

BEFORE THE GUAM PUBLIC UTILITIES COMMISSION



IN THE MATTER OF:) GPA Docket 14-09
)
 Guam Power Authority's Request for Use)
 of 2014 Bond Proceeds on Projects) **PUC COUNSEL REPORT**
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Introduction

On October 3, 2014, the Guam Power Authority ["GPA"] petitioned the Guam Public Utilities Commission ["PUC"] for review and approval of certain 2014 Bond Projects.¹

Projects	Total Costs
Cabras 1 – Major Boiler Overhaul	\$1,460,000.00
Cabras 3&4 Major O&M	\$2,100,000.00
Environmental Compliance Program (Diesel Rice MACT)	\$4,220,000.00
Fadian SCADA System	\$1,800,000.00
Energy Storage and Renewable Energy Mitigation	\$35,000,000.00
Cabras 2 – Turbine and Boiler Overhauls	5,683,000.00
Dededo CT Return to Service Inclusive of Stator/Rotor Repair	\$2,020,000.00
Cabras Compound Employee and Visitor Parking Lot	\$400,000.00
Diesel Plant MOMs and Fuel Oil Tank Repairs	\$1,091,000.00
Generator Protection Upgrade with Fault Recorders	\$580,000.00
Piti 115 kV GIS Major Maintenance	\$700,000.00
Agat Shoreline Pole Restoration Project	\$384,000.00
System Protection Improvement & Cap Bank Controllers	\$1,312,000.00
Substation Major Refurbishment – San Vitores T-112, Harmon T500 and T501, Macheche T90	\$540,000.00
34.5 kV Breaker Upgrades	\$355,000.00
13.8 kV Breaker Upgrades	\$400,000.00
Substation Battery Banks/Chargers Upgrade	400,000.00
Network Communication – Fiber to Fadian Complex	\$1,100,000.00
Mobile Workforce Management	\$500,000.00
Distribution Improvements	\$240,000.00
Facilities Physical Security	\$1,350,000.00
Information Technology (IT) Upgrades	\$1,100,000.00
Harmon X82 to Yigo X160 Overhead Line Upgrade	\$2,470,000.00
SGIG (not covered by grant)	\$630,000.00
LNG Initial Startup	\$3,000,000.00
Dededo Substation Capacitor Bank	\$165,000.00
Grand Total	\$69,000,000.00²

¹ GPA Petition for Use of 2014 Bond Proceeds on Projects, GPA Docket 14-09, filed October 3, 2014.

² Id., Exhibit B to Consolidated Commission on Utilities Resolution No. 2014-43.

Background

In May of 2014, GPA filed its request with the PUC to issue GPA Revenue Bonds up to a limit of \$94M to pay for capital improvement projects.³

As Counsel noted in his Report dated July 29, 2014, the PUC has been aware for some time of most of the projects for which GPA now seeks approval.⁴ GPA indicated during the 2014 Rate Case Proceedings that there were a number of capital improvement and maintenance/overhauls that it was unable to fund through base rates. The underlying purpose for the bond financing plan was to finance certain projects through bond revenues rather than including such projects in a rate case.

Based upon the assumption that certain projects could be financed through bond revenues, GPA was able to petition for a smaller base rate level for FY2014 than it otherwise would have.⁵ GPA provided justifications for most of the projects included in this present request for approval of use of bond funds during the 2014 rate case; such projects include the Environmental Compliance Program (Diesel RICE MACT), the Cabras No. 2 Boiler and Turbine Overhauls, Cabras 3&4 Major O&M, and Energy Storage and Renewable Energy Mitigation.⁶

The May 29, 2014 GPA Petition, for the most part, contained the same projects and justifications as are now included in the present Petition.

On July 31, 2014, the PUC approved the 2014 GPA Revenue Bond issuance. Included in the approval was the listing of specific projects to be included within the

³ GPA Petition for Contract Review to Authorize GPA to Issue Guam Power Authority Revenue Bonds and Subordinate Revenue Bonds Financing, GPA Docket 14-09, filed May 29, 2014.

⁴ PUC Counsel Report, GPA Docket 14-09, dated July 29, 2014.

⁵ Letter from Joaquin Flores, GPA General Manager, to Frederick J. Horecky, PUC ALJ, GPA Docket 14-09, dated May 23, 2014.

⁶ Id.

bond financing, including amounts for the projects for which GPA now seeks approval.⁷ However, the PUC ordered that “GPA shall obtain prior approval of the new projects, as scheduled in Exhibit A to the Debt Order, before either procurement can be begin on the projects or before bond proceeds can be expended or committed to them.”⁸ In addition, the GPA Contract Review Protocol requires that GPA obtain approval for all expenditures of bond proceeds.⁹

Analysis

Under its enabling statute, GPA has broad authority to “control, operate, improve, equip, maintain, repair, renew, replace, reconstruct, alter and insure the electric system...”¹⁰ Given GPA’s broad authority and mandate over the electric power system, its management should be given some discretion and latitude to pursue projects which it believes will be beneficial to improvement of the power system. PUC has generally accepted that its review under the Contract Review Protocol is one of “prudence”: to ensure that projects and procurements are reasonable and in the interest of ratepayers. PUC must specifically consider whether the cost for the projects is justified or whether such projects will have an undue impact upon power rates charged to ratepayers.

Based upon a prudence review of all of the projects for which GPA seeks approval, Counsel recommends that PUC approve 25 of the bond financed projects and authorize GPA to expend bond proceeds for such projects in the amount sought. 25 of the projects for which GPA seeks approval are supported by detailed descriptions, justifications, consideration of alternatives, and cost-benefit analyses. In each such case there is a positive cost-benefit analysis, although some projects have a higher benefit

⁷ PUC Order Approving Revenue Bonds and Order Approving Long Term Debt, GPA Docket 14-09, issued July 31, 2014.

⁸ Id. at p. 1.

⁹ Contract Review Protocol for the Guam Power Authority, filed February 15, 2008.

¹⁰ 12 GCA §8104(11).

cost ratio than others. Counsel believes that sufficient justifications have been provided for 25 of the projects to warrant PUC approval. PUC Consultant Slater, Nakamura, and Co. has concluded that the Energy Storage project is justified and should be approved. The projects improve reliability of the power system and are therefore in the interest of GPA's customers.

However, Counsel does not recommend approval of one of the projects, "LNG Initial Startup" in the amount of \$3M. The reasons for this recommendation, and the analysis pertaining thereto, are set forth in the project description below.

The Specific Projects for which Approval is Sought

The project descriptions herein are taken from the attachments to the GPA Petition and stated in condensed form.

Cabras Projects and Diesel RICE MACT

There are projects for major Boiler Overhaul of Cabras 1, Turbine and Boiler Overhauls for Cabras 2, and major O&M for Cabras 3&4. These projects are required to maintain and operate the Cabras plants and should be approved. The Diesel RICE MACT cost was required to be expended by GPA for environmental compliance with US EPA Regulations. Such amount (\$4.2M) will reimburse GPA for costs that it has already incurred in placing catalytic converters on the fast track diesels .

Fadian SCADA System

This system is the Power System Control Center for GPA's power system. It is desirable to relocate such system away from Cabras Island, which is vulnerable to the threat of storm surges and tsunamis. In addition, the current SCADA system is approaching obsolescence.¹¹

¹¹ Attachment to Petition to GPA Petition for Use of 2014 Bond Proceeds "Power System Control Center SCADA/EMS System."

Energy Storage and Renewable Energy Mitigation

This project involves the design and construction of an Energy Storage System for interconnection with the IWPS to alleviate existing underfrequency load shedding issues and to meet GPA's long term strategic goals. GPA asserts that the System will improve system reliability, improve power quality and reduce underfrequency outages by 77%. PUC Consultant Slater, Nakamura & Co. has submitted a separate Report on this project, which Report is on file herein. GPA seeks \$35M in bond funds to use for this project. However, GPA's cost-benefit analysis/justification indicates that the project may cost \$49,700.00. At present, Counsel recommends that PUC only approve the use of \$35M in bond funds.

Dededo Combustion Turbines Return to Service

The Dededo Combustion Turbines (CT1 and CT2) have not been in operation since 2010 and 2004 respectively. PUC has previously found that the Dededo CTs should be repaired or refurbished, particularly since Dededo CT 1 is tied directly to the Andersen Air Force Base Substation via an underground 34.5 kV line to support the Air Force Base's power needs (especially during severe weather conditions).

Cabras Compound Employee and Visitor Parking Lot

This project will alleviate vehicle parking issues at the Cabras Compound. Currently, employees and visitors to the Compound are required to park vehicles across Route 11 in property owned by the Port Authority of Guam. That area is unpaved and prone to flooding. This project will provide adequate and safe parking for GPA employees and visitors of the Cabras Compound.

Diesel Plant MOMs and Fuel Oil Tank Repairs

Various components of the Talofof, Tenjo, and Manenggon Diesel plants require major repairs or upgrades to continue safe and efficient operations. Maintenance of the

structures and supporting equipment of the Diesel plants will help to ensure safe, reliable and efficient operation of the plants.

Generator Protection Upgrade with Fault Recorders

This project upgrades the existing protective relays for generation plants at Tanguisson, Cabras 3, Macheche CT, Yigo CT, Tenjo Diesel, Dededo CT, Pulantat CT, and Talofoto Diesel. Digital Multifunction Relays are a cost-effective method to implement a generator protection upgrade program.

Piti 115 kV GIS Major Maintenance

This project will overhaul the Piti 115 kV Gas Insulated Switchgear (GIS). Such overhaul/maintenance was due in November 2011. The maintenance must be performed to extend the life of the GIS, as the Piti 115 kV GIS serves as the connection point between generating plants MEC 8 and 9 and the Island Wide Power System.

Agat Shoreline Pole Restoration Project

This project will bolster the foundation of approximately 14 concrete poles running along the Agat shoreline for a transmission line and a feeder serving the Umatac Substation and the villages of Agat and Umatac. Losing this important line would cause GPA to lose Umatac Substation and its feeders, thus causing a total blackout of the southern area of Guam.

System Protection Improvement & Capacitor Bank Controllers

This project will provide for back-up transmission line relays along with associated wiring and materials to improve system reliability. A replacement of substation capacitor bank controllers will reduce line losses and maintain power quality. Installing back-up relay protection will essentially terminate the risk of primary relay protection failure and improve the reliability of GPA's transmission lines.

Substation Major Refurbishment

This project will provide for the major refurbishment and the San Vitores, Harmon, and Macheche power transformers. This refurbishment of the transformers is critical to the reliability of the IWPS.

Breaker Upgrades

The existing aging 34.5 kV power circuit breakers will be upgraded to SF6 breakers to improve system reliability and personal safety. A second project replaces old 13.8 kV breakers to extend the life of switchgear at various substations including Agana, Piti, Tumon, Barrigada, Apra, Harmon, San Vitores, and Macheche. The upgrades will avoid outages caused by equipment failure and meet the latest requirements of the National Electric Code.

Substation Battery Banks/Chargers Upgrade

This project upgrades existing battery and charger systems at Anigua, Harmon 115 kV, Macheche, GAA, Mobile 30 MVA, Pagat, Pulantat, and San Vitores substations to gelled electrolyte-dryout resistant technology batteries along with electronic battery charger systems. These project upgrades are maintenance free, do not leak or spill, and have contents which are completely sealed.

Network Communication-Fiber to Fadian Complex

Fiber optic cables will be installed to link the new Fadian Office Complex with the Pagot Substation and the Macheche Substation. The Macheche Substation is already linked to various other substations. This project will provide a vital communication link that will connect GPA's Power System Control Center and Information Technology Office to GPA power facilities island-wide.

Mobile Workforce Management

This project will implement a mobile workforce management system featuring digital handheld devices that will be used by field crews to create as-built designs, view work orders, and reduce paper waste. Field workers will have real time access to GPA

data. Completion of this project will allow employees to work more efficiently and accurately, reduce paper waste, and minimize response times for emergencies.

Distribution Improvements

This project will implement distribution improvements to decrease line loss, increase circuit capacity, improve voltage imbalance, and reduce the number of customers affected by outages. This project will bring GPA into compliance with applicable standards for voltage regulation and delivery by identifying distribution line deficiencies, and addressing and correcting those deficiencies.

Facilities Physical Security

This project will assist GPA in meeting its Cyber Security Measures for its Smart Grid Grant. The work involves the installation of a Secure Badge Access System and the Installation of monitoring cameras and associated hardware. Installation of these security measures will assist in reducing vandalism, deterring acts of terrorism and thefts, and ensuring that GPA is in compliance with the US DOE's requirements for the Smart Grid Grant.

Information Technology Upgrades

This project will provide for the implementation of Smart Grid Initiatives and upgrades to GPA's Information Technology System at the new Fadian Complex. The project improvements include Blade Server Expansion (for housing and management of AMI Command Center, GIS, MDSS, and Web Portal, etc.), Customer Information System upgrades and integration with smart grid, and Disaster Recovery Implementation. This project will upgrade the processing capability of the current system, increase its data storage capacity, provide the infrastructure to support the Smart Grid applications, and provide a disaster recovery system.

Harmon to Yigo Overhead Line Upgrade

This project will reductor the Harmon to Yigo 34.5 kV line from copper to aluminum wire. The reductoring will be performed from the Harmon Substation to the Yigo Substation. This upgrading project is necessary to ensure that GPA meets the needs of its civilian customers in Dededo and Yigo as well as the US military customers at Andersen.

Dededo Substation Capacitor Bank

This project will install a 6 MVAR substation capacitor bank at the Dededo Substation for voltage support and the reduction of line losses. Installation of a substation capacitor bank will inject VARs into the system, improving the voltage profile of distribution feeders while reducing line losses.

Smart Grid Initiative Grant (not covered by grant)

The Consolidated Commission on Utilities has authorized additional funds in the amount of \$630,000.00 to implement the Smart Grid Initiative using the AMI network and systems for future use by GPA and GWA of the AMI Network for Mobile Work Force Management.¹²

LNG Initial Start Up

In its bond issuance, GPA reserved \$3M for "LNG Initial Start Up." In Exhibit A to its instant Petition, the 2014 Bond Project List, the "Project Total" of \$3M is still listed for LNG Initial Startup. GPA has also attached to its Petition a chart showing MONTHLY CASH FLOWS for LNG Initial Start Up of \$3M over three years. The vast bulk of such expenditures are for "CONSULTING SERVICES", totaling over \$936,000 for each year. However, there is no description in the Petition as to what services are involved or what consulting services are needed. Counsel recommends that the \$3M not be approved at present. However, there is one specific program which GPA seeks approval for under the LNG Initial Startup in the amount of \$270,000.00: Generation Operations (GenOPS)

¹² Guam Consolidated Commission on Utilities Resolution No.2014-46, issued September 25, 2014.

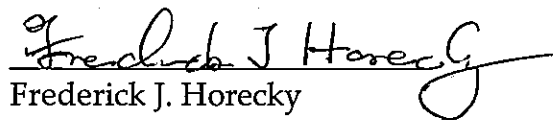
and @RISK Software Implementation. This software is designed to improve current processes that relate to generation, fuel planning and economic dispatching. The @RISK software will allow planning scenario simulations not available in the Strategist software. GPA's proposal is based upon a suggestion by PUC Consultant Lummus that the Strategist software is not a detailed Generation Production Model. The expectation is that such software will assist GPA in improving system reliability.

Recommendation

For the reasons set forth herein, Counsel recommends that the PUC approve 25 of the 26 2014 bond projects, as requested in the Petition, and for the amounts requested, Energy Storage and Renewable Energy Mitigation should be approved in the amount of \$35M.

However, \$3M should not be approved at present for the LNG Initial Start Up. From the \$3M there should be PUC approval for the GenOPS and @RISK software in the amount of \$270,000.00. Such software will assist GPA in determining what fuels should be used by GPA in the upcoming years. Should GPA seeks additional funds for LNG Startup, it should file a separate petition with specific amounts it seeks to fund, descriptions of the specific services, justifications, and cost benefit analyses. PUC should require that any consulting services for LNG Start Up be bid out in accordance with Guam Procurement Laws. A draft Order is submitted herewith for your consideration.

Dated this 17th day of November, 2014.


Frederick J. Horecky
PUC Legal Counsel