GUIDELINES
FOR

COMPULSORY NATIONAL STANDARDS
Regulations under section 9 of the Water Services Act (Act 108 of 1997)

AND

NORMS AND STANDARDS FOR WATER SERVICES TARIFFS
Regulations under section 10 of the Water Services Act (Act 108 of 1997)

AND

WATER SERVICES PROVIDER CONTRACT REGULATIONS
IN TERMS OF S19(5) OF THE WATER SERVICES ACT, 1997
The Water Services Act, 1997, allows me to prescribe regulations governing the provision of water services. I have exercised this right in respect of the following three sets of regulations:

• compulsory national standards in terms of section 9(1) of the Act; and
• norms and standards for tariffs in terms of section 10(1) of the Act.

• compulsory provisions for contracts between water services authorities and water services providers in terms of section 19(5) of the Act.

In developing these regulations, I am providing a framework within which local government can provide efficient, affordable, economical and sustainable access to water supply and sanitation. These regulations support the principles enshrined in our Constitution and the Water Services Act, 1997 and help to give substance to the right of access to a basic level of service.

Although, the regulations go a long way towards assisting municipalities provide basic services in a sustainable manner, they respect the executive authority of local government. Thus, the regulations provide a broad framework, by emphasising the principles of sound management, but the discretion on how this is implemented rests with local government.

I acknowledge that regulations alone will not achieve very much. The Department of Water Affairs and Forestry and I are committed to assisting water services authorities and other water services institutions put these regulations into practice. The accompanying guidelines to the regulations are just one way in which we can support stakeholders to implement the principles we have set down in regulations.

I am also aware that water services institutions are already faced with huge financial challenges in the provision of basic services and these regulations should not be seen to be adding to that burden. My Department is committed to assist water services institutions to comply with these regulations.

It is important that consumers of the service are aware of what they are entitled to. The guidelines can help consumers understand the responsibilities of water services institutions. Empowering consumers and the general public is also important in ensuring efficient and sustainable service delivery. As such, the regulations support requirements in our legislation for water services institutions to involve communities in planning service delivery and to report to consumers on performance related matters.

Finally, we produce tools such as these guidelines to assist water services institutions and consumers. We would, therefore, be happy to receive any feedback on how we can improve these guidelines and provide further support to stakeholders.

RONNIE KASRILS MP
MINISTER OF WATER AFFAIRS AND FORESTRY
We are grateful for the many people who have contributed to the development of these regulations over a long period of time. Those who submitted formal comments during the public consultation process are listed below. However, we are also grateful to many others who provided formal and informal comments at workshops, meetings, by telephone, fax and e-mail.

We are also grateful to all those involved in drafting and reviewing the regulations.
How to use this booklet

This booklet is intended to be a user-friendly guide to the regulations promulgated under the Water Services Act, 1997 (the Act). Three sets of regulations are contained in this booklet:
• regulations under section 9 of the Act, relating to compulsory national standards; and
• regulations under section 10 of the Act relating to norms and standards for tariffs.
• compulsory provisions for contracts between water services authorities and water services providers.

The booklet is laid out such that each regulation appears in the left-hand column, and the corresponding guideline is set out in the right hand column. The guideline states the purpose and content of the regulation and often provides options for implementing them. Additional explanations of definitions appear in text boxes within the guidelines.

The regulations are statutory requirements of the law. The guidelines are not legal requirements, but are merely there to assist people to understand and implement the regulations.

The regulations have been developed after much consultation at local, provincial and national levels with all key stakeholders. The Department of Water Affairs and Forestry (DWAF) places great emphasis on supporting municipalities to implement the regulations. We hope that this booklet assists municipalities as water services authorities and other stakeholders to understand their rights and responsibilities under these regulations, and to put these regulations into practice.

If there are any suggestions or comments that you would like to make about these regulations or the guidelines please write to:

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Introduction to the compulsory national standards

In terms of Section 9(1) of the Water Services Act (Act 108 of 1997), the Minister of Water Affairs and Forestry may prescribe compulsory national standards. These Regulations regulate the supply of potable water and sanitation services to consumers.

Water Services Authority means a municipality responsible for ensuring access to water services.
Water Services Provider means an organisation that provides water services to consumers or to another water services institution.
Water Services Institution means a water services authority, a water services provider, a water board or a water services committee.

It is important to note that these regulations apply to all water services institutions.

The objectives of the regulations are to protect consumers, municipalities and water services institutions and to ensure the application of sound management principles.

Key principles incorporated in the regulations are:
• the regulations aim to be simple and easy to implement;
• the regulations encourage good management principles and general good practice;
• the regulations respect the independence of local government as the sphere of government responsible for water services i.e. the regulations focus on broader issues of good practice and is flexible to some extent to allow municipalities the discretion on how to accommodate local circumstances.

Water Services means potable water supply services and sanitation (sewage and wastewater) services.
In these Regulations any word or expression to which a meaning has been assigned in the Act shall bear that meaning and, unless the context otherwise indicates –

"effluent" means human excreta, domestic sludge, domestic waste-water, grey water or waste water resulting from the commercial or industrial use of water;

"grey water" means waste water resulting from the use of water for domestic purposes, but does not include human excreta;

"supply zone" means an area, determined by a water services institution, within which all the consumer connections are provided with water supply services from the same bulk supply;

"the Act" means the Water Services Act, 1997 (Act No. 108 of 1997);

"the National Water Act" means the National Water Act, 1998 (Act No. 36 of 1998);

"user connection" means any connection through which a user can gain access to water services and includes any consumer installation and any bulk or communal connection.

"user sector" means the applicable category of users, being users categorised into at least either –

(a) domestic;
(b) industrial; or
(c) commercial, sectors;

"water efficient device" means any product that reduces the excessive use of water.

The definitions in the compulsory national standards are in addition to the definitions provided in Section 1 of the Water Services Act (the Act). The term "user connection" is used in these regulations rather than the term "consumer installation" defined in the Act. This is because "user connection" includes both "consumer installations" (connections to end users) as well as bulk connections to other water services institutions or groups of domestic users.
The minimum standard for basic sanitation services is -
(a) the provision of appropriate health and hygiene education; and
(b) a toilet which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease-carrying pests.

One of the main objects of the Water Services Act is to provide for the right of access to basic water supply and to basic sanitation. This regulation, together with Regulation 3, defines basic sanitation and basic water supply and, thereby, gives effect to the relevant sections of the Act and the Constitution.

It is widely recognised that sanitation has an important impact on people’s health. Good toilets that are properly used and maintained serve as a barrier to the faecal – oral transmission of pathogens. This means that organisms causing diseases such as diarrhea, dysentery and cholera are safely disposed of and are prevented from spreading.

The first part of this regulation acknowledges that sanitation is not only about providing toilets. In order to maximise the health benefits of sanitation infrastructure, it is important to recognise good health and hygiene practices as an essential component of good sanitation. Thus, the provision of health and hygiene education to users is defined as part of the minimum standard for basic sanitation. The provision of appropriate education should not be limited to coincide with the initial installation of toilets and should also be offered to any new consumers who move into an existing township. Appropriate education should also be repeated to various communities at different intervals when deemed necessary.

The second part of the regulation requires the installation of appropriate toilets and ensuring the adequate provision for the disposal of effluent from the toilets. There are many different types of toilets used throughout the country. Rather than restricting water services institutions and consumers to a particular type of toilet, the second part of this regulation defines a basic sanitation facility (or toilet) in terms of its performance i.e. what it is required to do or achieve.

The actual type of toilet selected would depend on the preference of consumers, affordability, availability of materials and skills, environmental conditions and other such issues, which are specific to the local circumstances. If environmental conditions are feasible a properly used and well-maintained Ventilated Improved Pit (VIP) latrine (or equivalent) is considered to comply with the requirements of this regulation.

One of the biggest challenges regarding free basic services is to ensure the sustainability of the infrastructure in terms of adequate care and maintenance. Once infrastructure such as toilets is provided in private properties consumers must take responsibility to ensure the adequate maintenance of the structures.
The minimum standard for basic water supply services is –
(a) the provision of appropriate education in respect of effective water use; and
(b) a minimum quantity of potable water of 25 litres per person per day or 6 kilolitres per household per month -
(i) at a minimum flow rate of not less than 10 litres per minute;
(ii) within 200 metres of a household; and
(iii) with an effectiveness such that no consumer is without a supply for more than seven full days in any year.

A basic minimum standard of water supply is defined as a given quantity of potable water delivered within 200m of a household, at a minimum flow rate of 10 litres per minute. These requirements are designed to strike a balance between reducing the time and effort people have to spend collecting water, whilst still recognising that shorter walking distances and high flow rates have cost implications. The quality of potable water is covered in Regulation 5.

The quantity of water forming the basic minimum standard is defined as being either 25 litres per person per day or 6,000 litres per household per month (equivalent to 25 litres per person per day for a household of eight people). The reason for the household based volume is that it is often more practical for water services institutions to count the number of households to be served rather than the actual number of individuals. 25l/p/day is a provision for communal standpipes and 6000 litres for yard connections.

Although eight people were used for 6000 litres, this remains the limit irrespective of the number of people in a household except in cases where the municipality decides to provide a higher amount.

This regulation also includes education in the effective use of water as part of the minimum standard, again acknowledging the fact that the proper operation and maintenance of infrastructure and sound health and hygiene practices would complement the provision of water supply services in improving people’s health. Education should also include information on how to use water efficiently and prevent water wastage. This will enable poor consumers not to exceed the free basic water allocation, will promote financial viability for water services institutions by reducing non-revenue demand and promote the objectives of water conservation.

This regulation recognises that reliability of a water supply also forms part of the basic minimum standard. This is addressed by the requirement that no consumer is denied access to basic water supply for more than seven full days in any year.
A water services institution must take steps to ensure that where the water services usually provided by or on behalf of that water services institution are interrupted for a period of more than 24 hours for reasons other than those contemplated in section 4 of the Act, a consumer has access to alternative water services comprising –
(a) at least 10 litres of potable water per person per day; and
(b) sanitation services sufficient to protect health.

Note: This regulation does not deal with the limitation or discontinuation of water services in the event that a consumer has failed to comply with the conditions of service – in such cases the provisions of Section 4 of the Act and the local bylaws must be followed.

There may be instances when the supply of water services provided by, or on behalf of, a water services institution, may be interrupted. This might happen due to an unplanned breakdown in the system or due to planned maintenance. In the case of both planned and unforeseen interruptions in supply for periods exceeding 24 hours, water services institutions are required to take reasonable measures that ensure that certain minimum levels of service are maintained.

In such instances, minimum levels of potable water supply, of at least 10 litres per person per day, and sanitation services sufficient to ensure that basic requirements for health and hygiene, must be provided to affected consumers, through the use of alternative water services.

Examples of alternative measures include the use of water tankers to deliver water to households or communal water points and the provision of portable toilets. Such services required on a temporary basis in the event of emergencies might be contracted from other organisations, as it may be uneconomical for a water services institution to maintain these services on a standby basis. In all cases, there should be contingency plans in place to address such eventualities. Planning should take into account the number of people that could be affected and the duration of the interruption.

The nature of an interruption of water services has a bearing on the type of measures that can be put in place. Planned interruptions arise from routine maintenance work on the water distribution network. Such maintenance work and the resultant interruption should be planned well in advance. Notices must be issued telling consumers of the nature and duration of the impending interruption in supply and of the alternative means of supply that may be available. Advance notice also allows consumers to proactively prepare by storing water. Emergency interruptions occur without any prior warning, such as the sudden break in a water main or a breakdown of a
pump. Since it is impossible to predict the occurrence of such breakdowns, water services institutions should look at options of alternative water services available to them and put in place emergency plans.

In all eventualities the key to dealing with interruptions effectively is good communication with consumers and prior planning.
Within two years of the promulgation of these Regulations, a water services authority must include a suitable programme for sampling the quality of potable water provided by it to consumers in its water services development plan.

The water quality sampling programme contemplated in subregulation (1) must specify the points at which potable water provided to consumers will be sampled, the frequency of sampling and for which substances and determinants the water will be tested.

A water services institution must compare the results obtained from the testing of the samples with SABS 241: Specifications for Drinking Water, or the South African Water Quality Guidelines published by the Department of Water Affairs and Forestry.

Should the comparison of the results as contemplated in subregulation (3) indicate that the water supplied poses a health risk, the water services institution must inform the Director-General of the Department of Water Affairs and Forestry and the head of the relevant Provincial Department of Health and it must take steps to inform its consumers -

(a) that the quality of the water that it supplies poses a health risk;
(b) of the reasons for the health risk;
(c) of any precautions to be taken by the consumers; and
(d) of the time frame, if any, within which it may be expected that water of a safe quality will be provided.

The intention of this regulation is to ensure that water services authorities provide potable water that is safe for human consumption, suitable for drinking, food preparation and personal hygiene and not harmful to water supply installations and domestic appliances. This is achieved by requiring water services authorities to implement a sampling and testing programme. Within two years of the promulgation of the regulations, all water services authorities are required to include details of their water sampling programme in the submission of their water services development plan. The sampling programme would have to be developed by the water services authority to best suit local circumstances, taking account of water quality issues experienced locally as well as available resources.

**What are recognised quality standards?**

Details of the procedure for the establishment of a water quality-sampling programme are too complex to be adequately dealt with in these explanatory notes. For more information the reader is referred to SABS 241 and the following publications, obtainable, upon request, from the Department of Water Affairs and Forestry, Department of Health or the Water Research Commission:

- Quality of Domestic Water Supplies
  - Volume 1: Assessment Guide
  - Volume 2: Sampling Guide
  - Volume 3: Analysis Guide
  - Volume 4: Treatment Guide
  - Volume 5: Management Guide
For water to be of an acceptable quality, it should comply with minimum quality standards that are recognised. In order to ensure a reliably safe quality of water, it is necessary to carry out water quality monitoring on a regular basis. This does not mean that a complex testing programme is required, but certain basic water quality tests are required to ensure that water is safe for human consumption. Where initial tests indicate that there may be cause for concern, additional testing is required to investigate the possible contamination.

The reason for requiring a sampling and testing programme is to protect the health of consumers. The results of the tests should be compared to the standards referred to in this regulation. If there is any actual or potential risk to the health of consumers, the water services authority is required to inform the Director General of the Department of Water Affairs and Forestry, the Health Department of the Provincial Government and its consumers. Consideration should also be given to suspending the water supply until the water quality problem can be rectified.

Communications to consumers should be clear, well targeted and should keep people continuously informed of developments. Information provided should include the risks and dangers associated with the water, the cause(s) of the problem, precautions that consumers should take in order to protect their health and the time frame in which the water services authority intends to have the situation rectified.

Certain water quality issues may not be harmful to health, but could cause inconvenience to consumers or could damage household appliances. In such cases, the water services authority should inform consumers of the potential problems and advise on any mitigating measures they can take.
A water services institution must take measures to prevent any substance other than uncontaminated storm water to enter -
(a) any storm water drain; or
(b) any watercourse, except in accordance with the provisions of the National Water Act.

A water services institution must take measures to prevent storm water from entering its sewerage system.

**Objectionable substances** are substances that are unsuitable for discharge into watercourses without treatment. This may include sewage, domestic wastewater, petroleum products (e.g. engine oil), chemicals, leachates from solid waste dumps etc.

The quality of water in rivers and streams (watercourses) must be protected. Failure to do so can endanger people’s health and result in damage to the natural environment. Runoff from surfaces such as roads, car parks and other surfaces finds its way directly or indirectly (via the storm water drainage system) into watercourses with little or no treatment. In order to protect the quality of water in rivers and streams, it is important that water services institutions take measures to prevent objectionable substances from entering watercourses. This requires the proper management of storm water runoff with particular attention to the planning / design, operation and maintenance of storm water drainage systems. Water services authorities should also introduce appropriate by-laws that prohibit consumers to discharge any substances other than uncontaminated storm water into the storm water system.

Whether it is a pit latrine or a piped sewerage network, all sewage systems should be designed to a certain capacity based on the population and sewage loads they have to accommodate. Although there may be some ingress of stormwater into sewage systems, if this is significant, the design capacity of the sewage system may be exceeded. This could result in “backing up” and overflow and spilling of sewage or the inability of treatment plants to cope with flows, resulting in inadequate treatment and discharge into watercourses. Thus, significant stormwater ingress into the sewage system can cause serious health problems as well as damage to the environment. This regulation, therefore, requires all water services institutions to take measures to prevent storm water entering the sewerage system. The exact measures to be taken would depend on the type of sewage system in question and the stormwater runoff problems experienced in a particular area.

**What is the relevance of the National Water Act to this regulation?**

According to Schedule 1 (f) of the National Water Act, wastewater or runoff can be discharged into a stormwater system only with the permission of the person controlling the stormwater system (normally the water services authority or other municipality).

Section 21 of the National Water Act deals with water use licences, which may be required for discharging effluent into a watercourse.
A water services institution may impose limitations on the use of grey water if the use thereof may negatively affect health, the environment or available water resources.

**What is Grey water?**

Grey water is essentially wastewater that does not contain significant amounts of faecal pollution (i.e. not sewage discharges). Typically, this consists of water discharged from baths, showers and sinks. Water that is used to flush toilets is not grey water as it would contain faecal matter.

In most water supply systems, all the water supplied to the consumer is of drinking water quality. However, some of the uses of water do not require such a high quality standard. For example, water used to flush toilets does not have to be to potable standards. In such instances, untreated or minimally treated Grey water can be used. This is called Grey water recycling. Grey water recycling and use has potential water conservation benefits and economic savings. For example, Grey water can be recycled and used to flush urinals in a sports stadium.

Despite the benefits, Grey water use could be a health hazard if people come into contact with it, as it may contain some contamination. Thus, Grey water use systems would require good design and operational controls. This regulation gives the water services institution the right to impose limitations on the use of Grey water if this is necessary to protect the health of the public or to prevent any pollution to the environment.

This could include restricting the use of Grey water for irrigation purposes or for flushing toilets only. Even then, further conditions could be prescribed particularly for large systems to ensure that Grey water use is properly monitored and controlled. Examples of conditions may include a minimum level of treatment, or prohibition of the use of grey water on lawns that are open to the public.
(1) A water services institution must ensure that the use of effluent for any purpose does not pose a health risk before approving that use.

(2) Any tap or point of access through which effluent or non-potable water can be accessed, must be clearly marked with a durable notice indicating that the effluent or non-potable water is not suitable for potable purposes.

(3) A notice contemplated in subregulation (2) must be in more than one official language and must include the PVS symbolic sign for non-potable water as described in SABS 1186: Symbolic Safety Signs: Part 1: Standards, Signs and General Requirements.

Water of potable quality is not necessary for all uses. For example, effluent from factories can often be used to irrigate surrounding lawns or effluent from a sewage works can be used to cool a power station. Such practices are normally safe as long as the effluent does not contain pollutants which cannot be assimilated by such use and as long as it does not pollute natural watercourses. This could happen if lawns are over-irrigated or processes are by-passed. Humans and animals should also not come into direct contact with effluent. It is therefore necessary to put up signs warning that the effluent is not suitable for drinking or normal household use.
A water services institution is only obliged to accept the quantity and quality of industrial effluent or any other substance into a sewerage system that the sewage treatment plant linked to that system is capable of purifying or treating to ensure that any discharge to a water resource complies with any standard prescribed under the National Water Act.

Natural water sources can only handle a limited pollution load. Every institution that discharges effluent into a water body (river, stream, lake, and reservoir) must have an authorisation to do so from the Department of Water Affairs and Forestry. The authorisation would specify the types and maximum levels of contaminants that the effluent is allowed to contain.

Before a water services institution allows an industry or business to connect to its sewerage system it must consider the effect of that discharge on the quantity and especially the quality of the effluent ultimately discharged from the sewage works. If accepting that discharge would pose a risk to the treatment process or lead to a breach of the permit, the water services institution should only agree to accept the effluent once the harmful substances have been removed or reduced. Industries can comply by:

- pre-treating their effluent such that it complies with the permit conditions;
- separating effluent discharges and treating the harmful component of the discharges separately; or
- collecting harmful streams that are then removed by appropriate waste disposal contractors.

The quantity and the concentration of the effluent must be considered together to get the total contaminant load. Industries should not be allowed to dilute effluent in order to comply with set concentration limits.

Water Services institutions should monitor the effluent discharge by large industrial consumers on a regular basis in order to ensure compliance is maintained on an ongoing basis.
A water services authority must include a water services audit in its annual report on the implementation of its water services development plan required in terms of section 18(1) of the Act.

A water services audit must contain details for the previous financial year and, if available, comparative figures for the preceding two financial years of:

(a) the quantity of water services provided, including at least -
   (i) the quantity of water used by each user sector;
   (ii) the quantity of water provided to the water services institution by another water services institution;
   (iii) the quantity of effluent received at sewage treatment plants; and
   (iv) the quantity of effluent not discharged to sewage treatment plants and approved for use by the water services institution;

(b) the levels of services rendered, including at least -
   (i) the number of user connections in each user sector;
   (ii) the number of households provided with water through communal water services works;
   (iii) the number of consumers connected to a water reticulation system where pressures rise above 900 kPa at the consumer connection;
   (iv) the number of households provided with sanitation services through consumer installations connected to the sewerage system;
   (v) the number of households with access to basic sanitation services;
   (vi) the number of new water supply connections made; and
   (vii) the number of new sanitation connections made;

(c) the numbers provided in compliance with paragraph (b) expressed as a percentage of the total number of connections or households;

(d) cost recovery, including at least -
   (i) the tariff structures for each user sector;
   (ii) the income collected expressed as a percentage of total costs for water services provided; and
   (iii) unrecovered charges expressed as a percentage of total costs for water services provided;

(e) meter installation and meter testing, including at least –
   (i) the number of new meters installed at consumer installations; and
   (ii) the number of meters tested and the number of meters replaced expressed as a percentage of the total number of meters installed at consumer connections;

(f) the water quality sampling programme contemplated in regulation 5(1), the results of the comparison set out in regulation 5(3) and any occurrence reported in compliance with regulation 5(4);

(g) water conservation and demand management, including at least -
   (i) the results of the water balance as set out in regulation 11;
   (ii) the total quantity of water unaccounted for;
   (iii) the demand management activities undertaken; and
   (iv) the progress made in the installation of water efficient devices.
The duty of a water services authority is to ensure efficient, affordable, economical and sustainable access to water services to all residents. One of the key tools to achieve this is the preparation of an annual water services development plan, as required under the Water Services Act. Section 18(1) of the Act requires a water services authority to annually report on the implementation of the plan. Furthermore, Section 62 of the Water Services Act requires the Minister to monitor every water services institution in order to ensure compliance with these prescribed national standards.

What kind of information is required in an audit?

• quantity of water services supplied;
• extension of services to the unserved;
• level of service provided;
• level of cost recovery achieved;
• progress with meter installations;
• water quality sampling and testing;
• progress on water conservation and demand management measures.

This information is essential for the water services authority and provider to manage the system properly.

What is the purpose of the water services audit?

• To monitor compliance with the Act and these regulations;
• To compare actual performance against targets contained in the water services development plans;
• To identify possibilities for improving water conservation and water demand management.

"Every water services authority has a duty to all consumers or potential consumers within its area of jurisdiction to ensure efficient, affordable, economical and sustainable access to water services."
(Water services Act, 1997, Section 11(1)).

"The Minister and any relevant Province must monitor the performance of every water services institution to ensure compliance with all applicable national standards"
(Water services Act, 1997, Section 62(1)(a)).
By understanding who and how water is used this will assist water services institutions as well as DWAF in the planning of water services and water resources respectively.

In order to assist municipalities, the way the information for the annual water services audit is supplied is fully integrated with the process of reporting on the water services development plans.

In order to manage water services efficiently, it is important to be able to measure and quantify the services provided to consumers and to separate these figures in terms of user sectors. The water services authority is required to sub-divide their consumers into specific user sectors. Each sector should consist of consumers with similar consumption patterns e.g. residential, commercial, industrial etc. Through the separation and measurement of supply to these sectors, the water services authority is able to record the total quantity of water services used by each user sector. This information would enable water services authorities to monitor whether resources are being allocated on an equitable basis and would assist in determining the tariff structure.

If the water services authority receives bulk water from other water services institutions (e.g. a water board), it should record the total quantity of water received from each of these. The recording of effluent received at the sewage treatment plants provides important information on water utilisation i.e. what proportion of the water fed into the system is discharged.

**Where do we get the information?**

- departments within the municipality (the water services authority) e.g. technical services, finance, administration etc.;
- other municipalities within the area of jurisdiction of the water services authority e.g. a local municipality;
- water services providers operating in the area.

**What is unaccounted for water (UAW)?**

The water balance basically compares what goes into a water reticulation network with what comes out of it. A water balance can be done for each discrete part of the network as well as for the network as a whole. UAW is the difference between the measured volume of water put into the supply and distribution system and the total volume of water measured to authorised consumers.

Losses can be due to a number of reasons:

- background leakage: small leaks at joints and fittings;
- visible leakage: leaks normally reported by public including burst due to breakages of pipes and fittings or overflowing of reservoirs;
- underground leakage: leaks that usually run to ground or stormwater drains or sewer drains caused by breakages of pipes and fittings
- authorised but unmetered consumption (i.e fire fighting);
- unauthorised unmetered usage (i.e from fire hydrands and unmetered house connections);
- Inaccurate registration of metered consumption (inaccurate meters, broken meters etc)
- Non-physical losses: (meter reading errors, book entry errors, billing errors etc)

UAW is a direct economic loss to the water services institution. The reason for undertaking a water balance and determining the UAW is to inform the water services institution on the extent and locations of wastage and to enable the water services institution to plan measures to reduce losses.
The levels of services rendered provide an indication of the equitable basis on which services are being provided. Expressing key information in the form of percentages and comparing these with figures obtained in previous years provides an indication on progress being made in maintaining and extending services.

Cost recovery is a vital factor in ensuring the sustainability of water services. Figures relating to cost recovery are required by the audit to assist the water services institution monitor the financial viability of the water services.

The installation of meters enables a water services institution to monitor and control the provision of services and to improve the efficiency of its billing. Water meters also assist in the determination of water losses and unaccounted for water (UAW) and is an essential component of implementing a free basic water policy. Measurement of water services is also essential in implementing water conservation and demand management measures.

Water conservation is one of the key issues that the Water Services Act seeks to address. At the water services institution level water loss management and demand management can be used to promote conservation measures. The audit also requires a water services authority to report on what water conservation and demand management measures have been put in place.

There are a number of ways in which the water used by consumers may be regulated by the water services institution. Such measures are collectively referred to as demand management activities. Examples of demand management activities are the encouragement of the use of water saving devices e.g. pressure reducing valves, campaigning for responsible use of water, and regulating the use of water in terms of time and quantity.

By undertaking a water balance calculation, the water services institution can work out the amount of water that is being lost to the system, and where these losses are occurring. The audit requires the water services institution to use the water balance to calculate the “unaccounted for water” (UAW). This information provides an indicator of how efficiently the water supply system is being run, and provides information to the water services institution on how to improve the system.

The water audit also requires details of the water quality sampling and testing programme put in place by the water services authority as required under Regulation 5.
(1) Within two years of the promulgation of these Regulations, a water services institution must every month -
(a) measure the quantity of water provided to each supply zone within its supply area;
(b) determine the quantity of unaccounted for water by comparing the measured quantity of water provided to each supply zone with the total measured quantity of water provided to all user connections within that supply zone;
(c) measure the quantity of effluent received at each sewage treatment plant; and
(d) determine the quantity of water supplied but not discharged to sewage treatment plants by comparing the measured quantity of effluent received at all sewage treatment plants with the total measured quantity of water provided to all user connections.
(2) A water services institution must -
(a) take steps to reduce the quantity of water unaccounted for; and
(b) keep record of the quantities of water measured and of the calculations made.

Knowledge of the extent of water losses is essential for effective management of water services. Water services institutions are therefore required to determine the amounts of water losses and unaccounted for water and to seek economical ways of reducing these losses (refer to Regulation 10).

The water services institution should sub-divide its entire area of supply into discrete supply areas using criteria such as topography, layout of the distribution system, pressure zones or townships fed from one or more metered bulk supply mains. Each supply area should further be sub-divided into supply zones whereby each supply zone comprises of a given number of houses that are all supplied with water from one or more water supply mains. The water services institution should implement a program to install meters at appropriate positions on the distribution network i.e. bulk meters on supply mains to the supply area, zone meters to parts of the water distribution system that can be isolated from the rest and meters on every consumer connection. The water services institution should take regular monthly readings of all meters and replace faulty or unreadable meters.

The quantity of water provided to a supply zone represents the amount of measurable water that has been delivered into one of these well-defined areas, townships or suburbs. When this measurement is compared with the total measured quantity of water used by consumers in that supply zone, the difference provides an indication of unaccounted for water usage within the water supply network in that area. In order to highlight the impact of UAW, it is recommended that it is also reflected in terms of financial losses. Water services institutions are encouraged to determine an appropriate benchmark of UAW according to their own specific circumstances.

References
SABS 0306: 1999 the code of practice for “The management of potable water in distribution systems” provides an approach which water services institutions may use to determine and control unaccounted for water.
The quantity of effluent received at each sewage treatment plant is an essential component of the total water balance. The difference between the total quantity of water provided to consumers and the total quantity of effluent received at sewage treatment plants over the same period should give an indication of the water that has either been retained by consumers (e.g., in swimming pools or used for the watering of gardens), or lost through leakage in the water and sewerage networks. Such information is essential in the formulation of water conservation strategies and in water resource planning. The water services institution should ensure that all sewage treatment plants under its control are equipped with appropriate meters to measure the flow quantities. The ingress of stormwater in the sewerage system has the effect of inflating the quantity of effluent received at sewage treatment works resulting in misleading figures. To assess the magnitude of the ingress of stormwater in the sewerage that the sewerage flow patterns are compared to average rainfall figures. Not all water provided to consumers ends up at the sewage treatment plants. Some consumers, especially in the industrial and agricultural sectors, make use of the effluent emanating from their manufacturing processes. The use of recycled effluent is however subject to approval by the water services institution (refer to Regulations 7 and 8).

Records of the measurements taken and the calculations that are performed serve as a useful source of information both at the local and national level. These records may be used as a means of assessing progress between successive years. For this reason, this regulation encourages all water services institutions to keep records of all measurements and of the calculations.
A water services institution must repair any major, visible or reported leak in its water services system within 48 hours of becoming aware thereof.

It is recognised that large amounts of water are wasted through pipe bursts and leakage without speedy action being taken. The purpose of this regulation is to ensure that all water services institutions play an active roll in reducing water wastage through pipe bursts and leakage. This is one of the most visible ways by which a water services institution can prove to its consumers that it is performing effectively.

Ideally the leak should be repaired within 24 hours but in order to accommodate for exceptional cases the time allocated in the regulation has been increased to 48 hours. Water services institutions should ensure proper and efficient procedures for reporting and repair of leaks, which could be combined with the “consumer service” required under Regulation 16. The water services institution should also ensure that it has dedicated resources (equipment, staff, and money) to ensure that leaks that are detected or reported are attended to promptly. In the case of repairs that take more than 24 hours, the water services institution should make arrangements for alternative water supply services as required in Regulation 4.
(1) A water services institution must -
   (a) within two years after promulgation of these Regulations, fit a suitable water volume measuring device or volume controlling device to all user connections provided with water supply services that are existing at the time of commencement of these Regulations; and
   (b) fit a suitable water volume measuring device or volume controlling device to every user connection made after the commencement of these Regulations.
(2) If constructed or installed after promulgation of these Regulations, a suitable water volume measuring device or volume controlling device must be fitted to separately measure or control the water supply to every –
   (a) individual dwelling within a new sectional title development, group housing development or apartment building;
   (b) individual building, having a maximum designed flow rate exceeding 60 litres per minute within any commercial or institutional complex; and
   (c) irrigation system with a maximum designed flow rate exceeding 60 litres per minute that uses water supplied by a water services institution.
(3) Where the water supplied is measured by way of a meter, that meter must comply with the Trade Metrology Act, 1973 (Act No. 77 of 1973), if of a size regulated under that Act.

The Water Services Act promotes the operational efficiency and economic viability of water services. In order to meet these objectives, it is important that water services institutions can measure the amount of water being supplied to consumers. Measurement can be done by using meters or by controlling the volume of water supplied to consumers. Good measurement and control of water supplies enables the water services institution to develop a more efficient and fair billing system and makes it easier to determine and minimise unaccounted for water (UAW). Measurement and volume control are also essential components of implementing Government’s Free Basic Water policy. It is also a necessary tool for efficient management of a water supply system.

Due to the substantial capital requirements, this regulation provides for a period of two years within which all user connections existing at the time of promulgation of the Regulations are to be fitted with meters or volume controlling devices. The two year period, within which these measure have to be implemented allows the water services institution time to:
   • carry out necessary surveys to identify the nature and magnitude of the work required;
   • allocate financial resources; and to
   • plan and implement any necessary work.

What is a volume controlling device?
A volume controlling device is a mechanism that restricts the supply of water to a consumer to a pre-arranged quantity. Examples of volume controlling devices include manually or automatically regulated yard / roof tanks, trickle feed systems or control valves.

Before installing any form of volume control it is vital that consumers are consulted to ensure that they understand why their water supply is being restricted.
In the case of developments that are built after the regulations have been promulgated, the water services authority should ensure the metering (or volume control) of all new user connections including individual dwellings in group housing developments, sectional title developments and apartment buildings. The metering (or volume control) of all individual dwellings can be made conditional to the approval of building plans.

Benefits of meters or volume control devices

For consumers
- It assists in minimising wastage.
- It enables consumers to manage their water usage and hence expenditure on this commodity.
- It enables the detection and repair of leaks on consumer installations thereby avoiding high water bills.
- It is fair and equitable, water efficient consumers do not have to pay for excessive use of wasteful consumers.
- It enables the free basic water policy to be implemented.

For water services institutions
- It allows planning and monitoring of water conservation efforts and demand management strategies.
- It facilitates the effective monitoring and control of consumption by user sector.
- It enables the determination of water losses and hence provides for a more effective management.
- It is a pre-requisite for an efficient billing system;
- It is essential for the implementation of a Free Basic Water policy as it enables the institution to measure the basic quantity provided to each consumer.

With regard to commercial or industrial developments that are constructed after the regulations have come into force, all individual buildings within such complexes, whose anticipated water usage is in excess of 60 litres per minute, should be separately metered or controlled. Meters for individual meters within complexes will not belong to the water services authority and do not have to be read by them. The water services authority should amend its building standards or by-laws to make provision for the metering (or volume control) of such buildings to be conditional to the approval of the building plans. The use of building standards or by-laws should however be supplemented by physical inspections and on site tests in order to ensure compliance. In addition, separate water meters or volume control devices are required to all connections provided for irrigation purposes where supply exceeds 60 litres per minute. Examples of these connections include golf courses, sports fields, peri-urban smallholdings and market gardens. The regulations requiring meters to individual buildings in complexes and to irrigation systems, is to promote a culture of water use audits and water use efficiency to consumers.

The word “user connection” has been defined in the regulations and does not only refer to individual connections.
Every consumer installation must comply with SABS 0252: Water Supply and Drainage for Buildings and SABS 0254: The Installation of Fixed Electric Storage Water Heating Systems, or any similar substituting re-enactment or amendment thereof if the consumer installation is of a type regulated by either standard.

Every consumer installation together with the distribution network forms an integrated water supply system that conveys water from its source to the consumer points where it is drawn. The water services authority is partly responsible for ensuring that water that is delivered into the consumer installations is not lost due to poor materials and installation. It is therefore necessary for water services authorities to lay down appropriate standards to which consumer installations must comply as part of strategies that are aimed at effective water conservation. This regulation sets the standards in accordance with the South African Bureau of Standards (SABS) that must be met by all consumer installations for these to be approved by a water services authority.

Compliance with minimum specifications ultimately provides protection to the consumer by ensuring that plumbing installation and equipment adheres to certain performance and safety requirements. In turn, this also leads to a minimizing of maintenance and a reduction in risk of malfunction and leaks. This regulation has been included also due to the particular safety hazards related to electrically heated water storage systems. These aspects would be addressed through the compliance with SABS standards. Water services authorities are required to incorporate these requirements into their own by-laws and appoint inspectors who will be ample to verify compliance to plumbing installations.
A water services institution must design and maintain every water reticulation system installed after promulgation of these Regulations to operate below a maximum pressure of 900 kPa.

Where water pressure in a water reticulation system could rise above 900 kPa, a water services institution must install a pressure control device to prevent the pressure at any domestic consumer connection from rising above 900 kPa.

Effective management requires practical methods with which to reduce water losses. Water losses in a reticulation system are caused by various factors including pipe bursts and leaking connections. Although pressure is required to make water flow through the system, excessive pressures considerably increase leakage as well as wear and tear on pipes and fittings. It is therefore necessary to strike a balance between levels of pressure that ensure adequate flow through pipelines whilst maintaining the pressure at a level that does not result in excessive water losses and system deterioration. It is also generally true that water gushing out of a tap or standpipe in large volumes at high speed is difficult to control. Such a situation causes consumers to receive more water than they actually need resulting in wastage.

Water reticulation systems that are planned after the regulations are promulgated should be designed to operate below a pressure of 900 kPa (kilo Pascal) and if feasible below 600 kPa. The water services institution should amend the design standards for water reticulation systems, in its area of jurisdiction, in order to specify the permissible maximum pressure at any point in a reticulation system. Approval of the designs for any new reticulation system should be conditional on the maximum operating pressures being lower than 900 kPa.

In the case of water reticulation systems existing at the time the regulations were enforced, the water services institution should analyse the reticulation system in order to identify areas where the operating pressures exceed 900 kPa.

Once a proper analysis has been undertaken and areas where pressure exceeds 900 kPa have been identified, pressure control devices such as pressure reducing valves or break pressure tanks should be installed to make the system comply with this regulation. Water services institutions are also advised to consider the installation of "smart pressure reducing valves". Such valves reduce pressure during the night when demand is low and by doing so reduce the level of leakage and protect the supply system from excessive pressures.

The difference between the elevation of the storage reservoir feeding the reticulation network and the elevation at the consumer connection constitutes the maximum pressure at the consumer connection, i.e. the difference between these two elevations in metres, multiplied by a factor of approximately 10, constitutes the approximate pressure in kPa.
A water services institution must have a consumer service to which non-compliance with these regulations can be reported.

One of the main objectives of these regulations is to ensure that consumers are aware of their rights and understand the roles and obligations of water services institutions with respect to compulsory national standards. It is also important that consumers know what to do in the event that a water services institution fails to meet its obligations. This regulation requires a water services institution to set up a consumer service. The purpose of the consumer service is primarily to receive and record all instances of non-compliance reported by consumers along with what responses and actions have been taken to address the complaint. The contact details of the consumer centre should be widely publicised and information should be provided on how a complaint can be made, and on how a consumer can follow up to ensure that it is being addressed. The efficiency, accessibility, responsiveness and accountability of the consumer centre will largely dictate the public image of the water services institution.
Introduction to the norms and standards for tariffs

These regulations were developed in terms of section 10 of the Water Services Act (Act no. 108 of 1997), which allows the Minister, with the concurrence of the Minister of Finance, to prescribe norms and standards in respect of tariffs for water services.

The norms and standards are aimed at promoting socially equitable, financially viable and environmentally sustainable tariffs. The departure point in compiling these norms and standards was to provide the responsible water services institution with a framework that reflects best practice while allowing it discretion on how it actually sets and quantifies the tariffs.

It was, however, necessary to be prescriptive on the maximum consumption rate of the first block of the rising block tariff structure for uncontrolled volume domestic connections (six kilolitres per household per month). This was necessary because of the development of a national Free Basic Water policy which hinges on the water services institution being able to account separately for the first 6kl supplied to a household per month. Basic water supply has been defined under section 9 regulations.

Although the water services authority will either be setting tariffs, or deciding the parameters within which tariffs are set, water services providers may in some circumstances set tariffs within the prescribed parameters. It is important to note that these regulations apply to all water services institutions and that no water services institution may use a tariff which is substantially different from any prescribed norms and standards.

Water Services means water supply and sanitation services.
Water Services Authority means a municipality, responsible for ensuring access to water services.
Water Services Provider means any organisation that provides water services to consumers or to another water services institution.
Water Services Institution means a water services authority, a water services provider, a water board or a water services committee.
In these Regulations any word or expression to which a meaning has been assigned in the Act shall bear that meaning and, unless the context otherwise indicates –

“communal water services work” means a consumer connection through which water services are supplied to more than one household;

“controlled volume” means that the supply of water to a consumer is intentionally restricted or limited to a predetermined maximum volume for a measurement period;

“fixed charge” means a monthly charge levied irrespective of the actual volume of water supplied or amount of effluent discharged or disposed of, to provide for, amongst other things, the financial sustainability of water services;

“the Act” means the Water Services Act, 1997 (Act No. 108 of 1997);

“uncontrolled volume” means that the supply of a service to a consumer is not intentionally restricted or limited to any maximum volume; and

“volume based charge” means a charge levied proportionately to the amount of water supplied or effluent discharged or disposed of.

The definitions in these norms and standards are in addition to the definitions provided in Section 1 of the Water Services Act (the Act).
A water services institution must, when determining its revenue requirements on which tariffs for water services are based, take into account at least the need to—
(a) recover the cost of water purchases;
(b) recover overhead, operational and maintenance costs;
(c) recover the cost of capital not financed through any grant, subsidy or donation;
(d) provide for the replacement, refurbishment and extension of water services works; and
(e) ensure that all households have access to basic water supply and basic sanitation.

The purpose of this regulation is to ensure that the tariffs set by a water services institution are financially sustainable. This is achieved by ensuring that all costs incurred in providing the service are recovered through the tariff.

The cost of water purchases is the amount that the water services institution is charged for bulk raw water or bulk potable water. The raw water charge is typically levied by the Department of Water Affairs and Forestry or a Catchment Management Agency for untreated water supplied from a river, a dam or from a borehole. The bulk potable water charge is levied by the bulk water services provider for potable water (drinking quality water) supplied in bulk to a municipality or water services provider for further distribution. The cost of bulk potable water would normally include the bulk raw water charge paid by the bulk water services provider to the Department of Water Affairs and Forestry or to the catchment management agency.

The overhead, operations and maintenance costs include the cost of the administrative and operations staff, their vehicles and offices, the cost of electricity and chemicals, and the cost of maintaining the equipment.

The cost of capital includes the cost of constructing new works or the cost of repaying the loans and interest charges associated with the construction costs. Grants from national government for capital works such as the funding from Reconstruction and Development Programme do not have a cost of capital.

Replacement, refurbishment and extension of water services works are also capital costs. A provision should be set aside specifically for replacing or refurbishing worn out equipment. Provision should also be made for extending works that are no longer able to meet the demand because of capacity constraints.

One of the main objects of the Act is to provide for the right of access to basic water supply and basic sanitation. Section 3 of the Act requires that every water services institution to take reasonable measures to realise these rights. The water services institution should thus provide for ensuring that all households have access to basic water supply and basic sanitation.

Minimum tariff to cover:
- cost of raw water or bulk potable water, plus
- cost of overhead and operational costs, plus
- cost of capital, plus
- cost of replacement and refurbishment and extension, minus
- subsidies (refer to Regulation 3).
(1) A water services institution may use any source of funds, including any funds received from municipal rates and taxes or from transfers from national or provincial government or from any other source, to subsidize a water services tariff.

(2) A water services institution must consider the right of access to basic water supply and the right of access to basic sanitation when determining which water services tariffs are to be subsidized.

The purpose of this regulation is to encourage the use of available subsidies or grants to support the provision of basic water supply and basic sanitation. As mentioned under Regulation 2, in order to be financially sustainable the water services institution needs to consider the full financial cost of supplying water. The water services institution also has to consider what proportion of this cost needs to be recovered from water users and what proportion, if any, can be funded from other municipal sources, such as the equitable share. *Where funds are available to subsidise water supply and sanitation services these funds should be targeted first and foremost at ensuring that all consumers have at least a basic level of service.*
(1) A water services institution must, when setting tariffs for water services provided to consumers and other users within its area of jurisdiction, differentiate, where applicable, between at least the following categories –
(a) water supply services to households;
(b) industrial use of water supplied through a water services work;
(c) water supply services other than those specified in paragraphs (a) and (b);
(d) sanitation services to households;
(e) discharge of industrial effluent to a sewage treatment plant; and
(f) sanitation services other than those specified in paragraphs (d) and (e).

(2) A water services institution must, when setting tariffs for providing water services to households, differentiate, where applicable, between at least the following levels of service -
(a) the supply of water to a household through a communal water services work;
(b) the supply of water to a household through a water services work or consumer installation designed to provide a controlled volume of water;
(c) the supply of water to a household through a water services work or consumer installation designed to provide an uncontrolled volume of water;
(d) the provision of sanitation services to a household not connected to a sewer; and
(e) the provision of sanitation services to a household connected to a sewer.

The purpose of this regulation is to allow for differentiation of tariffs between different categories of users and between different levels of service.

"Services supplied to households” refers to a service supplied to a home for domestic use.

"Industrial use of water” refers to water supplied, for example, to a factory.

Typical uses that are neither for domestic nor for industrial purposes include commercial (e.g. offices) or institutional uses (e.g. schools and hospitals). A typical “communal water services work” is a communal stand pipe.

A "consumer installation designed to provide a controlled volume of water” refers to a water supply that is limited to a maximum volume per period (usually daily). A typical example is the Durban tank system where each household is supplied from a separate tank of a standard volume that is filled once daily.

A "consumer installation designed to provide an uncontrolled volume of water” refers to private yard taps or house connections where the household has discretion as to how much water to use.

The tariff structure may use additional categories to those stipulated above. The same tariff may also be set for two or more categories. For example, a tariff for industrial use of water may be the same as the tariff for "other use”.

It is important to take note of clause 3 of section 9 regulations in terms of minimum flow rate of not less than 10 litres per minute.
Supply of water to a household through a communal water services work or through a consumer installation designed to provide a controlled volume of water

A tariff set by a water services institution for the supply of water to a household through a communal water services work or through a consumer installation designed to provide a controlled volume of water must be set at the lowest amount, including a zero amount, required to ensure the viability and sustainability of the water supply services.

What is a basic water supply?
A basic minimum standard for water supply is defined in regulations promulgated under section 9(1) of the Act as six kilolitres per household per month or 25 litres per person per day within 200 metres of the household, at a flow rate of not less than 10 litres per minute.

The Water Services Act emphasises that the primary consideration in water services policy is the provision of a “basic water supply” to all households. The purpose of this regulation is to ensure that the tariff for a basic level of service is affordable even to the very poor. This regulation applies amongst others to communal standpipes and to installations such as the Durban tank system which provide a limited quantity of water per day.

According to the Department of Water Affairs and Forestry’s policy on a free basic water supply, a water services institution should make every effort to supply the basic water supply quantity of six kilolitres per household per month free of charge. It would be the norm for users supplied out of standpipes and by means of controlled volume supplies (depending on the size of tank) to use no more than a basic supply and it would also be expected that these users will generally be representative of lower income groups. It should thus be the norm for such users to be supplied free of charge, or at the lowest cost that the water services institution can afford.
Supply of water to a household through a water services work or consumer installation designed to provide an uncontrolled volume of water

(1) A tariff set by a water services institution for the supply of water through a water services work or consumer installation designed to provide an uncontrolled volume of water to a household must include a volume based charge that –
   (a) supports the viability and sustainability of water supply services to the poor;
   (b) discourages wasteful or inefficient water use; and
   (c) takes into account the incremental cost that would be incurred to increase the capacity of the water supply infrastructure to meet an incremental growth in demand.

(2) The requirements of subregulation (1) are deemed to have been met where the tariff is set as a volume based charge that provides for a rising block tariff structure which includes –
   (a) three or more tariff blocks with the tariff increasing for higher consumption blocks;
   (b) a consumption level for each block defined as a volume consumed by a household during any 30 day period;
   (c) a first tariff block or lowest tariff block with a maximum consumption volume of six kilolitres and which is set at the lowest amount, including a zero amount, required to ensure the viability and sustainability of water supply services; and
   (d) a tariff for the last block or highest consumption block set at an amount that would discourage high water use and that reflects the incremental cost that would be incurred to increase the capacity of the water supply infrastructure to meet an incremental growth in demand.

For more information on the use of this clause to implement a Free Basic Water policy, refer to the "guidelines and implementation strategy for free basic water policy" developed by DWAF: Water Services. This can be obtained from the DWAF website: www.dwaf.pwv.gov.za.

This regulation applies to households that are served through a yard connection or a house connection, where the volume they use is unrestricted. The purpose of this regulation is to ensure that, in such cases, the tariff is related to the amount of water used i.e. "the more you use, the more you pay". A further purpose is to achieve the benefits of charging higher unit rates for higher levels of usage. One way of achieving this is by using a rising block tariff system. Under rising block tariffs, the price per kilolitre increases stepwise with consumption as shown below.

EXAMPLE OF RISING BLOCK TARIFFS
The rising block system should include at least three tariff blocks but may include more. The tariff for the first block, i.e. consumption between 0 and 6kl per household per month should be set as low as affordable by the water services institution and should be provided for free if a "free basic water" policy is being implemented. The second block in a three-block tariff structure is for "normal consumption" meaning that the upper consumption limit of this block should be set such that a household that uses water sparingly should be able to be accommodated within this block. The tariff charged for consumption in this block should ideally reflect the actual or average cost of water.

<table>
<thead>
<tr>
<th>Why charge a higher unit rate (R/kl) for higher levels of usage?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity — those that use water for &quot;luxury purposes&quot; can afford to pay to cross-subsidise basic services to the poor.</td>
</tr>
<tr>
<td>Conservation — higher charges gives an incentive for people not to waste water.</td>
</tr>
<tr>
<td>Economy — infrastructure has to be constructed to accommodate higher use. Capital expenditure for new infrastructure can be postponed if people conserve water, or, alternatively, revenue from higher charges can be set aside to cover the cost of future capital expenditure.</td>
</tr>
</tbody>
</table>

The third or top block is for "luxury consumption". A household that uses water for luxury purposes, such as for filling a swimming pool or a household that does not use water sparingly should be required to pay a higher than average price for water that reflects the economic cost of this scarce resource. It could also be argued that the careless use of water is a major cause of having to construct new infrastructure earlier than what would have been required if water was conserved. For this reason it is recommended that the tariff for the highest tariff block should be set at a level that reflects the cost of developing new capacity and should be sufficiently higher than the tariff for the second or middle block to discourage the wasteful use of water.

The mathematics for calculating the charge for different levels of consumption using a rising block tariff structure is demonstrated in the example below:

<table>
<thead>
<tr>
<th>TARIFF BLOCK</th>
<th>CONSUMPTION LIMITS</th>
<th>TARIFF PER KILOLITRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 to 6 kl</td>
<td>free</td>
</tr>
<tr>
<td>2</td>
<td>greater than 6 up to 30 kl</td>
<td>R2-50</td>
</tr>
<tr>
<td>3</td>
<td>greater than 30 kl</td>
<td>R5-50</td>
</tr>
</tbody>
</table>

A household using 5 kl would in this example pay no charge.
A household using 20 kl in a month would in this example get 6 kl for free and 14 kl at R2.50 per kl. The total charge would thus be R35.00 (R2.50 times 14).

A household using 40 kl in a month would in this example get 6 kl for free; 24 kl at R2.50 per kl; and 10 kl at R5.50 per kl. The total charge would thus be R115.00 (R2.50 times 24 plus R5.50 times 10).

A further example can be given using the same tariffs as above, but where a consumer using more than 6 kl a month pays for his/her entire usage i.e. the first 6 kl are free only to those who use less than 6 kl. In such a case, using the same tariffs as the above example:

- A household using 5 kl would pay no charge.
- A household using 20 kl would pay R50.00 (20 kl times R2.50 per kl);
- A household using 40 kl would pay R130.00 (30 kl times R2.50 per kl plus 10 kl times R5.50 per kl).
A tariff set by a water services institution for the provision of sanitation services to a household must –
(a) support the viability and sustainability of sanitation services to the poor;
(b) recognise the significant public benefit of efficient and sustainable sanitation services; and
(c) discourage usage practices that may degrade the natural environment.

The purpose of this regulation is to give guidance on the objectives to be achieved with a domestic sanitation tariff while accommodating different approaches by not being overly prescriptive.

Poor sanitation practices impact negatively on the health and well being of the whole community and also on the environment. A water services institution should support the viability and sustainability of sanitation services to the poor by providing basic sanitation services (for example the removal of sludge from pit latrines) at as low a cost as it can afford to and preferably for free. The provision of low cost or free basic sanitation services would concurrently promote the use of sanitation practices that safeguard the public from diseases and would also discourage the uncontrolled disposal of raw sludge into the natural environment, such as the emptying of slop buckets into streams.

It is expensive and unnecessary to measure water borne sewerage at individual households. Rather, the sanitation tariff for water borne sanitation systems should be based on the volume of water supplied. A volume based sanitation charge levied on the higher water supply tariff blocks with no sanitation charge levied on at least the first 6kl would contribute towards the objectives set out in this norm.

Practices that base sanitation charges on factors that are not directly related to usage, such as the number of toilets, the property value or plot size are discouraged.
Any tariff set by a water services institution for the supply of water services to a consumer may include a fixed charge.

Regardless of the amount of water that is consumed or effluent that is disposed of, there are fixed costs that are incurred by a water services institution that must be recovered. This includes for example, the costs of employing staff, maintaining equipment and infrastructure, metering, billing and running offices. When determining a tariff structure it is important to recognise that both fixed charges and volume based charges are sources of revenue that together are used to recover costs. The purpose of this regulation is to allow for a fixed charge component in the tariff structure. A fixed charge is a suitable mechanism for recovering costs from owners of holiday homes, where the annual water use may be too low to recover costs by only using a volume based charge.

However, in complying with Regulation 5 and in order to implement the "free basic water" policy, it is important that the fixed charge is not levied for those households using less than six kilolitres per month.
A water services institution may charge a fee for connecting a consumer to a water services work.

The costs of connecting new water users to reticulation systems is in many cases significant. This cost can either be recovered through the tariffs over time, or this regulation allows the water services institution to charge a fee for connecting a consumer to the system. The levying of a connection fee does, however, have a further advantage in that it requires that a transaction take place between the water services institution and the consumer, thus ensuring that the new consumer is registered by the water services institution.

A water services institution may decide to charge less than the full cost of a connection up front and to recover the remainder of the cost through the user tariffs over time. A water services institution may also decide to charge the same average cost fee for all new domestic connections that fall within a set distance of the reticulation network with a surcharge based on the length of the connecting pipe only applied for connections of longer than the set distance. Normally a higher charge would be applicable for larger diameter connections.
A water services institution may charge any consumer connected to a water services work without the authorization of the relevant water services institution, a connection fee for upgrading the unauthorized connection, irrespective of any other action the water services institution may take against such consumer.

Unauthorised connections impact negatively on the ability of water services institutions to provide services. When unauthorised connections are made they place additional demands on reticulation systems for which they are often not designed. In addition, the type of connection made is often sub-standard without meters and valves and requires upgrading. In both instances, this imposes costs on the service provider and on other consumers. The purpose of this regulation is to provide for recovering costs incurred in regularising unauthorised connections. The levying of a connection fee for unauthorised connections should not prevent the water services institution from taking other legal action. Bylaws for the municipality must make provisions for this.
These regulations take effect on 1 July 2003.

The period to July 2003 allows all water services institutions time to comply with the regulations.

QUERIES

Queries and comments concerning the implementation of these norms and standards should be directed to:
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This guideline is obtainable in electronic format for the Department of Water Affairs and Forestry’s web site: www-dwaf.pwv.gov.za
Introduction to the water services provider contract regulations

These regulations were developed in terms of section 19 (5) of the Water Services Act, 1997 (the Water Services Act), which allows the Minister of Water Affairs and Forestry, after consultation with the Minister for Provincial and Local Government, to prescribe matters which must be regulated by a contract between a water services provider (provider) and an authority (authority) and to prescribe compulsory provisions to be included in such a contract.

These regulations have also closely linked to the Local Government: Municipal Systems Act, 2000 (the Municipal Systems Act), which deals with municipal services, including water services. Both Acts address issues such as planning, consultation, monitoring, regulation, performance management, customer care (dealing with consumers) and reporting.

In terms of legislation, an authority has a choice, it may decide to perform the functions of a provider itself or to appoint a provider, subject to the provisions of Chapter 8 of the Municipal Systems Act and section 19 of the Water Services Act. If an authority does decide to appoint a provider, then it must do so by means of a written contract that complies with these regulations, regardless of whether the provider is a public or private entity. These regulations relate to the content of such contracts in accordance with the mandate given under section 19(5) of the Act. They do not deal with the process of procuring and selecting the provider. The Municipal Systems Act contains the requirements relating to the procurement process, selection of suitable service delivery mechanisms and the selection of the provider.

*Water Services* means water supply and sanitation services.

*Water Services Authority* (referred to in these guidelines as the authority) means a municipality responsible for ensuring access to water services. Thus every water services authority is a municipality, but not every municipality is a water services authority.

*Water Services Provider* (referred to in these guidelines as the provider) means an organisation that provides water services to consumers or to another water services institution.

*Water Services Institution* means a water services authority, a water services provider, a water board or a water services committee.

The purpose of the regulations is to protect consumers and to support water services authorities as well as other water services institutions by providing a sound overall framework within which to draft contracts. These regulations are not prescriptive and leave a large degree of discretion to the parties to the contract. This is in recognition of the fact that the Constitution mandates local government to be responsible for water services as an independent sphere of government. Furthermore, the regulations govern every single contract between an authority and a provider regardless of the size of the contract or the type of the provider. The regulations avoid making provisions that apply to some situations, but are not appropriate to others. It is the parties to the
contract who are in a best position to decide on the detail of the contract within the broad framework set by the regulations.

These regulations do not, in any way compel a water services authority to enter into partnerships with other water services providers.

The purpose of the guidelines to the regulations is to make consumers aware of their rights under the regulations. They should also assist water services authorities and other water services institutions in applying these regulations. The guidelines explain the purpose and content of each regulation, and offer some options for implementation.

It is also important to note that Section 19 (6) of the Act requires that as soon as such a contract or joint venture agreement has been concluded, the authority must supply a copy thereof to the relevant Province and to the Minister.
In these Regulations any word or expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context indicates otherwise -

“contract” means an agreement or renegotiated agreement in writing between a water services authority and a water services provider in terms of which the water services provider is to provide water services with or without capital investment;

“contract area” means the area within the jurisdictional boundaries of the water services authority or such other area as may be defined by a water services authority in which the water services are to be rendered by a water services provider;

“corrupt action” means the following –
(a) giving or accepting any undue payment, bribe, gift gratuity or any other undue benefit in exchange for performing or forbearing to perform any action in connection with a contract; and
(b) solicitation, offering, participation, conspiracy and attempt to bring about the circumstances mentioned in subregulation (a).

“employment law” includes, but is not limited to, any provision of the following Acts -
(a) Unemployment Insurance Act, 1966 (Act No. 30 of 1966);
(b) Occupational Health and Safety Act, 1993 (Act No. 85 of 1993);
(c) Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);
(d) Labour Relations Act, 1995 (Act No. 66 of 1995);
(e) Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997); and
(f) Skills Development Act, 1998 (Act No. 97 of 1998);

“levels of service” means the various methods and quantities, where applicable, for the provision of water services to consumers;


“publish” means the dissemination, through media such as newspapers and radio, of information among consumers taking into account –
(a) language preferences and usage in the contract area; and
(b) the special needs of people who cannot read or write and of other disadvantaged groups;

“standards of service” means the operational performance of the services as measured against the relevant compulsory national norms and standards as contemplated in section 9 of the Act, as well as any additional standards specifically provided for in the contract; and


The definitions in these regulations are in addition to the definitions provider in Section 1 of the Water Services Act, Act 108 of 1997.
The contents of a contract must be consistent with –
(a) the main objects of the Act as determined in section 2 of the Act; and
(b) provisions of the Local Government: Municipal Systems Act.

Fundamental principles about the rights of the public and the duties of municipalities are incorporated in legislation. It is important that the objectives of legislation are implemented through contracts. The objects of the Water Services Act and the Municipal Systems Act should be reflected in the municipality’s Integrated Development Plan (IDP). Contracts with providers, along with other mechanisms such as the tariff policy and the municipality’s bylaws, would be one of the ways of putting into practice the objectives of legislation.

What are the objects of the Act that relate to these regulations?
- the right of access to basic water supply and the right to basic sanitation;
- the implementation of water services development plans;
- a regulatory framework for water services institutions and water services intermediaries;
- the monitoring of water services and intervention by the Minister or by the relevant Province;
- the gathering of information in the national information system and the distribution of that information; and
- the accountability of water services providers.
(From section 2 of the Act).

What are the objects of the Municipal Systems Act that relate to these regulations? The Municipal Systems Act does not have a specific section explicitly stating the objects, however, a municipality has the duty to:
- use the resources of the municipality in the best interests of the local community;
- encourage the involvement of the local community;
- consult the local community about the available options for service delivery, as well as the level, quality, range and impact of municipal services provided directly or through a service provider;
- ensure equitable access to services;
- promote and undertake development in the municipality;
- ensure sustainability of services;
- promote a safe and healthy environment; and
- contribute towards the progressive realisation of constitutional rights, including access to water and sanitation.
(From section 4(2) of the Local Government: Municipal Systems Act, 2000)
A contract must describe the scope of the water services to be provided by the water services provider and must -

(a) set forth the manner in and the means by which any relevant portion of the water services development plan will be implemented;

(b) designate the contract area in which the water services are to be provided and determine a procedure by means of which the contract area may be changed;

(c) determine the conditions under which other water services providers, both within and outside the jurisdictional boundaries of the water services authority, may have access to and utilise any part of the water services works;

(d) describe the levels of service and standards of service to be provided which, if variable, shall be defined for different geographic areas in the contract area accompanied by specific requirements, including time frames and where appropriate, accompanied by a capital development plan to achieve the target levels of the service; and

(e) identify the water services works which shall form part of the contract and the process by which the water services provider gains access to such water services works.

What is the relationship between a WSDP and an IDP?
The water services development plan (WSDP) required by the Water Services Act will be part of a municipality's integrated development plan required under the Municipal Systems Act.

The purpose of this regulation is to ensure that the scope of services of the provider is clearly stated in the contract, and that they are consistent with the authority's WSDP.

An authority must develop a water services development plan (WSDP) as part of their integrated development plan (IDP). The WSDP deals with both the existing provision of water services and the plans for the future provision of water services, with special emphasis on providing all persons with access to basic water supply and basic sanitation. The contract must state which elements of the WSDP are being implemented through the contract.

This procedure may include a timeframe for informing of the proposed change of area, a timeframe for the provider to respond and the manner in which remuneration and conditions for supplying the new contract areas will be negotiated.

The “contract area” is the area within which the services under the contract are to be provided and where the assets relating to the contract are located. The “contract area” must be defined in the contract and must be within the jurisdiction of the authority. Sometimes, during the course of the contract, the authority may want to change the contract area to include additional areas or to remove areas originally included in the contract. However, this would also change the scope of work of the contract. The procedure by which the contract area can be changed should be set out in the contract.
The contract must clearly define all the water services works that form part of the contract (i.e. the works that will be used by the provider to carry out the work envisaged in the contract), and must allow the provider access to these water services works. The contract must state any conditions for access such as times of day, entrances or routes to be used. It is also important for the contract to be clear on when the responsibility for the assets passes to the provider. The process by which the provider gains access to the water services works could include the completion of actions such as the compilation of an asset inventory that reflects the deemed value and condition of each asset to be handed over, and compliance by the provider with insurance and warranty provisions.

In some instances, access to water services works may have to be shared between two or more providers. For example both a bulk provider and a retail water services provider may require access to the same reservoir or purification works. Alternatively, two retail water services provider may be using the same reservoir or pumping station. Furthermore, the authority itself may need access to the site as part of its monitoring role. The contract should state how access will be shared between all the parties such that the authority and the providers do not obstruct each other from performing their tasks.

**What service levels does an authority have to provide?**

The Constitution, the Act and the Municipal Systems Act provide for the right of access to basic services such as water supply and sanitation. The authority has a duty to progressively realise these rights. Regulations under Section 9 of the Act of June 2001, defines minimum standards in terms of water supply and sanitation and the obligations on water services institutions to achieve these standards. The authority must include in its WSDP how it will go about providing these minimum basic services to people within its boundaries.

Levels of service to be provided by a provider may vary for different areas within the contract area. There may, for example, be areas within the contract area where a basic level of water supply is provided through communal stand pipes, and other higher income areas where users can afford a full level of water supply provided through house connections as well as water borne sewerage. The contract should clearly describe the levels of service to be provided for different areas. The contract should also provide a programme and timeframe for planned improvements to levels of service to progressively meet minimum standards and the targets set by the authority in its WSDP.
A contract must set forth the obligations of each party to obtain any licence required for the use of water under section 22(1) of the National Water Act, 1998 (Act No. 36 of 1998).

The purpose of this regulation is to ensure that the responsibility for obtaining the appropriate licence is clearly allocated. Most new storage dams or abstractions undertaken by providers or authorities would exceed the generally authorised amount and would thus only be permissible if authorised by a licence. The continuation of an existing use is not require to be licensed unless the relevant institution in charge of the resource (Department of Water Affairs and Forestry or a Catchment Management Agency) specifically requests compulsory licencing in that catchment or water management area (usually by means of a notice in the Government Gazette).

The contract must clearly state which party should apply for any water use licences that may be required. It must also state if either of the parties has any responsibility towards providing information to be incorporated in the application. As an example, it could be the responsibility of the authority to apply for the licence, but the provider could be obliged to provide information on current levels of water use and water conservation measures presently in place, for inclusion in the application.

**What standards does section 22(1) of the National Water Act say about water use licences?**

According to section 22(1) of the National Water Act, a person (including a provider or an authority) is only permitted to use water (e.g. storing water or taking water from a resource) if:

- that water use is permissible under Schedule 1 of the National Water Act (small use such as a household taking water for its own use);
- that use is a continuation of an existing use;
- that use is permissible under a general authorisation; or
- that water use is authorised by a licence.
A contract must provide for -
(a) performance targets and indicators developed after consultation with consumers, including those relating to the levels of service and standards of service to be achieved by the water services provider over fixed periods;
(b) periodic performance reviews; and
(c) a process whereby performance targets and indicators may be renegotiated in consultation with consumers.

Chapter 6 of the Municipal Systems Act requires municipalities to set up a performance management system and to set key performance indicators to measure performance. Section 27 of the Act and section 41 of the Municipal Systems Act require municipalities to monitor the performance of their providers. The purpose of this regulation is to ensure that the contract incorporates a performance management system (or is linked to an overall performance management system for municipal services) to monitor the performance of the provider. A performance management system should have specific and measurable performance targets and indicators. There must also be a mechanism for regularly reviewing performance against the targets and for renegotiating targets and indicators.

It is a requirement of the Municipal Systems Act (section 38(a)(iii)) that the municipality's performance management system is developed in close consultation with the community and is in line with the priorities, objectives, indicators and targets of its IDP. The principle of developing and amending targets and indicators in consultation with the community is reinforced in this regulation. Ideally, the performance targets and indicators contained in a contract would be extracted from the municipality's IDP, which would have been developed in consultation with the community.

It is a requirement of section 41 of the Municipal Systems Act that a municipality must monitor and report on the performance of providers against set performance targets. Sub-section 27(d) of the Act requires an authority to monitor providers to ensure that the terms of the contract (which would include performance targets) are adhered to. Regulation 14 of these regulations requires a contract to state how the authority will go about monitoring undertaking these monitoring duties and what obligations there are on the provider to assist by, for example, providing information and access to sites and records.

In accordance with section 41(e) of the Municipal Systems Act, Regulation 19 makes it compulsory for a contract to require the provider to annually publish (amongst other things) a report on performance against targets, and on any penalties levied by either party for non-performance.
A contract must set forth the obligations of the water services authority that are a necessary condition for the achievement by the water services provider of any performance target, including those relating to the achievement of any level of service or standard of service.

It is important that an authority recognises that the performance of a provider may in some instances depend on the authority meeting its own obligations. The obligations of the authority that may impact on the ability of the provider to meet its targets could include making essential bylaws, adoption of a IDP / WSDP, acquisition of licences, registering servitudes, granting approvals, allocation of funds and timely payment of the provider. This regulation requires a contract to state those obligations of the authority necessary to enable the provider to meet its targets under the contract.
A contract must include a provision in terms of which the water services provider is prohibited from ceding any of its rights or assigning any of its obligations under the contract to any person without the prior permission of the water services authority.

In line with the requirements of the Parts 2 and 3 of Chapter 8 of the Municipal Systems Act, the authority would have undertaken a rigorous procurement process to select and appoint an external provider to ensure, amongst other things, that the chosen provider is the best amongst a full range of options and organisations considered. The purpose of this regulation is to ensure that the provider is only able to cede rights or assign obligations to sub-contractors, agents and other persons (organisations) who meet the standards set by the authority. This regulation is designed to prevent the provider from ceding rights or obligations to less qualified persons, thereby changing the basis on which the appointment was made.
A contract must provide for an arrangement in terms of which the existing employees of the water services authority involved in water services affected by the contract are to be managed in accordance with the employment law.

In many cases, the authority may have been fulfilling the provider function itself in some or all of the contract area at the time of entering the contract. This would mean that the authority may have employed staff engaged in water services who may be temporarily or permanently transferred to the new provider. Arrangements must be made for these employees that comply with employment law. Employment law is defined in Regulation 1, but is not necessarily limited to the examples of employment law listed.
A contract must provide for -

(a) the duration of the contract, which may not exceed a maximum of 30 years calculated from the date of signature of the contract;

(b) the manner and means by which the contract will be reviewed as part of the Integrated Development Planning process required under Chapter 5 of the Local Government: Municipal Systems Act;

(c) a procedure for earlier termination of the contract;

(d) notification by an aggrieved party to the other party of any breach of contract within a specified period and the legal remedies available to the aggrieved party where such breach of contract is not rectified within the period stated by the aggrieved party in its notification to the other party;

(e) a procedure upon the termination of the contract

(i) for the efficient and orderly return of the water services works and any other assets, rights and obligations held by the water services provider under the contract, to the water services authority; and

(ii) for the settlement of all outstanding debts between the parties;

(f) the effect on the contractual rights and obligations of the parties in the event of force majeure;

(g) a procedure, should clearly prescribed circumstances have changed materially

(i) for effecting an amendment to tariffs, remuneration or a modification of levels of service or standards of service; and

(ii) that includes public disclosure of the amendments or modifications contemplated in subparagraph (i); and

(h) any specified penalties which may be applied by either party for non-performance.

This regulation aims to ensure that time related elements of the contract and issues relating to termination are adequately addressed in the contract.

It may be necessary to conclude contracts that are binding for long durations, especially if large capital investments are to be made by the provider. This regulation prohibits a contract duration of greater than 30 years. The contract must also state how it will be reviewed as part of the IDP process outlined in Chapter 5 of the Municipal Systems Act.

Part (c) of this regulation seeks to ensure that the contract will guide the winding up of the contract in the case of earlier termination. The contract may be terminated before the contract term has expired as a result of an amicable agreement or the termination may arise out of a dispute. It would be a complex matter to wind up the contract if guidance is not given in the contract, especially where the provider has made large investments or has entered into long term employment contracts.

What is the link between the IDP process and the contract duration?

Sub-section 77(a) of the Municipal Systems Act requires that a municipality must review and decide upon the appropriate mechanism to provide a municipal service when preparing or reviewing its IDP. Chapter 5 of the Municipal Systems Act states that each newly elected municipal council must adopt an IDP. The contract must state how the contract can be reviewed in line with the requirements of sub-section 77(a) to review municipal service delivery mechanisms when preparing or reviewing an IDP.
Part (d) of this regulation is designed to ensure that breaches of the contract are addressed timeously and that both parties have clarity on the legal remedies available should the other party not remedy a breach. This regulation is aimed at avoiding the situation where parties attempt to claim damages or excuse non-performance due to breaches of the contract that supposedly occurred much earlier.

Part (e) of this regulation is to ensure that there is clarity by both parties as to their various obligations and entitlements on termination of the contract. During the contract it is likely that fixed assets would have been developed, movable assets (such as vehicles, laboratory and computer equipment) that are core to the ongoing provision of water services would have been bought and sold, and personnel would have been recruited. It is thus, important for the contracting parties to consider how the staff, assets, debts, duties and obligations will be transferred, or dealt with at the end of the contract.

Part (f) of this regulation is to give clarity on the rights and obligations of the parties in the case of force majeure events. Force majeure broadly refers to significantly adverse events such as floods, droughts or war that are beyond the control of both parties to the contract. Force majeure can be defined in the contract or can be left up to the courts for interpretation. Obligations in the event of force majeure could, for example, be a requirement on either or both parties to make every effort to mitigate potential losses.

Generally, tariffs and remuneration would be based on a financial model. This financial model would have certain assumptions about the future agreed between the parties. If there was a change in circumstance that meant that one or a number of these basic assumptions were no longer valid, the tariff and / or remuneration might have to be reviewed. Part (g) of this regulation makes provision for adjustments to tariffs, remuneration or levels of services if prescribed circumstances and situations change in ways that were not foreseen by the parties at the time of entering into the contract. If there is a change to tariffs or remuneration, consumers must be informed of this change and the reasons for it. Part (h) of this regulation is to ensure that the provider and authority are provided with disincentives (penalties) against not discharging their contractual duties. For example, the contract may include penalties for the provider in cases where water is provided at lower than the required quality, or in cases where interruptions in supply exceed an agreed duration, or where the infrastructure investment programme is not met.

What is meant by “clearly prescribed circumstances”?  
Certain assumptions made in determining tariffs and / or remuneration may have been agreed between the parties. If there is a change that adversely affects a party and is beyond the control of the affected party that makes one or more of these assumption no longer valid, then the “prescribed circumstances” could have changed. This must not be confused with risks that have to be borne by the parties. For example, a change in the laws, regulations or bylaws requiring higher minimum standards could form “prescribed circumstances” that have changed affecting the water services provider adversely. However, poor weather would be a normal risk to be borne by the provider (unless it is exceptional). The key thing is to state in the contract what conditions or assumptions constitute “clearly prescribed circumstances” and how issues relating to tariffs and remuneration will be dealt with should these change. For example, some contracts contain a clause allowing providers to review levels of remuneration should a law or regulation be passed that would significantly affect them adversely.
A contract must require that any plan, manual, data base, inventory, survey, financial and other record, and all other information compiled in terms of the contract shall remain the property of the water services authority.

The purpose of this regulation is to avoid the authority having to pay a second time for information already paid for under the contract. Plans, records and other information collected and compiled during the contract period will be required by the authority or a new provider after the contract has been terminated and should therefore remain the property of the authority.
A contract must –

(a) prohibit the disposal, alienation, or encumbrance of any existing or future immovable asset of a water services authority, including any component of the water services works, unless such disposal, alienation, or encumbrance is –

(i) provided for in the water services authority’s development plan; or
(ii) approved by a council resolution of the water services authority;

(b) provide for the furnishing of asset management and maintenance plans to demonstrate that the water services works are being maintained in a reasonable condition in accordance therewith; and

(c) provide procedures for the procurement, disposal, alienation, and encumbrance of assets.

Water services assets are extremely expensive to replace. The ability of a municipality to meet its water services provision objectives could be severely compromised if, without the authority’s permission, a provider were able to use the municipal water services infrastructure and other assets as security for borrowings, especially if the provider went insolvent or was liquidated. This regulation is designed to ensure that the contract prevents a provider from profiting by disposing of or “stripping” the asset base of the water business of an authority. It ensures that the availability of water services works and other assets required to provide services are not placed at risk. This regulation requires the contract to state that the only way in which an immovable asset can be disposed of, alienated or encumbered is either if such an action is provided for in the WSDP adopted by the Council, or with approval from the Council.

Another way of “stripping” assets could be by the provider reducing levels of maintenance and “running down” the assets to reduce costs. The expense of repairing run-down assets may be many times the cost that would have been incurred in properly maintaining the assets in the first place. The contract must require asset management and maintenance plans to be developed. Such plans would list the asset details and its condition and, prescribe a programme for maintaining each asset. These plans should be agreed between the parties and a mechanism for monitoring the implementation of the plan should be put in place as part of monitoring compliance with the contract.

It is important to ensure that the procedures by which assets are sold or purchased are efficient, fair and transparent and that the opportunity for corruption is minimised. The contract must prescribe procedures for procurement and disposal of assets, and such transactions should be monitored as part of ensuring compliance with the contract.

**Examples of immovable assets** include water services works, pumping stations, infrastructure, buildings and property. “Immovable assets” would not include computers, furniture, mobile pumps, tools etc.

**Disposal, alienation and encumbrance** refer to selling or putting up assets as co-laterals to raise loans.
A contract must provide for a method by which the water services provider shall receive payment for its performance in terms of the contract and that method must—

(a) provide an incentive for the water services provider to perform efficiently and effectively;

(b) take into account the requirement for a reasonable rate of return on any investment made by the water services provider in terms of the contract and that rate of return must—

(i) be commensurate with the risks involved;

(ii) be based on information provided during the procurement process; and

(iii) when based on a price index or on a cost of capital, be specified and based on one that is readily available from a reputable source and regularly published;

(c) provide for the periodic financial review of the method; and

(d) provide for the sharing of any financial benefit to be achieved by the efficient and effective performance of the water services provider.

The efficient and effective performance of the provider can reduce costs for both the consumer and the authority. The purpose of Part (a) of this regulation is to ensure that the contract provides an incentive for the provider to perform effectively and efficiently. In many cases, this incentive could be in the form of financial incentives for achieving specific and measurable performance targets.

Contracts should avoid payment on a purely “time and cost” basis (remunerating the provider for costs incurred) as this provides no incentive for improving performance.

Part (b) of this regulation recognises that attracting investment for water services infrastructure would require a return on that investment (apart from basic services, which are covered by national government grants). The contract should not guarantee a given rate of return as this is subject to the outcome of the risks involved, however, the remuneration should take account of the need for a reasonable return on investment for the provider.

What is a reasonable rate of return?

A reasonable rate of return depends on the level of risk perceived by potential providers and is thus most efficiently determined as a result of a competitive procurement process rather than by administrative decree. Because of the risk-return relationship, risk should be allocated to the party that is most capable of managing the risk, and who thus prices the risk the lowest. Allocating risks to a provider who is not in a position to manage that risk could result in the provider merely passing on the full cost of the risk to the contract.

A reasonable return would also depend on the type of provider. Typically, a private sector organisation needs to make a sufficient return on investment to pay dividends to its shareholders. An organ of state (e.g. water board or another municipality) or a community based organisation would normally only need a return to cover its costs. However, the final price of the contract would also depend on the efficiency of the provider i.e. an inefficient provider with a low rate of return could be just as expensive as an efficient one wanting a higher rate of return.

Assumptions and the methodology for calculating the rate of return and any limitations to the rate of return actually achieved should be agreed and clarified during the procurement process i.e. prior to signing the contract.
The basis on which the rate of return is calculated should be clarified and agreed during the procurement process i.e. prior to awarding the contract. This means agreeing on the assumptions and methodology to be used. The contract must also provide for periodic review of the methodology and assumptions to ensure that the basis for remuneration remains current and valid. If actual returns exceed the level agreed during the procurement process the contract must ensure that these “surplus” returns are shared between the authority and the provider. This is necessary to ensure that excess profits benefit the authority (and therefore consumers) and not just the provider.

The basis for calculating the rate of return (the formula) would normally incorporate price indices such as the CPI, Labour Index, Eskom tariff, and raw water tariff that are predicted to most closely reflect actual cost increases. Similarly, the cost of capital could reasonably be linked to the prime overdraft rate or some other published interest rate that closely reflects the actual cost of borrowing. The contract must ensure that indices used to calculate costs and returns are appropriate indices from reputable sources, and that they are regularly published.
Where the contract provides for the water services provider to provide services directly to consumers, a contract must –

(a) require a water services provider to prepare and publish a consumer charter that at least –

(i) fulfils the requirements for conditions for provision of water services as contemplated in section 4 of the Act;

(ii) provides a system for dealing with consumers' complaints;

(iii) sets out a consumer's right to redress; and

(b) provide for procedures to enable consumers in the contract area to participate in the preparation of the consumer charter, and must for that purpose provide for –

(i) public meetings and hearings that take into account the language preferences and usage in the contract area; and

(ii) the receipt, processing and consideration of comments and other inputs on the proposed charter by consumers.

The contract must require the water services provider to prepare a consumer charter (if the provider provides services directly to consumers). The consumer charter governs the relationship between the provider and the consumers by setting out the conditions of service and the obligations on these two parties. It must also be consistent with the local bylaws, which regulate the relationship between the authority and consumers. The consumer charter should form part of the customer management system of the municipality required under section 95 of the Municipal systems Act.

The contract must require the consumer charter to be developed in consultation with the consumers. Consultation should be in accordance with Chapter 4 of the Municipal Systems Act.
A contract must provide for the manner in and the means by which the water services authority must monitor the performance of the water services provider in order to comply with the provisions of section 27 of the Act.

The purpose of this regulation is to ensure that the authority is able to fulfil its obligation to monitor the performance of the provider. Section 27 of the Act stipulates that every authority must monitor the performance of providers within its area of jurisdiction to ensure that-
(a) standards and norms and standards for tariffs are complied with;
(b) any conditions set by a authority under section 6, 7 and 22 of the Act is met;
(c) any additional standards set by a authority, for water services intermediaries are complied with;
and
(d) any contract is adhered to.

It is also a requirement of section 41 of the Municipal Systems Act that a municipality must monitor and report on the performance of providers against set performance targets. The contract must state how the authority will go about undertaking these monitoring duties.
A contract must provide for the water services provider to provide the water services authority with such information as may be reasonably required for the water services authority to monitor the contract and to comply with its obligations to report to the Minister and the Province on compliance by the water services provider with the Act and these Regulations.

As mentioned in Regulations 5 and 14, water services authorities have an obligation to monitor the performance of providers in terms of the contract. Section 62(1) of the Act requires the Minister and Province to monitor the performance of every water services institution to ensure compliance with norms and standards, development plans, business plans and policies. The contract must require the provider to furnish all information necessary for the authority to comply with its legal responsibilities to monitor and report. This should include both submitting information requested by the authority as well as allowing the authority access to records.
A contract must require the water services provider to -

(a) prepare and maintain financial records and statements in accordance with the Generally Accepted Accounting Practice publication adopted in the Republic of South Africa or, in the case of a sphere of government, in accordance with the relevant financial management legislation; and

(b) allow the water services authority access to all financial records and statements reasonably required for the monitoring and regulation of the contract.

The purpose of this regulation is to ensure sound financial management, transparency and accountability. The contract must require the provider to prepare and submit financial records and statements in accordance with the publication mentioned in the regulation. For organs of state and municipalities, the requirements for financial reporting may be determined in the relevant financial management legislation.

As mentioned under the guidelines for Regulations 5, 14 and 15, there are legal obligations on the authority to monitor and report on the contract. Part (b) of this regulation requires that the contract must allow the authority access to financial records and statements as necessary to fulfil these obligations.
A contract must require a water services provider to prepare and maintain -

(a) a record of all existing and past consumers of water services dealt with in terms of the contract;

(b) an asset inventory including the condition and geographical location of all water services works covered by the contract; and

(c) a record of operations, maintenance, inspections and technical auditing.

Operational records relating to consumers and assets are essential for the proper management of a system. Not only is the maintenance of accurate records a good business practice, but it is also essential for motivating payment and for resolving disputes. Also refer to Regulation 11 (b).
A water services provider must be required in terms of the contract to ensure access to such information as may be reasonably called for by a consumer or a potential consumer.

A consumer has a reasonable right to access to information on matters that affect that consumer or that consumer's community. This also applies to a potential consumer who may be considering being connected to the service. The contract must require the provider to ensure access to information on such matters to consumers and potential consumers. Such information may include: justification or breakdown of tariffs and charges; levels of service offered in different geographical areas; performance targets, indicators and reports on performance reviews undertaken as part of contract implementation; and access to annual reports as required under Regulation 19.
A contract must require a water services provider to annually publish at least -

(a) a report on performance against targets and indicators required under regulation 5;
(b) a situation report in respect of the appropriate sections of the water services development plan;
(c) details of any penalties levied by either party for non-performance by the other party in terms of the contract or disputes that have arisen due to the alleged non-performance of either party;
(d) audited contract accounts of the water services provider; and
(e) the tariff rates and structure.

This regulation requires the contract to meet the constitutional requirement that transparency must be fostered in the public administration by providing the public with timely, accessible and accurate information. This is important in allaying fears and rumours that can be detrimental to consumer confidence. The contract must require the provider to publish the information listed in this regulation.
A contract must set out any warranties or performance guarantees to be furnished by the water services provider in respect of its ability to fulfil its contractual obligations.

The cost of a provider not fulfilling its function can be high in financial terms, through loss of service and through the possible cost of having to procure a replacement provider. To ensure that there is a disincentive against a provider not fulfilling its contractual obligations, the contract must state any warranties and performance guarantees to be furnished by the provider. The application of this regulation should contribute towards reimbursing the authority against such losses. Obtaining warranties and performance guarantees can be a large expense, some of which will be passed on to the authority and hence to consumers. Although warranties and performance guarantees are definitely required for private sector providers, when dealing with providers who are organs of state (e.g. national government, water boards or other municipalities) or community based organisations other mechanisms of guaranteeing performance should be considered. For example, it would not be appropriate for a municipality to request the national Department of Water Affairs and Forestry (when it performs the provider role) to obtain guarantees from a commercial bank.
A contract must set forth the nature and the level of insurance to be taken by the parties.

It is important that assets and operations relating to water services are adequately insured. Typically insurance may be required for public liability; professional indemnity; material damage all risks; and loss of revenue (business interruption insurance). The contract must state the types of insurance required as well as the level to which the insurance cover must be provided.
A contract must provide for a dispute resolution process.

The resolution of contractual disputes in a court of law can be extremely expensive, even for the successful applicant in the case of the loser being liquidated. The aim of this regulation is to promote appropriate mechanisms for addressing contractual disputes so that disputes are only settled in courts of law when appropriate, or only when other methods of settling disputes, such as mediation and arbitration have proven unsuccessful or are inappropriate. The contract must select a method of dispute resolution that is appropriate taking into account the size of the contract, the type of provider, and legal considerations. For example, a complex and expensive method of dispute resolution may be inappropriate for a small contract with a community based organisation to provide water for a village of 200 people. However, a management contract with the private sector organisation for a metropolitan area would require a more complex procedure.
A contract must require each party to identify corrupt action and to take all reasonable steps to prevent either party, its employees, its sub-contractors its agents or anybody under its control from involvement in corrupt action.

The Constitution requires public administration to promote and maintain a high standard of professional ethics. The aim of this regulation is to minimise the opportunity for corruption. Water services provider contracts involve major procurement agreements over long periods of time. Corruption, whether initiated by representatives of the authority or the provider, diverts resources, distorts competition and also places the later regulation of the contract in jeopardy. The contract must state that both parties should take all reasonable steps to prevent corruption on the part of its employees, agents or anybody under its control.
Should any of the provisions of subsections 19(2), 19(3) or 19(4) of the Act apply, a contract must indicate which of these subsections are applicable and record that there has been due compliance.

Both the Municipal Systems Act and the Water Services Act require certain steps to be taken before a municipality decides to consider a private sector provider. The purpose of this regulation is to ensure that the contract records that the appropriate steps as required under legislation have been taken.

The Water Services Act:
Section 19(2) of the Act states that an authority may only enter into a contract with a private sector water service provider after it has considered all known public sector providers which are willing and able to perform the relevant functions.
Section 19(3) states that before entering into or renewing -
(a) a contract with a water services provider; or
(b) a joint venture with another water services institution other than a public sector water services institution which will provide services within the joint venture at cost and without profit,
the authority must publicly disclose its intention to do so.
Section 19(4) states that any water services provider entering into a contract or joint venture with an authority must, before entering into such a contract or joint venture, disclose and provide information on
(a) any other interest it may have, which are ancillary to or associated with the relevant authority; and
(b) any rate of return on investment it will or may gain by entering into such a contract or joint venture.

The Municipal Systems Act:
Section 76(b) of the Municipal Systems Act refers to the option of the municipality entering into a service delivery agreement with an external mechanism. Section 78 of the Municipal Systems Act states that a municipality must first look at its own internal resources and the potential for internal restructuring, re-organisation and development of its own human resources. This section also requires the municipality to consider the impacts such a delivery mechanism would have on job creation and employment patterns, and to consult with consumers when considering an external service provider. Part 3 of the Municipal Systems Act requires a process of competitive bidding for appointing a private sector organisation as a provider.

An external mechanism in the Municipal Systems Act includes a municipal entity (i.e. corporitised utility belonging to the municipality), another municipality, a water board, a traditional authority, a water services committee established under the Water Services Act, a community based organisation, a non-governmental organisation or a private sector organisation.
A contract must require that the contract shall be governed and interpreted by the law of South Africa.

International consortiums and contractors have established in South Africa and will be active in bidding for the provider function. An authority could be severely disadvantaged in a court of law, both financially and legally, should proceedings take place under foreign law or in a foreign court. The contract must provide for the contract to be governed and interpreted in accordance with the law of South Africa.