

CHAPTER 4 – SERVICE LEVELS

4.1 Introduction

The WRMP scope of work included a task for the planning team in communication with GWA management to define service levels. Implementation of the WRMP will not only require facilities to be constructed over the next 20 years, but it will also require an organization that can run effectively and efficiently for the next 20 years as well. Service levels represent the primary operating goals that the organization must achieve each year. Organizations then set up appropriate performance measures and budgets for each division that are aligned with these service levels.

Service levels are the regulatory and customer service measures that an organization uses to monitor its performance. This chapter outlines a process to further develop the formal service level framework already in place within GWA.

GWA's current service level framework focuses on regulatory compliance in regard to drinking water quality, sewerage effluent discharges, and system spills. GWA is also required to deliver the requirements listed in the Stipulated Order. GWA has a reporting regime for Stipulated Order matters, which includes submitting a major progress report to the EPA and GEPA each quarter.

The objective of this chapter is threefold:

1. To provide a starting point and outline the process for establishing service levels relating to general customer service requirements that will complement the current service levels covering regulatory needs.
2. To provide guidance to GWA in developing appropriate performance measures that will document the success of each functional unit in meeting identified service levels in efficient and aligned ways.
3. To describe how GWA can monitor both service performance and to outline mechanisms for reporting results to the CCU and the community at large.

The further development of GWA's service levels and performance measures must be supported by in-house processes for regular review and improvement of those measures. Guidance is also provided on how effort can be accomplished.

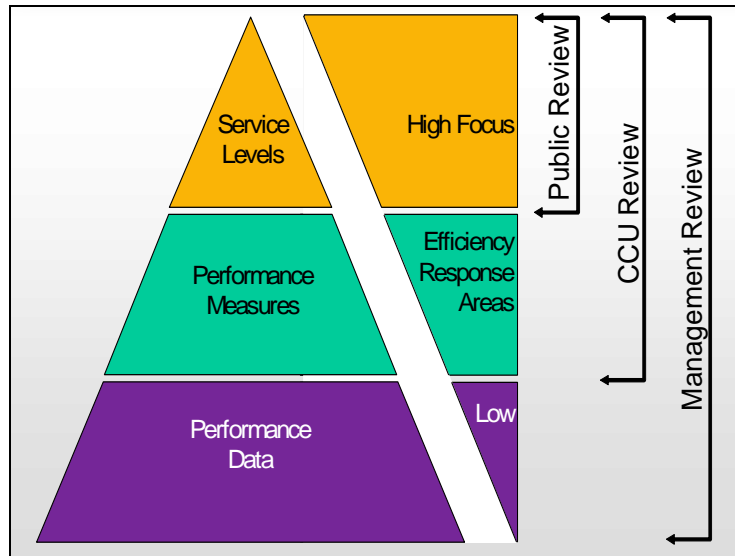
The successful implementation of service levels and performance measures will require gaining the acceptance of the program by GWA staff and the community. Education and consultation with GWA staff is critical, and therefore a process is described to involve staff and the community in the development process.

4.2 Service Levels and Performance Measures

A number of performance indicators can be developed for a monopoly utility like GWA, ranging from measures of safety to the average time it takes to handle a bill payment. The AWWA Research Foundation publication, *“Selection and Definition of Performance Indicators for Water and Wastewater Utilities,”* describes a wide variety of performance measures that can be adopted. However, there are a few performance indicators that are considered particularly important by customers and regulators. These are referred to as **service levels**. GWA has already established service levels to meet drinking water quality standards and sewage effluent quality requirements. Service levels are few, externally focused, and very important.

Figure 4-1, Service Levels and Performance Measures illustrates this point. It shows that it is important to prioritize performance indicators and choose a few that will become a major focus driving the organization's performance. Performance as measured against these service levels should be regularly communicated to the public so that they can assess the organization's performance. In return, the organization can develop its reputation for successfully meeting public needs.

Figure 4-1 – Service Levels and Performance Measures



These service levels are supported by a range of performance measures that are subject to regular review by the organization's governance board, in this case the CCU. The performance measures cover important aspects of organizational performance relating to efficiency, productivity, safety, and other areas that are not as exposed to close public or regulatory review.

Underlying the hierarchy of service levels and performance measures are the performance data that an organization collects. These data are essential to operating the organization and often are a major input into measuring service levels and performance measures.

Not all performance data make good performance measures. Effective performance measures are **S**imple, **M**easurable, **A**ccurate, **R**esponsive and **T**argets, or SMART indicators. The process of developing performance measures should involve staff from the organization that understands the details of its operations. These experienced staff can help examine a range of potential indicators and evaluate which ones are truly SMART performance measures.

4.3 Current Service Levels

The starting point for developing further service levels is to recognize existing service levels or those that are mandated by regulations and legal codes. New service levels can then be added to fill any evident gaps. The objective in setting new service levels is to recognize what is presently in the works and to improve both processes and performance so that these targets are well defined, reported, and understood.

A review of GWA's situation identified four service levels that are required to satisfy regulatory needs and meet legal code requirements.

4.3.1 Drinking Water Quality

Service Level: Compliance with federal Drinking Water Quality Standards.

GWA reports to the GEPA as its regulator on drinking water quality and reports on annual performance in the GWA Annual Report. For example, in the Annual Report, one measure of compliance is reported through the identification of the number of non-compliances (e.g., “boil water” notices) that are issued annually. In the GWA Annual Report 2002, 110 notices were listed, but the frequency of island-wide boil water notices has improved dramatically and was zero in 2003 and 2004. Compliance with other drinking water standards can be measured in a similar manner.

This service level is driven by federal and local regulatory needs, and data are available from the GWA laboratories. Major improvements can be made to the way in these figures are reported and communicated to GWA management, the CCU, and the general public.

4.3.2 Continuity of Water Supply

Service Level: Percentage of customers who have a continuous supply of water each year.

A major service level that is not covered in the Annual Report is the continuity of water supply to customers even though the legal code (Guam Administrative Rules and Regulations, Title 28, Chapter 2, Clause 2103) states that “GWA shall make all reasonable efforts to supply a satisfactory and continuous level of service.” The legal code also stipulates the meaning of a satisfactory service, stating that “GWA shall maintain a standard water delivery pressure range of a minimum 20 pounds per square inch (PSI) to a maximum 90 PSI at the customer’s meter” and that “GWA shall make all reasonable efforts to re-establish service within the shortest possible time when service interruptions occur.”

GWA staff indicates that possibly up to 10 percent of GWA’s customers are affected by intermittent or ongoing water supply outages and poor pressure, and that these performance issues are the major cause of current customer and political discontent with GWA’s performance. From a CCU and public perspective, GWA’s adoption of continuity of supply as a service level with the development of a robust tracking and reporting system that reported performance against a specified annual target would be a good way to improve accountability.

4.3.3 Wastewater Effluent Discharges

Service Level: Compliance with EPA requirements for wastewater effluent discharges from treatment plants.

GWA reports to the GEPA as its regulator on wastewater effluent discharges from treatment plants and also includes this information in the Annual Report. GWA has to test samples and comply with EPA requirements under the Clean Water Act. Although the number of analyses conducted by GWA is reported in its Annual Report, the more important level of compliance is not reported.

This service level is driven by federal and local regulatory needs, and data are available from local laboratories. Major improvements can be made to the way these figures are reported and communicated to management, the CCU and the general public.

4.3.4 Wastewater System Spills

Service Level: Spills from the wastewater system.

GWA reports to the GEPA as its regulator on wastewater system spills, and it also reports this information in the Annual Report. The number of overflows has decreased dramatically over the past few years, with only 21 incidents recorded in GWA Annual Report 2002, 19 in 2003, and 13 in 2004. The decrease in the frequency of wastewater system spills is a sign that GWA is gaining better control over this important issue.

In the GWA Annual Report 2004, there is more detail provided on each spill event through the reporting on the duration of each spill and the estimation of the volume of the amount spilled. The reporting of this information suggests that there has been improvement in the tracking of these events.

These four current service levels serve as a basis for developing other service levels, together with a complementary set of performance measures, for different units within the GWA organization.

4.4 Process for Going Forward

Development of successful service levels and performance measures must be a team effort led by management and involving all levels of GWA staff. The staff is the foundation of the utility, and their involvement is essential if the organization is to instill the service level concept and achieve long-term success in identifying and implementing early gains. The process for developing new service levels and implementing performance measures for each unit within GWA must be tailored to GWA's particular situation, where priority in recent years has been rightly focused on its legal requirements listed in Stipulated Order. A seven-step process for going forward is outlined as follows.

Step 1: Train relevant GWA staff

Training sessions would be held with relevant GWA staff so that they understand the twin concepts of service levels and performance measures and their application within GWA. Each training session would be about two hours long, and much of the emphasis would be on work examples that have direct meaning to staff. Once the staff is trained, they will be capable of participating in and contributing to the development of any new service levels required, as well as implementing performance measures for their respective organizational units or subunits.

Step 2: Check and refine the four current service levels

A working group of GWA staff would work with a facilitator to check and refine the four current service levels. Activities would involve:

- Examining historical performance of the service level
- Documenting and better defining the exact meaning of each service level
- Documenting and refining measurement processes
- Reviewing and creating suitable reporting formats for different audiences
- Examining and setting up communication channels and specifying the frequency of reporting to management, CCU, and the public

Step 3: Scope out other possible service levels with key staff

Workshops would be held to review the work done on the four current service levels and to scope out other possible service levels with key staff. This step is likely to result in creation of a working group to assess and develop the details of any additional service levels.

Step 4: Gain approval for the service levels

Once GWA management is satisfied with the full set of service levels, the package of service levels, including definitions and reporting processes, would be delivered to the CCU along with an implementation plan for approval. The CCU is the governance body that would be responsible for monitoring GWA's performance in relation to its service levels, and for ensuring that GWA takes appropriate action to correct any deficiencies.

Step 5: Develop performance measures for each unit

The recent reorganization of GWA divided the organization into two functional units for Operations and one unit for Finance. The functions undertaken by each of the Operations units are as follows:

- Production and treatment
 - Potable water treatment
 - Production and disinfection
 - Wastewater treatment
- Collection and distribution
 - Potable water distribution
 - Wastewater collection

Numerous performance measures are available to support the achievement of the service levels and to contribute to the operation of GWA, depending upon what each unit and subunit is responsible for. There are guides on performance measures, such as the 2004 publication produced by the AWWA Research Foundation, to assist in this process.

Examples of performance measures include:

- Response times to incidents
- Response times to customer calls
- Completion of projects on time and within budget
- Response time to restore customer services
- Productivity measures such as the number of water meter recordings processed or the number of complaints handled each day

The manager and staff of each unit should be involved in the development of an appropriate set of performance measures for their particular operations. Performance measures for a unit that directly relate to their part in achieving specified service levels are the primary focus of these development exercises.

GWA's computer systems may need minor modifications in order to manage the performance data required to generate service levels and performance measures each month. The computer systems likely to be used are the existing customer information system; parts of the J.D.Edwards financial package, the complaints and job-tracking system, and the SCADA system. Spreadsheets and databases can be developed to fill in any gaps.

Step 6: Develop a process for continuous improvement of service levels

Some service levels are prescribed while others are based on judgments about desired levels of service. Once service levels are in place, a range of activities (e.g., benchmarking, customer surveys, and economic assessments) can be undertaken to review and refine the targets set for each level for service. The following steps will be involved in the continuing process of improving the definition and refining targets for service levels:

- The established service levels are used to evaluate and quantify risks associated with different classes of assets.
- An understanding is gained of the community benefits and cost trade-offs with each service level measure.
- Service levels are reviewed and aligned with customer expectations and regulatory requirements.
- CCU approves the updated service levels after appropriate regulatory consent is obtained in some instances.

For example, a future service level should be developed relating to the legal code specification that “GWA shall make all reasonable efforts to re-establish service within the shortest possible time when service disruptions occur.” This clause in the code needs to be expressed as a clear target, such as “95% of service disruptions are remedied within four hours of GWA being notified.” The setting of such a target has to be based on affordable and realistic work practices, and good data are required in order to make such judgments. That is why the development of a full set of service levels for GWA needs to be an evolving process rather than a quick determination.

Step 7: Develop a process for continuous improvement of performance measures

One of the biggest mistakes made in implementing performance measures for functional units within organizations is trying to get perfect measures from the start. Some judgments have to be made, and the most important thing is to get started as soon as possible. A process for review and improvement of performance measures should be designed and incorporated into management processes.

4.5 Conclusions

Service levels are the regulatory and customer service measures that drive the organization. GWA already has service levels for regulatory purposes that cover water quality, wastewater effluent discharges, and system spills. There is also a legal code requirement that covers water discontinuity that needs to be better defined and tracked as a service level requirement.

This chapter also provides a guide to GWA in developing performance measures that will allow the organization to meet these service levels and monitor other important facets of its operations.

4.6 Recommendations

A seven-step process is outlined for developing the details of service levels and creating performance measures for each major unit and sub-unit in GWA. The development process involves education and staff participation. The CCU will have a vital role as the governance body for monitoring and ensuring that GWA takes appropriate action for responding to any deficiencies. The development process also needs to create a communications regime that allows the public full access to GWA’s performance on its service levels each month.