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January 24, 2012

Jeffrey Johnson, Chairman

Guam Public Utilities Commission

Suite 207, GCIC Building

Hagatna, Guam 96932

Re: Review of GPA Information Systems Implementation Plan

Dear Chairman Johnson,

This letter is in response to Guam Power Authority's ("GPA") December 19, 2011petition seeking Public Utilities Commission ("PUC") approval of its request for approval of the Procurement of Software Implementation Services. The PUC has requested Georgetown Consulting Group, Inc. (GCG) to assist in reviewing GPA's petition and associated information pursuant to the its established contract review protocol. GPA indicates that it has determined that its existing Customer Information Software (CIS) and Enterprise Resource Planning (ERP) software will have to be upgraded to meet its future business requirements and the compatibility requirements of the upcoming Smart Grid project associated software. GPA has conducted a comprehensive review of its business needs and proposes to purchase Oracle's E1software product. GPA has determined that it needs to acquire software implementation services and that those costs will exceed $1.5 million and will take in excess of 24 months to fully complete the project. The PUC has indicated that it desires this matter be heard by the Commission at its upcoming meeting on January 30, 2012.

Regulatory Background

The contract review protocol ("protocol") provides that all projects funded by debt need PUC approval, whether or not the total cost exceeds the $1.5 million threshold requiring project-specific review. By Resolution 2011-57 the Consolidated Commission on Utilities (CCU) approved on November 19, 2011 the procurement by GPA of Software Implementation Services. In Docket 10-01 "GPA's Bond Proceeds and Projects" proceeding, the PUC requested that the software implementation services project be specifically handling pursuant to the contract review protocol. GPA is now petitioning the PUC for authorization to issue a Request for Proposals (RFP) for software implementation services.

Current Software Environment

Over the past several years, GPA has been considering a number of initiatives to bring the utility's software environment into the 21st century. These initiatives include upgrades to its ERP software and upgrades or replacement of their CIS software. These software upgrades when combined with the upgrades that are a part of its Smart Grid Investment Grant (SGIG) will enable GPA to improve system reliability, lower consumer costs and improve customer service. In achieving these objectives GPA will also install an Automated Metering Infrastructure (AMI), and provide better communication and billing options to its customers. To implement these initiatives and achieve the desired system reliability and customer service objectives, GPA has commissioned a number of studies by third party consultants to assess their current state and provide recommendations concerning its information systems implementation efforts.

Objective of this Review

GCG was asked by the Commission to perform a high level review of GPA's Systems Implementation Plan (SIP). In conducting this review we have provided comments on matters such as the following:

- The need for the upgrade and/or replacement of its current information systems
- The level of due diligence GPA has performed to reach its conclusions
- The wisdom of replacing its CIS with Oracle SPL
- The impact that the SGIG project will have upon the SIP
- GPA preparedness to address the risks of the SIP and Smart Grid initiatives.

GCG has reviewed a number of documents pertaining to the implementation of new ERP and CIS systems, as well as the planned SGIG project. These documents include the following.

1. GPA Petition for Contract Review in GPA Docket No. 11-17, comprised of:

   - Transmittal Letter for Contract Review Petition for Software Implementation Services date December 9, 2011
   - Guam Consolidated Commission on Utilities, Resolutions 2011-57, approved November 29, 2011
   - Memorandum to Commissioners, Consolidated Commission on Utilities, (RE: Software Purchase and Implementation Project, dated December 5, 2011)
   - JD Edwards Systems Gap Analysis for Guam Power Authority prepared by AMX International, dated June 2007
   - Enterprise Resource Planning Assessment and Recommendations, Task Order #1, Final Recommendation, prepared by SAIC, dated June 27, 2011.
   - CIS Assessment, Task Order #2, prepared by SAIC, dated June 16, 2011

- Guam Power Authority Draft Request for Proposal for Software Implementation Services (undated).

2. Project Execution Plan for the Guam Power Authority SGIG Project, submitted to the US Department of Energy, dated April 12, 2010.

3. GCG letter concerning Smart Grid Financing—Docket 94-04, dated May 26, 2010

GCG has reviewed each of the documents contained in the petition. However, because we were requested to perform this review at a high level GCG has not independently reviewed any detailed project work plans for the initiatives other than the information provided within the petition itself and the documents identified above, nor have we reviewed any detailed cost estimates. The following sections provide a summary of the initiatives, observations concerning each of the three major initiatives being undertaken, and an assessment to answer the objectives identified above.

Summary of GPA Initiatives

Provided below are comments and observations concerning each to the three major initiatives that GPA is undertaking.

- Upgrade of GPA's Enterprise Resource Planning Software—this initiative includes the implementation of Oracle's Enterprise One ERP software (E1). Based upon GPA's prior licensing with JD Edwards, then PeopleSoft, and finally Oracle, GPA has the rights to upgrade to the current version of the E1 software. In consideration of this option, GPA has undertaken a number of assessments to determine the appropriate course of action.

  ❖ In 2007, GPA commissioned AMX International, a Certified Oracle Partner specializing in the JD Edward ERP solution, to perform a Gap Analysis of the JD Edward ERP solution and provide recommendations. This analysis identified gaps in each of the departments within GPA and provided a summarization of major issues that GPA was having in the use of its current ERP. The ultimate recommendation of AMX International was that GPA should upgrade to Oracle's E1 software.

  ❖ In 2011, GPA commissioned SAIC to evaluate its options concerning ERP solutions. This study evaluated the various options of ERP vendors, identified specific strategies that would be required for Smart Grid implementation, identified phasing of specific system modules, identified an implementation methodology, and provided some specific observations from departments within GPA. The ultimate recommendation from SAIC was that GPA should upgrade to the Oracle E1 software in order to meet its accounting, process improvement, analytical, and reporting needs.

- Purchase and implementation of a new CIS software solution—this initiative was similarly reviewed by both AMX and SAIC.

  ❖ In the 2007 study, AMX identified shortcomings in the current billing system as part of the gap analysis undertaken and recommended that GPA implement JD Edwards' Utility 3.0 when it became available in the first Quarter of 2008.

  ❖ In 2011, GPA commissioned SAIC to perform a CIS Assessment and recommend whether GPA should upgrade its existing CIS solution, or should it seek to replace the CIS system. In addition to providing an assessment of the core functionality of the current CIS, SAIC recommended that GPA issue an RFP and perform an evaluation of various CIS solutions being offered in the market place.

  GPA did go through an RFP process and ultimately selected Oracle's SPL CIS software for implementation.

- Implementation of Smart Grid—In April 2010, GPA applied for and received a Smart Grid Investment Grant from the US Department of Energy. As part of this project, GPA is committed to improving system reliability and improving the customer experience through a series of work activities that include fourteen major technology systems including substation and distribution automation, an AMI, asset management tools, outage management system (OMS) tools, and telecommunications infrastructure. Key components from a systems perspective include a new CIS, Geographic Information System, OMS/DMS systems, analytic tools, and system integration tools. A review of the document indicates that GPA has detailed all of the systems and activities that are necessary to successfully implement the SGIG program. Additionally, the document identifies how the program will be governed within GPA, how the project will be managed, and time frames over which the program will be implemented.

General Conclusions

Based upon our review of the documents provided we offer the following general conclusions concerning GPA's proposed Information System Implementation Plan:

- *Consistent with Best Practice Utilities*—the activities being undertaken by GPA are consistent with industry best practices currently being pursued by electric utilities within the mainland United States. As utilities seek to improve operational efficiencies, provide higher reliability, and better customer service at reasonable costs, many utilities look to their information systems for the ability to support the utility's business processes and provide the information that can guide executive and line managers in decisions-making processes. Key components of those systems have

typically included the ability to align work flow of processes, provide more options for billing and customer care, and support new initiatives such as those being adopted by GPA for work management, project accounting, and asset management.

- *Sufficient Justification for Upgrades/Replacement*—the underlying technology and the maturity of both ERP and CIS solutions have changed significantly since GPA acquired its current ERP and CIS solutions. More functionality is provided by software vendors today through (i.) more modules as part of a suite, (ii.) industry-specific customization, (iii.) improved work flow tools, and (iv.) better system integration approaches and tools. The age of GPA's current software and the issues identified within the gap analyses and other assessments provide justification that it is appropriate for GPA to move on to better tools to meet their current and future needs. With the additional need to support GPS's developing SGIG program, the importance of these new tools is elevated.

- *Adequate Due Diligence in Selection of the Software Tools*—based on the length of time that GPA has been studying its options, and the processes that have been undertaken to evaluate their future options, GPA has performed sufficient due diligence in making its software selection. Whether through the ERP Gap Analysis, the CIS Assessment, the RFP process for selection of the CIS solution, or the process for assuring funding of the information system projects, GPA has taken appropriate steps to reach its conclusions and set the stage for implementation of the new systems.

- *Appropriate Selection of Software Solutions*—based upon the processes followed and the alternatives available, GPA has selected an appropriate ERP and CIS. Significant risk of successful implementation is avoided by selecting the tools that have been selected. Oracle has paid particular attention to the electric utility sector and acquired the 'best in breed" solutions that address the most challenging issues in the utility sector. SPL CIS is an example of this, as it is one of the premier CIS solutions being offered in the market and provides the greatest flexibility for GPA to implement new billing options to support SGIG. In addition, by selecting a widely-used software solution, GPA can avoid the risk of a failed implementation by using specialists who have implemented the solution previously. In addition, the biggest risk in the implementation of systems is the integration between major systems. The fact that the ERP and CIS solutions selected are integrated as part of a suite reduces this risk significantly for GPA.

- *Critical Strategies for a Successful Implementation*—GPA faces significant challenges to be successful in the implementation of a new ERP, a new CIS, and the SGIG Program. Based on experience with other utilities facing a similar list of initiatives, there are a number of challenges that GPA needs to be aware of and employ strategies to meet those challenges. Provided below are some of the challenges that will face GPA.

❖ Complexity of the initiatives being undertaken requires significant program and project management interaction and committed resources. While GPA has established a Project Management Office for SGIG and individual project plans for each of these initiatives, linkage between key milestones of the SIP should be established to assure that system functionality is available when it is needed.

❖ Adequacy of internal resources to support all the SIP can be a factor if GPA personnel are to be involved in the system implementation, support the SGIG and perform their normal duties. A detailed resource plan should be developed to identify areas of resource constraint.

❖ Adequacy of qualified and experienced external resources can be an issue. Since many utilities are undertaking similar efforts SIP and SGIG implementation and the selection and implementation of various software solutions, there is a definite scarcity of particular skill sets available to the electric utility industry. If it is to manage costs GPA will need to insure that it has adequate external resources available with the right experience and knowledge for critical skill sets.

❖ Dependency on external resources requires that contracts be structured with specific deliverables tied to compensation. While GCG has undertaken this review at a high level and not reviewed GPA's detailed work plans, resource requirements or budgets it is critical that, to the extent, GPA becomes dependent on individual contractors it have in place deliverables tied to the costs so as to avoid projects significantly exceeding their budgets and/or also significantly extending the schedule for delivery and accomplishment of tasks within the project plan. Contracts should be structured such that implementation vendors and consultants assisting on the projects share some of the risks with GPA.

❖ Willingness of GPA managers and employees to change processes to match new systems is a critical component to a successful implementation, as well as gaining a complete understanding of the functionality of the new systems. Too many failed implementations are created by utilities customizing processes supported by the systems because they didn't understand the full capabilities of the systems. This point was made in the ERP Gap Analysis and should be kept in mind as GPA moves forward with its ERP and CIS implementations.

❖ Aggressive timelines to complete all of the SIP tasks required and to support coordination with the Smart Grid project may contribute to wasted efforts on

the software implementation projects if they are not reviewed and properly linked between the projects. A general review of work tasks for the SGIG timeline seems to assume a best case in terms of allotted timelines.   Because a large number of mainland utilities are striving to spend the grant money available for SGIG, both vendor materials and knowledgeable personnel are in short supply.

Recommendations

We recommend the PUC approve GPA's acquisition of software implementation services necessary for the integration of its various software initiatives including its ERP and CIS, and be prepared for integration with various SGIG products. We caution the PUC that software implementation projects of this nature can often exceed initial expectations in terms of required resources, implementation budgets and timeframes for completion. For that we reason we suggest the PUC consider as it deems appropriate:

- As a condition of approval of GPA's acquisition of software implementation services it should be required to submit to the PUC information concerning its detailed budgets, timelines and work plans for the ERP and CIS implementation, including SGIG project dependencies and its various subtasks and resource requirements.

- GPA should be required to make the following informational submittals to the PUC:

  ❖ Copies of licensing agreements and contracts for technical resources to support the proposed SIP project.

  ❖ Periodic updates on progress of system implementations, in addition to reporting on the progress of the SGIG initiative

If you wish to discuss any and all of the above, please do not hesitate to call.

Respectfully,

Larry R. Gawlik

cc: Lou Palomo, PUC
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