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January 23, 2009

Jeffrey Johnson, Chairman  
Guam Public Utilities Commission  
Suite 207, GCIC Building  
Hagatna, Guam 96932

Re: GWA Leak Detection Contract—Docket No. GWA 09-01

Dear Jeff,

This letter is in response to Guam Waterworks Authority's petition seeking Public Utilities Commission ("PUC or Commission") approval to enter into a Leak Detection Contract pursuant to the Commission's established Contract Review Protocol.

### **Regulatory Background**

On September 8, 2008 GWA filed a petition with the PUC for approval of a three-year leak detection program. On September 25, 2008 Georgetown Consulting Group, Inc. (GCG) met with GWA representatives in Guam to discuss its leak detection petition. Subsequent to this meeting, on October 7, 2008, GCG provided GWA with a set of information requests for the purposes of clarifying certain statements in GWA's petition and obtaining information, data, and analysis that was either not provided in the original petition or was illegible. Responses were received from GWA on January 6, 2009 and a follow up meeting in Guam was held with GWA representatives on January 14, 2008.

In 2003, GWA was required to develop and implement a comprehensive leak detection program pursuant to Paragraph 13 of the Stipulated Order (SO) for the purpose of reducing its exceedingly high unaccounted for water system losses. Paragraph 13 of the SO required GWA to perform an island-wide leak detection study. In response to our October 7, 2008 request for information GWA indicated it previously completed the required island-wide leak detection study and submitted this study to the US Environmental Protection Agency (EPA) for its approval. GWA indicates that EPA provided one comment concerning its leak detection study on March 4, 2004, and that GWA submitted an update addressing the EPA comment on April 2, 2004. No further written report or correspondence concerning Paragraph 13 of the SO by EPA has been received by GWA.

Based upon the responses by GWA to our information requests and our discussions with GWA executive management, it is our understanding that GWA believes that EPA has accepted its leak detection plan submitted pursuant to Paragraph 13 of the SO and this matter—for the purpose of the SO—is considered completed. GWA qualifies this position by indicating that a leak detection program should as a part of its normal water system operations. We concur that all water utilities should maintain as part of their normal operational responsibilities an effective leak detection program.

### **GWA Procurement Process**

While the SO set forth the requirement that GWA perform a leak detection study for the purposes of reducing its high unaccounted for water losses that initial program was only moderately effective on an island-wide basis. Today, GWA continues to find itself and its ratepayers shouldered with excessive water line losses. GWA in its petition estimates its current water losses are in excess of 50 percent—considerably above the 12 to 16 percent that would be deemed prudent for a reasonably efficient water utility with the number of customers and service area the size of GWA's. In its petition GWA seeks PUC approval to implement comprehensive leak detection and repair programs as outlined in supporting information and responses to discovery. The overall program incorporates the use of substantial external resources since GWA lacks sufficient resources in-house to accomplish this program. These external resources will be augmented by GWA personnel who, as part of this procurement, will be trained in leak detection techniques.

On August 13, 2008 the Consolidated Commission on Utilities (CCU) passed resolution # 22 - FY2008 approving a leak detection contract with GRH Technologies Construction Co. Ltd. (GRH). The contract award was for a maximum amount of \$4.5 million consisting of three discrete phases of work extending up to a maximum of 45 months. The procurement of the proposed leak detection program did not follow what can be considered normal procurement protocol (i.e., a fully transparent and straight-forward procurement process with a reasonable number of competitive bids). The contract with GRH was awarded instead on a “sole” source basis resulting from an unsolicited proposal. GWA in its petition indicates that the award was based on the grounds that GRH was the only source known to GWA willing to provide leak detection services on Guam.

As background, GWA originally solicited competitive bids for the leak detection project. However, GPA employed no special procurement outreach programs prior to the solicitation of bids, despite the fact that this was a very complicated procurement. Such programs are used by utilities (e.g., GPA routinely employs such programs) to identify or seek out firms for the purpose of stimulating interest in a complex project, thereby assuring ratepayers that a wide range of competitive bids are obtained. It appears that GWA simply published request for bids in the Pacific Daily News and Guam Marianas Variety, and placed a notice on its website, steps we believe were not calculated to generate interest in the project or maximize

competition. (In this regard, it is noteworthy that GRH is a Taiwan-based company which only learned by happenchance of GWA's procurement efforts after the procurement had failed to generate any bidders.) It would also appear that GWA did not hold a pre-bid conference for this procurement, as is commonly done in the industry for large and/or complex procurements. While the activities undertaken by GWA probably met its minimum procurement requirements, the approach did little to maximize competitiveness and insure ratepayers that they were afforded the benefits of competition among qualified contractors. As might be expected, no firms picked up bid packages for the purpose of submitting a bid on the leak detection project, and accordingly, no firm submitted a bid for this project.

GWA indicates that following its unsuccessful attempt to solicit a leak detection contractor it was approached by GRH with an unsolicited proposal. Ultimately, GWA developed a work scope with GRH for the purpose of the leak detection project. This final work scope was not limited to simply leak detection as contained in the failed procurement, but was expanded to include many elements in addition to leak detection such as pipe location, training, surge analysis, pressure analysis, and so forth—providing GWA with a number of additional and well needed services.

### **Discussion and Analysis—Current Situation**

Old and/or poorly constructed pipelines, inadequate corrosion protection, unknown water lines, poorly maintained valves and mechanical damage are just a few of the key factors contributing to water losses. All of these situations exist at GWA. Leak detection is a proactive and cost-effective means of detecting not only surface leaks, but leaks that cannot be seen because they are below the surface and often remain undetected for long periods of time. With an aggressive leak detection program, GWA can isolate and repair these previously undetected leaks.

Water lost by GWA after being pumped from water wells, treated, and line pressurization, but before delivery to GWA customers, is simply water, money, chemicals, and energy wasted. Accurate location and repair of leaks in GWA's mains will greatly reduce its system water losses. Once a leak is detected, GWA plans to take immediate corrective action to either fix the leak or strategically replace line segments for the purpose of minimizing water losses in its distribution system.

Water losses (unaccounted-for-water) for water utility systems vary widely, but for properly maintained systems should not be more than 16 percent of the total water produced, and ideally should be less than 12 percent. Generally, loss levels of more than 12 percent in a water system are cost-effective to correct and require priority attention. Advances in leak detection technologies and expertise have made it possible for many water systems to reduce losses and unaccounted-for-water to less than 10 percent.

With proper leak detection and water loss mitigation programs GWA and its customers can achieve a number of benefits which are not now being attained. These include:

- Increased knowledge of the distribution system (i.e., finding unknown mains)
- Improved levels of operational efficiency
- Lower operational costs
- Reduced contamination potential
- Extended life of facilities
- Reduced property damage and associated liabilities (i.e., pavement cuts)
- Reduced water outage frequency and duration
- Delayed capacity expansion
- Improved public relations.

Leak detection should be an ongoing activity at GWA. Many water utilities systematically inspect their water mains on a periodic schedule—we have clients that inspect 1/3 of their system every year. Such inspections can lead to water losses below 10 percent. Most utilities consider leak detection for the purpose of minimizing water loss as a routine water system maintenance activity.

The proposed GRH leak detection contract is a positive step in the right direction and should allow GWA to achieve many, if not most, of the benefits identified above. The contract will allow for the classroom and on-the-job training of GWA personnel in leak detection techniques. The contract is structured to achieve a minimum 15 percent reduction in GWA line losses by the end of Phase 3 of the contract—approximately 45 months from contract award. Performance requirements for the first two phases are based on the number of leaks and the total volumetric sum of leaks found. In Phase 3, the measure is based on a numeric reduction of unaccounted losses. The objective is not only to find leaks but also to find and eliminate root causes of leaks such that the reductions are sustainable into the future. The 15 percent reduction in line losses during Phase 3 was not based upon a rigid sample and analysis of GWA's system, but was determined to be reasonable through negotiations between GRH and GWA. However, while under the contract GRH will be obligated to employ its best efforts, it effectively assumes little risk if it fails to meet this objective. For example no performance bond or letter of credit is required as security for GRH's performance. GWA's right to cancel the contract is the extent of risk assumed by GRH.

As we expressed to GWA last week, we are concerned that one of the payment terms in the proposed contract with GRH does not fairly balance the interest of ratepayers and GRH and, in our opinion, is not in the ratepayers' interest. This proposed payment term allows for GRH to share in water loss savings in excess of 17.5 percent at the end of Phase 3. Conceptually, we favor such arrangements, where the contractor carries some level of risk for failing to meet a minimum defined performance benchmark. For instance, if GRH were to provide a performance guarantee whereby it would waive a portion of its annual fee if it failed to meet a 15 percent loss reduction—similar to guarantees Guam Power Authority has with its performance management contractors--we would view such arrangement as

reasonably balanced from a risk sharing perspective. As it stands, other than normal business development risk—something all contractors bear and all bid documents make clear are at the cost of the proposer—GRH does not under the contract terms bear any risk which would normally entitle it to share in potential benefits from its efforts. The arrangement proposed in the GRH contract is based upon a 50/50 sharing of the benefits above a 17.5 percent loss improvement level for Phase 3. This means that although ratepayers are funding the entire leak detection contract and GRH has no perceived risk if it fails to meet the 15 percent performance goal, it will be awarded 50 percent of the savings above 17.5 percent. This seems to us overly generous with potential future ratepayer benefits, when one considers that GWA's ratepayers' shoulder 100 percent of the risk associated with the potential failure of GRH to meet the 15 percent performance objective contained in this contract. The 50/50 sharing of benefits for water loss savings in excess of 17.5 percent in our opinion is unreasonable.

## **Recommendations**

GWA's leak detection petition and its supporting responses to information requests have established for the water system a preliminary baseline analysis of water losses. These losses are excessive and are costing GWA ratepayers millions of dollars per year for power expense, chemicals, and capital for oversized water system infrastructure. This baseline analysis of loss levels does present an excellent starting point—from which loss reductions can be measured. This baseline analysis will allow the PUC and stakeholders to assess GWA's performance associated with the specific actions it will undertake as part of the leak detection program to bring GWA water losses in line with reasonable industry targets.

We recommend the PUC approve the contract for leak detection as slightly modified below. In addition we have other recommendations which we believe are critical to getting GWA losses in line with industry standards. We recommend the Commission:

1. Authorize GWA to enter into a contract with GRH for leak detection services provided that the payment term associated with Phase 3 (months 30-45) of the contract, which currently provides GRH a 50/50 shared performance premium for losses reduced in excess of 17.5 percent, be deleted from the contract. Alternatively, if GRH and GWA desire to include a true performance provision in the contract for Phase 3 activities (wherein GRH would assume actual risk) the actual sharing arrangement should be defined following completion of Phase 2. At that time, both GWA and GRH will have two years of leak detection experience and with the knowledge gained about the potential level of loss saving achievable will be able to both evaluate the applicability of a true performance premium and the risk the parties may want to agree to for Phase 3. (The Commission should be aware that GWA indicated in our discussions last week that this contract provision is not a make or break provision from GRH's perspective.)

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2. Require GCG and GWA collaboratively to develop specific water loss performance benchmarks for the next five-years taking into account the costs being borne by GWA ratepayers and the investments required to meet these performance benchmarks. The water loss benchmarks should be presented to the PUC no later than May 1, 2009.
3. GWA, to the extent it does not have such, should establish a monitoring system to keep track of water loss mitigation activities and water loss savings (performance). It should provide the PUC on a semi-annual basis with a report that summarizes leak detection activities and water loss levels vs. performance benchmarks. The format of this semi-annual report shall be developed collaboratively with GCG.

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

Cordially,



Larry R. Gawlik

cc: Lou Palomo, PUC  
Sam Taylor, Esq. (GWA)  
Lou Sablan, CCU  
William J. Blair, Esq.  
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