

Narrative Supplement to Performance Criteria – GWA General Manager

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1.1.7 Maintain Service Pressure Levels

In 2006, of the four stated Levels of Service (LOS) in the Water Resource Master Plan, only one had to do with pressure levels. The LOS – *Continuity of Water Supply* – was focused more on maintaining water supply year-round. In the 2018 WRMP update, a total of 16 LOS were adopted, including LOS 8: *Adequate Pressure Exists within the Distribution System*, which lists specific target pressure range of between 35psi and 90psi. While GWA has not in the past tracked performance specific to pressure levels across the distribution system, one of our current projects is implementation of the *Pressure Zone Re-Alignment Plan*, which will establish correct pressure zones (defined by service pressure/elevations) in over 20 existing water service areas (defined simply by boundaries between areas with service isolation valves, booster pump stations, etc.). Moving forward, GWA will be able to monitor pressure levels within each pressure zone to ensure performance against our published LOS.

Progress to date in this performance indicator can be approximated by:

- LOS detail: the increase in the number and specific metrics for pressure levels of service between 2006 to 2018 WRMP
- Finalization of the *Pressure Zone Re-Alignment Plan* in December 2015
- Integration of PZRP projects into the *Water Resource Master Plan* update in 2018
- Issuance of the Phase 1 Pressure Zone Realignment Construction bid-package in August 2019
- Issuance of Phase 1 Pressure Zone Realignment Construction contract in December 2019

1.2.2 Compliance with effluent discharge permit requirements

Prior to current NPDES permit issuance, GWA had received 301(h) waivers for compliance with secondary treatment requirements for WWTP effluent discharge into receiving waters, and discharge limitations were contained in the 2011 Court Order compliance provisions. After the 2009 denial of the 301(h) waivers by EPA, new NPDES permits required compliance with secondary treatment standards – GWA has technically been in violation of secondary treatment requirements since the permits were issued.

As part of the Court Order requirements GWA embarked on upgrades to the Agat, Baza Gardens and Umatac-Merizo WWTPs. In addition the Agana and Northern District WWTPs were upgraded to enhance primary treatment as an interim measure pending final negotiations on upgrades to secondary treatment. Upgrade compliance is as follows:

- FY 2018: 1 of 5 (20%) of plant compliance upgrades to secondary – A-SR WWTP online
- FY 2019: 1 of 4 (25%) of plant compliance upgrades to secondary – BG WWTP decommissioned
- FY 2020: 2 of 4 (50%) of plant compliance upgrades to secondary – U-M WWTP online

1.2.3 Maintain internal QA/QC processes

One of the initial tasks discussed with the GWA GM in 2016 was the reorganization of the mid-to-upper management levels. The reorganization plan submitted to and approved by the CCU included four Assistant General Manager positions for (1) Compliance & Safety; (2) Operations; (3) Administration & Support; and (4) Engineering. The plan also proposed organization-wide oversight positions for (1) Field Safety Office, and (2) Field Compliance Officer. The additional AGM positions would allow for tighter management control and scope of supervision to improve quality control. The organization-wide oversight positions would allow for full-time efforts to conduct crucial quality assurance inspections at all operations facilities and worksites for safety and compliance. GWA has also implemented QA/QC measures in our metering operations, with an on-going meter maintenance program involving random meter QA/QC testing.

Progress to date in this performance indicated can be approximated by:

- Progress in filling AGM positions:
 - AGM-A&S: permanent
 - AGM-Ops: acting
- Implementation of meter program QA/QC testing
- Pending appointments to QA/QC positions with organization-wide oversight
 - Field Safety Office
 - Field Compliance Officer

1.3.4 Maintain Emergency Response Plan and readiness

GWA has in the past contributed to an overall Government of Guam emergency response plan, with sections of the plan governing water utility preparation, response and recovery actions being prepared by GWA personnel and integrated into the overall plan. GWA's Response Action Coordinators (RACs) have prepared updated information to this planning document, and remain our primary link to overall response efforts when activated during an emergency. GWA has also undertaken the drafting of its own Crisis Management Plan, which includes detailed information on operational preparations in anticipation of emergencies and disasters. Our recent efforts have been focused on:

1. improving system operability to adequately prepare before an emergency,
2. hardening system infrastructure for resiliency during an emergency,
3. maintaining the needed resources for deployment in the immediate post-emergency response and to facilitate recovery thereafter

Progress in this performance indicator can be approximated by:

- improvements in system operational flexibility to increase production to "top-off" reservoirs
- increases in the number of hardened concrete reservoirs
- increased availability of vehicles, heavy equipment and water storage "flex-tanks"
- development of internal crisis management plan, with detailed checklists, operational shift arrangements and communication protocols

1.3.5 Maintain Continuity of Operations Plan and readiness

Prior to FY20, as an essential utility with a robust emergency response capability, continuity of operations was executed with each emergency declaration through Emergency Response Plan and our internal Crisis Management Plan.

With the onset of the COVID-19 pandemic, GWA was forced to modify its normal response to maintain continuity of operations for a long-term public health emergency. The adoption of new emergency (and now Standard Operating) procedures and contingency plans for staffing and teleworking were undertaken and continue to be refined. External coordination efforts were increased to address supply-chain stability, continuity of regulatory compliance, and inter-utility assistance and emergency response. Business processes were modified to insure continuity of customer service availability, including a rapid deployment of

- on-line resources (both inward facing and outward-customer facing),
- drive-thru payment capability
- expanded mobile app and on-line payment options
- expanded vendor payment options
- public messaging relevant to changes in GWA's customer service processes

Moving forward, progress in this performance indicator can be monitored by:

- Formal adoption and annual review/updates of GWA COOP
- Formal adoption and annual review/updates of Emergency/Pandemic Response SOPs
- Formal adoption of Inter-utility Cooperation Agreements (One-Guam, CNMI, etc.)

1.3.6 Improve water resource/aquifer protection

For several years, GWA has relied upon the University of Guam Water and Environmental Research institute (WERI) for scientific analysis and advice on water resource issues related to our operations. GWA has provided water production and analytical data to WERI as part of their mission for water resource monitoring through their various programs, such as the Comprehensive Monitoring Program (CMP) and the Guam Hydrologic Survey (GHS).

Moving into the future, with the One-Guam Water initiative, GWA and the Navy are expanding the number of deep monitoring wells available to monitor and protect the northern Guam lens aquifer (NGLA). GWA is leading the effort through ambitious capital improvement projects for the construction of seven (7) new deep observation wells, and the rehabilitation of 12 existing observation wells within the NGLA. These projects are underway and will be completed in FY2022. Once completed, GWA, the Navy, WERI and the US Geological Survey (USGS) intend to transition the existing monitoring program into the One-Guam Aquifer Monitoring Program (OGAMP), and are in the process of finalizing a Memorandum of Agreement under the One-Guam Water initiative to share in the cost of maintenance of the deep observation wells, and ongoing monitoring efforts for water resource management.

1.4.2 Achieve Target CIP Spending Plan

Starting in 2006, GWA has produced comprehensive 20-year master plans, and 5-year Capital Improvement Programs (CIP) which outline needed improvements to our systems. The latest 5-year CIP covers FY2020-FY2024 and outlines anticipated projects, funding sources and expenditures over that period.

Moving forward, in accordance with the stated financial objectives of the CCU-adopted 2018 Water Resources Master Plan update, GWA intends to strike a balance between debt-financing of large capital program requirements (e.g., new WWTPs, pump stations, etc.), and revenue-financing regular annual renewal requirements (pipeline replacements, fleet vehicles, etc.). GWA has yet to formally propose and establish annual renewal requirements, but moving forward, such goals will be identified and used to track this performance criterion.

1.4.3 Achieve Water System Expansion Goals

GWA has an established line replacement program which is intended to replace and expand distribution system capacity. Since 2012, this program has resulted in the installation of over 98,000 linear feet (18.6 miles) of water distribution piping. The line replacement project is currently in its 5th phase.

GWA is also currently expediting replacement of problematic lines as follows:

- Pale Ferdinand, Santa Rita (in construction)
- Casimiru / Tai Road (in procurement)
- Toto – Canada Road (pending procurement)

The 2018 WRMPU contained several programmatic items relative to water system expansion and upgrade. These include the following each of which have :

- MP-PW-Pipe-12: Rehabilitation and Replacement Program (continuation of line replacement above)
- MP-PW-Pipe-13: 2-inch Pipe Replacement Program (FY20 start)
- MP-PW-Pipe-14: Asbestos Cement Pipe Replacement Program (FY22 start)

Moving forward, progress in these programs will be used to track this performance item.

1.4.4 Achieve Wastewater System Expansion Goals

Since 2016, GWA has been coordinating with the Guam Environmental Protection Agency (GEPA) to identify residential customers within 200-ft of GWA sewer lines who are not yet connected to the public sewer in an effort to encourage connection, especially in areas that are within close proximity to GWA production wells. This effort has seen limited success.

In the 2018 WRMPU, GWA adopted the Septic Tank Elimination Program which aimed to construct 5000 linear feet of new sewer infrastructure each year (FY22 start). GWA has also proposed improvements to the existing but underfunded and cumbersome Sewer Connection Revolving Fund to go hand-in-hand with the STE Program, such as 1) easing qualification requirements, 2) increasing loan limits, and 3) increasing the total revolving fund amount, to increase participation and effectiveness of the program. The proposed improvements will be included in the STE Analytical Study currently being conducted as part of the recent PUC Order on the GWA FY20-FY24 Financial Plan and CIP.

Going forward, the progress on the STE Program and the Sewer Connection Revolving Fund loan program will be used to track performance for this criterion.

1.4.5 Achieve NRW / Water Loss Reduction Goals

This has been a perennial problem for GWA and continues to be a challenge to GWA Management. Previous efforts to address water loss include leak detection and repair projects, establishment of an internal Leak Detection team, and performance of annual water audits in accordance with AWWA Manual 36.

Over the last several years, GWA has undertaken a more multi-faceted and comprehensive approach to water loss control. This has included:

- Production meter replacements (currently under construction) – to improve accuracy of measured supply
- Master Meter installations (construction suspended, integrated into current DMA project) – to monitor usage within the system and identify leaks
- Pressure Zone Realignment Project (Phase 1 under construction) – to control pressures within acceptable limits and eliminate background losses from excessive pressure
- Pilot Test of Satellite Leak Detection – to identify leaks where system piping locations are unknown (e.g., lines through undeveloped areas, Tiyan, former NAS)
- Pilot Test of District Metered Areas (DMA) – to establish and monitor supply and usage within metered areas to identify and repair leaks (completed with average water loss recovery of 45% in 3 pilot areas)

- Customer Model LP meter replacements (completed) – to improve accuracy of water demand and improve water audit results

GWA is currently finalizing a Water Loss Control Program which will establish permanent DMAs, refine water loss control goals and metrics in accordance with new AWWA recommendations, and provide for annual reporting to track progress moving forward.

1.5.1 Advance GWA-DoD System Integration

The 2018 WRMPU identified as a new Level of Service (LOS) goal, the interoperability of GWA and DoD utility system facilities. The GWA operation of the DoD Tumon Maui Well was a proof-of-concept for the One-Guam Water initiative, and has been successfully licensed for several years beyond the initial 1-year “test.” GWA has pursued and advanced other interoperability initiatives (i.e., the Mt. Santa Rosa Reservoir Inter-tie with AAFB), however DoD has not authorized final execution as of yet. GWA still struggles with proving reliability and resiliency of our water system, despite significant, albeit recent, improvements.

Moving forward, GWA and DoD are revising the “framework” for interoperability, and progress on new goals/projects can be used to track this performance item.

1.5.4 Improve/maintain affordability of service

GWA’s significant capital improvement program, which is needed to complete the 2011 Court Order and impending Consent Decree compliance requirements, will result in rate increases to support debt-financing. GWA’s challenge will be to keep rates within generally accepted limits related to median household income, and develop affordability/customer assistance programs which address the most vulnerable segment of our customer base.

GWA is currently conducting an analytical study on Affordability which will contain recommendations on rate design strategies and customer assistance program recommendations. The establishment of such a program and adoption of rate design strategies will provide the basis for evaluating this performance criterion moving forward.

2.5 Identify cost efficiencies / reduce waste

There are no over-arching metrics at this time for this performance criterion. GWA Management’s continued work with our Internal Auditor to identify areas to focus efforts on efficiencies and waste reduction will provide a means to accomplish this objective.

3.2 Improve / Maintain succession planning

GWA continues to struggle with employee recruitment and retention. We have lost several experienced and licensed operations personnel to competing entities because of the disparities in available compensation rates. Management has encouraged the identification of “alternates” for supervisory

positions within the operational divisions as a means to bring up potential succession candidates, and integrate them into management meetings, decision-making and exercising responsible control of their facilities/systems. Moving forward, a formal succession planning policy will be developed and proposed for implementation, to monitor this performance objective.

3.4 Enhance employee training & development

In prior years, GWA employees were encouraged to take GEPA-administered certification exams which were offered once or twice a year. Examinees had to wait 4 months to obtain exam scores and find out if they passed or failed. Exam preparation was limited and offered only immediately preceding the exams.

GWA Management worked with GEPA and the University of Guam to establish computer-based testing administered by UOG under GEPA's authority, in accordance with the national testing standards. The computer-based testing can be conducted on a weekly basis, depending on demand, and results are immediately available. EPA Certification is now made within weeks of a passing result on the certification exams, instead to 1x or 2x per year.

GWA Management also negotiated with the local subsection of the American Waterworks Association (AWWA-Hi Western Pacific Subsection) to provide operator training on a regular basis at no/reduced costs for GWA employees. In addition, AWWA training materials have been purchased and are available through the Personnel Services Division for independent study by GWA employees.

4.2 Improve accuracy of public / media communications

In order to improve information management in this area, Management has issued guidelines establishing a vetting process for operational information prior to release, and standardized media release format for GWA's Water Systems Control Center (WSCC) and Dispatch operators. GWA has also engaged a media/communications consultant to enhance and modernize communications on multiple platforms. This will include messaging on GWA's planned capital improvements and CIP progress.

GWA is in the beginning stages of this effort, and Management anticipates that once a formal strategy is developed, metrics for tracking this performance objective will be available.

4.4 Maintain / enhance reporting to CCU

In the last several years, Management has attempted to streamline and refine information presented to the CCU, providing tabular and graphical summaries of data previously submitted in bullet form. A continuing effort will be made to prioritize information in an easily digestible format that can translate across digital devices and platforms. Management's intent is to allow for at-a-glance summaries on key utility operations and performance, while providing relevant content on more topical matters, and detailed back-up reports/information as appendices.