

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION

IN THE MATTER OF:)
) GPA DOCKET 11-15
)
The Application of the Guam Power)
Authority Requesting Approval of the) **PUC COUNSEL REPORT**
Procurement of the Repair of Dededo)
Combustion Turbine Generators)
_____)

INTRODUCTION

1. This matter comes before the Guam Public Utilities Commission [“PUC”] upon the Petition of the Guam Power Authority [“GPA”] for Approval of the Procurement of the Repair of Dededo Combustion Turbine Generators.¹

BACKGROUND

2. Dededo Combustion Turbine (CT) Unit #2 generator failed on May 29, 2004, leading to a shutdown of the unit.² The Unit has not been operational since that time.
3. On December 29, 2010, the Dededo Combustion Turbine (CT) Unit #1 tripped due to a broken radial lead bolt falling into exciter-side stator coils resulting in a short circuit fault.³ This Generator has also been non-operational since that time.
4. Taiwan Electrical and Mechanical Engineering Services Inc. has conducted Assessment Reports for both Dededo CT Generators.⁴
5. With regard to Generator #2 at the Dededo CT Power Plant, inspections revealed that a loose air baffle bolt fell into the turbine-side stator coils resulting in a V-W phase short-circuit fault. More than ten stator bars were partially melted and half of the insulation of the stator bars were partially melted and half of the insulation of the stator coils at 3 to 9 o’clock was scorched by the fault arc.⁵

¹ GPA Petition for Contract Review of Repair of Dededo Combustion Turbine Generators, GPA Docket 11-15, filed December 1, 2011.

² Consolidated Commission on Utilities Resolution No. 2011-51, adopted October 11, 2011, at p. 1.

³ Id.

⁴ TEMES Assessment Report for the Repair of #2 Generator at Dededo CT Power Plant, submitted December 2009; TEMES Preliminary Assessment Report for the Repair of #1 Generator at Dededo CT Power Plant, submitted February 2011.

⁵ TEMES Assessment Report at Dededo Unit #2 Generator, December 2009, at p. 1-1__.

6. TEMES Preliminary Assessment for the Dededo CT Unit#1 Generator indicates that the plant tripped due to 87G protective relay while at 20 MW. Subsequent inspections revealed that one of the two radial lead bolts which were connected to rotor field windings was broken, and it fell into the exciter-side stator coils resulting in a U- V phase short-circuit fault. Some stator bars near 6 o'clock position were partially melted and the stator insulation at 6 to 10 o'clock was burned or blacked by the fault arc.⁶
7. The estimated cost to complete the repairs is \$2.4M for Dededo CT Unit #1 and \$2.8M for Dededo CT #2.⁷
8. The CCU has authorized GPA's General Manager to proceed with the procurement of the repair of the Dededo Combustion Turbine Generator; GPA now asks that PUC approve its request to proceed with such procurement, alleging that the procurement is "reasonable, prudent, and necessary."⁸

DISCUSSION

9. GPA offers several convincing justifications for authorizing the procurement for the repair of the Dededo combustion turbines.
10. If the repair of both turbines is not addressed expeditiously, the turbines and auxiliary equipment will continue to deteriorate for lack of operation. Future damage to the equipment may result, making any repairs even more costly in the future.⁹

⁶ TEMES Assessment Report for the Repair of #2 Generator at Dededo CT Power Plant, Submitted December 2009.

⁷ CCU Resolution No. 2011-51, adopted October 11, 2011, at p. 1.

⁸ GPA Petition for Contract Review of Repair of Dededo Combustion Turbine Generators, GPA Docket 11-15, filed December 5, 2011, at p. 2.

⁹ See GPA Justification for Contractual Services to Repair Dededo CT Unit #1 & #2 Generators attached to GPA's Petition for Contract Review of Repair of Dededo Combustion Turbine Generators, GPA Docket 11-15, filed December 1, 2011.

11. It would not appear to be desirable, or an efficient use of power generation resource, to allow generators which cost in the range of \$16M to \$20M to simply deteriorate and become unusable.
12. The Dededo CT units provide important backup system reliability and, in particular, support the Andersen Air Force Base Load.¹⁰ The repair of the combustion turbines will allow GPA to support the power needs of the Air Force Base through the dedicated underground 34.5 kV link between the plant and the base.¹¹
13. It is important to enhance output and efficiency for the military loads at Andersen Air Force Base; the Dededo CTs will be available as peaking units and to support the needs of Andersen during typhoons and outages.¹²
14. In addition, the availability of these units is important to support the IWPS when major base load units are down.¹³
15. Previously Georgetown Consulting Group had recommended in 2007 that PUC take no action on a request to repair the Dededo Unit #2 project until the occurrence of certain matters.¹⁴ However, circumstances have changed since that time, with *both* units now being down and a significant amount of additional time having elapsed during which Unit #2 has been non-operational and offline.
16. Cost is certainly a factor. GPA intends to use internal revenue funds to support these projects, and the total cost is over \$5M. Obviously, there would be a rate impact.
17. To mitigate such impact, GPA plans to finance the repairs and has included requirements for financing the project for up to 36 months at no more than 4% interest in the bid documents.¹⁵

¹⁰ Id. at p. 1.

¹¹ Id. at p. 2.

¹² Id. at p. 2.

¹³ Id.

¹⁴ GCG Report, Docket 94-04, Dededo CT and Agana to Tamuning Underground Project Review, dated October 31, 2007.

¹⁵ Consolidated Commission on Utilities Resolution No. 2011-51, adopted October 11, 2011, p. 1.

18. GPA has requested that bidders provide at least an 18 month financing proposal, which would be around \$300K/month. Depending on when the project starts, it may stretch over 3 fiscal years, thus spreading out expenses.¹⁶
19. Although the cost is high, the rationale for the procurement weighs in favor of authorizing the repair of the Dededo CTs.

RECOMMENDATION

20. Based upon the justifications offered by GPA, Counsel recommends that the PUC approve GPA's Petition and authorize it to issue procurements for the repairs of Dededo Combustion Turbines (CT) Units #1 & #2 generators.
21. GPA should be required to seek approval of the PUC for contracts for any contract entered into with offerors for the performance of repair services for the Dededo combustion turbines.
22. A proposed Order is submitted herewith for the consideration of the Commissioners.

Dated this 15th day of December, 2011.

Frederick J. Horecky
PUC Legal Counsel

¹⁶ Email from GPA Legal Counsel to PUC Counsel, GPA Docket 11-15, dated December 13, 2011.