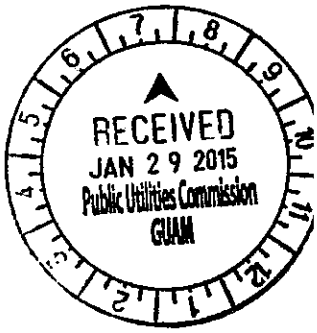

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:	)	DOCKET NUMBER 15-05
The Petition of the Guam Power Authority	)	
For Approval of Procurement of New	)	**ORDER**
Generation Combined Cycle Units and to	)	
Proceed with Implementation of the	)	
Integrated Resource Plan (RIP)	)	
----------	)	

I. INTRODUCTION

This matter comes before the Guam Public Utilities Commission (GPUC) in response to a petition by the Guam Consolidated Commission on Utilities (CCU) filed on November 10, 2014, seeking to begin procurement for new combined cycle units and implementation of the Integrated Resource Plan.

II. BACKGROUND

1. Summary of Petition

GPA has filed a petition, pursuant to the Contract Review Protocol, requesting the Public Utilities Commission of Guam to "review and approve its petition to begin procurement for new generation combined cycle (CC) units and implementation of the Integrated Resource Plan (IRP)."[1]

GPA believes the IRP and the IRP Implementation Strategy or Resource Implementation Plan (RIP) previously "submitted to the PUC outlined key decisions and milestones critical to developing the RIP. The PUC approved the IRP in July 2013 and required GPA to submit a RIP that addressed a detailed implementation schedule, projected project expenditures, identification of key decision-making milestones, criteria and expenditures to reach those milestones, and identification of expected milestones for establishing LNG supply contracts."[2]

"The Resource Implementation Plan does not provide the final implementation plan, but does provide additional information to GPA and the CCU to assist in IRP implementation and development of a detailed Program Execution Plan. GPA believes that IRP implementation will provide significant savings in future fuel and fuel related costs. Implementation of the IRP has been based on the need for GPA's power plants to come into compliance with recently implemented environmental regulations issued by the United States Environmental Protection Agency, which include RICE-MACT (slow speed generators) and EGU-MACT (steam generators). The compliance deadline for RICE-MACT was May 3, 2013 and the deadline for EGU-MACT is April 16, 2015. GPA believes that given the significant costs to bring the older steam units into compliance, GPA determined that a better approach would be to pursue a consent decree with USEPA to continue to operate the Cabras 1&2, Cabras 3&4, and MEC 8&9 units using RFO while GPA implemented a plan to bring new generation online and convert MEC 8&9 to either ultra-low sulfur diesel (ULSD) or LNG to comply with current USEPA regulations. GPA is requesting approval to

[1] GPA Docket No. 15-05, Background
[2] Ibid

construct 120 megawatts of dual fired Combine Cycle generation plant, with an option for an additional 60 megawatts of dual fired Combine Cycle generation plants as needed."3

In support of this Petition, GPA has provided the PUC with Consolidated Commission on Utilities (CCU) Resolution No. 2014-48, which authorizes the General Manager to petition the PUC for approval of the plan to acquire 120 megawatts of dual fired Combined Cycle generation and an option for an additional 60 megawatts of dual fired Combined Cycle generation.

Analysis

GPA has more than adequate generating capacity to meet current and anticipated loads, so a key question raised by the filing is, "What is the problem GPA is trying solve?" GPA indicates that its plan will address anticipated US EPA requirements, provide benefits to the local economy from such investment, and reduce costs for GPA ratepayers.

GPA's Petition and associated Resolution focuses on their need to build 120 MWs of new Combined Cycle generation with the option to build an additional 60 MW as their preferred alternative to spending $460 million in stack emission equipment to continue to operate Cabras 1&2 and Tanguisson 1&2 ($220M) and Cabras 3&4 and MEC 8&9 ($240M) in order to meet EPA requirements. The Resolution speaks to retiring Tanguisson 1&2 and Cabras 1&2 once the new CCs are online as a preferred alternative but GPA never specifies how they plan to bring Cabras 3&4 and MEC 8&9 into compliance. No alternatives, other than emission equipment or a "like for like" capacity replacement with new CCs, are mentioned by GPA as part of their assessment of alternatives for Tanguisson 1&2 and Cabras 1&2. Any discussion offered by GPA is focused solely on capital cost requirements; fuel switching implications are not addressed. Other possible alternatives that could allow some continued use of RFO, in the short term at least, are not discussed and in conversations with GPA simply eliminated as not possible without demonstration as such.

Further, the Resolution speaks to GPA "plans" to look at the impact of other key decision variables including: the level of demand for electricity over the next three (3) to four (4) years; the development of additional renewable energy resources; the impact of demand side management programs on GPA's load; the ability to enter into demand response agreements with government and commercial customers; and, the cost of load leveling energy storage solutions. In spite of mentioning these plans, GPA provided no specifics on how these elements might impact either the timing or magnitude of the need for new capacity, such as the requested Combined Cycle generation. GPA indicated that it is involved in or planning for the following initiatives that we would expect to impact the need for new generation:

1. GPA has issued a bid for 40 megawatts of utility scale solar energy;
2. GPA is developing a Rooftop Solar Energy Program;
3. GPA is in discussion with the U.S. Navy for the potential construction of a 45 plus megawatt solar energy facility;
4. GPA is pursuing a project to construct an energy storage system to help minimize generation outages and reduce the cost of spinning reserve requirements of the system; GPA indicated that this storage solution will help lessen the vulnerability of the system to intermittency events caused by renewable energy systems throughout the island; and

[3] Ibid

5. GPA continues to explore opportunities to utilize load leveling energy storage solutions in the grid.

In addition, GPA's grid reliability studies have identified numerous actions that could be taken to improve the grids performance. Such an improvement has multiple potential benefits including reduced customer outages, reduced need for generating capacity and the associated fossil fuel, and improved ability to incorporate renewable resources. GPA has not provided the Commission with any information related to how such grid related activities might also impact the magnitude and timing of the need for the proposed new generation.

The financial data initially provided to the Commission to demonstrate the impact of the proposed new generation has several anomalies that GPA is currently in the process of resolving. These include the following anomalies.

1. GPA's use of a different sales forecast in the financial model originally received by Slater Nakamura and Lummus Consultants than it displayed in Slide 22 of the 10/27/2014 presentation to the CCU. The model contains a more optimistic sales forecast.
2. The construction and financing costs for the "Environmental Compliance" projects – at Tenjo Vista, MDI Diesel and Talofofo - are not included in the financial model due to an error in assumptions. This leaves approximately $2.1 million in bond par value unaccounted for in the estimates.
3. The capital costs for the two 60 MW units have a nameplate rating of 110 MW in total (55 MW per unit) with an unknown effect.
4. The capital costs for the two 60 MW units – expressed as a total of 100 MW of nameplate capacity – are scaled from a 220-MW estimate and are adjusted by $50 million and $39 million for unspecified reasons.
5. GPA's fuel forecast "Base" case assumes a cost for RFO that may not reflect the same cost that GPA actually paid on average during FY 2014.
6. Distillates are presumed to cost 1.59 times the cost of a 60/40 blend of High Sulfur and Low Sulfur RFO even though recent GPA actual deliveries in its FY 2015 data indicate a multiple of 1.47 relative to the cost of a 61/39 blend.
7. The assumption of a very high average plant efficiency level – in the form of a heat rate (Btu/KWh) – not observed in any study of a future combined cycle plant known to the Commission's consultants. GPA appears to inconsistently use Lower Heating Value (LHV) and Higher Heating Value (HHV) heat rates when calculating the new Combined Cycle generation fuel costs.
8. GPA refers to Cabras 1&2 and Tanguisson 1&2 as nearing the "end of their useful lives" but the 2011 LNG feasibility study provided to the Commission indicated that life extension of 25 years or more could be possible for these units with capital expenditures on the order of $2 to$ 3 million/year. This should have been further analyzed as an alternative resource approach to the capital cost associated with new generation sources.

For all the previously stated reasons, the analyses that have been provided to the PUC to date have been found lacking in completeness and consistency making it difficult to have confidence in the conclusions reached.

III. DETERMINATIONS

This is a critical time in the evolution of Guam's energy future; decisions made today will have long term implications for residents' energy costs. The PUC concurs with GPA's belief that Guam's energy future is tied to the ability to reduce dependence on the use of fossil fuels in a cost effective manner.

The PUC believes Guam's energy future should be more focused on reducing fossil fuel dependence, not simply shifting from one fossil fuel to another. We urge GPA to consider expanding its current fossil fuel focused plan to a more balanced approach with increased and near term emphasis on enhancing the electric grid infrastructure, adopting energy efficiency, and acquiring renewable energy sources.

In its July 2013 Order the PUC conditionally approved GPA's 2013 Integrated Resource Plan, subject to the following:

1. Within 120 days of this Order or sooner, GPA shall prepare and submit a detailed Resource Implementation Plan to the PUC for approval. This Plan shall identify the acquisition strategy GPA intends to utilize to bring LNG resources to Guam, including: a detailed implementation schedule; projected project expenditures consistent with the project schedule; identification of key decision-making milestones, criteria, and expenditures to reach those milestones; and identification of the expected schedule milestones for establishing contracts for the LNG supply. The Resource Implementation Plan should also address appropriate business models for adoption of LNG and other resources in the future.
2. GPA shall continue negotiations with the USEPA related to compliance with the RICE MACT standards for the slow speed diesels.
3. GPA shall continue with the recommendations of the IRP, with additional investigations performed in parallel as suggested in the Lummus Letter Report, including:
4. Further investigation of renewable fuels with and without storage to mitigate any potential reliability issues.
5. Further investigation of alternative low sulfur fuels.
6. Early identification and discussions with potential suppliers of LNG to Guam including expressions of interest in serving this size market.
7. In parallel, GPA will continue to investigate the economics of diversification of fuels and a project plan for this path will be included in the Resource Implementation described in 1 above. This should include investigation of lower sulfur fuel, renewables including battery storage technology, and identification of the preferred level of diversification for Guam including the economic impact.
8. GPA's efforts on these activities will be monitored by PUC, with the assistance of Lummus Consultants, as it moves forward. The GPUC will consider the inclusion of reasonable costs associated with a well thought out Resource Implementation Plan, either in the LEAC or a budgeted item in the FY2014 rate proceeding, after review.
9. In proceeding ahead with IRP and the activities outlined in this Order, GPA shall seek review by the PUC of all matters for which prior PUC review is required under the Contract Review Protocol.
10. GPA will investigate as part of the next steps how to enhance system reliability in order to encourage inclusion of renewable technologies and to enhance service to customers and will submit reports to the GPUC semiannually on its progress.

To-date the PUC has found the information provided by GPA in response to the July 13 Order to be generally lacking in at best consistency with its presentations to the CCU and at worst completeness of necessary analysis. The PUC would like more information on the resource need implications of GPA's ongoing actions related to minimizing the energy demand of its customer base, optimizing the use of renewables and the performance of the generation, transmission, and distribution system prior to launching into any major capital investments for new generation that may not be necessary or required to a lesser degree. The PUC observes that the robustness of GPA demand assumptions would be improved if it would conduct a statistically valid survey of distributed generation currently installed and seek information relative to plans for installation on the GPA system.

Specifically, the PUC is concerned that GPA has not fully addressed alternatives to meeting existing and pending EPA regulations that do not involve building new Combined Cycle generation. For example, alternatives might include any of the following alone or in combination:

1. Possibly retaining the use of RFO at one or both Cabras Units 1&2 by adding precipitators to these units and retiring the Tanguisson units – this provides added fuel diversity as a benefit;
2. Expanding the emphasis on DSM – we understand that a plan is under development;
3. Expanding the emphasis on the potential impact of both behind-the-meter and utility-scale renewables and perhaps developing an incentive to encourage customer installation of renewables;
4. Specific electric grid related measures to address reliability, the level of reserve generation required, and the ability of the system to accommodate increased deployment of renewable generation; and
5. The use of blended or alternative fuels at existing units.

In addition, the PUC is also concerned that the Petition as-filed may be too prescriptive in its requirement for combined cycle technology in a size (60 MW) indicative of a specific technology (LM6000 in this case) and manufacturer. Further, the PUC desires that GPA explore the possibility of procurements by which it can enhance its ability to seek a variety of potential resource solutions for some MW level from vendors without specifying the technology.

Lastly, the previously articulated inconsistencies and inaccuracies in the financial analyses provided to the PUC to date need to be resolved in order for there to be any confidence in the conclusions being derived by GPA.

IV. ORDERING PROVISIONS

After careful review and consideration of the Report of Lummus Consultants and consideration of the above determinations, the Guam Public Utilities Commission HEREBY ORDERS that:

1. The PUC is not satisfied that the information GPA has provided to date provides sufficient justification to proceed with procuring new combined cycle generation at this time. Accordingly, in regards to the pending Petition for adding New Combined Cycle Generation the PUC rejects the Petition as-filed on the grounds that it does not present sufficient evidence that the proposed new generation is justified. Further consideration is deferred pending GPA providing more specific and complete information as requested by the PUC in both the July, 2013 Order related to the IRP and this Order.
2. The Administrative Law Judge ["ALJ"] is hereby authorized to conduct further proceedings in this Docket. In such proceedings, the AU shall work collaboratively with GPA and Lummus

Consultants (and Slater Nakamura as needed on the rate financial analysis) to develop updated analyses related to the need for new Combined Cycle or other types of capacity.

3. In order to address the need for new combined cycle capacity, in an expeditious manner, a series of conferences shall be held between GPA and Lummus Consultants with participation of the ALJ (hereinafter the Parties), as follows:
    a. Within 14 days of the date of this Order, the Parties shall participate in an initial conference to discuss objectives, direction, procedure, timing and other pertinent considerations.
4. Not later than 150 days after the date of this Order, GPA shall submit a revised analysis that includes:
    a. An updated and consistent set of planning related assumptions including but not limited to peak load and energy forecasts, fuel forecasts, forecasted impacts of Demand-Side Management (i.e. Demand Response, Energy Efficiency), customer side distributed generation, and renewable energy.
    b. An increased emphasis on DSM and its potential cost and impact on reducing the amount of fossil fuel required for generation.
    c. An increased emphasis on renewable energy of both utility and customer scale with a focus on understanding the cost, reliability, and fossil fuel requirement implications.
    d. An updated financial model reflecting updated financial and planning assumptions including such assumptions as general inflation, real escalation in fuel and non-fuel O&M costs, customer sales and system losses.
    e. The potential impacts of specific electric grid related measures to address reliability, the level of reserve generation required, and the ability of the system to accommodate increased deployment of renewable generation.
    f. Explicit consideration of alternatives (not including flue gas de-sulfurization or scrubbers)to continuing the operation of existing units, including the use of blended fuels.
5. Not later than 200 days after the date of this Order, GPA shall submit a revised Resource Implementation Plan to the PUC that includes all provisions previously ordered in the July, 2013 Order updated to reflect the results of this Order.
6. GPA is ordered to pay the PUC's regulatory fees and expenses, including, without limitation, consulting and counsel fees and the fees and expenses of conducing the hearing proceedings. Assessment of PU C's regulatory fees and expenses is authorized pursuant to 12 GCA §§12002(b) and 12024(b), and Rule 40 of the Rules of Practice and Procedure before the Public Utilities Commission.

Dated this 29th day of January, 2015.

Jeffrey C. Johnson
Chairman

Joseph M. McDonald
Commissioner

Rowena E. Perez
Commissioner

Peter Montinola
Commissioner

Michael A. Pangelinan
Commissioner

Andrew L. Niven
Commissioner

Filomena M. Cantoria
Commissioner