as attachments. If GPA decides to undertake LNG supply responsibilities, the major agreements would include Terminal Use Agreement (TUA) between GPA and the LNG infrastructure developer and LNG Sales and Purchase Agreement (SPA) between GPA and LNG supplier. In case GPA decides to allocate both the LNG infrastructure and LNG supply responsibility to the BOT company, the major agreements could be limited to a single Gas Supply Agreement (GSA) between GPA and the BOT company. Depending on the site land acquisition, the document package may also include Land Lease Agreement (LLA) and other agreements depending on the business model selected for the Project. There will also be a set of direct agreements assigning the developer's rights to the project lenders.

Working with GPA's legal counsel, the Team will develop draft agreements. Upon completing the GPA review and obtaining their approval, the Stanley Project Team will prepare the final IFB.

Subtask 10.3 Develop Evaluation Criteria

A two-envelope proposal evaluation process will be used for bid evaluation. The technical proposal (Envelope 1) is evaluated first, and the financial proposal (Envelope 2) is evaluated only for the bids meeting the technical proposal evaluation criteria. Evaluation criteria will be developed as part of this task. The Team will design the evaluation criteria based on the project structure and the IPP modality selected for the Project.

Task 11: Bidding, Evaluation, and Award

At GPA's direction, the Stanley Project Team will distribute the RFP documents to the prequalified bidders. All issuance activities will be coordinated with GPA. Only prequalified firms will be invited to submit detailed proposals. This task includes the following sub-tasks:

- Subtask 10.1 Bid preparation period
- Subtask 10.2 Proposal receipt and technical envelope opening
- Subtask 10.3 Envelope I opening and evaluation
- Subtask 10.4 Envelope II opening and evaluation.

Subtask 11.1 Bid Preparation Period (Q&A, Pre-bid Meeting)

IFB Questions and Clarifications

The Team will manage, respond and track clarifications and inquiries from the bidders. The Team will issue the required addenda to the bidders. Any addenda or changes will be coordinated with GPA.

Site Visit

Each bidder will have the opportunity to make one site visit during the bid period. The Team will arrange and invite the bidders to attend a pre-bid conference on the Project with a subsequent site visit. The Team will participate in the conference, including preparing and distributing documentation associated with the meeting to the bidders. All activities for this effort will be coordinated with GPA.

Subtask 11.2 Technical Proposal Receipt, Opening, and Evaluation

The Team will make arrangements for the receipt of proposals from bidders. The bids will arrive at GPA's and Stanley's offices under an arrangement to be clarified by both parties. Proposals will be kept confidential, with access by GPA's personnel assigned to the Project. Bidders' representatives who are present at that session shall sign a register as evidence of their attendance.

At Envelope I of the proposal opening, GPA will examine proposals to determine whether the requisite proposal securities have been furnished and whether the documents have been properly signed. Failure to meet this requirement will be cause for immediate rejection of a bid.

With the opening of the Envelopes, the Team and GPA will evaluate the proposals on a pass-fail basis. The evaluation team will determine whether each proposal is substantially responsive to the requirements of the RFP. The technical evaluation will include reviewing all technical data requested by the IFB, including equipment component technical data, performance characteristics, and drawings. Particular focus will be placed on technical guarantees and representations, including:

- Contracted LNG infrastructure LNG processing capacity and regasification gas output over the life of the Project.
- Guaranteed gas quality, including composition and heating value
- Completeness of the data and conformance to Functional Specifications,
- Experience and qualifications of the bidder's proposed Team,
- The experience and qualifications of the proposed EPC contractor(s) in the performance of work of similar complexity
- The experience of the bidder's leading equipment suppliers and the satisfactory performance record of the proposed technology.
- The bidder's proposed project organization and staffing plan for both offshore and onshore project activities, including overall Project
- Management, engineering, procurement construction management and supervision, commissioning, safety, planning and scheduling functions and accounting and commercial activities.
- The experience of the bidder's nominated O&M company.
- The schedule evaluation for completeness and demonstration of knowledge of the work to be done.

In addition to technical items, the Stanley Project Team will evaluate Envelope I for certain non-technical items such as:

- Any changes since the prequalification of the bidder's constitution or legal status
- The bidder's proposed financing plan focuses on the debt-equity ratio, the minimum debt service coverage ratio, the evidence of positive financial commitments or underwritings from reputable financial institutions, and evidence of adequate interest rate protection (hedging) and tariff charges based on fixed interest rates.

Upon completing the technical and responsiveness evaluation, the Stanley Project Team will draft the recommendation to GPA. The recommendation will include documentation regarding responsiveness.

Subtask 11.3 Price Proposal Opening and Evaluation

Once the final list of bidders deemed to be substantially responsive has been determined with GPA the Envelope II will be opened in stage 2. Usually, this is performed in an open forum where all bidders are invited to witness the opening of the prices.

Envelope II Evaluation

As part of the Envelope II evaluation team, the Stanley Project Team will provide its input during the following activities:

- Envelope II Proposals will be compared to determine the lowest-priced proposal. The proposals will be ranked from the lowest to highest on the basis of the proposed selected evaluation criteria. Proposals will be checked for any arithmetic errors in computation and summation.
- During the examination, evaluation, and comparison of the Envelope II Proposals, the need may arise to ask the bidders to clarify their price proposals. The Stanley Project Team will assist GPA in issuing clarifications and will assist in evaluating bidder responses. (No change in the price or the proposal's substance shall be sought, offered or permitted through such clarifications.)
- Upon completing the validation checks and clarifications in this evaluation phase, a proposal offering the lowest tariff shall be deemed the most advantageous proposal. It will be ranked as the First-Ranked Bidder.

The proposed pricing will also be used to update the financial model developed in Phase I to confirm that bringing LNG is still economically beneficial to GPA and the ratepayers.

Upon completing its price evaluation, the Team will advise GPA on its final recommendation and prepare a Bid Evaluation and Recommendation Report.

GO-NO GO POINT NO.2: DECISION TO PROCEED AWARD AND NEGOTIATIONS

The results of the bid evaluation, and especially the financial evaluation, will be presented to the GPA management, CCU, and PUC. For GPA to proceed with the Project award and negotiations with the First Ranked Bidder, the results of the financial proposal evaluation will have to demonstrate that developing the LNG infrastructure and bringing LNG to Guam provides economic benefits to GPA and ratepayers. GPA will present the results of the bid evaluation to PUC and will only proceed with the project award and negotiations with the First-Ranked Bidder after obtaining the PUC approval. Otherwise, the procurement process will be canceled at this stage.

Project Award Process

Upon obtaining the PUC approval to proceed with award and negotiations, the Stanley Project Team will provide support during the project award process. Once the first-ranked bidder is selected and notified, GPA will inform the unsuccessful bidders of the results; however, the second-and third-ranked developers will be requested to stand by with their bid security if the negotiations with the first-ranked developer prove unsuccessful.

Task 12: LNG Infrastructure Contract Negotiations

Once GPA approves the ranking of bidders based on the Bid Evaluation Report, the highest-ranked bidder will be invited for a clarification meeting to clarify their proposal and have preliminary discussions on the open issues and exceptions taken to the project agreements. After completing the clarification meeting the Team will summarize the results, and the preferred bidder may be invited to negotiations.

Once the key terms of the BOT Agreement have been negotiated so that the essential risk evaluation and assignment have been accomplished and the basic project deal structure has been completed, negotiations of other project agreements will proceed.

The Team will analyze exceptions taken by the preferred bidder to the Draft Project Agreements and develop a matrix listing exceptions, changes in the risk allocation associated with each exception, and recommendations for GPA consideration.

The Team will prepare negotiation sessions on technical and commercial issues. GPA is expected to engage a separate legal team to lead the negotiations on legal issues, preside over the negotiation meetings with the selected bidder, coordinate drafting new revisions to the documents (if necessary), and distribute those revisions to GPA and the bidder for review and comment before the next meeting. It is expected that up to three negotiation sessions will be required.

After completing the final round of negotiation meetings, the Team will assist in redrafting the project agreements, as appropriate, based on the final agreed-upon modifications.

The Team will prepare a report summarizing the negotiations.

Task 13: Fuel Contract and Procurement for Fuel Supply

The EPCM RFP specifies the requirement for the EPCM to "develop the fuel contract and procurement for fuel supply." The Team understands that this refers to the LNG ex-ship supply contract and that GPA will continue to procure ULSD using their current USLD procurement practices. The LNG ex-ship Sales ad Purchase Agreement (SPA) will depend on the selected business model. Depending on the model chosen, the activities performed by the Team and included in this proposal would consist of designing a procurement process that:

- Meets GPA's procurement rules.
- Maximizes competition, and
- Fits well with the timeline of the other components of the LNG infrastructure development and power plant project.

The approach to procure LNG ex-ship will be similar to the approach described above for procuring the LNG infrastructure.

The procurement process would include the prequalification and the bidding stage. The proposals at the bidding stage would be based on a two-envelope system. The Stanley Project Team would develop the Request for Prequalification (RFQ) document, the IFB document, and draft LNG ex-ship SPA. As part of the bidder consultation process described above, the Stanley Project Team will contact LNG suppliers to understand their interest in supplying LNG to Guam, potential sources of supply, and the level of flexibility in LNG deliveries that could be tolerated by the suppliers and the impact on the LNG price.

The Stanley Project Team will then support GPA during all the stages of the bidding process, including:

- Development of the RFQ document and RFQ submittal evaluation
- Development of the IFB document, including draft SPA and proposal evaluation
- Assisting during negotiations with the selected LNG supplier.

It is expected that up to three negotiation sessions will be required.

After completing the final round of negotiation meetings, the Stanley Project Team will redraft the LNG SPA, as appropriate, based on the final agreed-upon modifications. The Stanley Project Team will also prepare a report summarizing the results of negotiations.

PHASE 3 - LNG INFRASTRUCTURE IMPLEMENTATION

After GPA signs with BOT Agreement or GSA with the selected BOT developer, the Team will assist GPA during the project implementation phase by performing the following activities:

- Engineering Support for Design and Construction Phase
- Project Management
- Post-Construction and Commissioning Support
- Regulatory and Stakeholder Outreach Support

Task 14: Engineering Support During Construction Phase
After signing the BOT Agreement, the BOT company will proceed with the project implementation. The implementation period will include:

- Pre-financial closing period, when the BOT company would work on obtaining the project permits, signing agreements with their service providers and, possibly, other Guam entities, undergo the lenders' due diligence review, and
- Post-financial period, including LNG infrastructure construction, testing, and commissioning.

The Stanley Project Team will provide engineering support to GPA during both of these phases. The engineering support activities will include responding to questions from the BOT company and their lenders related to permitting interfaces and other technical issues. During the post financial closing period, the Stanley Project Team's services will include a review of design documentation and technical specifications for major equipment developed by the BOT company and their contractors for compliance with the functional technical specification included in the BOT Agreement. The Team will conduct periodic site visits to monitor the construction activities and verify that they are performed with proper quality control and using materials and processes established on BOT technical specification requirements and good utility practices.

Support provided during this Phase will be high-level and limited as it is assumed that the BOT firm will use an Owner's Engineer for detailed review of the devleopment by an EPC sub contractor.

Task 15: Project Management, Post-Construction, and Regulatory Outreach Support

The Stanley Project Team will manage the BOT Agreement between the GPA and the BOT company. The activities will include monitoring the project schedule during pre-financial closing and construction and commissioning periods, conducting weekly progress calls, evaluating change orders and changes in commercial terms of the BOT contract that the BOT company or their lenders could request, and performing other Project and contract management activities. The Stanley Project Team will develop an agenda and meeting minutes for each progress call with the BOT or internal calls between the GPA and the Stanley Project Team. During the testing and commissioning period, the Stanley Project Team will review the results of the guarantee tests, assess BOT company's compliance with the schedule guarantees and any associated liquidated damages, and review and evaluate any BOT company's claims against GPA.

PHASE 4 - LNG/CNG TRANSHIPMENT

As stated in the RFP document, GPA is considering using the LNG infrastructure for other than GPA's needs. These could include LNG bunkering, regional LNG or CNG supply, or local Guam domestic supply. The Stanley Project Team understands that "LNG Infrastructure Contractor" means the BOT company selected for developing, owning, and operating the LNG terminal in Guam.

With assistance from the GPA legal counsel and in consultations with the Guam regulatory authorities, the Stanley Project Team will determine whether GPA can engage in LNG sale for bunkering or local Guam domestic supply from the legal and regulatory points of view. If confirmed, the Stanley Team will analyze the feasibility of using the LNG terminal in Guam for bunkering, regional LNG of CNG supply, and local Guam domestic supply during Phase 2. Based on the results of this analysis, the Stanley Team would estimate additional LNG quantities that could be required to cover the transshipment needs and include the transshipment option in the bidding documents issued to the LNG infrastructure bidders.

The specific tasks to be performed by the Stanley Project Team in case an LNG sale is possible from the legal and regulatory point of view will include the following:

Task 16: Assess Potential LNG Demand for Bunkering and Regional Transshipment

The Stanley Project Team will conduct market research and analysis and contact LNG suppliers in the region to determine a potential market for using LNG storage in Guam for bunkering or regional transshipment. Depending on the results of this analysis, the Stanley Project Team may include additional requirements related to LNG infrastructure design requirements and include an option for the BOT company operating the LNG terminal to use their facilities for bunkering and regional transshipment.

Task 17: Assess Potential LNG/Natural Gas Demand in Guam by Other Industrial/Commercial Users

Guam imported in 2019 refined petroleum products worth US$566 million—including USLD and jet fuel. Although most of the ULSD is used for power generation, commercial and industrial companies use USLD for their industrial processes. These companies could switch from USLD to LNG or natural gas to save costs and decarbonize their production processes.

The Stanley Team will gather fuel import data to understand the types and volumes of petroleum products imported to Guam and identify the largest consumers of these products. We expect to find that the majority of the diesel imports are used for power generation and transportation, but commercial and industrial companies also use a portion of these imports. The Stanley Project Team will attempt to collect this data from public sources. However, if this information is not readily available, the Team will try to work with fuel distribution companies in Guam to obtain this data, for example, Shell. This data will be used to estimate the LNG or natural gas volume that commercial and industrial businesses could demand if they replace USLD, LPG or heavy fuel oil with natural gas or LNG. This volume is the "Potential Demand".

After understanding the potential demand for LNG or natural gas, the Stanley Project Team will identify the companies ("Potential LNG Users") with the most significant consumption of USLD, LPG, and HFO—outside GPA and transport companies. The Stanley Project Team will identify where these companies are located within Guam.

Task 18: Identify and Analyze On-island Transshipment and Distribution Options

The Stanley Project Team will identify technically viable options for transshipping LNG from the LNG import terminal and distributing LNG or natural gas to the Potential LNG Users. Transshipment could be from an FSU onto a smaller onshore storage tank that loads LNG trailers in a truck loading bay. In the case of onshore storage, the LNG could be loaded from the onshore storage tanks. The LNG trailers would deliver LNG to each Potential End User, who would have their LNG storage and regasification infrastructure. If the Potential LNG User is close to the LNG terminal, they could be supplied with gas via a pipeline.

The Stanley Project Team will develop Class 5 cost estimates for each LNG transshipment and distribution chain component and each technically viable option identified. The Stanley Project Team will also estimate the cost of converting the end user's equipment to use LNG or natural gas. These cost estimates will be used to calculate the levelized cost of gas or LNG delivered to each Potential End User. The Team will use this analysis to identify the least-cost LNG transshipment and distribution option.

Task 19: Analyze the Business Case and Estimate Viable Demand

The Stanley Project Team will then compare each user's levelized cost of gas or LNG with the cost of the petroleum product they currently use. The Team will aggregate the demand of those end users who would see cost savings if they switch to natural gas or LNG ("Viable LNG Demand").

Task 20: Analyze and Implement Contracting/Procurement Options

The Stanley Project Team will then analyze viable contracting and procurement options for providing LNG transshipment and distribution services. These options would include various ownership arrangements, including:

- GPA sell LNG or gas ex-terminal to third parties who could then distribute to end-users.
- GPA allows third parties to use the LNG terminal to import LNG and charges these third parties a fee for using the terminal (equivalent to a franchise fee).
- GPA enters into a joint venture with a third party that will distribute and sell LNG or natural gas to end-users.

Under any of these or other ownership or contractual arrangements, it will be very important to ensure that selling LNG or natural gas to end-users in Guam does not compete with GPA's electricity services. If there is a competitive threat, GPA should be compensated adequately.

After developing a set of viable contracting and procurement options acceptable to GPA, the Stanley Project Team will engage with fuel suppliers in Guam to explore their interest in this service and solicit their feedback on these options. These companies already know the fuel distribution business in Guam, have relationships with end-users, and could be interested in the natural gas / LNG business if they see an upside or a threat to their current fuel distribution business. The Stanley Project Team will assist GPA in selecting the best contracting and procurement option for LNG/natural gas distribution and will work with GPA to select service providers or partners and negotiate the contracts that will govern the relationship with these companies.

Project Clarifications:

1) Travel time associated with trips to Guam, GPA's office, or vendor offices have been estimated and will be invoiced.
2) Airfare, luggage fees, car rentals, parking fees, tolls, communication, reprographics, mail etc. will be reimbursed per contract.
3) Short term onsite personnel (less than 30 days) expenses will be expensed at $283/day for food and lodging per 2023 GSA rates. Transportation/incidentals will be expensed separately.
4) Expenses (excluding per diem) will receive a 10% mark-up for administrative processing.
5) Sub-consultant costs will receive a 10% mark-up for administrative processing.
6) A Guam project tax of 5.263% has been included.
7) Fee for the services identified in the scope are estimated and actual costs may exceed the proposed amount. Should client not increase purchase order amounts accordingly, services could be suspended.
8) Interest will be applied to late payments as defined in the contract.
9) Services identified above are performed under mutually agreeable terms and conditions.
10) Project hourly rates provided are for only one year. The project hourly rates and per diem will be evaluated and adjusted on October 1st on a yearly basis. Labor and Per Diem will be adjusted by referencing Producer Price Index (PPI) for Engineering Services (NAICS #541330-P) by the U.S. Bureau of Labor Statistics (bls.gov) and GSA/DOD for Per Diem. The revised project costs will be reviewed with GPA.

Estimated LNG Phase 1 Project Cost: $1,720,000