Public Utilities Regulatory Authority
Equity in development

COMMON GUIDELINES

ON
MINIMUM QUALITY OF SERVICE STANDARDS FOR WATER AND SANITATION

November 2008

Public Utilities Regulatory Authority
Equity in development

TABLE OF CONTENTS

Public Utilities Regulatory Authority
Equity in development

List of Acronyms and Abbreviations

AFUR	African Forum for Utility Regulators
AfDB	African Development Bank
AGA	AFUR Annual Conference and General Assembly
AU	African Union
CPA	Communication and Partnerships Advisor
CWSSC	Chairman Water and Sanitation Sectoral Committee
DMWS	Durban Metro Water Services
ES	Executive Secretary
GTZ	Gesellschaft für technische Zusammenarbeit (German Technical Cooperation)
IWA	International Water Association
MDG	Millennium Development Goals
NAWEC	National Water and Electricity Company (Gambia)
NEA	National Environment Agency
NEPAD	New Partnership for Africa's Development
NWASCO	National Water Supply & Sanitation Council (Zambia)
OFWAT	Office of Water Services (England & Wales)
PI	Performance Indicator
PPIAF	Public-Private Infrastructure Advisory Facility
PURA	Public Utilities Regulatory Authority (Gambia)
PURC	Public Utility Research Centre
SADC	Southern African Development Community
SI	Service Indicators
SCA	Sectoral Coordination Advisor
SLA	Service Level Agreement
SLG	Service Level Guarantee
SUNASS	Superintendencia Nacional de Servicios de Saneamiento
UFW	Unaccounted for Water
WHO	World Health Organization
WSS	Water Supply and Sanitation
WSSC	Water and Sanitation Sectoral Committee

1. Introduction

PURA was established by an act of parliament in 2001 and became operational in 2005. It was given the mandate to regulate public service providers of which water and sanitation providers are included. PURA's regulatory role in water and sanitation is desired towards (but not limited) to:

- Interpret and enforce water and sanitation regulatory laws and guidelines.
- Set, monitor and enforce minimum quality standards for water and sanitation for continued availability of safe, reliable, accessible, and affordable services.
- Access test results and their interpretations and hence determine standard compliance.
- Ensure operators deliver required quality of water meeting set standards.
- Monitor operators on metering and billing.
- Promote knowledge of water and sanitation regulation to the operators, consumers and government.
- Encourage efficient usage of water and prevent undue wastage, misuse, illegal connections, and contamination.
- Create conducive environments for investment in meeting and maintaining demand and accessibility of water and sanitation services.
- Ensure professional and partnership engagement with operators in achieving desired goals.

As part of its Water and Sanitation Sectoral Committee, the African Forum of Utility Regulators has initiated a need to reflect on quality service standards to be used in the interaction with water service providers in the various member countries of the organisation.

In certain instances, regulatory schemes that incentives the operator to decrease costs also lead the operator to lower service quality. The regulator may respond to these incentives by regulating service quality. Such regulations may take the form of minimum standards, incentive based contracts, rewards for improving quality, and penalties for substandard quality.

Regulating service quality involves the steps of identifying the preferred level of service quality, designing a system for providing the operator with the incentive to offer this service quality, and developing a system for monitoring service quality and enforcing the standards.

Single-measure gap analysis is the simplest form of performance evaluation and benchmarking. Regulators commonly use efficiency indicators, such as number of workers per connection and number of connections per 100 families, to assess utilities' performance.

Regulators can save on costs of regulating service quality by monitoring a small number of quality indicators on a regular basis.

Coverage of the Service Area can be considered as one of the indicators of service quality because it is a direct measure of water availability to citizens. Since water supply tends to be viewed as a citizen's "right", coverage reflects an important aspect of water service quality. Nine other standards of service quality have been identified as a result of the analysis presented in this report: *Drinking Water Quality; Continuity of Service; Pressure in the Water Supply Network; Unjustified Disconnections; Sewage Flooding; Quality of Discharged Treated Sewage,; Billing and Collection; Customer Perception;* and *Support to Public Institutions on Curbing Wastage and Timely Bill Settlement*.

A level of performance considered adequate is set by the Regulator. A surveillance level functions as a threshold level. It represents the minimum level of performance that the service provider needs to achieve in order to avoid triggering an action from the regulator such as the imposition of a penalty for failing to meet the standard or the requirement to submit a report to the regulator. In addition, it must be noted that the service provider should be submitting reports to the regulator on a regular basis, not just as a result of unsatisfactory performance.

Service quality is an important issue in the water sector. The Millennium Development Goals (MDG) adopted in the year 2000 envisages reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation services by 2015. According to the United Nations, more than 1 billion people worldwide lack access to clean drinking water and 2.6 billion people do not have access to basic sanitation. An estimated 12.2 million people die every year due to the diseases directly related to drinking contaminated water (80% of illnesses in developing countries are water related). Africa looses 5% of the combined Gross National Products every year due to dirty water. [1] Therefore water regulators in Africa must put extra weight on improving service quality and coverage when evaluating sector performance.

The African Forum for Utility Regulators (AFUR) has set up Sectoral Committees during its second Annual General Assembly (AGA) in March 2005 in Kampala, Uganda as one of the ways of broadening and catalysing the participation of members in the programmes as well as other activities of the organisation.

The Water and Sanitation Sectoral Committee, hereafter WSSC, was established as one of the three Sectoral committees of AFUR. Six priority areas were identified:

1. Pro-poor regulation (service to the poor)
2. Consumers' involvement in monitoring service providers
3. Regulatory tools like reporting, business planning, and minimum service standards
4. Service monitoring and reporting
5. Joint capacity building and training efforts
6. Regulatory benchmarking of service providers

[1] United Nations, Hashimoto Action Plan (2006).

2. Regulation definitions

According to the World Bank's Handbook for Evaluating Infrastructure Regulatory Systems (2006), regulation refers to government-imposed controls on business activity. Economic regulation sets, monitors and enforces maximum tariffs and minimum service standards. Usually, it is the combination of institutions, laws, and processes that, taken together enable a government to exercise formal and informal control over the operating and investment decisions of enterprises that supply infrastructure services.

Regulation can thus be defined for our purposes as a set of functions that consist of

(a) Ensuring that water and sanitation service providers comply with existing rules (mainly on tariffs and quality standards).

(b) Adapting those rules to cope with unforeseen events. The objective of regulation is that those services be provided in an efficient, fair, and sustainable manner, while bearing in mind social priorities set out by the policy makers (both at national and local government levels).

The main objectives of regulation can be broken down into 3 elements:

- To protect customers from service providers' abuse of their monopoly power and from political interference
- To protect service providers from politically-driven decisions, and
- To enable the public sector to carry-out long-term policy objectives.

Three meta-principles govern the actions of a regulator[2]:

- Credibility
- Legitimacy
- Transparency

The work of a regulator covers decisions about tariff levels and structures, investment or connection obligations and reviews, and the quality of service standards.

[2] Throughout this report, the term "regulator" will be used to represent interchangeably a regulatory agency, authority, or commission depending on how each country chooses to name this type of body.

3. Service standards

Quality of service standards: set of rules and guidelines – both substantive and procedural – governing all stages: potable water production, potable water distribution, sewage collection, and sewage disposal.

Required minimum service level: the service level providers have to reach within a specified time. The service level should be regularly adjusted according to the development of the sector.

Service level guarantee: the regulator and provider shall agree on a service level guarantee, which shall ensure the required standard of service at any time for a period of at least 3 years. The service level guarantee shall be made public in all pay stations and offices (posters and leaflets) where customer services are offered throughout the entire service area. The SLG contains the SI levels the provider is going to ensure to the consumers from the date of acceptance by the regulator for the next 3 years. As with information regarding tariffs and complaints, the service level guarantee has to be accessible free of charge to all consumers.

Service level adjustment agreement: the provider shall propose his planned progress towards fulfilling the required minimum service level. This procedure will be in place as long as the provider has not been able to fulfill all indicators of the required minimum service level and implies that the provider proposes continuous improvements of his service level. The procedure should be in place to submit a planned progress report annually, even if the provider successfully fulfills all indicators.

Service contract: contract signed between the provider and the customer containing the rights and obligations of each party. The Service Contract has to contain a clause indicating that regulations issued by the regulator are part of the contract and prevail in case of differences. All providers shall be obliged to sign with each consumer a standardised service contract outlining the rights and responsibilities of each party.

Service Level Report: the services rendered to the customer over a period of 12 months shall be documented with a yearly Service Level Report. It shall be sent to the regulator no later than 3 months after the end of the reporting period.

4. Rationale and Principles

A poorly-designed or non-credible regulation, due to failing quality standards, carries the risk of disinteresting investors in making new or additional investments, and consumers may become unprotected against monopoly practices of new practice owners of infrastructure facilities. Setting up reliable and comprehensive quality of service and supply standards can help provide, on the other hand, promised improvements and expansion of service.

The challenge is for the standards to be both adaptable and predictable at the same time. Indeed, regulation systems are dynamic, not static, and regulation exists within ever-changing social and economic conditions. This is in accordance with the AFUR-held principle that regulation should be a means, and not an end in itself. Regulation should be supportive and not inhibitory.

Arising from an international review of existing standards, the following principles are key to ensure an efficient application. Standards should be:

- functional;
- reflect social and economic realities;
- help achieve the government's objectives for the sector; and
- be subject to ongoing and periodic reviews.

Standards will address both issues of regulatory governance (the "how" of regulation) and regulatory substance (the "what" of regulation) and will be of several evaluation levels (quick, mid-level, and in-depth).

Regulating wastewater utilities is essential because of its direct tie to public health. Also, as with water supply, wastewater treatment is a capital-intensive endeavor with significant amounts of deteriorating infrastructure in need of careful attention.

5. Main Criteria in Establishing Service Standards

- Quality of service standards cannot always be applied uniformly and comprehensively. Certain minimum standards must be put in place, the compliance of which should be made compulsory and monitored. Willingness-to-pay-studies may then be used by service providers to set different performance targets (as is done in Rwanda). This is particularly important since in many cases, tariffs are linked to reaching performance indicators.

- The definition of terms and the specification of ratios and key figures are of utmost importance. In that regard, references to definitions and specifications published by

the International Water Association (IWA)[3] or the World Health Organization (WHO) are valuable.

- Careful design is essential. Service standards should be easy to implement and monitor by service providers. They must also be meaningful to them as a cooperative interaction with companies is essential. Having a Regulator works in the interest of the provider. In accordance with the AFUR principle of "substantiation of decisions",[4] Indicators should draw on data that are reliable, relatively easy to collect and not susceptible to multiple interpretations. They should reflect conditions over which the service providers have control.

- Reversals or inconsistency can undermine credibility and hence effectiveness. Effective agencies establish procedures that promote accountability, credibility, and legitimacy. Transparency is one mechanism for addressing all three of these aspects of the regulatory process. This is particularly important in order to avoid regulatory capture, the phenomenon in which the regulatory agency becomes dominated by the vested interests of the existing incumbents in the industry that it oversees.

- Rewards should be given to outperforming companies, in accordance with a framework of actions set by the regulator. Certain quality improvements ought to be expected without additional gratification. However, if a service provider is doing particularly well, it could receive tax benefits and other institutional support. The experience of European regulatory frameworks has shown that a utility can be expected to become relatively more efficient if, compared to the other service providers; it is relatively bad at the point of departure. Over time, the rather bad companies increase their efficiencies and improve their quality performance. The gap between good and bad providers then diminishes. At that point, regulators normally introduce additional rewards for those companies which are currently the best. This makes sense, because the best companies will find it harder to increase their performance even further. Providers who do not reach the benchmarks must be aware that the regulator will take regulatory actions to ensure compliance. Providers attaining a higher level in a shorter period will be granted advantages during tariff negotiations in comparison with providers advancing at a slower pace.

[3] The IWA Performance Indicator System for water services has been a reference since it first appearance in 2000.
[4] AFUR, "A Framework for Utility Regulation in Africa (2003).

6. Min Requirement Standards for Water and Sewer Service Quality

The following standards have been established based on the review of quality of service standards in the water sector in several African countries, European and other international cases as well as input from the other sectors of telecommunications and electricity regulators where experience was deemed relevant.

The recommended standards for service quality are listed below and discussed at length in the following sub-sections:

1. Coverage of the Service Area
2. Drinking Water Quality
3. Continuity of Service
4. Pressure in the Water Supply Network
5. Unjustified Disconnections
6. Sewage Flooding
7. Quality of Discharged Treated Sewage
8. Billing and Collection
9. Customer Perception
10. Support to Public Institutions on Curbing Wastage and Timely Bill Settlement

6.1 Coverage of the Service Area:

- ***Intended Measure:*** Population served with drinking water and adequate sanitation facilities through individual connections and the public distribution systems.
- ***Minimum Standard:*** Between 75-90% - depending on the alternative water resources used by the population.
- ***Calculation Method:*** As a percentage by dividing the population served (household connections and public stand posts) by the total population living in the service areas multiplied by 100. The number of household connections shall be multiplied by the average members living in a household. The number of public stand posts, kiosks, etc. shall be multiplied by the average number of the population served by one of them. Both results added will provide the number of persons served by the provider. The data for the number of members in a household and people served by a stand post should be obtained from relevant studies, which shall be quoted in the report. It is also possible to conduct a brief survey including a few representative stand posts during a defined observation period by questioning the consumers collecting drinking water with recipients. If no reliable information concerning the population served by the stand post system is available then the amount of water sold at the stand post shall be indicated. This will still allow a good approximation of persons served through an assumption like average consumption of 15-30 litres per person per day. The

best practice across the world is to meter all sources of supply, stand posts, kiosks, individual connections, and wastewater discharges. This allows the service providers and regulators to accurately monitor water production, treated sewage discharged, consumption, wastage, and leakage.

- ***Timeframe for Reaching the Standard:*** A maximum of 12 years will be given to the providers to reach a level of 75-90% (depending on the use of secure alternative resources used by the population in the service area).

6.2 Drinking Water Quality:

- ***Intended Measure:*** Reaching an adequate level of potability.
- ***Minimum Standard:*** Number of tests carried out and test results (bacteriological and chlorine residual) based on the quantity produced and the population served (see WHO recommendation).
- ***Calculation Method:*** Adequate number of bacteriological and chlorine residual tests per year. Monitoring will be made through: register on tests carried out on water quality (raw and drinking water).
- ***Timeframe for Reaching the Standard:*** A maximum of 4 years is given to reach the number of tests as well as to reach the test results particularly the bacteriological quality of drinking water.

6.3 Continuity of Service:

- ***Intended Measure:*** Two measures are to be applied:
  (a) Time of continuous water supply at connections, as well as the opening hours of public stands posts and offices accessible to consumers.
  (b) Percentage of connected properties subjected to unannounced interruption of water supply and blockage of sewer.
- ***Minimum Standard:*** Average daily water supply at connections in towns with more than 100,000 inhabitants should be 24 hours and for other towns a minimum of 16 hours. Opening hours of public distribution system 12 hours/day, 7 days a week. Pay stations and office not less than 40 hours per week open. Percentage of connected properties subject to an unannounced supply interruption of 20-36 hours in the reporting time to be less than 15%, 36-48 hours not less than 8% and more than 48 hours less than 3%.
- ***Calculation Method:*** The information on service hours shall comprise: average daily water supply through the network for the different towns and if different, service areas; opening hours of public stand posts, etc.; Opening hours of pay stations; opening hours of offices with consumer services. Service hours of water supply are defined as the hours per day a consumer can draw drinking water from the tap at his household connection or the public stand post. These numbers of hours are not necessarily identical with the operation time of treatment plants or wells, as tanks, part of the distribution system, are used for storage. Register

of network repair and register of failure on treatment plants and storage tanks. The register for interruption of services should cover the entire service areas and contain the following information: interruption on water supply or sewer evacuation; classification of interruption by > 20 hours, > 36 hours, > 48 hours; number of customers concerned; towns and area affected; reason (pipe burst, treatment plant failure, etc.); date; and description of actions taken by service provider to restore service. The register has to be accessible to the regulator at any time. Interruption caused by third parties and planned maintenance work where customers have been given advance warning through the local media or through on-the-ground information 48 hours in advance need not to be included in the required "Service Level Report" but has to be inserted in the "Register for Interruption of Services". In cases where interruption of services exceeds 48 hours, providers shall be obliged to offer emergency supply services like water supply with water browsers, etc.

- ***Timeframe for Reaching the Standard:*** A maximum time of 6 years is given to reach a 24 hours water delivery in towns with more than 100,000 inhabitants and a minimum of 16 hours in the other towns. The minimum opening hours 12 – of public stand posts and 40 hours weekly at pay stations and offices with customer services should be reached within 4 years. A maximum time of 4 years is given to the provider to reduce supply interruption due to network repair or maintenance and failure of treatment plants to less than 20 hours.

6.4 Pressure in the Water Supply Network:

- ***Intended Measure:*** Water pressure and the minimum flow at the connection and the main leading directly to the connection.
- ***Minimum Standard*:** More than 7 litres per minute water flow at connections at < 5% of service area in towns with > 100,000 inhabitants and at <20% with <100,000 inhabitants.
- ***Calculation Method:*** The indicator for pressure includes all connections where within the reference period the water pressure has not reached the required minimum level of 7 meters head pressure at the ingoing pipe to the premise with a minimum flow of 7 litres per minute for more than 4 weeks. A maximum standard of pressure should also be established to protect consumers from damages due to excessive pressures, i.e. more than 20 meters head. If the main supplying pipes leading to the properties of the consumers within a living quarter do not reach 12 meters head of pressure, it shall be concluded that the pressure at the connections served by the main is not sufficient. The provider has the responsibility to repair all leakages on the mains and connections leading up to the premise boundary of the customer and/or to the meter if situated outside or on the boundary of the customer's premise.
- ***Timeframe for Reaching the Standard:*** A maximum of 6 years is given to reduce the service areas with insufficient pressure.

6.5 Unjustified Disconnections:

- ***Intended Measure:*** Number of unjustified disconnections and the compensation paid by the provider to the customer. Guidelines on justified and unjustified disconnections are presented separately.
- ***Minimum Standard:*** The percentage of unjustified disconnections should not exceed 0.2% of total connections in a year in towns > 10,000 connections and 0.4% in those with < 10,000 connections.
- ***Calculation Method:*** Average monthly disconnection / number of total connections; average number of unjustified disconnection per month.
- ***Timeframe for Reaching the Standard:*** A maximum time of 6 months after receiving the licence, the provider has to reduce the percentage of unjustified disconnections.

6.6 Sewage Flooding:

- ***Intended Measure:*** Number of households flooded with sewage during a year.
- ***Minimum Standard:*** Maximum of 0.5% of total connections per year.
- ***Calculation Method:*** Register on blockage/un-blockage of sewer network and sewage flooding of private premises.
- ***Timeframe for Reaching the Standard:*** A maximum of 4 years is granted to reach the sewage flooding standard. Providers have to report on: sewage flooding incidents including the area, period, duration of flooding in hours, reason for the incident, response time of intervention team, description of actions taken by service provider to correct the flooding problems, and number of concerned customers. The provider shall maintain a “Register for sewage flooding incidents” accessible at any time to the regulator.

6.7 Quality of Discharged Treated Sewage:

- ***Intended Measure:*** Untreated and insufficient treated discharged effluent. Each country needs minimum water quality standards for treated effluent discharge and reuse water. Appropriate reuses of treated wastewater should be encouraged, especially where there are water scarcities. Water quality standards and parameters are presented separately.
- ***Minimum Standard:*** Any test results not meeting the requirements set by the Environmental Agency[5] with implications to public health have to be reported to the regulator within 48 hours. In cases where the effluents are discharged without treatment due to the absence or malfunctioning of treatment facilities, it is

[5] Environmental Agency stands for the national authority in charge of environmental affairs in the country and can be named differently from one country to another.

compulsory that the provider presents to the regulator an investment program to rectify the situation. The testing program for the following year, and statistics on testing results for the reporting year shall also be noted.

- ***Calculation Method:*** For each town and population served: quality of discharge of effluent; effluent discharged in m^3; non-treated in m^3; number of tests carried out the previous year; number of bacteriological and chlorine residual tests/month; number of tests out of norm – bacteriological and chlorine residual.
- ***Timeframe for Reaching the Standard:*** A maximum of 6 years is given to reach the number of tests appropriate for the quantity discharged and a maximum of 14 years to comply with the standards set concerning the quality of the effluent discharged.

6.8 Billing and Collection:

- ***Intended Measure:*** Conditions for payment of bills by the customer.
- ***Minimum Standard:*** Minimum of one bill per month for all customers, with minimum of meter read once in a month. Minimum period for payment after bill delivery is 2 weeks. Read all meters installed at connections and stand posts regularly (preferably monthly but not less than quarterly) and bill the customer according to consumption. The service provider and regulator need to agree on a methodology for handling arrearages and the customer's arrearage should be clearly shown on the bill form. The provider should compare the figures of average number of monthly meter readings and distribution of bills to the number of meter readers and meter reader supervisors to ensure efficiency (badly organized meter reading and distribution of bills can be very costly for the consumers). Or else if contracted out, include the amount paid for these services covering the entire reporting period. The bill form should also include sewerage charges on the same bill, where applicable. Sewerage charges are usually some percentage of the water consumption, typically around 85% of the water consumption to allow for some water that never gets back into the sewer network.
- ***Calculation Method:*** Billing and meter reading sequences. All payments shall be documented with a receipt. Billing and collection (minimum billing content: billing date, due date, delinquent date, all charges due and payable, the local number for resolution of billing inquiries, itemization of all charges, change in service items, change in rate if any), customer satisfaction (information posted, services, repair time, time limits), ease of understanding of bill; database.
- ***Timeframe for Reaching the Standard:*** Within a maximum time of 3 months after receiving the licence, the provider should introduce monthly billing to all customers, without exceptions. 10 years are given to reach 100% metering of connections, including the distribution system by public stand post.

6.9 Customer Perception:

- ***Intended Measure:*** Response time on billing contracts, written complaints, and customer's requests for a meter or meter testing and new connections to the networks. Ease of access to pay stations and telephone contacts. It will cover standards governing business office and repair service answer times, initial and repeat trouble report rates, out-of-service troubles repaired within 24 hours, regular service orders completed within 5 working days, and new service held orders not completed within 30 days.
- ***Minimum Standard:*** Response time on billing contacts, written complaint: 5 working days. Response time on demand for meter and meter testing: 10 working days. Response time on paid new connection: not more than 3 weeks. Waiting time to pay bill and file complaint: not more than 15 minutes. Telephone contacts to requested department/contact person: not more than 5 minutes. Once the water company has accepted the application for the establishment of a new connection and the customer has paid for it, the provider shall complete the works within 3 weeks and ensure the supply of water or evacuation of the effluent. Installed meters shall be tested by the provider at least every 8 years[6], but also upon request by the customer who can be charged for the service if the test results show accuracy is within the set standards. Written complaints as well as the exchange that follows has to be filed and kept on records for at least 5 years. In order to implement minimum standards in this area, the service provider will have to establish a customer service centre with dedicated customer service representatives, an automated call distributor and call monitoring software to compile statistics. The regulator will also need a customer assistance division to monitor the customer services actions of the water and sewerage providers.
- ***Calculation Method:*** Register on meter testing (demand and result). Register on new connections (demand, payment and construction). Indicators of complaints: on billing (no bill received, wrong or no meter reading and other reasons for wrong billing, insufficient time for payment, ill or non-consideration of previous payment, etc.); unjustified disconnection; insufficient pressure; water quality; service hours; no or late response on inquiries and complaints; sewer flooding; interruption of water supply; no meter or wrong metering / meter testing; unjustified delay on new connection; insufficient information; undue behaviour of providers' personnel. Response time on billing contacts like change of address, request for alternative payment arrangements etc. (but no complaints). Response time on written complaints and the quality of the answers linked to the complaint; Ease of telephone contacts, indicating the time calls are answered by the provider and linked to the responsible department; Ease of access to pay bills and file complaints, comprising the waiting time to pay bills, make enquiries and file complaints; Response time on demand on meter installation and meter

[6] The frequency of meters tested should be based on the size of the meters, with larger meters tested and calibrated at shorter intervals. All meters should not be tested at 8 year intervals.

testing; Response time on establishing new connection. At pay stations and offices signs shall clearly indicate at which counters the different services are accessible to the consumers. Customer trouble reports; repeated repair reports.

- ***Timeframe for Reaching the Standard:*** A maximum time of 4 years is granted to reach the different service quality standards.

6.10 Supports to Institutions on wastage and Timely Bill Settlement:

- ***Intended Measure:*** Actions taken by the provider to help reduction of wastage of drinking water by government institutions, to increase metering on connections for public institutions, reduce outstanding bills of government and the delay of payment.
- ***Minimum Standard:*** Variable. This standard will be assessed by the type of actions/support the providers offer public institutions for the reduction of wastage, sensitizing to budget the appropriate amount etc. in comparison to the percentage of unpaid bill of the total amount of outstanding debts. Also, the percentage of actions carried out from the action programme will be calculated.
- ***Calculation Method:*** Indicators are: implementation of programmes to collaborate with public institutions with unjustified high consumption and important outstanding debts; outstanding water bills of public institutions compared to total outstanding bills; average delay of payment by public institutions compared to the average of the other clients. The providers shall establish a yearly action plan on collaboration with public institutions focusing on the biggest public debtors included in the Service Level Report. Also provide a table with the following information: Total / public institutions / % / other clients. For each show: consumption in m^3; billing in millions currency; number of non-metered connections; outstanding bills in million currency; delay of payment in days.
- ***Timeframe for Reaching the Standard:*** Every 2 years, the provider shall reach a significant improvement in dealing with public institutions which shall lead to the reduction of drinking water wastage and the amount of outstanding bills of this client category. Therefore the providers are granted a maximum of 1 year to install meters on all connections paid for by public institutions and proceed to monthly invoicing according to the quantity consumed. The same applies to the launching of a regular programme to sensitise the institutions to name a responsible to curb water wastage, consider their average consumption in the budget and pay regularly the water bills.

7.0 MINIMUM SERVICE STANDARDS FOR WATER AND SANITATION

The following are some minimum service standards (guidelines) that have been adopted by PURA (from AFUR) and to being developed such to conform uniformly as adopted by all the AFUR countries as minimum guidelines.

7.1 Definitions:

As used herein:
(1) "Regulatory Agency" or "The Regulator" means the water and sanitation regulatory agency of The Gambia, PURA.

(2) "Water provider" or **"water utility"** includes every person, partnership, corporation, company, association, joint stock corporation, or lessee thereof, owning, maintaining, operating, managing or controlling any well or borehole, pond, lake, river, aquifer, reservoir, treatment facility, or distribution network employed for the purpose of supplying water for general domestic use in any village, town, city or portion thereof, within The Gambia.

(3) "Sanitation provider" or **"sewerage utility"** includes every person, partnership, corporation, company, association, joint stock corporation, or lessee thereof, owning, maintaining, operating, managing or controlling any pump or lift station, treatment facility, or collection network employed for the purpose of collecting, treating and disposing of sewage for general domestic use in any village, town, city or portion thereof, within The Gambia.

(4) "Customer" means any person, firm, corporation, company, association, governmental unit, lessee who by the terms of a written lease is responsible for the water and sewerage bill, or owner of property furnished water and sanitation service by a water and sanitation provider.

(5) "Meter" means any device for measuring the quantity of water used as a basis for determining charges for water and sanitation services to a customer.

(6) "Premises" shall include but is not restricted to the following:

- A building or combination of buildings owned or leased by one customer, in one common enclosure, occupied by one or more families as a residence or one corporation or firm as a place of business, or
- Each unit of a multi-family house or building separated by a solid vertical partition wall occupied by one or more families as a residence or one firm as a place of business, or
- A building owned or leased by one customer and having a number of apartments, offices or lofts which are rented to tenants using in common one hall and one or more means of entrance, or

- A building two or more stories high under one roof owned or leased by one customer and having an individual entrance for the ground floor occupants and one for the occupants of the upper floors, or
- A combination of buildings owned by one customer, in one common enclosure, none of the individual buildings of which is adapted to separate ownership, or
- A public building, or
- A single plot, used as a park or recreational area.

(7) "Property" means all facilities owned and operated by a water or sanitation provider.

(8) "Distribution network" means a water pipe, owned, operated and maintained by a water provider, which is used for the purpose of transmission or distribution of water but is not a water service pipe.

(9) "Collection network" means a sewer pipe, owned, operated and maintained by a sanitation provider, which is used for the purpose of interception or collection of sewage but is not a sanitary service pipe.

(10) "Water service pipe" means the pipe that runs between the water distribution network and the customer's place of consumption.

(11) "Sanitation service pipe" means the pipe that runs between the sewage collection network and the customer's place of sewage disposal.

(12) "Volumetric tank" means any tank with a pre-measured known volume for measuring the quantity of water when a meter is not available that is used as a basis for determining charges for water and sanitation services to a customer.

7.2 Records:

All hard and soft copy records required by these guidelines or necessary for the administration thereof shall be kept within The Gambia, unless otherwise authorised by PURA. Said records shall be available for examination by PURA or its authorised representatives during all reasonable business hours.

7.3 Preservation of Records

All such records shall be preserved for the period of time specified by PURA.

7.4 Documents filed with PURA

The water or sewerage utility shall file with PURA the following documents and information, and shall maintain such documents and information in a current status:

- A copy of the approved provider's tariff, which shall include but not be limited to:

  (a) A copy of each schedule of rates for service, together with the applicable riders; (b) A copy of the provider's rules, or terms and conditions, describing the water or sewerage utility's policies and practices in rendering service. These rules shall include: a list of items which the provider normally furnishes, owns and maintains on the customer's premises; and the water or sewerage utility's extension plan or plans.
- A copy of each special contract for service which differs from the filed rates.
- A copy of each type of customer bill form (i.e. domestic (residential), non-domestic (non-residential), irrigation, agricultural, industrial, etc.).
- The name, title, address and telephone number of the person who should be contacted in connection with:

  (a) General management duties;

  (b) Customer relations and complaints;

  (c) Technical operations;

  (d) Meter tests and repairs;

  (e) Financial transactions; and

  (f) Emergencies during non-office hours.

7.5 Protection against Hazards and Assistance to PURA

(1) Every water and sanitation provider shall use every effort to warn and protect the public from danger and shall exercise all possible care to reduce the hazard to which customers, employees and others may be subjected by reason of its equipment and facilities.

(2) Every water and sanitation provider shall make available to PURA all records, data, reports and statements of employees and shall assist PURA in promptly examining into the causes of and the circumstances connected with each accident which is the subject of the PURA's investigation

7.6 Sale of Water on a Meter Measurement or Volumetric Tank Basis

(1) All water sold by a water provider shall be on the basis of meter measurements, volumetric tank measurements, or as otherwise provided for in its rate schedules. Water consumption data shall also serve as the basis of charging for sewage collected from the customer's premises.

(2) Wherever practicable, consumption of water within the water utility itself, or by administrative units associated with it, shall be metered or measured using volumetric tank.

(3) Separate premises shall be separately metered or measured with a volumetric tank and billed. Combined billing will not be permitted except on the same premises. Any other arrangement shall require prior written approval of PURA.

(4) Sub-metering shall be permitted only with the approval of PURA.

7.7 Meter Reading Sheets, Cards, or Hand-Held Portable Units

The meter reading sheets, cards or hand-held portable units shall show:

- The customer's name, address and service classification
- The identifying number or description of the meter
- Meter readings and dates
- Identification of an estimated bill

7.8 Reading of Meters

Meters shall be scheduled to be read monthly by the service provider. Water providers shall avoid, insofar as practicable, sending a customer two successive estimated bills. Estimated bills of customers shall be rendered in accordance with provisions approved by PURA.

7.9 Meter Test Records

Each water provider shall maintain records of each test made of a meter for not less than two years. Test records shall include the following:

(1) The date and reason for the test;
(2) The type and capacity of the meter;
(3) The reading of the meter before making the test;
(4) The accuracy "as found" at each rate of flow;
(5) The accuracy "as left" at each rate of flow;
(6) If the test of the meter is made by using a standard meter, the water provider shall retain all data taken at the time of the test in sufficient form to permit the convenient checking of the test methods and the calculations.

7.10 Records Relating to Meters

Each water provider shall maintain records of the following data, where applicable, for each meter and associated metering device until retirement:

(1) The complete identification, including manufacturer, number, type, capacity and measuring units;
(2) The dates of installation and removal from service, together with the location.

7.11 Cost for Temporary or Intermittent Service

When the water provider renders temporary or intermittent service to a customer, it shall bear all the cost of installing and removing the service.

8.0 Plans for Financing Water and Sanitation Network Extensions

Each water and sanitation provider shall file a plan acceptable to PURA providing for financing of extensions of water and sewer networks. Such plan shall be based upon the following principles:

(1) Water distribution network pipes having a diameter of less than 150 mm shall not be installed without prior approval of PURA.

(2) Sewage collection network pipes having a diameter of less than 300 mm shall not be installed without prior approval of PURA.

(3) When it is determined, in accordance with a predetermined formula on file with PURA, that the anticipated revenues are insufficient to cover all operating expenses and to support the investment costs of the network extension, advance payments, contributions or guarantee rates in excess of the regular established rates shall be required.

(4) Costs to be borne by patrons or developers under extension contracts shall be calculated on network pipes of the size required to serve the customer but shall not be calculated on network pipes greater than 200 mm in diameter unless unusual customer requirements warrant a larger size pipe. Extension contracts shall include the cost of all water or sanitation service connections, constructed in connection with the installation of new networks.

(5) Estimated costs shall be adjusted to actual costs upon completion of the work, except that the use of average costs, excluding paving, may be used under the advance or contributory forms of agreement.

(6) All network extension applications shall be made in writing and a contract/payment executed before start of construction.

(7) When the water or sanitation provider determines, in accordance with a predetermined formula on file with PURA, that the anticipated revenues are insufficient to cover all operating expenses and to support the investment, the following conditions shall apply:

- Individual patrons shall be offered a choice of the three following plans: "Guarantee," "Contributory" or "Refundable advance payment".
- Developers having lots for building construction or the sale of homes shall be offered either the contributory or refundable advance payments plans.
- All contributions or advances required shall be paid before material is ordered. Material shall be ordered within a reasonable time after receipt of deposit.

- No interest shall be paid on advance deposits.
- The "Guarantee" plan shall state the amount of the annual revenue guarantee and shall be apportioned equitably among patrons on the extension, and the time of payment shall be specifically set forth.
- The "Refundable advance payment" plan shall provide for and state the amount to be refunded for each additional patron taking service from the extension and shall have a termination date. The time of payment shall be specifically set forth.
- The "Contributory plan" shall provide for the payment by the developer of the entire cost of the extension less the then present value of the anticipated payments, as determined by the water or sanitation provider, which, under a refundable advance payment plan, would become refundable to the developer.
- If a party other than the original patron seeks service from an extension which was constructed under a refundable advance payment contract, such party shall be required to advance an amount to the water or sanitation provider representing his equitable share of the cost of the extension, and appropriate refund shall be made to the original patrons.
- If an additional party obtains service along an extension serving patrons under guarantee rates, appropriate adjustment shall be made in such guarantee rates.

(8) If a water distribution extension contract requires additional facilities, such as storage tanks and booster pumps, and such facilities are not necessary to benefit the system as a whole, the cost of such facilities may, with the approval of PURA, be included in the water network extension contract. If facilities larger than required are installed to serve an extension, the water provider shall pay the excess cost.

(9) If a sewage collection extension contract requires additional facilities, such as lift stations and intercept sewers, and such facilities are not necessary to benefit the system as a whole, the cost of such facilities may, with the approval of PURA, be included in the sewer network extension contract. If facilities larger than required are installed to serve an extension, the sanitation provider shall pay the excess cost.

(10) If a water or sanitation provider determines, with PURA's approval, that constructing and operating a water or sewer system not connected to the provider's existing system is more feasible than extending the provider's existing network, the provider shall build such a non-connected water or sewer system in accordance with (8 or 9) above, and account for such construction in accordance with the Chart of Accounts. Any such non-connected water or sewer system shall be designed to accommodate adjacent growth of at least 10% over the non-connected system's normal design demand. Any such non-connected water supply or sewage system shall be constructed in conformance with these guidelines. Installing a non-connected water or sewage system in lieu of extending a utility's existing network shall

be considered feasible if viable and sustainable water resources are present or if an alternative sanitation system is present (i.e. septic tanks, cesspools, pit latrines, etc.).

9.0 Water and Sanitation Service Connection

(1) The water or sanitation provider shall furnish, install, own and maintain at its expense all new water or sanitation service connections, provided the costs of excavation, backfill, and removal and replacement of paving, walks, curbs, etc., necessarily incurred in respect to new services, shall be borne by the customer or other applicant for service.

(2) The water or sanitation provider shall furnish, install, own and maintain at its expense all replacements of water or service connections, including the cost of excavation, backfill and removal and replacement of paving, walks, curbs, etc., necessarily incurred in respect to each replacement.

(3) As used herein, water service connection means the service pipe from the water distribution network pipe to the curb stop, at or adjacent to the street line or the customer's property line and such other valves, fittings, etc., as the water provider may require at or between the network pipes.

(4) As used herein, sanitation service connection means the service pipe from the sewage collection network pipe to the street line or the customer's property line.

(5) The customer at his own expense shall furnish, install, own and maintain the sanitation service pipe from the customers' property line to the place of sewage disposal and shall keep it in good repair and in accordance with reasonable requirements of the sanitation provider.

(6) The water and sanitation provider shall, with the cooperation of the customer, make an adequate inspection of the customer's water and sanitation service pipes in order to determine that it complies with the water and sanitation provider's requirements.

(7) All replacements and repairs of water and sanitation service connections owned by the water and sanitation providers shall be at their own expense.

10. Location of Water and Sanitation Service Pipes

(1) The water and sanitation service pipes shall extend through those points on the customer's property line or the street line easiest of access to the water or sanitation providers from their respective existing networks and, where practicable, from points at right angles to the respective existing network pipes in front of the premises to be served. Water and sanitation service pipes shall not cross intervening properties or operate in place of a proper water or sewer network extension running in the street and fronting the property

except as noted in subsection 2 below. The approval of the water or sanitation provider shall be secured as to the proper location for the water and sanitation service pipes.

(2) The water or sanitation provider or property owner, upon written request to PURA, and with proper easements in place, may be granted an exception to allow a water or sanitation service pipe to cross intervening properties. The water or sanitation provider or property owner may request such exception only under very exceptional hardship circumstances and then only on a case by case basis. Documentation shall be furnished to demonstrate that the proposed water or sanitation service line will ultimately serve no more than one premise, otherwise the water or sanitation provider shall install a provider-owned network extension. The following shall generally not constitute sufficient cause for granting an exception:

- When the intent is to avoid the time and expense of a proper water or sewer network extension, and proper water or sanitation service pipe installation, or other reasonable engineering solution in conformance with good engineering standards of practice, or
- When the intent is to perpetuate an existing non-conforming condition through an extension or replacement of an existing non-conforming water or sanitation service pipe, or
- When an easement is proposed without sufficient evidence to show that alternative ownership of a suitable strip of land to establish frontage on a road is not feasible.

11. Meter Installation and maintenance charges

(1) Meters installed outside buildings shall be so located as to be accessible to the water provider's network pipe for a proper water service connection and so far as practicable the location should be mutually acceptable to the customer and the water provider. The meter shall be installed so as to be unaffected by climatic conditions and reasonably secure from injury. Meter boxes or pits shall be owned and maintained by the water service provider.

(2) Meters installed inside the customer's building shall be located as near as possible to the point where the water service pipe enters the building and so as to be reasonably secure from injury and readily accessible for reading and testing. In case of multiple dwellings, such as two-family flats or apartment buildings, the meter shall be located within the premises served or in a location accessible to the customer and the water provider.

Maintenance Charges

All maintenance charges for malfunctioning or non-functioning meters shall be paid for by the party owning the service (The Operator).

12. Information to Customers

Each water and sanitation provider shall:
(1) Furnish rate schedules and such additional information as the customer may reasonably request.
(2) Upon request, inform its customers as to how meters are read and the method of computing the charges billed.
(3) Notify customers affected by a change in rates or rate classification.
(4) Maintain up-to-date maps, plans or records of its entire transmission and distribution or collection and interception systems, with such other information as may be necessary to enable the water and sanitation providers to advise prospective customers, and others entitled to the information, as to the facilities available for service in any locality.

13. Customer Deposits

(1) Each water and sanitation provider may require from any customer or prospective customer a deposit to guarantee payment of bills. Such deposits should not exceed an amount equivalent to the estimated maximum bill for ninety days.

(2) A water or sanitation provider may not refuse to provide water or sewer service where a residential customer lacks the financial ability to pay a security deposit, which could be defined as:

- A person receiving local or national public assistance including but not limited to: aid to the blind; aid to families with dependent children; old age assistance; aid to the disabled; supplemental social security income; or general assistance.
- A person whose sole source of financial support is derived from Social Security or unemployment compensation benefits.
- A person whose circumstances threaten a deprivation of the necessities of life for himself/herself or dependent children of his/her household if payment of a security deposit is required.

(3) If a water or sanitation provider has determined that a security deposit should be required from a residential customer, it should inform that customer that service will not be denied if the customer lacks the financial ability to pay, and should provide him or her with a copy of these guidelines.

(4) Each water or sanitation provider having on hand deposits from customers, or hereafter receiving deposits from customers, shall keep records to show:

- The name of the customer making the deposit.

- The account number or other identification of the premises occupied by the customer when the deposit was made.
- The amount and date of making the deposit.
- A record of each transaction concerning the deposit.

(5) Each water and sanitation provider shall issue a receipt to every customer from whom a deposit is received and shall provide means whereby the depositor may receive his deposit or balance if such receipt is lost.

(6) Interest on any security deposit received from a customer for each calendar year shall be paid at the rate prescribed by PURA. Interest shall accrue daily and shall be paid or credited to the customer's account annually. Accrued interest shall be paid upon return of the deposit if such return is made at other than the annual payment date for interest.

(7) The deposit shall cease to draw interest on the date it is returned, on the date water or sewer service is discontinued, or on the date notice is sent to the customer's last-known address that the deposit is no longer required.

(8) A record of each unclaimed deposit and the interest thereon shall be maintained until the funds are paid over to the Government of The Gambia. During this time the water or sanitation provider shall make a reasonable effort to return the deposit and accrued interest.
(9) Deposits may be retained by the water or sanitation provider as long as required to insure payment of bills.

(10) Upon final discontinuance of service the water or sanitation provider may apply such deposit, including accrued interest, to any amount due from the customer for service. Any balance due to the customer shall be promptly refunded.

(11) Deposits shall be returned, together with accrued interest, where satisfactory credit has been established.

14. Bill

14.1 Bill form:

The bill form used shall show:
(1) The name of the water and sanitation provider furnishing the service.
(2) The reading of the meter at the end of the period for which the bill is rendered.
(3) The present and previous meter reading dates.
(4) The number and kind of units metered (i.e. gallons, cubic feet, cubic meters, etc.)
(5) The applicable rate schedule or identification of the applicable rate schedule.

(6) The gross or net amount of the bill, including the amount of arrearage shown as a separate line item, and the amounts of both the water and sewer bills.
(7) The date by which the customer must pay the bill in order to benefit from any discount and to avoid any penalty.
(8) A distinct marking to identify an estimated bill.
(9) Any conversions from meter reading units to billing units or, in lieu of such information, a statement advising that such information can be obtained by contacting the water or sanitation provider's principal office;
(10) The address or post office box where payment may be made;
(11) Telephone number of officers where information may be obtained.

14.2 Customer Billing Records

The water and sanitation providers shall retain customer billing records for the length of time as required by PURA.

14.3 Adjustment of Bills

Bills which are incorrect due to meter or billing errors shall be adjusted as follows:
Whenever a meter in service is tested and found to have over-registered more than two per cent, the water and sanitation provider shall adjust the customer's bill for the excess amount paid as determined below.

- If the time at which the error first developed or occurred can be definitely determined, the amount of overcharge shall be based thereon.
- If the time at which the error first developed or occurred cannot be definitely determined, it shall be assumed that the over-registration existed for a period equal to one-half of the time since the meter was last tested. If more than one customer received service through the fast meter during the period for which the refund is due, a refund shall be paid to the present customer only for the time during which he received service through the meter.
- Whenever a meter in service is found not to register, the water and sanitation provider may render an estimated bill. The water and sanitation provider shall estimate the charge for the water used by averaging the amount registered over a similar period preceding or subsequent to the period of non-registration or for a corresponding period in previous years, adjusting for any changes in the customer's usage. When it is found that the error in a meter is due to some cause, and the date of which can be fixed, the overcharge or the undercharge shall be computed back to but not beyond such date.
- Billing adjustments due to fast meters shall be calculated on the basis that the meter should be one hundred per cent accurate. For the purpose of billing adjustments, the meter error shall be one-half of the algebraic sum of the error at maximum test flow

plus the error at intermediate test flow.

- When a customer has been overcharged as a result of incorrect reading of the meter, incorrect calculation of the bill, incorrect connection of the meter or other similar reasons, the amount of the overcharge shall be adjusted, refunded or credited to the customer.
- When a customer has been undercharged as a result of incorrect reading of the meter, incorrect calculation of the bill, incorrect connection of the meter or other similar reasons, the amount of the undercharge may be billed to the customer.

15. Restoration of Disconnected Service

15.1 Reconnection

In all cases of disconnected of service, where the cause for disconnection has been corrected and all rules of the water or sanitation provider on file with the regulator have been complied with, the water or sanitation provider shall promptly restore service to the customer.

15.2 Reconnection Charge

Where service has been justifiably disconnected, the water and sanitation provider may make a reasonable charge for reconnection of service. Such charge shall be applied uniformly and shall be incorporated in the rules of the water and sanitation provider.

16. Complaints

For the purpose of this section, "complaint" means objection to the charge, facilities or quality of service of a water or sanitation provider. When a complaint, oral or written, is made to the water or sanitation provider by a customer, the water or sanitation provider shall make a prompt and complete investigation within 48 hours and advise the complainant thereof. It shall keep a record of each such complaint which shall show the name and address of the complainant, the date and nature of the complaint and the adjustment or disposition thereof. A record of the original complaint shall be kept for a period of three years subsequent to the final settlement of the complaint.

17. Identification of Employees

Any employee of a water or sanitation provider whose duties require him to enter the customer's premises shall wear a distinguishing uniform identifying him as an employee of the provider, or carry on his person a badge or other identification prominently displayed which will identify him as an employee of the water or sanitation provider.

18. Design and Construction of Water and Sanitation Facilities

The design and construction of the water and sanitation facilities shall conform to good standard engineering practice, including the minimum standards of the Government of The Gambia. It shall be designed to make reasonable provision for the water and sanitation provider's water supply and sewage collection requirements for a period of at least fifteen years and operated so as to provide reasonably adequate and safe service to its customers and shall conform to the requirements of the Ministries of Health and Environment with respect to sanitation and potability of water.

18.1 Water and Sanitation Networks*:*

Water and sanitation pipes shall be placed at such a depth below ground level, or otherwise protected from environment and weather experienced in the community in which they are laid, and will prevent damage to traffic.
Insofar as practicable, the water provider shall design its distribution network so as to avoid dead ends in its system. Where dead ends are necessary, the water provider shall provide hydrants or valves for the purpose of flushing the pipes. Networks with dead ends shall be flushed as often as necessary to maintain the quality of the water but no less than once per year.
Valves or stop cocks shall be provided at reasonable intervals in the water network so that repairs may be affected by the water provider with interruptions of service to a minimum number of customers. All new water pipes shall be disinfected before being connected to the system. The method of disinfecting shall be in compliance with the Ministry of Health recommended practices.
Wherever feasible, the water distribution and the sewage collection networks shall be laid out in a grid so that, in case of breaks or repairs, the interruptions of service to the customers shall be at a minimum.

18.2 Water and Sanitation Service Pipes:

The size, design, material and installation of the water and sanitation service pipes shall conform to such reasonable requirements of the water and sanitation providers as may be incorporated in their rules, provided the minimum size of the pipe for water shall not be less than 25 mm except under unusual circumstances which shall be clearly defined. Similarly, the minimum size of the pipe for sewage shall not be less than 100 mm except under unusual circumstances which also shall be clearly defined.
All water and sanitation service pipes shall be laid at such a depth in accordance with the rules of the water and sanitation providers, and are actually drained periodically i.e. at dead ends and hydrants. The water and sanitation providers shall inspect the service pipes to assure that they have been installed at proper depth and are free from any tee, branch connection, irregularity or defect.

(3) Whenever normal excavation discloses an unsatisfactory soil condition, one or more of the following corrective measures shall be employed:

(a) Excavate to good bearing soil and backfill to pipe grade with suitable material well tamped to provide adequate support;
(b) Support with a concrete slab;
(c) Support with piling.

(4) Pipes on a roadway bridge shall be located so as to reduce hazards to a minimum.

(5) In the case of water pipes that are laid in the same trench as with other facilities:

(a) Water networks shall be laid clear of all other underground facilities;
(b) water pipes may be laid in the same trench with other underground utility facilities except natural gas, oil or sewer pipes, provided at least 500 cm separation, in a horizontal plane, shall be maintained and provided such arrangements shall be mutually acceptable to the parties concerned;
(c) At crossings of water networks and water service pipes with other underground facilities, clearances wherever possible shall be not less than 300 cm; and
(d) To secure compliance with the requirements of these guidelines by others performing underground construction works, the water and sanitation providers shall arrange with the other agencies having roadway subsurface rights for adequate notification and inspection procedure.

(6) Water and sewer pipe laid shall be tested and made tight before being placed in service.

(7) The ditch underneath, around and over the water and sewer pipes shall be backfilled with good material thoroughly tamped to secure a firm support. To disclose any settlement of the backfill which may need correcting, newly filled ditches shall be re-inspected at intervals.

(8) The water service connection at the network pipe or the run of water service pipe shall allow for a reasonable amount of flexibility to prevent fracture or leaks at the connection with the water network.

19. Meter and flow test

19.1 Meter Testing Equipment

Each water provider furnishing metered water service shall provide the necessary standard facilities, instruments and other equipment for testing its meters in compliance with these guidelines. Any water provider may be exempted from this requirement by the regulator if satisfactory arrangements are made for tests of its meters by another water provider or approved agency equipped to test meters in compliance with these guidelines. The water provider's meter test shop shall, insofar as practicable, simulate the actual service conditions of temperature, inlet pressure and outlet pressure. It shall be provided with the necessary fittings, including a quick acting valve for controlling the starting and stopping of the test and a device for regulating the flow of water through the meter under test within the requirements of these guidelines. The overall accuracy of the test equipment and test procedures shall be sufficient to enable tests of service meters within the requirements of these guidelines. Where a standard test meter is used for field testing of service meters, such device shall be checked in an approved meter shop for accuracy at least once a year, adjustments made when necessary and a record kept of such tests and adjustments.

19.2 Pre-installation Testing and Storage of Meters

Every water meter shall be tested as required by these guidelines prior to its installation either by the manufacturer, the water service provider or any PURA approved laboratory equipped for meter testing. Meters with oil-enclosed gear trains should be stored in an inverted position and, if not so stored, shall be tested immediately before installation.

19.3 Test Flows

All meters used for measuring the quantity of water delivered to a customer shall be in good mechanical condition and shall be adequate in size and design for the type of service which they measure and shall be accurate to the standards shown in the table below. For determination of minimum test flow over normal test flow limits, the guideline is the appropriate standard specifications of the American Water Works Association for the various types of meters. These test flows for positive displacement type cold water meters are as follows:

Flow in mm^3/Sec.

Nominal Meter Size	Minimum	Intermediate	Maximum
25mm	0.0017	0.0089	0.0893
38mm	0.0033	0.0179	0.1786
50mm	0.0045	0.0335	0.2679
75mm	0.0089	0.0446	0.5580
100mm	0.0156	0.0893	0.7813
150mm	0.0268	0.1339	1.5625

Displacement meters shall be tested at each of the rates of flow stated above for the various size meters. A meter shall not be placed in service if it registers less than ninety-five per cent of the water passed through it at the minimum test flow or over registers or under registers more than one and one-half per cent at the intermediate or maximum limit. A repaired meter shall not over register or under register more than one and one-half per cent of the intermediate and maximum flows.

19.4 Periodic and Complaint Tests

All meters tested in accordance with these guidelines for periodic or complaint tests shall be tested in the condition in which found in the customer's service prior to any alteration or adjustment in order to determine the average meter error. Tests shall be made at the intermediate and maximum rates of flow and the average meter error shall be one-half the algebraic sum of the errors of the two tests.

19.5 Meter Seal

Upon completion of adjustment and test of any water meter under the provisions of these guidelines, the water provider shall affix thereto a suitable seal in such a manner that adjustment or registration of the meter cannot be changed without breaking the seal.

19.6 Reports of Tests

Each water provider shall furnish to the regulator at intervals not exceeding one year, a report of the summary of all meter tests made. This report shall be in such detail as may be prescribed by the regulator from time to time.

19.7 Restoration of Meters Removed from Service

All water meters removed from service for repair or testing in accordance with these guidelines shall be restored to the prescribed limits of accuracy as required by these guidelines before again being placed in service.

19.8 Periodic and Routine Tests

Each water provider shall adopt the following periodic and routine test and repair schedule of its meters:

Size of Meter In Millimetres	Interval between Test Years
25	8
38	4
50	4
75	3
100	2
150 & larger	1

If a water provider's meters are maintained in compliance with the provisions for meter testing herein and in accordance with the above schedule, (or as the test interval has been extended in part as described below), and if the water provider has consistently demonstrated satisfactory compliance in its annual meter test report submissions to the regulator over the most current consecutive three-year period including the condition that the water provider has not exceeded an amount of overdue meters equal to ten percent (10%) of the total due tests in any year over that three-year period, and if at least ninety percent (90%) of the meters so tested register an accuracy of not less than ninety-six percent (96%) nor more than one hundred two percent (102%) during the given three-year period, such water provider, upon request, may be granted an extension in the time interval between test years. Such extension shall be in an increment of two years and shall apply only to those meters in sizes of twenty-five (25mm). Requests for subsequent two-year increment extensions shall require the same satisfactory annual test reporting and minimum three-year accuracy history and maximum allowed ten percent overdue meters, as described above, for the then current test interval meters. The maximum allowed meter test interval period shall be sixteen (16) years.
If a water provider's water meter testing program does not comply in whole or in part with the standards and requirements prescribed in the paragraph above during a consecutive three-year period, the time interval between tests years for those meters in sizes of 25mm may be reduced by the regulator to a period of not less than six years

19.9 Tests on Request of Customers

Each water provider shall, upon written request of a customer and, if he so desires, in his presence, or that of his authorised representative, make without charge a test of the accuracy of the meter in use at his premises, if the meter has not been tested by the water provider within the period of one year previous to such request and provided the customer shall agree to abide by the results of such test as the basis for any adjustment of disputed charges. Upon such request by a customer, or upon an order for a meter test made by the regulator, the water provider shall notify the customer, in writing and within one week of the request for the meter test, that he, or his authorised representative, has the right to be present at the meter test. If said customer, or his authorized representative, desires to be present at the meter test, the customer or his authorized representative shall contact the water provider within 10 days of the written notification to arrange to be present at the test. Upon such notification, the water provider shall schedule a meter test, at a time during the normal operating hours of the water provider's meter testing facility, which is convenient to both the customer, or his authorized representative, and the water provider, as soon as possible. A written report of the results of the test shall be furnished the customer.

19.10 Test witness by PURA

(1) PURA, upon request, shall cause to be tested for accuracy the water meter at a customer's premises.

(2) A water provider, after notification by the PURA that a test is to be made, shall not adjust, disturb or remove the meter in question, except as directed by an authorised representative of the PURA.

(3) Test on said meter shall be carried out using the Providers' test bench or any other as prescribed and witnessed by PURA or duly authorised agent.

19.11 Standard Installation Method

Each water provider shall adopt a standard method of meter installation. Such method shall be set out with a written description or drawings to the extent necessary for a clear understanding of the requirements. Copies of approved standard methods shall be made available upon request to prospective customers, contractors or others engaged in the business of placing pipe for water utilisation. All meters shall be set in place by the water provider or its agent.

19.12 Registration Devices

All meters used for metered sales shall have registration devices indicating the volume of water in either cubic feet or cubic meters. Where a constant or multiplier is necessary to convert the meter reading to cubic feet or cubic meters, the constant shall be indicated upon the face of the meter and on the meter reading sheet, card, or portable hand-held unit.

19.13 Charges to Customers for Devices

No water provider shall charge for the installation of any devices for metering service to a customer, except for temporary service where the water provider may charge the actual cost of installation and removal of metering devices. The customer shall pay for any special device requested.

20. Sanitation and Health Standards

(1) Any water provider furnishing water service for human consumption or domestic use shall conform to all requirements of the Ministry of Health for construction and operation of its water system as pertains to sanitation and potability of the water.

(2) Each water and sanitation provider shall have representative samples of the water supplied or sewage collected by it tested and analysed by the Ministry of Health or by a competent chemist and bacteriologist, at intervals sufficient to insure safe water supply and safe sewage disposal.

(3) If the above-prescribed tests show that the water furnished by the water provider or the sewage collected by the sanitation provider does not meet acceptable standards or is otherwise unsafe for human consumption or disposal, the water or sanitation provider shall forward a report of such test to PURA or other Ministerial agency having correctional jurisdiction without delay, and shall take immediate steps to correct the condition. Reports of corrective action shall then be forwarded to the regulator.

21. Standard Pressure

(1) Each water provider shall adopt and maintain a standard pressure in its water distribution network at locations to be designated as the point or points of "standard pressure." At one such point a recording pressure gauge shall be maintained in continuous service.

(2) Under normal conditions of use of water the pressure at a customer's service connection shall be not be less than 7 meters of head and not more than 15 meters of head.

(3) Pressure outside the limits specified will not be considered a violation when the variations arise from:

- The action of the elements.
- Infrequent fluctuations not exceeding five minutes duration.
- Service interruptions.
- Causes beyond the control of the water provider.
- Service elevations.

(4) At regular intervals, each water provider shall make a survey of sufficient magnitude of pressures in its water distribution network to indicate the quality of service being rendered at representative points on its system. Such surveys shall be made during periods of high usage at or near the maximum usage during the year. The pressure charts for these surveys shall show the date and time of beginning and end of the test and the location at which the test was made. Records of these pressure surveys shall be maintained for a period of six years at the water provider's principal office in The Gambia and shall be made available to the regulator upon request.

22. Interruptions in Service

(1) Each water and sanitation provider shall give prompt notice to the regulator during regular business hours of all interruptions, except those occurring in the course of routine operations, to, or major impairment of, service for periods of duration of four hours or more occurring on production works, treatment facilities, storage works, water transmission or distribution networks, sewage collection or interception networks or of accident or damage to portions of the plant which might lead to such interruptions of service. Such notice shall be confirmed in writing within five days.

(2) Each utility shall make all reasonable efforts to prevent interruptions of service and, when such interruptions occur shall endeavour to re-establish service with the shortest possible delay consistent with the safety of its customers and the general public. Where an emergency water service interruption affects fire protection service, the water provider shall immediately notify the fire chief or other responsible local official.

(3) Whenever any water or sanitation provider finds it necessary to schedule an interruption to its service, it shall make all reasonable effort to notify all customers to be affected by the interruption, stating the time and anticipated duration of the interruption. Whenever possible, scheduled interruptions shall be at such hours as will provide least inconvenience to the customer.

(4) Every water and sanitation provider shall maintain records of interruptions for a period of at least two years.

23. Restrictions on Water Use

(1) The water provider shall exercise reasonable diligence to furnish a continuous and adequate supply of drinking water to its customers and to avoid any shortage or interruptions of delivery thereof.

(2) If a water provider finds that it is necessary to restrict the use of water, it shall notify its customers, and give PURA written notice, before such restriction becomes effective. Such notifications shall specify:

- The reason for the restriction.
- The nature and extent of the restriction, i.e., on outdoor use of water, use by certain classes of customers, etc.
- The date such restriction is to go into effect.
- The probable date of termination of such restriction.

(3) During times of threatened or actual water shortage, the water provider shall equitably apportion its available water supply among its customers with due regard to public health and safety.

24. Standby Power Regulations for Water and Sanitation Providers

For purposes of the following guidelines, consider these definitions

(a) "Regulatory Agency" shall mean PURA.

(b) "Provider" shall means water or a sanitation provider as defined in the beginning of these guidelines, relying on groundwater as its source of supply, or a collection network as its primary sewage disposal system.

(c) "Average Daily Demand" shall mean the normal water usage or sewage flow of the system as determined for the most representative twenty-four (24) hour period of record not affected by unusual demand conditions such as drought or a significant temporary increase in demand due to storm-related events.

(d) "Standby Power" shall mean an alternative source of providing power in the event of an electrical outage.

(e) "Standby Power Equipment" shall include permanent and portable generators, engine-driven pumps, or other mechanical drive equipment.

(f) "Sufficient Standby Power Capacity" shall mean the ability of a water or sanitation provider to supply or collect 100% of the average daily demand of its system, or of each division if the provider's system is comprised of multiple divisions, and satisfy the requirements of the Ministry of Health concerning purity and adequacy of potable water and containment of sewage flows without overflows.

(g) "Facility Location" shall include pumping stations, treatment plants, storage tanks, and such other plant where electric power is required to satisfy the design criteria for sufficient standby power capacity.

24.1 Permanent and Portable Generators

(1) Each water and sanitation provider shall furnish permanently installed gasoline, diesel, propane-fuelled, natural gas or oil-fired standby power equipment at such facility locations as are necessary to provide sufficient standby power capacity.

(2) Portable generators with sufficient standby power capacity may be considered acceptable as an alternative to an on-site generator. Such portable generators may be used only if there are suitable controls, connections and manual or automatic switches in the pump houses that are operational.

(3) Portable generators shall be owned or leased at all times by the water or sanitation provider, by a subsidiary of the provider, by the parent of the provider, or by a corporation with the same parent as the provider.

(4) Portable generators must be ready to provide power within four hours of an electrical outage, unless the water or sanitation provider has sufficient atmospheric storage or gravity feed capabilities to provide safe and adequate service, in conformance with the requirements of the National Environment Agency and Public Health Authority concerning purity and adequacy of water and safe disposal of sewage, for up to twenty-four hours without electric power, but in no event shall standby power not be provided more than twenty-four hours after the occurrence of an electrical outage.

(5) Each water or sanitation provider delivering standby power through the use of a portable generator or portable generators shall report to the regulator the type and capacity of the generator or generators, the location where the generator or generators are regularly stored, and the site or sites where the generator or generators will be employed, no later than 90 days after the implementation date of these guidelines.

(6) Fuel storage may be above ground or below grade, and shall comply with all pertinent laws, regulations, and codes, except that a direct buried tank shall not be permitted. A containment area capable of holding the full volume of the fuel tank shall be provided, except for propane and natural gas. The fuel tank shall be properly located to protect the water source or sewage flow from accidental spills. Review by, and the approval of the NEA, shall be required prior to the installation of a fuel storage tank.

(7) Sufficient fuel storage capacity shall be provided for the generation of standby power by permanently installed standby power equipment for at least twenty-four hours (24 hrs), and by portable generators for at least eight (8) hours.

(8) Each water and sanitation provider shall test standby power equipment, at the site where the standby power equipment will be employed, at least once in every consecutive thirty (30) day period, under load, for a minimum duration of thirty (30) minutes, and shall maintain a record of the results of such test. Each water and sanitation provider shall

perform maintenance of its standby power equipment in accordance with the manufacturer's specifications, at least once in every consecutive twelve (12) month period, and shall maintain a record of equipment maintenance. Each water and sanitation provider shall submit a report on its standby power equipment testing results and on its equipment maintenance program to the regulator annually.

(9) Each water and sanitation provider shall notify the local electric utility of the provisions for standby power made by the provider, including but not limited to the operating capacity and characteristics of the generating units. Installation of any standby power equipment shall not be made with the electricity provider's system without the express written approval of the electricity provider.

24.2 Exemptions

(1) The provisions of these guidelines shall not apply to a water or sanitation provider, to the extent that the provider is able to supply or collect 100% of the average daily demand of its system, or of a division of its system if the provider's system is comprised of multiple divisions, and satisfy the requirements of the Health Authority and the NEA concerning purity and adequacy of water and safe sewage disposal, by (1) gravity alone, for a consecutive period of twenty-four (24) hours without electric power, or (2) by an interconnection with a system that is able to supply or collect 100% of the average daily demand of both the interconnected and interconnecting systems by gravity alone.

(2) Each water or sanitation provider seeking an exemption from these guidelines pursuant to subsection (1) of this section shall make a written application for the approval of the regulator of such an exemption. Such application shall contain a statement of the facts and supporting documentation sufficient to indicate that the condition or conditions for exemption provided by subsection (1) of this section are met by the water or sanitation provider.
(c) The regulator shall make a determination to approve or to deny the application for an exemption within sixty (60) days of receipt of the application, except that the sixty (60) day requirement may be waived in writing by the water or sanitation provider.

24.3 Implementation

(1) Each water and sanitation provider shall comply with the requirements of these guidelines as soon as practical, but no later than three years from the effective date of these guidelines. Each water and sanitation provider shall furnish written notice of compliance to PURA, the Ministry of Health and the NEA, including evidence of an interconnection if an exemption from these regulations is requested.

(2) In the event that a water or sanitation provider, which was determined by PURA to be exempt from these guidelines, ceases to meet the conditions for exemption, such water or sanitation provider shall furnish written notice of its non-compliance to PURA, and to the

Ministry of Health, within thirty (30) days of the commencement of non-compliance, and shall provide written notice of compliance with these guidelines to PURA, and to the Ministry of Health, within one year from the date non-compliance commenced.

24.4 Penalties

Each water or sanitation provider that fails to comply with the requirements of any of these guidelines shall be subject to the civil penalties provided for in the Government of The Gambia laws.

25. Performance Indicators

25.1 Measuring the Value of Technical Assistance

Regulatory Agencies measure the value of the providers' efforts directly in terms of improvements in effectiveness, efficiency, and quality of services or activities administered or delivered by each private operator, as shown in the table below. This approach measures outcomes and outputs, and avoids often misleading measurement of inputs. These indicators can be measured at the activity level (e.g., metering, billing) or the aggregate utility level (e.g., water deliveries, wastewater collections). PA proposes both levels of measurement, with a focus on activity measures, consistent with the technical services specified in the incentive based contract.

DEFINING PERFORMANCE	
Class of Measure	Description
EFFECTIVENESS	Do the providers' activities meet service objectives (e.g., reductions in unaccounted-for water, increases in metered connections or billed revenue collected, and adequacy of finished water deliveries, reductions in sewer back-ups, by-pass, or upsets)?
EFFICIENCY	Are desired levels of services delivered at least-cost or market-equivalent costs (benchmarked), often measured as ratios of outputs to inputs (activity or aggregate costs or labour-days)?
QUALITY	Do activities or services meet objectives for water purity and public health protection, timeliness of delivery, reliability of supply or collection, customer satisfaction, minimal interruption of business or commerce, etc.?

The performance measures below are be used by the Regulator for monitoring and supervising water and sanitation providers. To monitor and evaluate the continuous improvement and performance of the providers but not directly factored into the weighted computation for the incentive portion of the fee.

Performance Measures for Incentive Based Contracts			
Activities	**Effectiveness**	**Efficiency**	**Quality**
	• % O&M costs billed • Increases in billing	• No. of billing clerks per 1000 accounts • Average cost per bill	• % reduction in estimated bills • % reduction in billing errors
Revenue Collection	• % billed revenue collected • Increases in collections	• Water revenue collected per service connection • Wastewater revenue collected per service connection	• % reduction in un collectibles in both water and wastewater
Leak Detection / Unaccounted-for Water	• % Unaccounted for water • % Reduction in unaccounted-for water	• % km of mains surveyed for leaks per year • % ratio of leaks fixed to leaks discovered	• % reduction in number of leaks per year • % water saved from fixing leaks
Metered Water Connections	• % Metered connections • % Metered residential connections	• Cost per meter installed • Cost per residential meter installed	• % meters functioning • % residential meters functioning
Procurement	• Average days for purchase cycle (equip + spare parts) • Average days for contract cycle (services)	• Amount (currency) of inventory of spare parts and equipment • % turnover of inventory per year	• Minimized time frames to purchase equipment and services
Management Information Systems	• % of departments within utility using MIS	• % increase in use of computers and automation from previous year	• Timeliness of MIS reports • Accuracy of MIS reports
Training	• % Personnel receiving some training each year	• % personnel trained to perform several functions	• % O&M budget devoted to training
Public Awareness/Customer Satisfaction	• Customer approval rating	• Outreach budget per customer • No. of public awareness events scheduled and executed	• % of billings collected • % reduction in illegal connections
Water and Wastewater Treatment Plant Operations	• % Equipment functioning in the plants	• O&M cost per m^3 water produced • O&M cost per m^3 wastewater treated	• % time water quality meets acceptable standards • % time wastewater effluent meets acceptable standards
Water Distribution Network Maintenance	• Reliability and integrity of distribution network	• No. of employees per 100 km of water network • O&M cost per 100 km of water network	• % time distribution network has adequate pressures • % time distribution network meets fire protection standards
Wastewater Collection Network Maintenance	• Reliability and integrity of collection network	• No. of employees per 100 km of collection network • O&M cost per 100 km of wastewater network	• % time wastewater collection network is clogged or malfunctioning • % km of collection network inspected each year
Industrial Discharge Pollution Control	• % reduction in quantity of wastewater being treated • % reduction in WWT O&M costs • % reduction in major pollutants (agreed beforehand)	• O&M costs per m^3 wastewater pre-treated • % increase in pollution prevention/control budget	• No. of pre-treatment violations discovered per year • % ratio of violations corrected to those discovered

26. Water Quality Standards and test

26.1 Water Quality Standards

Parameter/Indicator	Drinking Water Quality Standards	Effluent Discharges, Irrigation, and Reuse Standards	Fisheries and Recreation Quality Standards
Temperature, °C	In general, cool water has more palatable taste, than the warm one. Higher temperatures of water accelerate bacterial growth, and may aggravate problems concerned with taste, odour and colour.	Summer temperatures of water should not rise for more than 3°C, as a result of wastewater discharges, compared to the monthly-average temperature of water of the hottest month of the year, for the last decade.	Water temperature should not rise for more than 5°C, compared to the natural temperature of the water body: not exceeding 20°C in summer, and 5°C in winter for the water bodies for cold-water fishes (salmon, trout, white-fish). For other water bodies, at the most 28°C in summer and 8°C in winter.
pH	6 – 9	6.5 – 8.5	6.5 – 8.5
Suspended Solids, mg/l	0.00	0.75	0.25
Dissolved Oxygen, mg/l	4.0	minimum 4.0	minimum 6.0
BOD_5, mg/l	3.0	6.0	3.0
COD, mg/l	15.0	30.0	30.0
NH_4^+, mg/l	1.5	2.0	0.05
NO_2^-, mg/l	3.0	0.08	0.02
NO_3^-, mg/l	45.0	40.0	9.1
Phosphates (as PO_4^{3-}), mg/l	3.5	3.5	3.5
Cl^- mg/l	350	350	300
SO_4^{2-}, mg/l	500	500	100
Total Dissolved Solids, mg/l	1000	1000	1000
COD, mg/l	5.0	12 – 30	10 – 30
Oil and Grease, mg/l	0.1	0.1	0.01
Na^+, mg/l	200	120	120
K^+, mg/l	3.9	50.0	50.0

Parameter/Indicator	Drinking Water Quality Standards	Effluent Discharges, Irrigation, and Reuse Standards	Fisheries and Recreation Quality Standards
Ca^{2+}, mg/l	Total Hardness – 7-10 mmol/l	180	180
Mg^{2+}, mg/l	Total Hardness – 7-10 mmol/l	40.0	40.0
Total Iron (Fe^{2+}/Fe^{3+}), mg/l	0.3-0.5	0.5	0.05
$\Sigma\alpha/\Sigma\beta$ Radioactivity, Bq/l	$0.1^{\alpha}/1.0^{\beta}$ Bq/l	$0.1^{\alpha}/1.0^{\beta}$ Bq/l	$0.1^{\alpha}/1.0^{\beta}$ Bq/l
Hg, mg/l	0.0005	0.005	0.001
As, mg/l	0.05	0.05	0.05
Pb, mg/l	0.03	0.1	0.01
Cd, mg/l	0.001	0.01	0.005
Cr^{6+}, mg/l	0.05	0.5	0.001
Cr^{3+}, mg/l	0.5	0.5	0.5
Ni, mg/l	0.1	0.1	0.01
Cu, mg/l	0.1	0.01	0.001
B, mg/l	0.5	0.01	0.001
Al, mg/l	0.5	0.2	0.2
Zn, mg/l	0.5	0.2	0.01
CN^-, mg/l	0.035	0.05	0.001
Phenols, mg/l	0.25	0.25	0.001
Coli index/l	0	100	50
Coli count (lactose positive)/l	50	5000	20
Coliphags/l	100	100	100
Pathogens/l	Must be Absent	Must be Absent	Must be Absent

Notes:
1. Source of parameters is from Regulations for Surface Waters Protection from Pollution Caused by Wastewater Discharges. EU standards from Ministries of Water Economy, Health and Fisheries.
2. These are the Maximum Allowable Concentrations and approximate safety levels of harmful materials in water for water used for drinking, domestic-household and recreational uses as approved by the EU Ministry of Health.

26.2 Water quality test reports

Water service providers shall furnish the regulator quarterly test reports and in the event that a test failed set standards, the PURA shall be immediately informed of such a normally.

26.3 Water Quality test by PURA

PURA at its own will and cost will or its' authorised agent/agency carry out random test of the water supplied by the service providers. The results of such test will be communicated to the operator.

27. Performance Standards

This schedule sets out the Performance Standards to be achieved by the provider (operator). The current performance levels are indicated as Minimum Performance Standards (MPS). Tables A.1.1 and A.1.2 also include weighting factors for determining the Base Fee and Incentive Fee.

The term "PROVISIONAL" in the Year 2 column means that the targets in Year 2 shall be reviewed in the last quarter of Year 1 of the Contract, based on the shared experience of operations during the first year.

27.1 Minimum Performance Standards

No.	Indicator	Unit	Minimum Standard Year 1	Weight Factor	Target Performance Year 1	Provisional Target Performance Year 2
1.	Water sold	m^3		10		
2.	Functionality of Installed Water Meters	%		3		
3.	New water connections	No.		6		
4.	*Active water connections* **	No.		12		
5.	*Inactive Water Connections* **	No.		8		
6.	Percentage of customer complaints resolved	%		8		
7.	Percentage of samples passing bacteriological water quality tests	%		8		
8.	Percentage of samples passing physico-chemical water quality - Turbidity	%		6		
9.	Billing – Total*	GMDs'000		15		
10.	Collections – Total*	GMDs'000		15		
11.	*Arrears* – Total **	GMDs'000		9		

** Indicators with this sign are cumulative. The figures shown are those to be achieved at the end of year. The monthly targets will be taken as the linear interpolation between the baseline and the end of year targets.

27.2 Performance indicators

Parent Indicators

#	Performance Standard	Minimum Standard Year 1	Weight Factor	Target Performance Year 1	PROVISIONAL Target Performance Year 2
1.	Water Sold (m^3)		0.30		
2.	New Water Connections (No.)		0.15		
3.	*Active Water Connections ** (No.)*		0.15		
4.	Functionality of Installed Water Meters *(%)*		0.10		
5.	Collections – Total* *(GMDs.000)*		0.30		

** Indicators with this sign are cumulative. The figures shown are those to be achieved at the end of year. The monthly targets will be taken as the linear interpolation between the baseline and the end of year targets.

28. Guidelines for Disconnection of Water and Sewage Utility Service

28.1 Definitions, as used in these guidelines:

(1) "Customer" or "customer of account" means any person or entity which has contracted with a water or sanitation provider for utility service. If residential utility service has gone to the joint benefit of spouses or “partner arrangements”, or to the support of their family then both spouses are customers of the water or sanitation provider even if only one spouse or partner expressly contracted with the provider for residential utility service. The spouse or partner who expressly contracted for residential utility service is the named customer and the spouse or partner who did not expressly contract for such service is the unnamed customer.

(2) "Residential customer" means a customer who contracts with a water or sanitation provider for utility service at a residential premises for domestic purposes.
(3) "Commercial customer" or "Industrial customer" means a customer who contracts with a water and sanitation provider for utility service at a non-residential premises, whether for profit or not for profit.

(4) "Delinquent account" means a bill for water or sanitation utility service which has remained unpaid for a period of more than 35 days from the date a bill is mailed or delivered by a water or sanitation provider which bills upon a monthly basis; or a bill for utility service which has remained unpaid for a period of more than 65 days from the date a bill is mailed or delivered by a water or sanitation provider which bills on a bi-monthly or quarterly basis. No partial payment of any delinquent account shall affect the delinquent status of the amount remaining unpaid on such account.

(5) "Hardship" or "hardship case" means a person receiving or seeking reinstatement of residential water or sewage utility service that lacks the financial resources to pay his or her entire bill for water and sewage utility service, including but not limited to:

(a) A person receiving local or national public assistance, including but not limited to: aid to the blind; aid to families with dependent children; old age assistance; aid to the disabled; supplemental security income; or general assistance.

(b) A person whose sole source of financial support is derived from social security/government subsidy, government pensions, or unemployment compensation benefits.

(c) A person who is head of the household and unemployed, and whose household income is less than three hundred per cent of the poverty level determined by the Government of The Gambia.

(d) A person or any resident of the person's home who is seriously ill, as certified by a registered physician, or has a life threatening situation.

(e) A person whose circumstances threaten a deprivation of the necessities of life for himself or herself or dependent children of his or her household if payment of a delinquent utility bill is required.

(6) "Head of household" means a customer who provides the major source of income for himself or herself and dependent children of the household.

(7) "Necessities of life" means those things without which survival would be endangered, including but not limited to food, clothing, shelter, medical expenses, and heat.

(8) "Regulatory Agency" or "PURA" means the Gambia Public Utilities Regulatory Agency.

(9) "Reasonable amortisation agreement" means a promise to a water or sanitation provider to pay a delinquent account over a period of time.

(10) `"Receipt" or "received" means three days after the date of mailing, or, if a bill, notice or other document is delivered rather than mailed, the date of delivery, unless another date can be shown.

(11) "Residential utility service" means utility service provided by a water or sanitation provider to a customer at a place of residence.

(12) "Review officer" means a person designated by a water or sanitation provider to investigate customer complaints and to undertake informal reviews. A review officer may be any employee of the water or sanitation provider other than a member of the water or sanitation provider's credit department who has previously participated in the investigation. A review officer shall be empowered to review and overrule determinations of members of the provider's credit department on subjects within the review officer's authority.

(13) "Disconnection" or "Disconnect" means the voluntary discontinuance of service to an individual utility customer but shall not include interruption or curtailment of service consistent with interruption pursuant to the Regulator's approved tariffs or resulting from forced outages, energy or capacity shortages or other emergencies.

(14) "Provider" means any water or sanitation operator, company, corporation or other entity within the jurisdiction of PURA which provides utility service to customers.

(15) "Utility service" means the provision of water or collection of sewage by a water or sanitation provider to a customer at retail rates and shall include, without limitation, residential utility service.

(16) "Identification" means government issued identity card, motor vehicle license, service provider's I.D. card, or any other means of identification approved by PURA.

(17) "Household income" means the combined income over a twelve month period for the customer and all adults, except minor children of the customer, who are and have been members of the household for six months or more.

(18) "Life threatening situation" means a condition certified by a registered physician that would endanger the life of the customer or a member of the customer's household if water or sewage service were terminated.

(19) "Business office" means any office facility that is operated by the water or sanitation provider.

(20) "Customer payment" means any payment or payments made by or on the behalf of a customer.

(21) "Day" means calendar day.

Grounds for Disconnection; Disconnection with and without Notice:

Utility Service may be disconnected only for the Reasons listed below:

28.1 Grounds for disconnection of service without notice.

Utility service may be disconnected without notice only in the event that the provision of the utility service would constitute a condition determined by the water or sanitation provider to be hazardous.

28.2 Grounds for disconnection of service with notice.

Utility service may be disconnected with notice for the reasons specified below:

(a) In the event that the furnishing of service would be in contravention of any orders, ordinances or laws of the Government of The Gambia or any political subdivision thereof.

(b) Where residential service is being provided pursuant to an agreement where under the customer is permitted to amortise (repay) the delinquent balance of an account for service provided to that customer over a reasonable period of time, and the customer fails to comply with the terms of the agreement, or to simultaneously keep current the customer's account for utility service as charges accrue in each subsequent billing period. Where the customer has made a payment or payments amounting to 20% of the balance due, notice of the conditions the customer must meet to avoid termination of service shall be required.

(c) In the event of tampering with water pipes, meters or other utility equipment by the customer of a water provider.

(d) Fraud or material misrepresentation in obtaining utility service.

(e) Customer use of equipment in such a manner as to adversely affect the water or sanitation provider’s equipment or the provider's service to others, after the customer has first been notified and afforded an opportunity to remedy the interfering influence.

(f) Violation of or non-compliance with the rules of the water or sanitation provider which have been filed with and approved by PURA.

(g) Failure of the customer to provide the water or sanitation provider reasonable access to its equipment or in the event access thereto is obstructed or hazardous.

(h) Customer failure or refusal to reimburse the water or sanitation provider for repairs to or loss of the provider's property on the customer's property when such repairs are necessitated or loss is occasioned by the intentional or negligent acts of the customer or his agents.

(i) Failure of the customer to furnish such service, equipment, permits, certificates or rights-of-way as shall have been specified by the water or sanitation provider as a condition to obtaining service, or if such equipment or permissions are withdrawn or terminated;

(j) Non-payment of a delinquent account provided that the water or sanitation provider has notified the customer of the delinquency and has made a diligent effort to have the customer pay the delinquent account.

(k) Failure of a non-residential customer to fulfil any other obligation under the customer's contract with the water or sanitation provider.
(l) In the event unauthorised non-metered service or unauthorised metered service is found to be used.

(m) In the event of a person's failure to provide identification no later than 15 days after opening an account.

28.3 Exceptions.

Notwithstanding subdivisions (1) and (2) of this subsection, no water or sanitation provider shall:

(a) Disconnect service to any water or sewage residential customer whose service is subject to disconnection for a delinquent amount until the provider first offers the customer an opportunity to enter into a reasonable repayment agreement. The specifics of the reasonable repayment agreement may vary according to the particular case and shall be determined by both the water or sanitation provider and customer receiving residential utility service. Such agreement shall be subject to upon request made and agreed to by the provider.

(b) Disconnect residential utility service to the home of any customer during such time as any resident therein is seriously ill or in a life threatening situation, as certified to the water or sanitation provider by a registered physician.

(c) Disconnect utility service to a customer during the pending of any complaint, investigation, hearing or appeal initiated by such customer provided, however, that nothing shall be construed to relieve a customer of the obligation to pay any undisputed bill or portion thereof during the pending of any such complaint, investigation, hearing or appeal.

(d) Disconnect utility service in any manner which would violate any provision of the laws of the Government of The Gambia.

(e) Refuse to reinstate utility service to the home of any former customer if any resident therein becomes seriously ill or a life threatening situation occurs, and as certified to the utility company by a registered physician.

(f) Disconnect or deny utility service for failure to pay for merchandise purchased from the water or sanitation provider i.e. non payment of other services or utilities provided by the service provider.

(g) Disconnect or deny utility service for failure to pay for a different type of utility service (i.e. electric and gas or repair of customer owned or rented equipment) or for a different class of service (i.e. commercial or residential) at the same or another location or for repair of customer owned or rented equipment.

(h) Disconnect or deny utility service for failure to pay the bill of another customer as guarantor thereof.

(i) Disconnect or deny utility service for failure to pay a charge found to be improper for billing purposes.

(j) Disconnect or deny utility service for failure to pay an estimated bill unless the customer refuses to provide access for the reading of the meter during the water or sanitation provider's normal working day or to provide a customer reading.

(k) Disconnect or deny utility service for delinquency in payment for service by a previous occupant of the premises to be served.

(l) Threaten to disconnect or to take other actions that cannot legally be taken.

(m) Disconnect utility service for any of the reasons provided above, on any local or national holiday or day before any holiday or at any time during which the business offices of the water or sanitation provider are not open to the public.

28.3 Notice to Customers of Rights regarding Disconnections

(1) Every water and sanitation provider shall file with PURA no later than 45 days of the enactment of these guidelines a brief explanation of the rights of customers provided under this section. The regulator may require any modification in the explanation as it deems necessary to insure actual notice to customers of the provisions of this section.

(a) Such explanation shall be available upon request at each office of the water and sanitation provider.

(b) Every water and sanitation provider shall send to each of its customers at least once a year and to each new customer upon initiation of service notice that such explanation is available upon request to the provider.

(c) Every disconnection notice issued by a water or sanitation provider shall contain or be accompanied by such explanation.

28.4 Notice of Disconnection

(1) Service may be disconnected only in accordance with the following notice requirement: No water or sanitation provider shall disconnect service to a customer prior to 7 days after notice of the proposed disconnection has been sent by mail or delivered to the address of and addressed to the customer to whom service is billed.

(2) Every disconnection notice shall contain or be accompanied by a statement of the grounds for the proposed disconnection; the conditions required to prevent disconnection of service; the date after which service may be disconnected unless the required conditions are met; the conditions for restoration of service if service is disconnected, including any reconnection fee or the possibility of the requirement of a deposit; and a brief explanation of the customer's rights.

(3) No disconnection notice shall be sent to any customer prior to the time said customer has a delinquent account, or prior to the existence of any of the grounds for disconnection.

(4) If, following the receipt of a disconnection notice or the entering into of a reasonable amortisation agreement, the customer makes payment or payments totalling 20% of the balance due, service may not be disconnected prior to 7 days after the receiving of a subsequent disconnection notice. Such subsequent notice shall not entitle such customer to further review or to additional notice upon subsequent payment of 20% of the balance due.

28.5 Review of Disputed Accounts

Utility service shall not be disconnected for any of the reasons listed while any matter pertaining to a reason for disconnection is in dispute provided the customer has notified the water or sanitation provider of the dispute and the customer pursues the dispute according to the following procedure:

28.6 Investigation by the Water or Sanitation Provider

(a) If the water or sanitation provider has sent a disconnection notice to a customer and the customer has made a complaint to the provider subsequent to issuance of a disconnection notice, the provider shall not disconnect service until it has notified the customer orally or in writing of its resolution of the complaint and that the customer may, no later than 7 days after receipt of such notice, request orally or in writing that the complaint be referred to a review officer. If no request is received no later than 7 days from such notification, service may be disconnected with no further notice.

(b) If a matter has been referred to a review officer or if, after contacting a customer service representative of the water or sanitation provider, a customer notifies the review officer by telephone, by mail or in person no later than 13 days after the receiving of a disconnection notice that any matter related to the proposed disconnection remains in dispute, including, without limitation, the existence of serious illness in the customer's residence, the accuracy of the amount of the bill or the proper party to be billed, then the review officer shall investigate the customer's complaint, using any procedures appropriate under the circumstances, including but not limited to actual meter readings, and shall send notice in writing to the customer of the review officer's determination of the dispute. In addition, if requested by the customer, the review officer shall consider whether or not it is appropriate to enter into an agreement where under the customer is permitted to amortise the unpaid balance of the account over a reasonable period of time while simultaneously keeping current his or her account for utility service as charges accrue in each subsequent billing period.

(c) The written notice of the decision of the review officer shall be sent to the customer no later than 10 days of the receipt of the customer's complaint and shall contain the following statement: “If you still consider our bill to be inaccurate in any respect or if you have any other complaint pertaining to this matter, you have a right to request a further investigation by PURA no later than 10 days of the date of the mailing or delivering of this decision.”

28.7 Investigation by PURA

(a) Not later than 10 days after the mailing or delivering of the review officer's decision to the customer, the customer or the water or sanitation provider may request in writing that PURA conduct an investigation of the matter in dispute, and PURA shall issue an order forthwith directing that such an investigation be commenced by PURA staff no later than seven days after receipt of said request.

(b) After completing its investigation, PURA staff shall, if requested by either party, prepare a written report summarising its findings and shall cause both parties to receive a copy of such report no more than 10 days after the commencement of such investigation.

(c) The final order shall direct services to be continued or terminated forthwith and may impose such terms and conditions as PURA deems equitable to both the customer and the water or sanitation provider. Nothing in this section shall prevent either the customer or the water or sanitation provider from pursuing any available legal or equitable remedies with respect to PURA decision.

28.8 Disconnection of Service to Tenants

(1) A water or sanitation provider shall not disconnect, without first complying with the provisions of this subsection; residential service to a dwelling unit where the provider has actual or constructive knowledge that the customer to whom service is billed or members of his or her household are not the exclusive occupants of said premises.

(2) Not later than 7 days prior to disconnection, each water or sanitation provider shall make good faith efforts to notify, using the means most practicable under the circumstances and best designed to provide actual notice, the occupants of the premises subject to disconnection of their rights to continued service. The notices shall contain:

- The date of the proposed termination.
- The right of the tenant, if the dwelling units are individually metered, to establish service in his or her own name without liability for the balance owed or a security deposit;
- The intent of the water and sanitation provider to request the establishment of a receivership or other arrangement, if there is a master meter; and
- The telephone number and address of the local office of the water or sanitation provider and the telephone number and address of PURA.

(3) Where the dwelling units are individually metered and an occupant of a unit notifies the water or sanitation provider of his or her desire to establish service in his or her own name, the occupant shall be permitted to do so.

(a) The occupant shall not be liable for any portion of the amount billed for service to the premises previous to the establishment of the account in the occupant's name.
(b) The occupant shall not be required to pay a security deposit as a condition of establishing the account in his or her name.
(c) The occupant shall be notified of his or her right to deduct the full amount of his or her payment for such utility service from his or her rent.

(4) Where service is provided through a master meter, the water or sanitation provider may, with the written agreement of all of the occupants, establish service in the name of the occupants, pursuant to a plan for billing and payment agreeable to all of the parties;

(a) All of the provisions of subdivision (3) of this subsection shall apply.
(b) Service shall not be terminated if payment of the agreed share of any of the occupants is received on the account;

(c) This arrangement may be discontinued by the water or sanitation provider 13 days after mailing written notice of its intent to discontinue the arrangement to all of the parties;
(d) This arrangement shall be discontinued upon the written request of any of the occupants to the water or sanitation provider. The water or sanitation provider shall promptly send a notice of the discontinuance to each of the occupants and the arrangement shall be discontinued 13 days after the mailing date of the notice.

29. Estimated Billing

29.1 Definitions, as used in this Subsection:

1. "Residential customer" means any person to whom a water or sanitation provider has agreed to supply water or sewage services at residential premises occupied by that person alone or with others as a single housekeeping unit.

2. "Provider" means any water or sanitation operator, company, corporation or other such entity under the jurisdiction of PURA which provides utility services.

3. "Utility service" means water or sewage service furnished by a water or sanitation provider to a residential customer at retail rates based upon metered consumption.

4. "Actual reading" means a meter reading obtained directly from the metering device.

5. "Customer reading" means an actual reading obtained by the customer from the metering device.

6. "Provider reading" means an actual reading obtained by a representative of the water or sanitation provider.

7. "Actual bill" means a bill for water or sewage service rendered to a residential customer which is based upon an actual reading.

8. "Estimated bill" means a bill for water or sewage service rendered to a residential customer with charges calculated in accordance with formulae employed to estimate utility service consumption.

29.2 General Requirements:

1. Each water or sanitation provider which estimates bills shall file with PURA a current, simple, clear and concise statement of the formulae employed in preparing its estimates. PURA may reject such filing and require a new filing if, after investigation, it determines either that the statement is not sufficiently clear and concise, or that the formulae employed results in significant deviations from actual consumption. Each water or sanitation provider shall provide a copy of its filed statement to any customer upon request.

2. No water or sanitation provider may submit an estimated bill to a customer unless it currently has on file with PURA a statement of formulae employed in estimating bills.

3. Each estimated bill submitted to a customer must be clearly marked on its face. Codes or symbols may be used to designate the bill as being based upon estimated consumption only if a legend clearly explaining the code or symbol appears on the face of the bill.

4. Efforts should be made not to issue more than two consecutive estimated bills to the customers. In the event of non access, non access notice card should be left giving instructions to the customer to read the meter and forward readings to the provider accordingly within 5 working days. If necessary relocate meter to a more accessible point for the readers.

29.3 Providers' Obligation to Obtain Actual Reading:

1. Each water and sanitation provider shall obtain a provider reading whenever possible.

2. When a water or sanitation provider is unable to obtain a provider reading during any billing period for which such provider reading was scheduled to be made, the provider shall give the residential customer a card requesting an immediate customer reading, instructing the customer that he may provide such customer reading to the provider, and warning the customer that if no customer reading is received by the provider in time to be used in preparing the bill (such time limit to be specified on the notice), an estimated bill will be issued. The provider shall also give the customer instructions for furnishing the customer reading to the provider. The provider may accommodate customer readings by mail or by telephone or by both methods.

3. When a water or sanitation provider issues estimated bills to a customer for two consecutive billing periods, the provider shall deliver or send to the customer through the mail, a notice which bears the legend **"IMPORTANT NOTICE"** and which

informs the customer that it is imperative that the provider obtain an actual reading in order to prevent error and hardship. The notice shall inform the customer of the next scheduled visit by a provider representative in order to allow the customer to make arrangements for a provider reading, if the customer chooses, or to allow the customer to make a customer reading on the same date.

29.4 Payment Agreements

1. If a customer receives an actual bill which follows one or more estimated bills, and the amount of the actual bill because of the inaccuracy of prior estimation is more than twenty-five percent larger than the amount of the prior estimated bill, the provider shall upon order of the Regulator arrange for payment of the excess amount of the bill in equal instalments at a rate such that the bill will be fully paid over a period of not less than equal duration to the duration of the period during which no actual reading was taken. In cases where customers request an arrangement for payment of bills, the provider shall advise the customer in writing to contact the Regulator for an order approving payment plan.

2. Providers shall make known to their customers the availability of payment agreements under this section.

30. Customer's rights notice

Below is a suggested description of the customer's rights which should be sent to all customers at least once and included with all disconnection notices.

IMPORTANT NOTICE

If you have a question or complaint or dispute any part of your water or sewer bill:
Call our service representative at the nearest business office. The number is _____.
{Insert appropriate telephone number.}

If satisfactory arrangements cannot be made with the service representative, you will have the opportunity to discuss the matter with local office supervision.

If satisfactory arrangements cannot be made and you still have a complaint, you may contact the designated Review Officer. You must contact this Review Officer within seven (7) days after you have been notified that your service is going to be disconnected or within four days of notification of a decision by your service representative. The Review Officer's name and number may be obtained by calling your local business office. Consideration for payment of your past due bills will be included in the Review Officer's investigation and decision on your complaint.
Your service will not be disconnected provided:

Payments on the unpaid balance are made as agreed upon with the Review Officer.
Payment of the undisputed portion of the bill is made.
Future bills are paid on a current basis.

If you question the legality of any proposed or actual termination for any reason, you may also request review by the water or sanitation provider's Review Officer.
If the dispute remains unresolved after you receive the Review Officer's decision, you may ask in writing to **PURA**. The telephone number of **PURA** is **148**
Your service may be disconnected without further notice if:
You do not comply with the above.
The charges incurred and outstanding after the initiation of your complaint exceeds on a monthly basis the average monthly bill for the previous three months.
