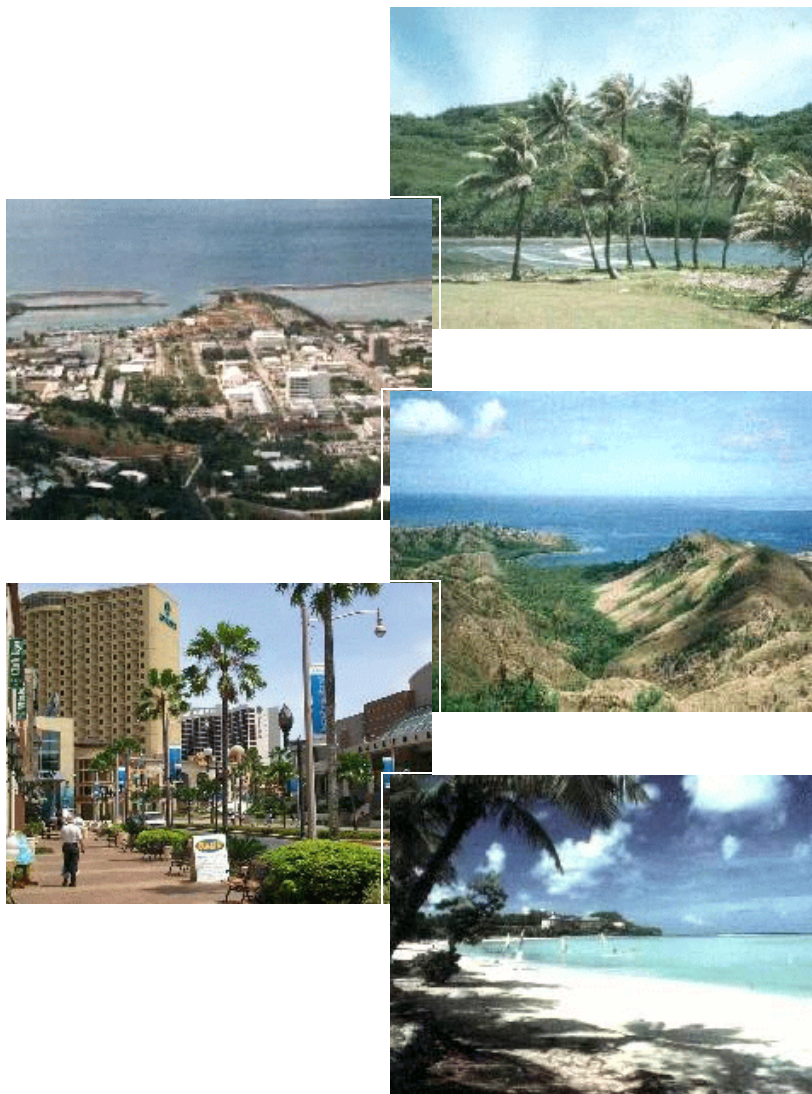




**U.S. Department of the Interior  
Office of Inspector General**

# **Audit Report**

## **Guam Waterworks Authority Government of Guam**



**Report No. 2003-I-0072**

**September 2003**



## United States Department of the Interior

OFFICE OF INSPECTOR GENERAL  
1849 C Street, NW - Mail Stop 5341  
Washington, DC 20240

September 30, 2003

Mr. Simon Sanchez  
Chairman  
Consolidated Commission on Utilities  
Post Office Box 21929  
GMF, Guam 96921

Subject: Audit Report "Guam Waterworks Authority, Government of Guam" (No. 2003-I-0072)

Dear Mr. Sanchez:

This report presents the results of our audit of the Guam Waterworks Authority. The objective of the audit was to determine whether the Guam Waterworks Authority (1) adequately maintained and operated the water and wastewater systems, (2) effectively managed its billing and collection functions, and (3) conducted procurement transactions in accordance with applicable laws and regulations.

The legislation, as amended, creating the Office of Inspector General (5 U.S.C. app. 3) requires that we report to the Congress semiannually on all reports issued, actions taken to implement our recommendations, and recommendations that have not been implemented. Therefore, this report will be added to the next semiannual report. In addition, the Office of Inspector General provides audit reports to the Congress.

Please provide a response to this report by November 28, 2003. The response should provide the information requested in Appendix 3 and should be addressed to the Office of Inspector General, U.S. Department of the Interior, 1849 C Street, NW (MS-5341), Washington DC 20240; with a copy to our Caribbean Field Office, Ron deLugo Federal Building, Room 207, St. Thomas, VI 00802.

Sincerely,

Roger La Rouche  
Assistant Inspector General for Audits

cc: Mr. David R. Craddick, General Manager,  
Guam Waterworks Authority

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# INTRODUCTION

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## BACKGROUND

The Guam Waterworks Authority was created as a public corporation on July 31, 1996 through passage of Guam Public Law 23-119 (Title 2, Guam Code Annotated, Chapter 14). Previously, the utility was a line department within the Executive Branch known as the Public Utility Agency of Guam. The Waterworks Authority is responsible for the production, treatment, distribution, and sale of drinking water on Guam. It is also responsible for the collection, treatment, and disposal of wastewater.

The legislation that created the Waterworks Authority provided for a 7-member Board of Directors, nominated by the Governor and confirmed by the Legislature. The Board was responsible for overseeing the Authority's operations. In order to make the Authority more accountable to the residents of Guam, on March 13, 2002, the Guam Legislature passed Guam Public Law 26-76, which replaced the appointed boards of the Guam Waterworks Authority and the Guam Power Authority with an elected non-partisan 5-member Consolidated Commission on Utilities. The law empowered the Commission to appoint a General Manager for each utility, with the requirement that the persons selected had a minimum of 10 years experience in managing a utility similar to the one for which they were selected. The first elected Consolidated Commission took office on January 1, 2003.

During our audit, the General Manager of the Waterworks Authority resigned in April 2002 and was replaced by an acting General Manager appointed by the Governor. The Consolidated Commission hired a new General Manager effective January 2, 2003.

The Waterworks Authority had 313 employees, of which 110 worked in the Water Division and 71 worked in the Wastewater Division. The Authority operated 110 water wells and 70 wastewater pump stations throughout the island of Guam.

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## OBJECTIVE AND SCOPE

The objective of the audit was to determine whether the Guam Waterworks Authority (1) adequately maintained and operated the water and wastewater systems, (2) effectively managed its billing and collection functions, and (3) conducted procurement transactions in accordance with applicable laws and regulations.

The scope of the audit included reviews of operational documents, consultant reports, expenditure data, and other records; interviews with Authority personnel; and site visits to selected water and wastewater facilities. The period covered by the review included fiscal years 1998 through 2002.

Our review was made, as applicable, in accordance with the “Government Auditing Standards” issued by the Comptroller General of the United States. Accordingly, we included such tests of records and other auditing procedures that were considered necessary under the circumstances.

As part of the audit, we evaluated the internal controls related to the maintenance and operation of facilities, the billing and collection function, and procurement practices of the Guam Waterworks Authority. Based on our review, we identified internal control weaknesses which are discussed in the Results of Audit section of this report. Our recommendations, if implemented, should improve the internal controls in these areas.

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**PRIOR AUDIT  
COVERAGE**

During the past 5 years, neither the General Accounting Office nor the Office of Inspector General has issued any audit reports on the Guam Waterworks Authority.

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# RESULTS OF AUDIT

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## OVERVIEW

The Guam Waterworks Authority did not:

- ▶ Adequately maintain and operate water and wastewater systems. We identified equipment that was inoperable and facilities which were not adequately secured. Pending capital improvement projects totaled \$75 million. The Authority was fined about \$360 million for violating environmental requirements; such violations also endangered the health and safety of residents. Finally, the Authority lacked a framework for effectively using its workforce, which contributed to poor operations and to high amounts of overtime – \$8.6 million for a 3-year period.
- ▶ Take aggressive collection action on delinquent accounts receivable totaling at least \$12.6 million and promissory notes totaling \$448,480, and did not charge customers for the \$554,000 cost of waterline extensions.
- ▶ Always comply with established procurement regulations. The main deficiency we found was that the Authority split purchase orders to avoid competitive procurement requirements.

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## MAINTENANCE AND OPERATION OF SYSTEMS

### On-site Visits Disclosed Poor Conditions at Waterworks Facilities

The Guam Waterworks Authority did not adequately maintain its facilities or manage its workforce.

To obtain first-hand insight into the state of the water and wastewater systems, we performed site visits during March to June 2001 to inspect Waterworks Authority facilities. During our site visits we were accompanied by representatives of the Waterworks Authority. What we found was an array of maintenance problems.

- ▶ Pump station facilities were not properly secured, thus subjecting them to vandalism and potential intentional contamination (Figures 1, 2, and 3).





**Figure 1.** Old Santa Rita Station – The door to the pump room could not be closed or locked because pipes ran through the door opening.

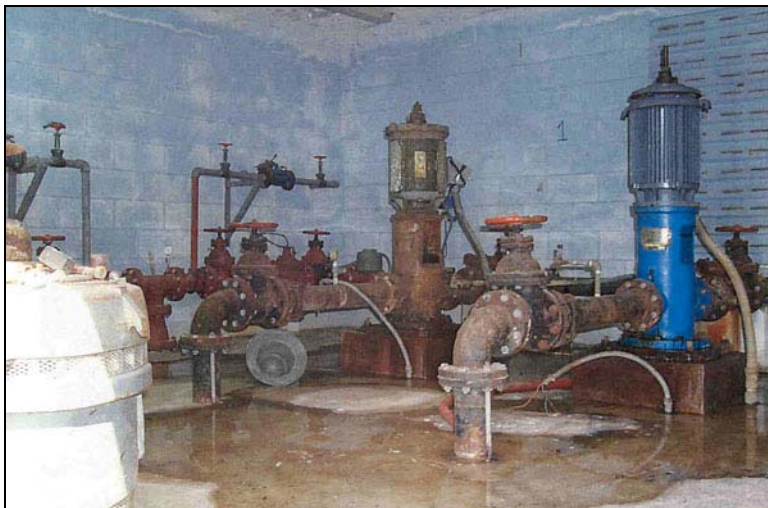


**Figure 2.** Barrigada Heights – The gate and pump house were both unsecured, subjecting the facilities to possible vandalism.



**Figure 3.** Asan Springs Station – The gate and pump room were both open, subjecting the facilities to possible vandalism.

- Pumps were not properly maintained, resulting in deteriorating and inoperable facilities and in the loss of water from leaks that were allowed to run for indeterminate amounts of time (Figures 4, 5, and 6).



**Figure 4.** Sanifa Station – Rusty pipes and pumps with standing water visible.



**Figure 5.** Barrigada Heights Station – Water gushing from outdoor pump.



**Figure 6.** Asan Springs Station – The two pumps on the left were not operable because the impellers had been removed for reasons that we were unable to determine.

- Equipment, including electrical equipment, was subjected to further deterioration from sitting in standing water (Figures 7 and 8).



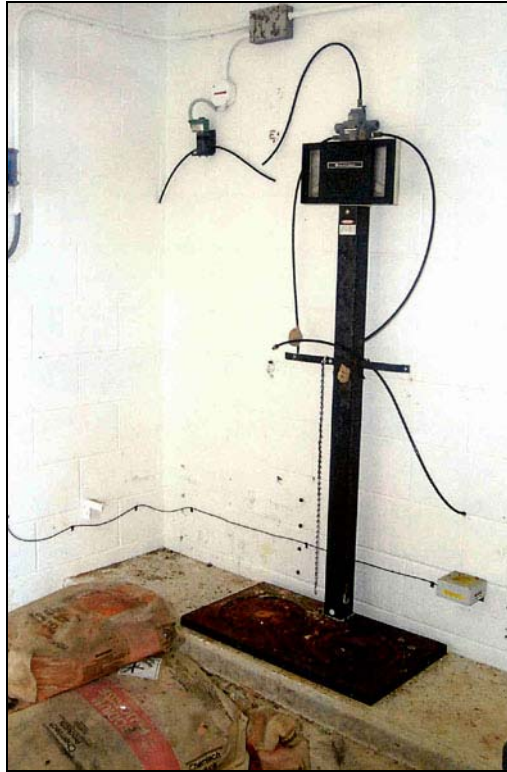


**Figure 7.** Sanifa Station – This pump was resting in standing water and the electrical box was unsecured.



**Figure 8.** Barrigada Heights Station – This electrical motor was resting in standing water, causing an electrical hazard.

- Of 82 chlorination stations, 22 were inoperable for various reasons, including the unavailability of chlorine tanks (Figure 9).



**Figure 9.** Asan Springs Station – The water chlorination system was nonfunctioning because there were no chlorine tanks attached. Also bags of chemicals were saturated from sitting in water on the floor.

- Illegal hookups to the water system were evident, including illegal taps into fire hydrants (Figures 10 and 11).



**Figure 10.** Illegal Hookup – Illegal hookups were made from this water meter on private property.



**Figure 11.** Illegal Hookup – A property owner had illegally tapped into this fire hydrant that was located on his property.

As further evidence of the poor state of the water and wastewater systems, during fiscal year 2001, the Authority received more than 13,000 water system trouble reports and more than 4,000 wastewater system trouble reports from residents and businesses on Guam.

The Waterworks Authority needs to establish a comprehensive preventive maintenance plan to address the types of problems disclosed by our site visits. The poor state of facilities not only resulted in frequent breakdowns that inconvenienced customers and wasted precious water, but also left the facilities open to possible contamination which could put the public's health at risk.



**Pending Capital  
Improvement Projects  
Estimated at Almost  
\$75 Million**

Although the Authority was planning to contract out the updating of a maintenance master plan that had originally been formulated in 1992, we found no evidence that this had been done. One of the Authority's construction inspectors stated that there was a lack of priority emphasis on preventive maintenance and that the Authority's philosophy was one of "run it until it breaks."

During the audit we obtained August 2000 lists of capital improvement projects that the Authority considered to be of highest priority to upgrade the water and wastewater systems. The list for the water system included 22 improvement projects with an estimated total cost of \$33.7 million. The list for the wastewater system included 18 improvement projects with an estimated total cost of \$40.6 million. The wastewater system projects were identified as a result of an "Administrative Order of Consent" issued by the U.S. Environmental Protection Agency (EPA) concerning violations of National Pollution Discharge Elimination System permits issued by EPA for the Agana, Agat, Baza Gardens, Commercial Port, Northern District, and Umatac-Merizo sewage treatment plants. Some of these violations have existed since 1986.

Our analysis of the proposed scope of work for 10 water facility capital improvement projects, totaling almost \$10 million, submitted to the EPA in March 2001 disclosed that, for at least 3 of the 10 projects, work totaling \$3.6 million was for tasks that should have been part of routine maintenance of the facilities. Such tasks included sonar jet cleaning, disinfection, acidification, chlorination, pump replacement, and pressure release valve replacement. The pressure release valves were important to the proper operation of a hydraulic water system and their replacement should have been performed on a routine, rotating basis – not allowed to deteriorate throughout the system to the extent that their replacement had to become part of a specially-funded capital improvement project.

**Assessed  
Environmental  
Penalties Totaled  
More Than  
\$360 Million**

According to available records, during the period of January 1996 to October 2001, the Guam Environmental Protection Agency (GEPA) assessed penalties of about \$366 million against the Waterworks Authority for violations of environmental laws. The penalties generally amounted to \$5,000 per day for each day that a violation existed. However, because of the Waterworks Authority's financial inability to pay the assessed penalties, GEPA was trying to work with Waterworks Authority officials to determine actions that the Authority needed to take to meet the

environmental standards. At the time of our audit, these efforts were still in progress.

### **Poor Maintenance Affected the Health and Well-Being of Residents**

A December 2002 complaint filed by the U.S. Department of Justice against the Guam Waterworks Authority in the District Court of Guam charged that “the imminent and substantial endangerment to the health and welfare of persons [was] presented by: (1) the numerous and repeated discharge of untreated and inadequately treated wastewater from GWA’s treatment works, resulting in elevated levels of fecal coliform bacteria in both surface waters and drinking water wells on Guam; and (2) serious deficiencies in GWA’s public water systems, causing contaminated water to be served to the public.” The complaint listed numerous instances of pollutant violations throughout the period of March 1998 to June 2002. Further, as recently as October 2002, the Authority issued a public notice directing residents to boil all drinking water because of the presence of fecal coliform bacteria in tested water samples.

A Professor of Environmental Toxicology at the University of Guam explained to us that serious health risks are possible when water supplies meant for human consumption and use were contaminated, as when wastewater discharge seeped into the water supply. Information that he provided to us explained that infection could occur through ingestion of the contaminated water or through direct contact, for example through a cut on the skin. Pathogens that might be present in such situations include bacteria, cyanobacteria, viruses, protozoa, and helminths. These pathogens could cause diarrhea, typhoid fever, meningitis, hepatitis, amoebic dysentery, and hookworm.

Poor maintenance of the water system also resulted in low water pressure that forced some residents and businesses to install private water tank pressurization systems at a typical cost of \$2,000 per residence. Further, public elementary and secondary schools on Guam had to close for periods of up to nine days because of the lack of water.

### **Optimum Staffing Patterns Were Not Established**

The Waterworks Authority had not developed a framework for managing its workforce. Specifically, the Authority lacked information necessary to determine the appropriate size, skills mix, and distribution of the staff needed to effectively operate the water and wastewater systems. For example, the General Manager and Assistant Wastewater Manager both stated that, in their opinion,



the Authority had a sufficient number of staff but that the employees may not have been assigned where they were most needed. The Water Manager stated that there was a lack of manpower to effectively operate the water system. He said that the heavy workload presented by a large number of water system trouble reports prevented him from developing a staffing plan for his unit.

At the time of our review, the Authority had 110 employees in its Water Division and 71 employees in its Wastewater Division, and had hired a consulting firm to perform a workforce study. However, the project had not been completed.

### **Overtime-Related Costs Totaled About \$8.6 Million During a 3-Year Period**

The Authority was unsuccessful in controlling overtime and other related costs. Although managers were concerned about the high level of overtime worked by Authority employees, they expressed the view that a work ethic existed whereby employees expected to work overtime to supplement their regular salaries. Therefore, attempts to curtail the use of overtime were generally opposed within the organization.

Our review of payroll records disclosed that overtime, night differential, and “straight time” payments to Authority employees who worked more than 40 hours per week increased from about \$2.1 million in fiscal year 1999 to \$3.5 million in fiscal year 2001, for a total of \$8.6 million during the 3-year period (see Table 1).

**Table 1. Summary of Overtime-Related Costs**

<u>Fiscal Year</u>	<u>Overtime</u>	<u>Night Differential</u>	<u>Straight Time</u>	<u>Yearly Totals</u>
1999	\$1.0 million	\$1.0 million	\$0.1 million	\$2.1 million
2000	\$1.4 million	\$1.4 million	\$0.2 million	\$3.0 million
2001	<u>\$1.5 million</u>	<u>\$1.5 million</u>	<u>\$0.5 million</u>	<u>\$3.5 million</u>
Totals	<u>\$3.9 million</u>	<u>\$3.9 million</u>	<u>\$0.8 million</u>	<u>\$8.6 million</u>

Of special note is that some employees who worked overtime hours were compensated both at the overtime rate and for additional night differential pay. Additionally, supervisory personnel were compensated for overtime hours worked at their normal “straight time” rates. Despite the pervasive use of overtime, we did not find any written policies regarding the use, approval, and control of overtime at the Authority.

The extent to which overtime was part of the normal work ethic is illustrated in the following examples:

- ▶ The brother of the manager of one of the Authority's main units earned almost \$48,000 in overtime pay during fiscal year 2001, while his regular salary was \$36,000.
- ▶ The secretary of the same manager was assigned to field repair work outside her area of expertise and earned about \$29,000 in overtime pay during the period of August 1999 to July 2001.
- ▶ The average overtime pay earned by 18 of 23 employees in the same unit during fiscal year 2001 was \$11,713. The other 5 employees in the unit each earned \$800 or less in overtime pay.

We reviewed a sample of 60 trouble reports and related payroll records and held discussions with supervisory personnel regarding the nature of the reported problems and the required repair work. We determined that, in 57 cases with overtime and other premium pay totaling \$46,100, the necessary work could have been performed without the need for overtime, night differential, or other premium pay. For example, six Authority employees were paid for a total of 48 overtime hours and 18 night differential hours to monitor water wells on New Years Day 2002. The Assistant Water Manager told us that this monitoring was a routine, recurring task that could have been scheduled to avoid the need for overtime or night differential pay. We also noted 11 instances where the Water Manager and the Superintendent were both present at the same work site to supervise the work crews and earned overtime pay. The Assistant General Manager for Operations told us that there was no need for both of these management officials to be present to supervise the work crews who were responding to the trouble reports.

Another factor that contributed to the excessive use of overtime was the lack of a job order system capable of capturing all costs associated with specific projects. Overtime costs were accumulated by organizational unit, but not on a project-by-project basis. The Authority's Comptroller stated that she did not have the staff resources to perform cost analyses or economy and efficiency reviews of various operations or categories of costs. For example, she stated that during fiscal years 2000 and 2001, the Authority expended about \$4.2 million for the rental of equipment, but there was no justification for these rentals. We believe that if the Authority had an internal audit unit, it could perform cost analyses

to help the Authority to control excessive overtime, equipment rental, and other costs. The establishment of an internal audit unit was recommended repeatedly by the Authority's independent auditors as part of the annual financial statement audits.

**All Technical Staff Did Not Have Required Certifications or Necessary Training**

Technical staff in the Authority's Water and Wastewater Divisions did not have the certifications required by GEPA. The GEPA certification requirements for water utility entities have existed since September 1978, and provide the specific criteria against which personnel operating water and wastewater systems are to be examined, rated, and certified. In addition the Guam Civil Service Commission established certification requirements in January 2002. We found that only 4 of 108 technical employees in the Water Division and 3 of 66 technical employees in the Wastewater Division possessed the necessary training and certification. Certification is important because it provides objective evidence that the individuals have completed a prescribed course of study and possess the technical skills necessary to carryout their job duties in a safe and effective manner.

In a related area, the Authority did not have a comprehensive plan to ensure that employees received the continuing professional training necessary for them to effectively perform their job duties. The Authority spent \$31,951 for 34 training classes in fiscal year 2000, \$81,591 for 103 training classes in fiscal year 2001, and only \$1,385 for 4 training classes in fiscal year 2002. Additionally, almost all of the training that was presented was on administrative and management functions, not the technical aspects of operating water and wastewater facilities. The Water Manager and the Assistant Wastewater Manager both told us that their training budgets were cut each year. The Authority's Management Analyst added that the training budgets were cut because they did not contain the details necessary to support the requested funding levels.

The Authority's Training Specialist told us that the Authority had been working with the Guam Community College since June 2001 to establish a 2-year training program addressing the technical skills needed for water and wastewater employees. The cost for the proposed training program was estimated at about \$273,200 for 80 employees (an average of \$3,415 per trainee). As of early 2002, the program had not been established.

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## **BILLING AND COLLECTION FUNCTIONS**

### **Accounts Totaling \$12.6 Million Were 120 Days or More in Arrears**

The Guam Waterworks Authority did not adequately manage its billing and collection functions and, as a result, had not recovered revenues of at least \$13.6 million.

The Waterworks Authority did not aggressively and consistently collect on accounts that were 120 or more days in arrears. As of September 30, 2002, the Authority had \$12.6 million<sup>1</sup> in outstanding receivables 120 or more days in arrears. However, because the Revenue Protection Unit did not aggressively follow-up on overdue accounts, the amount of inactive delinquent accounts increased from \$7.8 million in fiscal year 2001 to \$9.0 million in fiscal 2002, an increase of about \$1.2 million.

The Waterworks Authority's Controller stated that the Revenue Protection Unit had not been properly managed, which prompted legislative oversight hearings in March 2001. The Controller said that in November 2001, as a result of the legislative hearings, she assigned her assistant to manage the Revenue Protection Unit. However, in July 2002, the manager was reassigned to a special project related to Typhoon Chata'an, which required her to assume full responsibility for managing the unit in addition to her duties as Controller. Subsequently, a Special Program Coordinator was assigned to supervise the Unit. We also noted that organizationally, the Revenue Protection Unit was under the supervision of the Assistant General Manager of Operations. However, the Assistant General Manager's office was physically located at another Waterworks Authority facility, which did not lend itself to direct oversight of the Unit's activities

Four areas that also demonstrate the need to improve collection efforts are: enforcement of promissory notes, follow-up on undelivered customer bills, assignment and training of collection staff, and timeliness of referrals to collections agencies.

### **Promissory Notes for \$448,480 Were Not Enforced**

As of March 19, 2002, there were 389 promissory notes totaling \$448,480 for overdue customer bills. However, some customers were not current in payment of their promissory notes. This resulted from the lack of timely follow-up with customers when payments were overdue.

The Guam Administrative Rules and Regulations (Title 28, Section 2108(f)) state that the Authority can place customers with

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<sup>1</sup> The \$12.6 million included active accounts totaling \$3.6 million that were 120 days or more in arrears and inactive accounts totaling about \$9.0 million.

delinquent accounts under deferred payment plans whereby they could make installment payments to pay off their delinquent accounts while at the same time avoiding disconnection. If the customers defaulted, they were subject to immediate disconnection and the Authority would have to initiate additional efforts to collect the amounts due. However, we found that even though many of the customers with defaulted notes had their water service disconnected, the Authority did not take any further action to collect the delinquent amounts.

Of the 389 promissory notes, we judgmentally selected for review 42 accounts with individual balances of \$2,000 or more and a combined balance of \$254,359. We found that 20 of the 42 accounts, with a combined balance of \$83,876, were in default of the promissory notes and had been disconnected. For the remaining 22 accounts that still had water service, 10 were in default of the promissory notes and 12 were current with their installment payments. For the 20 accounts that had water service disconnected, there was no additional follow-up effort by the Revenue Protection Unit to collect the outstanding balances. For example, a customer signed a \$9,221 promissory note on August 17, 2001 for five monthly payments of \$800 and a \$5,221 payment in the sixth month. The customer's account showed that water service was disconnected in November 2001 and only one payment of \$500 was made in May 2002. As of September 2002, the account was listed as inactive.

In our opinion, another factor contributing to customers' default on promissory notes was the lack of analysis of the customers' financial ability to pay when determining the amount of monthly payments and the associated payment periods. Instead, monthly payment amounts were determined based on an unwritten policy (in effect since 1997) that limited the payment periods to 6 months. In supporting this unwritten policy, the supervisor of the Revenue Protection Unit stated that all the customers had agreed to the terms of their promissory notes by virtue of having signed the agreements. However, the 71 percent default rate (30 out of 42 accounts) for the promissory notes we reviewed suggests that the customers' ability to make the stipulated monthly payments may have been in doubt from the beginning. We believe that, at the very minimum, the Waterworks Authority should develop procedures and guidelines to analyze the individual customers' financial condition and then tailor the monthly payment amounts and payment periods to what the customers can afford.

**304 Customer Bills  
With Current Charges  
Totaling \$13,232 Were  
Undeliverable**

During April 2002, 304 customer bills with current charges totaling \$13,232 were returned by the U.S. Postal Service as undeliverable. Of the 304 accounts with undelivered bills, 254 had delinquent balances totaling \$183,108, for a total billed amount of \$196,340.

Although it was established policy for the Revenue Protection Unit to call customers with returned bills to obtain their correct mailing addresses, the supervisor of the Unit stated that it was the customers' responsibility to follow-up if they did not receive their monthly bills. In addition, the supervisor said that the defaulted accounts would be subject to immediate disconnection if they were more than 90 days in arrears.

However, we found that only 62 (24 percent) of the 254 delinquent accounts for which bills were returned were on the disconnection lists for May and/or June 2002. Further, we reviewed 18 of 49 accounts with individual outstanding balances of \$1,000 or more and found that 10 of these 18 accounts were not on the disconnection list and only 4 of the 18 customers had been contacted during May 2002.

We believe that the ineffective use of staff resources was a contributing factor to poor collection efforts. For example, in February 2002, there were six employees assigned to the Revenue Protection Unit. However, two of the six were attending the University of Guam on a full-time basis, which effectively reduced the staff to four. By November 2002, there were five employees assigned to the Revenue Protection Unit, but only two were available full-time. Two of the five employees were detailed to non-collection duties and one was attending college. In our opinion, the collection of revenues is too critical to the Authority's financial survival for the Revenue Protection Unit to have employees unavailable for collection duties because they were attending college or were assigned to non-collection activities. We also observed that the Unit's supervisor did not monitor collection activities of the staff and did not establish job goals or performance measurements, such as a minimum number of delinquent customers to be contacted on a daily or weekly basis.

Further contributing to the Waterworks Authority's weak efforts was the absence of collection training for the staff. The manager of one of the private collection agencies used by the Authority stated that she had offered to train the Revenue Protection Unit's staff, but the offer was not acted upon. The manager also said that she monitored her staff's caseload and performance, and that

compensation of her collectors was based on the amount of money they collected. The manager of another private collection agency stated that constant contact with delinquent customers was the key to successful collection efforts, whether accounts were current or several years old.

**Outside Collection  
Agencies Were Not  
Used to Greatest  
Effect**

In March 2001, the Waterworks Authority assigned inactive accounts to the two collection agencies in an attempt to collect 17,093 inactive accounts, dating from 2000 and prior years, with outstanding balances totaling \$7.5 million. In October 2002, the Authority assigned to the collection agencies an additional 2,351 inactive accounts, for fiscal year 2000, with outstanding balances totaling \$1.5 million. As of August 2002, the collection agencies were able to collect a total of about \$607,000, or only 8 percent of the \$7.5 million assigned to them in March 2001.

The manager of one of the collection agencies stated that the national average for collecting accounts that were no more than 90 days old was 80 percent or higher, and that the sooner the accounts are given to a collection agency, the higher the potential collection rate. The Waterworks Authority's Controller stated that it was the Controller's policy to keep the accounts that were outstanding for one year or less and have the Revenue Protection Unit try to collect on these accounts. However, keeping delinquent accounts for a year or more before forwarding them to the collection agencies made collection efforts more difficult and in some cases impossible.

The single biggest effect of the lack of effective collection effort was the existence of inactive accounts with outstanding balances totaling almost \$9.0 million as of September 30, 2002. We believe that delinquent accounts should be turned over to the collection agencies as soon as they exceed 120 days of delinquency.

**An Average of 4,400  
Water Meters Were  
Unread Each Month**

In an effort to save personnel costs, in fiscal year 1999 the Waterworks Authority contracted with the Guam Power Authority to have water meters read by Power Authority personnel at the same time that electrical meters were read. The Waterworks Authority paid the Power Authority an average of \$262,000 per year for this service. However, Power Authority personnel could not read all the meters each month due to several factors, the most important of which was the meter readers' inability to locate the meters. We found that, on average, about 4,400 out of 26,000 water meters (17 percent) were unread each month. As a result,

the Waterworks Authority had to issue estimated water bills to these customers. In June 2002, a 3-person Waterworks Authority team went out to locate the unread meters and take actual readings.

However, even after locating the meters, there was no follow-up to show the Power Authority meter readers where the meters were located. As a result, the same meters would again be identified as unreadable in subsequent months. For example, during March 2002, the water meter for a church was identified as unreadable because it could not be located. Waterworks Authority personnel subsequently located the meter, but did not notify the Power Authority of its location. As a result, in April 2002 the meter was again considered unreadable by the Power Authority. Considering that the Water Authority paid the Power Authority about \$262,000 per year to read water meters and incurred an additional \$78,000 in June 2002 for the personnel costs of the 3-person team, we believe it was incumbent on the Water Authority to permanently resolve the problem of unread water meters.

**Waterline Extension  
Fees of At Least  
\$554,488 Were Not  
Billed**

Contrary to Waterworks Authority regulations, the costs related to installing waterline extensions was not billed to the benefiting customers. Instead, the Authority absorbed the costs incurred to install the waterlines. We estimated that for the period of October 1, 1997 to February 15, 2001, the Authority absorbed waterline extension costs totaling \$554,488 that should have been billed to the benefiting customers. The Guam Administrative Rules and Regulations (Title 28, Sections 2105 and 2118) requires the Authority to charge customers for the cost of installing water and sewer line extensions and the installation of service to undeveloped areas.

According to established procedures, customers who need to connect their residences or businesses to a main waterline have two options: (1) hire a contractor to install the necessary extension pipes, subject to inspection by the Authority's Permits and Inspections Section or (2) have the Authority perform the installation. For both options, the application process starts at the Permits and Inspections Section, which serves as a clearinghouse to review the proposed extension for compliance with the technical specifications for tapping into a main waterline and to provide a permanent record of where the extension was to be placed. In addition, for the second option of doing the work in-house, the Permits and Inspections Section serves as a control point for initiating in-house job orders, controlling the work performed, and ensuring that the cost of the completed waterline extensions are



billed to the customers. Additionally, for the in-house option, the customer would be required to make an initial payment prior to the Authority starting the installation work. Despite these procedures, we found that waterline extensions were routinely installed by the Waterworks Authority without charge to the customers.

We identified 52 waterline extensions that were completed during the period of October 1997 to September 2001 at a total cost of \$554,488. The Waterworks Authority had not collected any money from the customers for the completed extensions or advance fees for additional pending extensions. For example, in July 2000, the Water Construction Section installed a 2,780-linear foot 2-inch waterline extension to a private business in Talofoto (Job Order 00-25232) at a cost of \$20,689. The Permits and Inspections Section had the application for this waterline extension on file, but there was no record of the customer having made a down-payment or being billed for the total cost of the extension.

The supervisor of the Permits and Inspections Section stated that it had been the practice not to charge customers for the cost of waterline extensions. The supervisor also stated that no waterline extension applications for in-house work had been processed since the Authority's General Manager issued a February 15, 2001 memorandum stating that customers are required to pay the cost of in-house waterline extensions. However, we determined that waterline extensions were still being installed by the Water Construction Section without charge to customers. Specifically, seven job orders for \$160,908 were completed after the February 15, 2001 memorandum and were not billed to the customers.

In addition, the procedures for establishing job orders was bypassed and the Permits and Inspection Section did not have any record of the seven projects. For example:

- ▶ The Water Construction Section completed Job Order 00-25238 in August 2001 for a 340-linear foot waterline extension at a cost of \$2,861. The Permits and Inspection Section had no record of this extension being requested or approved, and there was no record of the customer having made any payment for the completed work.
- ▶ The Water Construction Section installed a 7,780-linear foot 6-inch waterline in the Urunao Project under Job Order 01-25240. The work started on October 5, 2001 and cost the Waterworks Authority approximately \$102,044 for labor, materials, and equipment rentals. The work included the

installation of fire hydrants for multiple tracts of undeveloped privately owned land.

On May 17, 2002, the Authority's acting General Manager approved the installation of an additional 8,000-linear feet of waterline for private property in the Urunao area at an estimated cost of \$280,847.

The Guam Administrative Rules and Regulations (Title 28, Sections 2105(m) and 2115) require that landowners pay for the installation of water and sewer lines, including fire hydrants, on undeveloped property. However, we could not find complete records at the Waterworks Authority for either the initial 7,780-foot extension or the second 8,000-foot extension at Urunao to determine on whose land the waterline extensions were installed, the actual location of the lines, and if the property owners had been billed for their pro-rata share of the costs incurred. The available records were incomplete and fragmented between the Construction Section and the Engineering Section.

We asked the Authority's former General Manager, who had approved the initial 7,780-foot extension work, why the Authority did not pass on the installation costs to the individual land owners, as required by Authority regulations. The former General Manager stated that it had been the practice to provide free waterline extensions to customers. The current acting General Manager approved the additional 8,000-foot extension as part of the existing project.

It is common in the United States for county and city governments to improve roads and other infrastructure for landowners, with the cost of these improvements being passed on through special assessments added to the individual landowners' annual property taxes. Since there is no provision for special assessments in Guam's property tax laws, the Waterworks Authority should have assessed the landowners individually for the pro-rata share of the installation costs of waterline extensions. If necessary, collection could have been spread out over a specified monthly period. This type of cost recovery plan would conform to existing regulations and provide needed revenue for the Authority.

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**PROCUREMENT  
PRACTICES**

The Guam Waterworks Authority did not always follow established procurement policies. Specifically, our review of a sample of 86 purchase orders totaling \$2.2 million (out of a universe of 1,277 purchase orders totaling about \$8.8 million)

disclosed that 20 of the purchase orders (25 percent) totaling about \$316,300 represented either large orders that were split into smaller purchases in order to circumvent the competitive procurement requirement (19 cases) or after-the-fact purchases in which the purchase orders were prepared after the goods had already been received (1 case).

We also found that a \$173,000 contract for installation of a computerized payroll system was issued without evidence of competition.

As a result, the Waterworks Authority violated the requirements of the Guam Procurement Regulations, and there was no assurance that the Authority received the best quality goods or services at the most advantageous prices possible.

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# RECOMMENDATIONS

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## TO THE CONSOLIDATED COMMISSION ON UTILITIES

We recommend to the Consolidated Commission on Utilities require the General Manager of the Guam Waterworks Authority to:

1. Assess the repair and maintenance needs of the Authority, and establish and implement a comprehensive maintenance program that addresses existing needs and puts in place a preventive maintenance program to keep the Authority's water and wastewater facilities in working order.
2. Perform a comprehensive staffing analysis of the Authority to identify the optimum staff size, mix of skills, and distribution of staff for the Authority's various units, and take the necessary action to implement the recommendations of the staffing analysis.
3. Establish and implement formal policies and procedures to control the use of overtime. This policy should include guidelines for when overtime is appropriate, a formal procedure for the prior approval of overtime work, and a description of the allowable premium pay rates for overtime work.
4. Establish and implement formal policies and procedures to ensure that the Authority's staff meets the certification requirements of the Guam Environmental Protection Agency and the Guam Civil Service Commission within a reasonable timeframe.
5. Establish and implement a formal continuing professional training program for the Authority's technical staff that will allow them to achieve the skills necessary to be certified in accordance with the policies established pursuant to Recommendation 9 and maintain a satisfactory level of competence as technology changes over time.
6. Review all outstanding accounts, and develop and implement a written plan of action to collect the outstanding amounts due. This plan of action should include more timely use of outside collection agencies to collect on bills that are delinquent more than 90 days.
7. Provide formal training to the collection staff, and develop and implement written operating procedures to assist the

Revenue Protection Unit to improve its collection process and minimize the amount of outstanding receivables.

8. Review current staffing patterns to ensure that all employees in the Revenue Protection Unit are engaged full-time in the collection of outstanding accounts receivable.

9. Establish reliable and current customer contact information and mailing addresses in the customer information system.

10. Establish a partnership program between the Customer Billing Unit with the Guam Power Authority Meter Reader Unit to locate and read problematic water meters.

11. Assess and collect the appropriate fees for waterline extensions installed by the Authority in accordance with provisions of the Guam Administrative Rules and Regulations.

12. Require Authority officials to conduct procurement activities in accordance with the requirements of the Guam Procurement Regulations.

13. Establish an adequately-staffed internal audit unit within the Authority that reports directly to the Board of Directors and performs reviews of Authority operations to identify opportunities for increasing revenues and decreasing costs of operations, strengthening internal controls, and other operational efficiencies.

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**AUTHORITY'S  
RESPONSE**

The Guam Waterworks Authority's September 12, 2003, response (see Appendix 2) to the draft report concurred with Recommendations 1 to 8 and 10 to 11, and included supplemental documentation to show that corrective actions either had been or were being taken. However, the response did not address Recommendations 9, 12, and 13. Accordingly, we consider Recommendations 1 to 8 and 10 to 11 to be resolved and implemented, and Recommendations 9, 12, and 13 to be unresolved (see Appendix 3).

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## APPENDIX 1 - MONETARY IMPACT

<b>FINDING AREAS</b>	<u>Unrealized Revenues*</u>	<u>Funds To Be Put To Better Use*</u>
Overtime Expenses		\$8,600,000
Accounts Receivable	\$12,598,370	
Promissory Notes	448,480	
Undelivered Bills	13,232	
Unread Water Meters:		
Power Authority		262,000
Task Force Salaries		78,000
Waterline Extensions	<u>554,488</u>	<u>          </u>
Totals	<u>\$13,614,570</u>	<u>\$8,940,000</u>

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\* All amounts represent local funds.

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## APPENDIX 2 – RESPONSE TO DRAFT REPORT



### GUAM WATERWORKS AUTHORITY

Government of Guam

Post Office Box 3010, Hagatna, Guam 96932

Phone: (671)646-7810/7811/7815 Fax: (671) 646-2335

September 12, 2003

United States Department of Interior  
Office of Inspector General  
1849 C Street, NW – Mail Stop 5341  
Washington, DC 20240

Attn: Roger La Rouche  
Assistant Inspector General for Audits

Dear Sir,

Our response to your letter of July 28, 2003 is enclosed.

1. Page one BACKGROUND end of third paragraph Effective date of hire January 2<sup>nd</sup> 2003 12:30 PM
2. Page 23 RECOMMENDATIONS ITEM # 1. We concur. We are currently establishing our Preventive Maintenance Program in conjunction with the Agency's reorganization and best practices alignment.
3. Page 23 RECOMMENDATIONS ITEM # 2. We concur. The Human Resource Office is currently working on the re-organization of the Agency to comply with the USEPA Stipulated Order. Attached is a draft copy of our Reorganization/Best Practices Alignment.
4. Page 23 RECOMMENDATIONS ITEM # 3. We concur. Attached is a copy of the overtime reports from FY99 to FY03. We have made drastic reduction on overtime expense as of January 2003.
5. Page 23 RECOMMENDATIONS ITEM # 4. We concur. Attached is a copy of the memorandum dated March 25, 2002, from Guam Civil Service Commission approving the amendment of class standards for the certification requirements mandated by P.L. 14-31.
6. Page 23 RECOMMENDATIONS ITEM # 5. We concur. Attached is a copy of the Training Courses that are being made available to our employees.

LTR TO DOI  
Page 2

7. Page 23 RECOMMENDATIONS ITEM # 6. We concur. Attached is a copy of the Billing and Collection Functions.
8. Page 23 RECOMMENDATIONS ITEM # 7. We concur. Attached is a copy the copy of our response.
9. Page 23 RECOMMENDATIONS ITEM # 8. We concur. Attached is a copy of our response.
10. Page 24 RECOMMENDATIONS ITEM # 10. We concur. We have taken back our Meter Reading from GPA as of September 1<sup>st</sup> 2003. We are reading our own meters and have several pilot projects on Radio Read Meters.
11. Page 24 RECOMMENDATIONS ITEM # 11. We concur. Water Line Extensions has been ceased as of January 2003. Water line extension totals are in the range of \$3 million from 1998 to 2001. (See attached list)

Generally the comments on overtime, line extensions and accounts receivable are well deserved.

We will begin efforts to recover line extension costs and collect managerial overtime that should not have been paid. Accounts receivable are a result of many years of neglect with the Government fire hydrant charges being the largest part of the un-collectables.



DAVID R. CRADDICK

cc: CCU Board Chairman



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## APPENDIX 3 – STATUS OF RECOMMENDATIONS

Finding/Recommendation Reference	Status	Action Required
1 to 8	Implemented.	No further response required.
9	Unresolved.	Consider the recommendation and provide a response that states concurrence or nonconcurrence. If concurrence is stated, provide a corrective action plan that includes the target dates and titles of the officials responsible for implementation of the recommendations.
10 to 11	Implemented.	No further response required.
12 to 13	Unresolved.	Consider the recommendation and provide a response that states concurrence or nonconcurrence. If concurrence is stated, provide a corrective action plan that includes the target dates and titles of the officials responsible for implementation of the recommendations.



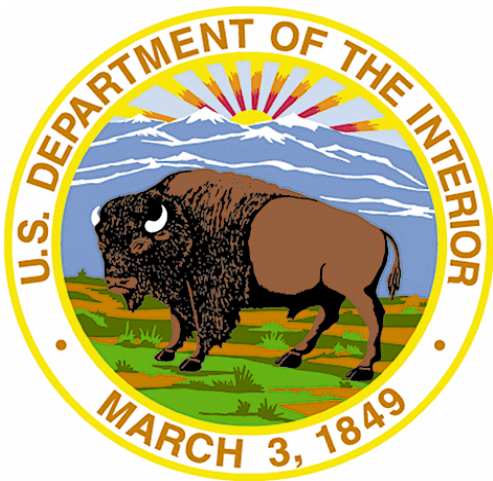
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