**BEFORE THE GUAM PUBLIC UTILITIES COMMISSION**

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| IN THE MATTER OF:  The Petition of the Guam Power Authority for Approval of Procurement of New Generation Combined Cycle Units and to Proceed with Implementation of the Integrated Resource Plan (IRP). | )  )  )  )  )  )  ) | GPA Docket 15-05  **ORDER** |

**INTRODUCTION**

1. This matter comes before the Guam Public Utilities Commission [“PUC”] upon the Petition of Guam Power Authority [“GPA”] for Approval of Procurement of New Generation Combined Cycle Units and to proceed with implementation of the Integrated Resource Plan (IRP).[[1]](#footnote-1)
2. GPA requests: (1) approval to procure 180 megawatts of dual fired Combined Cycle generation plant; (2) approval to procure new engineering and technical consulting services to include procurement, contracting, construction and commissioning support for up to a 180MW combined cycle power plant located in the Harmon area (to be funded by the 2014 bond funds); and (3) authorization to retire the Cabras 1 & 2 Steam Plants no later than July 1, 2021.[[2]](#footnote-2)

**BACKGROUND**

1. On August 21, 2015, PUC Consultant Lummus issued its Report: Review of GPA Petition to Acquire up to 180MW of New Combined Cycle Capacity, in Docket 15-05.[[3]](#footnote-3) Lummus found, *inter alia,* that GPA had not justified the addition of new generation by demonstrating that additional generation resources were needed to meet the existing load.[[4]](#footnote-4)
2. On August 31, 2015, GPA experienced a major failure of the Cabras Nos. 3 & 4 Power Plants when an explosion and fire occurred.[[5]](#footnote-5) The explosion resulted in the loss of 78MW of base load capacity.[[6]](#footnote-6)
3. In its Order dated October 29, 2015, the PUC noted that GPA had not submitted any response in the docket to the August 21, 2015 Lummus Report. The Ordering Provisions required GPA to provide numerous items of information to justify a request for new generation.[[7]](#footnote-7)
4. In its proposed plan, GPA was required: (1) to include an evaluation of whether Cabras 3 and/or 4 could be returned to service, and if so, when; (2) to provide a Third Party Condition Assessment of the Cabras 1 & 2 plants and Life Extension Study; (3) to base its plan for new generation on the Independent Power Producer Model; (4) to provide an analysis of the customer rate impacts from the decision to procure the proposed new generation capacity; and (5) to consider a more gradual replacement of the base load generating assets.[[8]](#footnote-8)
5. Approximately nine months later, GPA filed its “REVISED PETITION FOR CONTRACT REVIEW AND GPA RESPONSE TO PUC ORDER.”[[9]](#footnote-9) Along with its Petition, GPA filed extensive documentation addressing the questions raised by Lummus regarding generation and the Integrated Resource Plan. GPA’s responses are detailed and comprehensive.
6. In addition, GPA filed an Update by the Consolidated Commission on Utilities on the Integrated Resource Plan, dated May 24, 2016.[[10]](#footnote-10)
7. The key recommendations of the IRP are to procure up to 180MW combined cycle units, obtain an Engineering, Procurement, and Construction Management (EPCM) contract, to retire the Cabras plants, and to convert MEC 8 & 9 to ULSD under the IPP capitalization model.[[11]](#footnote-11) There is an analysis of the potential rate impact on the ratepayers, and a discussion of the demand side management program.
8. On October 4, 5, and 6, 2016, the Administrative Law Judge conducted public hearings on GPA’s new generation request in Agana, Dededo, and Agat respectively. The purpose of the hearings was to solicit public comment and testimony. All of the testimony supported the procurement by GPA of at least some new combined cycle generation capacity.
9. The ALJ filed his Report herein dated October 21, 2016. The PUC adopts the Report and the recommendations contained therein.[[12]](#footnote-12)

**DETERMINATIONS**

GPA HAS JUSTIFIED THE NEED TO PROCURE NEW GENERATION CAPACITY:

1. The loss of Cabras Plant Nos. 3 & 4 has resulted in the reduction of base load by 78MW. Cabras No. 4 is inoperable; no final determination has been made on the future of Cabras No. 3. GPA’s IRP does not rely upon the continued use of Cabras No. 3. There is a reasonable assumption that Cabras No. 3 will not be available to GPA as a base load unit in the foreseeable future.
2. In a Life Extension Study on the Condition of GPA’s present generators, including the base loads, GPA’s consultant Leidos characterizes the condition of Cabras 3 & 4, even before the explosion, as “poor.” It is reasonable to question whether, given the damage to Cabras 3 caused by the explosion, it would make sense to invest insurance settlement proceeds in restoring such plant rather than investing in new plants.
3. According to its CCU updated IRP, dated May 24, 2016, GPA’s current plan is to retire the Cabras No. 1 & 2 Steam Plant (132MW) no later than July 1, 2021.
4. The PUC need not, at present approve a specific retirement date for the Cabras Nos. 1 & 2 plants. However, the age of such plants, and their present condition, suggest that their useful life will not likely extend beyond the projected five year period.
5. Consultant Leidos indicates that the Cabras 1 & 2 plants have been in operation for over 40 years. It concludes: “Based on our review, the current condition of the Cabras Plant and the current applicable environmental regulations in place, Leidos is of the opinion that **the Cabras Plant** **is at the end of its useful life.”**
6. According to Leidos, the maintenance costs for Cabras No. 1 & 2, on top of the normal O&M costs, will total nearly $10 million per unit from 2017 through 2021. After 2021, the plant would require continued investments of approximately $2M per unit annually on top of routine O&M costs.
7. Thus, assuming that the Cabras No. 1 & 2 plants are not available after 2021, there would be a total base load loss (including Cabras 3 & 4) of 200MW of capacity.
8. The Energy and Peak Forecast (Base) indicates that the present system peak of 258MW could increase to 291.7MW by 2035. The potential increase in energy demand also may justify procurement of new base load units.
9. GPA has also sought to justify its new generation based on the need to comply with USEPA regulations regarding the RICE MACT and EGU MACT Rules. GPA further contends that its new generation plans will be in compliance with the USEPA Regulations. GPA has agreed to present any proposed consent decree with USEPA in advance of entering into such decree. PUC can more fully review GPA’s compliance plans when formally presented to the PUC.
10. It is evident that GPA will need to replace base load generation; it has established the need to procure additional generation capacity.

GIVEN THAT THERE IS AN INCREASED NEED FOR BASE LOAD CAPACITY, GPA

HAS OFFERED SUFFICIENT JUSTIFICATION TO PROCURE A NEW GENERATION

COMBINED CYCLE PLANT OF 180MW:

1. GPA’s Petition and its IRP generally request approval for procurement of “up to 180MW” of combined cycle generation.
2. An argument could be made that GPA does not need a 180MW plant operation, but that some lesser generation capacity plant(s) would suffice.
3. In his testimony, Jeff Voacolo of Micronesia Renewable Energy Inc. indicates his belief that a smaller plant, perhaps 60MW or 100MW, would be sufficient. There could be substantial developments regarding renewable energy, such as advancements in battery storage that would make renewable energy a more viable alternative within the next few years.
4. GPA also has standby/reserve generation capacity of 168MW; this is primarily comprised of combustion turbine units and fast track generators. GPA has, in recent months, expended a considerable amount of funds to bring certain generators back online (Macheche CT, $2.7M; Yigo CT, $2.3M; Expenditure Repairs for the Dededo CT 1 & 2 from 2017 through 2022 are estimated to be $17M to operate and repair said plants).
5. It could also be argued that GPA could possibly reduce the size of its new combined cycle generation plant based upon the availability of the additional standby reserves.
6. A reduction from 180MW to, for example, 160MW or 140MW, would have a considerable impact upon rates that ratepayers will ultimately have to pay.
7. GPA has admitted that, with smaller plants, it may be able to function with a smaller reserve capacity, which could reduce the need for the full 180MW.
8. Leidos, GPA’s own consultant, basically finds that GPA failed to properly maintain the base loads or the combustion turbines. Leidos finds that all such plants are in poor condition. However, MEC 8 & 9, which are privately operated by an IPP, are found to be in “good” condition, Had the GPA plants been properly maintained, Leidos indicates they could have been used for another 20 years.
9. The basic reason why GPA needs 180 MW of new generation capacity appears to be that it failed to properly maintain and service its existing plants.
10. Nevertheless, given the present situation, GPA’s position that there is a need for 180MW of new capacity is within the bounds of reason and not contrary to logic. It may be arguable whether GPA needs 180MW, or whether a lesser amount would do. However, as GM Benavente pointed out, the responsibility for keeping the lights on is placed upon his shoulders. When GPA retires the Cabras 1 & 2 plants, it will have lost up to 200 total megawatts. It is not unreasonable to suggest that GPA should be able to procure 180MW to replace the 200MW lost.
11. Furthermore, at this stage of the process, GPA is only requesting procurement authorization for “up to 180MW”. PUC will have a further opportunity for review, upon submission by GPA, of the actual procurement, and upon review of the final award, to determine the appropriate amount of megawatts needed for the combined cycle plant.
12. At present, there has been no showing that renewable energy is reliable or stable enough to provide reliable base load generation for Guam. GPA presently estimates that it would cost $320M to provide full time, effective and reliable solar power from the Dan Dan Plant through battery storage. That situation could change in the future. Renewable energy could become viable as a 24/7 base load option before the end of the useful life of any combined cycle units purchased. However, it is pure speculation to suggest when renewable energy will be a viable alternative to base load fossil fuel generation.
13. Also, if renewable energy did become reliable and available during the 30 year IPP Contract, GPA could use the combined cycle units as peaking units and possibly retire the other peaking units.

GPA SHOULD BE AUTHORIZED TO PROCURE ENGINEERING, PROCUREMENT,

AND CONSTRUCTION CONTRACTOR SUPPORT FOR A NEW COMBINED CYCLE

PLANT:

1. GPA is seeking PUC approval for its engineering, procurement, and construction management contractor (EPCM). The purpose of such contractor would be to assist GPA in the development of the procurement for new generation and the construction of a plant with characteristics best suited to GPA’s needs.
2. In this Docket, GPA previously made a request in May 2015 to expend 2014 Bond Funds, in the amount of $750,000, for procurement of engineering and technical consulting services relative to the 180MW combined cycle power plant.
3. However, in its May 28, 2015 Order, the PUC denied GPA’s request for an EPCM, on the ground that a proposed 180MW combined cycle plant had not yet been approved by the PUC.
4. Since the PUC is approving the procurement of a new combined cycle plant, GPA’s request for $750,000 for the specified engineering and technical consulting services should also be approved.
5. The process of procurement for the combined cycle plant, as well as various proposed aspects of GPA’s IRP plan, will require expert consulting services. It stands to reason that GPA needs the services of a highly specialized consultant to carry out a project of this scope and magnitude.
6. The requested engineering and technical consulting services will be funded from the 2014 bonds. Previously, the PUC held in GPA Docket 13-14 that it was appropriate to fund projects that relate to GPA’s new generation facilities and fuel conversion from the LNG Initial Start Up Budget.
7. In 2014 GPA Bond Issuance, there were funds originally allocated for “LNG Initial Start Up” in the amount $3M.
8. GM Benavente confirmed at the Public Hearing on October 4 that there are still remaining funds from the $3M that can be used to cover the $750,000 expense for the EPCM.
9. GPA should be authorized to expend $750,000 for engineering and consulting services relative to the new combined cycle plant, such funds to be paid from the 2014 Bond Funds allocation for LNG Initial Start Up. Such expenditure is reasonable, prudent and necessary.

GPA’S PROCUREMENT WILL CAUSE A RATE IMPACT UPON THE RATEPAYERS:

1. A major concern with regard to GPA’s proposal to procure 180MW of combined cycle plant is the potential impact of such procurement upon the ratepayers of Guam.
2. In its May 24, 2016 Update to the IRP, GPA has provide “estimates” as to rate impact from its proposed procurement. It has developed both “High and Low Capital of Cost Estimates” for insurance settlements of $100M Proceeds and $150M Proceeds (FOR THE Cabras 3 & 4 Claim).
3. At present whether there will be a settlement or the amount of such proceeds is unknown. If there is a settlement relative to the Cabras 3 & 4 Claim, the proceeds derived, or a portion thereof, could be applied to new generation costs. Under the “High Capital Cost Estimate”, with a $100M insurance settlement, GPA anticipates that there would be an impact on the total ratepayer bill, between 2024 and 2026, in the amount of 6.8%. The impact on Base Rates for that three year period would be 19.7%.
4. This “estimate” is rough and not necessarily accurate. With so many variables regarding the claim settlement, it is very difficult to predict how much cash will be available for the new generation costs.
5. Whether settlement funds will in any manor be tied to the repair of the Cabras 3 is also unknown.
6. Furthermore, GPA’s cost estimates of rate impact with the procurement of a 180MW plant is, in part, based upon Bond “restructuring” plans, and plans for issuance of a new 30 year bond. Neither of these options has yet been approved by the PUC.
7. However, GPA did give a reasonable explanation of how the cost for the procurement would be paid at the Public Hearing on October 4, 2016. GPA indicated that the “New Resource Cost” for the IPP partner for construction of the 180MW combined cycle plant would be roughly $424M. This is the cost paid by the IPP for the new generation.
8. GPA would be reimbursing such cost to the IPP through payments for the power produced over a 30 year period. Chairman Duenas estimated that the price for the power purchased from the IPP over the 30 year period would be $.0438 per KWH. This cost compares favorably with the current purchase rate for power produced for GPA from MEC 8 & 9, which is $.0485 per KWH.
9. GPA will not have to pay the “New Resources Cost” upfront, but will make payments on such amount over the 30 year period for purchase of energy production.
10. There will be additional costs for “New Resource Land, Interconnection and Fuel Piping Costs” in the amount of $93,562,000. These include a Transmission Line cost in the amount of $60,203,000, Fuel Piping in the amount of $21,218,000 and Land Purchase Price in the amount of $12,141,000. These costs all involve location of the proposed site for the plant in Harmon.
11. GPA is hopeful that insurance settlement proceeds from the Cabras 3 & 4 explosion will assist in paying off the costs in the amount of $93,562,000.
12. As a part of GPA’s plan, there are also “Life Extension Costs” to support Cabras 1 & 2 over the next five years, as well as continuing PMC costs and O & M costs for the combustion turbines and fast track generators. The total cost over the five year period is estimated to be in the range of $83M. GPA intends to pay these costs primarily through revenue funds.
13. At present it does appear that GPA has a plan to minimize the rate impact upon ratepayers from the procurement of the 180MW combined cycle plant. Both GM Benavente and Chairman Duenas stated that there are cost cutting and savings initiatives which will result from the addition of this new plant that can minimize the rate impact upon GPA customers. GPA has promised to minimize such rate impact by any means available.

CONDITIONS SHOULD BE IMPOSED UPON GPA’S PROCURMENT

AUTHORIZATION FOR THE COMBINED CYCLE PLANT AND THE IRP:

1. This Order only addresses the issues specifically referenced herein. It does not authorize aspects of the IRP that are not specifically addressed. However, other issues, including the appropriate date for the retirement of the Cabras 1 & 2 plants, and approval of other aspects of the IRP, can be deferred to a later time.
2. Any plan for proceeding ahead with LNG at the present time is disapproved. GPA has not demonstrated that such plan is economically viable.
3. In its IRP, GPA has referred to a number of plans by which GPA would participate in the funding and/or ownership of certain aspects of the proposed plant. Those references include “IPP Model with GPA financing”, “Issuance of New 30 Year Bonds”, “Finance and Lease of Equipment to IPP”, and “Restructure/Refund” of GPA bonds. None of these plans have been justified to date. They are not approved at the present time.

**ORDERING PROVISIONS**

After review of the record herein, GPA’s Petition for Approval of Procurement of New Generation Combined Cycle Units and to Proceed with Implementation of the Integrated Resource Plan (IRP), 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. GPA is authorized to procure a combined cycle plant of up to 180MW. Before such procurement is issued by GPA, it should be first reviewed and approved by the PUC.
2. GPA’s plan for up to 180MW of new combined cycle generation capacity shall be based upon the Independent Power Producer (IPP) Model as a Build Operate Transfer (BOT), similar to MEC 8 & 9, rather than upon ownership by GPA.
3. GPA is authorized to procure an Engineering Procurement and Construction

Management contractor for a new combined cycle plant, and is authorized to expend $750,000 for such engineering and consulting services, to be paid from the 2014 bond fund allocation for LNG Initial Startup.

1. GPA plans for bond financing, restructuring, or financing/leasing for the IPP are disapproved at the present time.
2. GPA’s procurement authorization for the new combined cycle plant is conditioned upon the restrictions and limitations set forth in the DETERMINATIONS section of this Order.
3. The PUC reserves the right to further consider the issue of whether 180MW should be the proposed capacity of the new plant, or whether a lesser capacity would suffice, upon GPA’s submission of the procurement for approval. This issue may be further reviewed upon submission of the final proposed procurement award to the PUC.
4. GPA shall retire Cabras 1 & 2 upon commission of the new generation combined cycle plants.
5. The PUC retains jurisdiction herein to make any further review of any and all

aspects of the IRP.

7. When GPA submits the new generation procurement to PUC for approval, it shall also provide a fully updated and comprehensive rate impact study.

8. 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.

Dated this 27th day of October, 2016.

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Jeffrey C. Johnson Joseph M. McDonald

Chairman Commissioner

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Rowena E. Perez Peter Montinola

Commissioner Commissioner

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Michael A. Pangelinan Andrew L. Niven

Commissioner Commissioner

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Filomena M. Cantoria

Commissioner

1. GPA Petition for Approval of Procurement of New Generation Combined Cycle Units, GPA Docket 15-05, filed July 14, 2016. [↑](#footnote-ref-1)
2. Id. [↑](#footnote-ref-2)
3. Lummus Consultants INT’L Report: Review of GPA Petition to Acquire up to 180MW New Combined Cycle Capacity in Docket 15-05, submitted on August 21, 2015. [↑](#footnote-ref-3)
4. Id. [↑](#footnote-ref-4)
5. GPA Petition for Approval of Procurement of the Temporary Power Generation Services, GPA Docket 15-18, filed September 17, 2015. [↑](#footnote-ref-5)
6. Id. [↑](#footnote-ref-6)
7. PUC Order, New Generation Combined Cycle Units, GPA Docket 15-05, dated October 29, 2015, at p. 5. [↑](#footnote-ref-7)
8. Id. [↑](#footnote-ref-8)
9. GPA Revised Petition for Contract Review and GPA Response to PUC Order, GPA Docket 15-05, filed July 14, 2016. [↑](#footnote-ref-9)
10. CCU UPDATE, INTEGRATED RESOURCE PLAN, dated May 24, 2016. [↑](#footnote-ref-10)
11. Id. [↑](#footnote-ref-11)
12. ALJ Report, GPA Docket 15-05, dated October 21, 2016. [↑](#footnote-ref-12)