

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION



IN THE MATTER OF:) GPA Docket 21-03
)
The Application of the Guam Power)
Authority to Approve the Contract) **ALJ REPORT**
Extension for the Performance)
Management Contract (PMC) for)
Combustion Turbine Power Plants)

INTRODUCTION

This matter comes before the Guam Public Utilities Commission [“PUC”] pursuant to the November 12, 2020 Application of the Guam Power Authority [“GPA”] to Approve the Contract Extension for the Performance Management Contract (PMC) for Combustion Turbine Power Plants.¹ GPA seeks to extend its current contract with Taiwan Electrical and Mechanical Engineering Services, Inc. [“TEMES”] for the management, operation and maintenance of the Combustion Turbine Power Plants (Dededo CT, Macheche CT and Yigo CT) for a period of five additional years.

BACKGROUND

On March 1, 2016, GPA and TEMES entered into a Performance Management Contract for the Combustion Turbine Power Plants.² The PUC approved the PMC in GPA Docket 15-22.³ In accordance with the PMC, TEMES has been managing, operating and maintaining the Combustion Turbine Power Plants for the last five-years. TEMES has also been responsible for the rehabilitation and repair of the Combustion Turbine Units, including regularly scheduled preventative or remedial maintenance, and any

¹ GPA Petition to Approve the Contract Extension for the Performance Management Contract (PMC) for Combustion Turbine Power Plants, GPA Docket 21-03, filed November 12, 2020.

² Performance Management Contract for the Guam Power Authority’s Combustion Turbine Power Plants (Dededo CT, Macheche CT and Yigo CT), dated March 1, 2016.

³ PUC Order, GPA Docket 15-22, dated January 25, 2016, at p. 4.

maintenance required due to plant forced outage. TEMES is required to keep the plants “in good working order.”⁴

The current PMC will expire on February 28, 2021, which is the end of the current five-year term. However, the PMC authorizes GPA, prior to the expiration of the five-year contract term, to “extend the contract for one (1) additional 3-year term, and one (1) additional 2-year term.”⁵ GPA’s Petition requests that the PUC allow GPA to proceed with the five-year contract extension with TEMES for the Performance Management Contract (PMC) for the Combustion Turbine Power Plants.⁶

In Resolution No. 2020-19, the Guam Consolidated Commission on Utilities approved the five-year extension of the PMC for the Dededo, Macheche, and Yigo plants. It authorized the amount of \$7,320,171 to fund the five-year extension for the Fixed Management Fees and the Routine O&M. The extension would be funded with revenue funds. The CCU found that extending the PMC would “help GPA to expeditiously assess the units, make the necessary repairs, and render the units available to meet system demand with a contractor that is already familiar with the unit’s conditions and operations...”⁷

ANALYSIS

⁴ Performance Management Contract for the Guam Power Authority’s Combustion Turbine Power Plants (Dededo CT, Macheche CT and Yigo CT), dated March 1, 2016, at pgs.12-13.

⁵ Performance Management Contract for the Guam Power Authority’s Combustion Turbine Power Plants (Dededo CT, Macheche CT and Yigo CT), dated March 1, 2016, at p. 2.

⁶ GPA Petition to Approve the Contract Extension for the Performance Management Contract (PMC) for Combustion Turbine Power Plants, GPA Docket 21-03, filed November 12, 2020, at p. 2.

⁷ Guam Consolidated Commission on Utilities Resolution No. 2020-19, Authorizing Management of the Guam Power Authority to Petition the PUC and Award Services for a Performance Management Contract for GPA’s Combustion Turbine Power Plants, adopted and approved on September 22, 2020.

A. THE PUC PREVIOUSLY DETERMINED THAT GPA SHOULD RETAIN A PERFORMANCE MANAGEMENT CONTRACTOR FOR THE COMBUSTION TURBINE POWER PLANTS.

In GPA Docket 15-22, the PUC undertook a detailed evaluation of the need for a PMC at the Combustion Turbine Plants. In that proceeding, the PUC considered GPA's Petition for approval of the initial five-year Performance Management Contract with TEMES for the Combustion Turbine Power Plants. The PUC found that the Dededo CT1 and CT2 has been out of service since 2010 and 2004, respectively. Major repairs were needed on the CT2 generator and the switch gear for CT1, as well as repairs on auxiliary systems, fuel tank and control systems for both units, in an amount not to exceed \$10M.⁸ The PUC anticipated that the PMC would complete rehabilitation and repair of the Dededo CTs by July 2016.⁹

GPA also estimated that the costs for the Macheche CT and Yigo CT rehabilitation would exceed \$7.5M.¹⁰ However, GPA's petition for approval of the PMC with TEMES for the Combustion Turbine Power Plants was initially deferred; GPA had not adequately explained the cost of the PMC, how it intended to fund the PMC, and the need for and the efficacy of the proposed PMC.¹¹ On January 20, 2016, GPA conducted a workshop for the PUC to further explain the need for the PMC for the CTs, and how GPA planned to pay for the cost of the PMC. A detailed slide presentation on these issues was presented to the PUC.¹²

⁸ PUC Order, GPA Docket 15-22, dated December 10, 2015, at p. 2.

⁹ Id., at p. 3.

¹⁰ Id., at p. 5.

¹¹ Id., at p. 6.

¹² PUC Order, GPA Docket 15-22, dated January 25, 2016, at p. 2.

In its Order dated January 25, 2016, the PUC found that GPA had lost 79MW in generation capacity as a result of the Cabras 3 & 4 plant explosion: “it is critical to achieving sufficient system capacity that the availability of the Dededo CTs, and upgraded capacity for the Macheche and Yigo CTs, be ensured.”¹³ The PUC further found that “without the availability of the CTs, GPA would simply not be able to provide the total desired generation capacity. The retention of a PMC for operation of the Dededo, Yigo and Macheche CTs is likely the quickest and most efficient means of restoring those plants to full generation capacity.”¹⁴

GPA has demonstrated that the availability of the CT units is critical for GPA. Their availability will allow GPA to meet the PUC approved reliability requirement of the 1-day Loss of Load in 4.5 years. The retirement of the Cabras 4 requires GPA to obtain 40MW of additional capacity.”¹⁵ The PUC further found that GPA had established that there were sufficient revenue funds and bond funds which could be reallocated to pay for the rehabilitation costs.¹⁶ In sum, “GPA has presented a strong justification for the benefits of a PMC-type contract for GPA’s CT units.”¹⁷ The PUC approved the PMC contract with TEMES and authorized GPA to expend the amount of \$5,980,426 for the first five-years of the Contract, to fund the Fixed Management Fee and O&M Budget for the Dededo CT, Macheche CT, and Yigo CT Plants.¹⁸

B. DURING THE PRIOR FIVE-YEAR TERM OF THE PMC, TEMES REPAIRED THE COMBUSTION PLANTS AND BROUGHT THEM TO FULL OPERATIONAL STATUS; THE CTs NOW PROVIDE RELIABLE POWER TO THE IWPS.

¹³ Id., at p. 2.

¹⁴ Id., at p. 3.

¹⁵ Id.

¹⁶ Id.

¹⁷ Id., at p. 4.

¹⁸ Id.

When the PMC TEMES assumed responsibility for repair of the Combustion Turbines in March 2016, Dededo CT1 and CT2 had been out of service since 2010 and 2004, respectively. GPA has attached a Report to its Petition which outlines the progress that PMC TEMES has made with the Dededo, Macheche, and Yigo CTs since 2016.¹⁹ The work of TEMES resulted in the completion of the rehabilitation work on Dededo CT1 and CT2 by May 2017. As a result of TEMES' work on the Dededo CTs, 44MW capacity has been added to the IWPS. Major maintenance work has been completed, including charger replacement and installation of backup DC power supply and switchgear room ventilation improvement.²⁰ However, a substantial number of other projects remain to be done, which necessitates a continued retention of the PMC through a contract extension.²¹

Substantial renovations for the Macheche CT and Yigo CT rehabilitation, in the amount of at least \$7.5M, were also required.²² For both the Yigo and Macheche CTs, the existing Turbines were exchanged and replaced with overhauled gas turbines. The Yigo CT turbine exchange was completed on July 6, 2016; the Macheche CT Turbine Exchange was completed on November 12, 2016.²³ As with the Dededo CTs, there are a major number of recommended projects for the improvement of the Yigo and Macheche plants for the projected extension years of the TEMES PMC. These include Yigo CT generator overhaul, Fire Protection/Fire Suppression System inspection, repair, and re-

¹⁹ PERFORMANCE MANAGEMENT CONTRACT FOR DEDEDO CT, MACHECHE CT, AND YIGO CT, Potential Contract Extension, SEPTEMBER 2020, attached to GPA's Petition herein.

²⁰ *Id.*, at pgs. 3-4.

²¹ *Id.*, at pgs. 5-7.

²² PUC Order, GPA Docket 15-22, dated December 10, 2015, at p. 5.

²³ PERFORMANCE MANAGEMENT CONTRACT FOR DEDEDO CT, MACHECHE CT, AND YIGO CT, Potential Contract Extension, SEPTEMBER 2020, attached to GPA's Petition herein, at pg.3.

certification for Macheche and Yigo, and Service and Instrument Air Compressor Skid Replacement.²⁴

In GPA Docket 16-07, the PUC approved the amount of \$2.3M from the Working Capital Fund to pay for repairs to the Yigo CT and the installation of the overhauled gas turbine engine.²⁵ The PUC determined the importance of restoring the additional 20MW provided by the Yigo CT to assist in the replacement of the 79MW in generation capacity lost as a result of the Cabras explosion.²⁶ In July 2016, GPA Docket 16-11, the PUC also authorized the replacement of the Macheche Turbine engine at a cost of \$2.7M, recognizing that the unit had been shut down as a result of corrosion on the turbine blades on July 1, 2016.²⁷

On November 19, 2020, the ALJ submitted Requests for Information to GPA regarding the proposed PMC Contract Extension.²⁸ In its Response on November 24, 2020, GPA submitted Attachment 1, a copy of which is appended hereto as “ATTACHMENT 1”.²⁹ The Attachment demonstrates that, for the last three fiscal years, the Combustion Turbines have been operating at a high energy availability factor [“EAF”]. Annual factors range from 79% to 100%. The efforts of the PMC TEMES have ensured that the CTs provide reliable power to the IWPS.

GPA had demonstrated that the contract extension for TEMES is necessary to further repair the Combustion Turbines and to maintain their operational efficiency. During

²⁴ Id. at pgs. 5-7.

²⁵ PUC Order, GPA Docket 16-07, April 28, 2016.

²⁶ Id., at p.2.

²⁷ PUC Order, GPA Docket 16-11, dated July 28, 2016 at pgs. 1 & 3.

²⁸ PUC Requests for Information, GPA Docket 21-03, dated November 19, 2020.

²⁹ GPA Response to PUC Requests for Information, GPA Docket 21-03, dated November 24, 2020, at Attachment 1.

the past few years, the CT units have been dispatched during the daytime as well as at peak time. These units respond better to the intermittency from GPA's Power Plants and net metering. As a result, the CTs have had more running hours and so more maintenance work has been required.³⁰

C. PUC ALSO PREVIOUSLY APPROVED THE FORM OF THE PMC WITH TEMES; THE COST FOR THE CONTRACT EXTENSION IS CONSISTENT WITH THAT CHARGED IN THE FIRST FIVE-YEARS OF THE PMC.

The PUC has already determined that the form of the PMC between GPA and TEMES is appropriate and satisfactory. It is similar in form to the PMCs used for TEMES and KEWP for the Cabras No. 1 & No. 2 units. The contract contains standard contractual protections for GPA, such as insurance requirements, indemnification clause, responsibility for management, operations and maintenance, and performance guarantees.³¹

The cost for the five-year PMC extension (fixed management fees and Routine O & M) will be \$7.3M, which is \$1.4M more than the cost for the first five-years of the PMC (\$5.9M). GPA has provided reasonable explanations for the cost increase. Year 6 of the PMC includes a 10% increase in the fixed management fee from Year 5 and a 3% increase in such fee from Years 7 onward. The increase is due to the need to mobilize resources for the extension period, including preparations for additional requests for urgent CIPs, and additional challenges brought on by the COVID-19 pandemic. The increases also include an inflation factor.³²

³⁰ Id. at p. 2.

³¹ PUC Order, GPA Docket 15-22, dated December 10, 2015, at p. 4.

³² GPA Response to PUC Requests for Information, GPA Docket 21-03, dated November 24, 2020, at p. 1.

CONCLUSION


The ALJ recommends that the PUC approve the five-year Contract Extension of the Performance Management Contract (PMC) with TEMES for the Combustion Turbine Power Plants. Since the 1990's, GPA and PUC have agreed that the PMC Model is appropriate and beneficial for management of GPA generation capacity. For new plants, the IPP model is now preferred, with plants being owned privately and not by GPA. For those plants that GPA owns, both baseloads and combustion turbines, the PMC Model has been universally followed for the last twenty-six years. The principle has been that generation should be managed by private contractors both for baseload units and Combustion Turbines, with the assistance of GPA employees. The TEMES PMC has been instrumental in restoring the Dededo, Yigo and Macheche CTs to full operation, and for ensuring that necessary repairs for reliability and efficiency are made. The PMC can also more easily bid out repair projects without the restrictions of government procurement.

The Combustion Turbines are a necessary part of the IWPS to meet peak load and to maintain an adequate power reserve. In total the Combustion Turbine Plants provide a capacity of 86MW. These plants are necessary to ensure sufficient load capacity and reserves. At present, GPA does not intend to retire the Combustion Power Plants when the new Ukudu plant becomes operational.³³ However, when the new 180MW plant is fully operational, GPA can continue to assess whether the Combustion Turbines constitute a necessary element of the IWPS. Based upon the cost for the PMC during its first five years, the projected five-year extension total cost of \$7,320,170 appears to be in line with prior costs, and reasonable, prudent and necessary.

³³ Email from GPA Counsel Graham Botha to PUC ALJ Fred Horecky, dated November 23, 2020.

A Proposed Order approving such recommendations is submitted herewith for the consideration of the Commissioners.

Respectfully submitted this 25th day of November, 2020.


Frederick J. Horecky
Chief Administrative Law Judge

ATTACHMENT 1: HISTORICAL EAF FOR CT PLANTS UNDER CT PMC

FY2018	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Dededo CT 1	100%	100%	100%	100%	100%	99%	100%	100%	100%	100%	100%	93%	99%
Dededo CT 2	100%	100%	100%	100%	100%	100%	85%	100%	100%	100%	100%	100%	99%
Macheche CT	100%	100%	100%	100%	98%	100%	100%	100%	81%	73%	39%	45%	86%
Yigo CT	42%	100%	100%	0%	100%	72%	100%	94%	93%	100%	100%	100%	83%

FY2019	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Dededo CT 1	97%	100%	100%	100%	100%	100%	96%	94%	100%	98%	100%	100%	99%
Dededo CT 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Macheche CT	100%	70%	84%	100%	85%	91%	87%	70%	100%	89%	100%	100%	90%
Yigo CT	100%	78%	96%	100%	100%	45%	100%	0%	89%	69%	85%	85%	79%

FY 2020	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ANNUAL
Dededo CT 1	100%	100%	35%	0%	18%	100%	100%	100%	100%	100%	100%	100%	80%
Dededo CT 2	58%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	96%
Macheche CT	100%	99%	100%	100%	100%	100%	100%	100%	95%	99%	100%	98%	99%
Yigo CT	36%	96%	100%	97%	100%	99%	100%	94%	100%	100%	100%	92%	93%