



BUSINESS PLAN

ISO/TC 224

Service activities relating to drinking water supply systems and wastewater systems - Quality criteria of the service and performance indicators

EXECUTIVE SUMMARY

Committee's environment

Water is a worldwide challenge for the 21st century, and the international community is striving to meet the Millennium Development Goals. Following the third World Water Forum in Kyoto in March 2003, the international community has committed to improve governance of drinking water and wastewater services and, to this effect, has made it a priority to build capacity with local governments. In 2001, an ISO technical committee was launched, ISO/TC 224, that has been developing standards providing guidelines for service activities relating to drinking water supply systems and wastewater sewerage systems. These standards are designed to help water authorities and their operators to achieve a level of quality that best meets the expectations of consumers and the principles of sustainable development.

Benefits

These ISO standards will help:

- Further the dialogue among stakeholders, including consumers, local or national water authorities, public or private water utilities, research departments, laboratories;
- Develop a mutual understanding of responsibilities and tasks;
- Provide methods and tools to define, at local scale, objectives and specifications, and assess performance;
- Monitor performance for possible benchmarking among water utilities.

TC 224 standards are to be applied on a voluntary basis, in industrialized countries as in developed countries, in big cities or small towns, and irrespective of whether the utility operator is public or private.

Main objectives and priorities in the work of the committee

ISO/TC 224 standards deal with :

- The definition of a terminology common to the different stakeholders;
- The clarification of the consumer expectations, specifying the elements of the service as well as the manner in which to express the performances awaited by the users;
- The drawing up of a list of actions for an optimized management of these services, in agreement with the regulation;
- Methodical proposals of measurable service quality criteria and performance indicators allowing comparing, at a local scale, the observed results with targets set by the water authority.

See also [the brochure on ISO/TC 224 activities.](#)

1 INTRODUCTION

1.1 ISO technical committees and business planning

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

1.2 International standardization and the role of ISO

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: [ISO](#) (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of [IEC](#) (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of [ITU](#) (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 140 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the [International Standard](#).

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its [Technical Committees](#) are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.

2 BUSINESS ENVIRONMENT OF THE ISO/TC

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

The Global Water Supply and Sanitation Assessment

The global percentage coverage for water supply and sanitation, has increased over the past ten years for all but urban water supply: about 816 million people have gained access to improved water supply and 747 million people have gained access to improved sanitation.

(1) Global water supply and sanitation coverage, 2000

| | Urban | Rural | Total |
|--------------|-------|-------|-------|
| Water supply | 94 % | 71% | 82% |
| Sanitation | 86 % | 38% | 60% |

(2) Water supply and sanitation coverage by region, 2000

| | Africa | Asia | LA&C | Oceania | Europe | N. America |
|---------------------|--------|------|------|---------|--------|------------|
| Global water supply | 62% | 81% | 85% | 88% | 96% | 100% |
| Global sanitation | 60% | 48% | 78% | 93% | 92% | 100% |
| Urban water supply | 85% | 93% | 93% | 98% | 100% | 100% |
| Urban sanitation | 84% | 78% | 87% | 99% | 99% | 100% |
| Rural water supply | 47% | 75% | 62% | 63% | 87% | 100% |
| Rural sanitation | 45% | 31% | 49% | 81% | 74% | 100% |

Table (2) shows that in every region, except Oceania and Northern America, total sanitation coverage is lower than total water supply coverage. The Table also shows that urban coverage is significantly higher than rural coverage.

Table (3) presents percentage coverage with household water supply and sewerage connections, as well as other types of access.

(3) Water supply and sanitation coverage by category of service, 2000

| | Africa | Asia | LA&C | Oceania | Europe | N. America |
|----------------------|--------|------|------|---------|--------|------------|
| Water supply | | | | | | |
| Household connection | 24% | 49% | 66% | - | { 96 % | { 100 % |
| Other access | 38% | 32% | 19% | - | | |
| No access | 38% | 19% | 15% | - | 4% | - |
| Sanitation | | | | | | |
| Sewerage connection | 13% | 18% | 49% | - | { 92 % | { 100% |
| Other access | 47% | 30% | 29% | - | | |
| No access | 40% | 52% | 22% | - | 8% | - |

Table 4 shows the mean percentage of the population served by various types of water supply in the large cities of each region. As it shows, with the exception of Africa, the majority of the population has house connections or yard taps. But it is no coincidence that the regions with the most rapid growth in the largest cities also have highest proportion of the population without access to the services in those cities.

(4) Water supply in the largest cities: mean percentage of the population with each type of service, by region

| | Africa | Asia | LA&C | Oceania | Europe | N. America |
|----------------------------------|--------|------|------|---------|--------|------------|
| Household connection or yard tap | 43% | 77% | 77% | 73% | 96% | 100% |
| Public tap | 21% | 7% | 3% | 3% | 1% | 0% |

| | | | | | | |
|----------------------|-----|----|-----|-----|----|----|
| Borehole or handpump | 3% | 4% | 1% | 0% | 1% | 0% |
| Others | 2% | 6% | 4% | 3% | 0% | 0% |
| Unserviced | 31% | 6% | 15% | 21% | 2% | 0% |

The type of sanitation systems available, and the proportion of the population using each, are shown in Table (5). As in the case of house connections for water supply, regions where the populations of large cities are growing fastest are also those with the lowest coverage with conventional sewers. Africa and Oceania have the lowest coverage, while Latin America and the Caribbean and Asia lie between them and the industrialized regions of Europe and Northern America.

(5) Sanitation in the largest cities: mean percentage with each type of facility, by region

| | Africa | Asia | LA&C | Oceania | Europe | N. America |
|---------------------------------|--------|------|------|---------|--------|------------|
| Sewer | 18% | 45% | 35% | 15% | 92% | 96% |
| Small bore | 4% | 0% | 2% | 11% | 1% | 0% |
| Septic tank | 12% | 28% | 25% | 45% | 7% | 4% |
| Pour-flush | 7% | 18% | 2% | 10% | 0% | 0% |
| Ventilated Improved Pit latrine | 10% | 2% | 2% | 0% | 0% | 0% |
| Simple pit | 29% | 3% | 12% | 2% | 0% | 0% |
| Other | 1% | 0% | 2% | 0% | 0% | 0% |
| Unserviced | 19% | 4% | 20% | 17% | 0% | 0% |

Sector performance

The mean rates of unaccounted-for water are shown in Table (6), by region. The majority of unaccounted-for water is represented by physical losses from the distribution system. And in many cases, the unaccounted-for water indicator reflects the efficiency of the management of a water utility.

(6) Mean unaccounted-for water in large cities, by region

| | Africa | Asia | LA&C | N. America | Europe * |
|---|--------|------|------|------------|----------|
| % | 39% | 42% | 42% | 15% | 18% |

* Our estimation.

It is estimated that over one-third of the urban water supplies in Africa, and in Latin America and the Caribbean, and more than half those in Asia, operate intermittently. Intermittent water supply is a significant constraint on the availability of water for hygiene and encourages the low-income urban population to turn to alternatives such as water vendors. When the systems function intermittently, contamination may also occur by intrusion of contaminated water into the pipelines through faulty joints, cracks, etc.

A substantial proportion of rural systems fail to function at any given time. Piped systems were considered to be "functioning" if they were operating above 50% of their design capacity on a daily basis.

(7) Median percentage of rural water supplies, which are functioning, 1990-2000

| | Africa | Asia | LA&C | Oceania | Europe | N. America |
|---------------|--------|------|------|---------|--------|------------|
| % functioning | 70% | 83% | 96% | 93% | 100% | 97% |

Many rural supplies, while meeting the definition of “functioning”, do not in fact provide a satisfactory service, because of deficiencies in water quality, unsuitable location or restrictions on their use.

The lack of treatment of wastewater is another health hazard. Table (8) shows the median percentage of urban wastewater collected through sewerage systems that is reported to be treated in sewage treatment plants.

(8) Median percentage of wastewater treated by effective treatment plants

| | | | | | |
|--------|------|------|---------|--------|------------|
| Africa | Asia | LA&C | Oceania | Europe | N. America |
| 0% | 35% | 14% | 0% | 66% | 90% |

In all regions of the world, the majority of urban water supply utilities are publicly operated. Nevertheless, many countries reported a degree of private sector participation in delivering urban water supply services. When the contractual arrangements were specifically mentioned, the options most commonly cited by developing countries were concessions and management contracts. A number of reports, particularly from African countries, mentioned that the countries were moving towards greater private sector management of water supply.

For many countries, water tariffs do not meet the cost of water production and distribution. Financial limitations in developing countries, are also a problem when the funds for investment are sufficient only to cover the recurrent costs of operation and maintenance.

Future prospects

Urban services face the greatest overall challenges, with more than a billion additional people needing access to both water supply and sanitation over the next 15 years, if coverage targets are to be met. This effort is equivalent to building the water supply and sanitation infrastructure to serve approximately three times the population of Northern America.

(9) Actual and target water supply and sanitation coverage (*Population in %*)

| | 1990 | 2000 | 2015 | 2025 |
|----------------------------|------|------|------|------|
| Global water supply | | | | |
| Served | 78.6 | 80.5 | 91.4 | 98.7 |
| Unserved | 21.4 | 19.5 | 8.6 | 1.3 |
| Urban water supply | | | | |
| Served | 95.1 | 93.9 | 96.7 | 98.9 |
| Unserved | 4.9 | 6.1 | 3.3 | 1.1 |
| Global sanitation | | | | |
| Served | 55.2 | 60.3 | 80 | 98.5 |
| Unserved | 44.8 | 39.7 | 20 | 1.5 |
| Urban sanitation | | | | |
| Served | 81.9 | 85.8 | 92.4 | 98.9 |
| Unserved | 18.1 | 14.2 | 7.6 | 1.1 |

There are four major challenge facing the water supply and sanitation sector in the years to come:

- 1) Keeping pace with a net population growth of more than a billion people over the next 15 years;
- 2) Closing the coverage and service gap, with emphasis on sanitation which lags considerably behind water supply;

- 3) Ensuring sustainability of existing and new services;
- 4) Improving the quality of services.

Some of the conclusions that can be drawn from Table (9) are striking:

- To meet the 2015 development target of halving the fraction of the population without services, the number of people served by water supply must increase by 1.6 billion (32%), and those served by sanitation must increase by 2.2 billion (59%).
- For water, considering that only 816 million people gained access to improved water services during the 1990s, the pace has to be accelerated over the next 15 years.
- For sanitation, the challenge is even greater. During the 1990s, only 75 million people a year gained access to improved sanitation services.
- Rapid urban growth means that more than half of the additional services must be in urban areas. The lower levels of service in rural areas also mean that nearly half of the improvements will need to come in rural areas.
- Most of the work will be in Asia. This does not mean that the needs of the poor are any more acute in Asia than elsewhere, only that the majority of the people without access to water supply and sanitation services are in Asia.
- Current progress is inadequate to meet the targets. Something will have to change dramatically if the targets are to be met. In reality, as highlighted at the World Water Forum in The Hague, 17-22 March 2000, a wide range of issues would need to be resolved, and the majority of these are institutional and social, rather than technical.

More recently, the United Nations declared during the Johannesburg Summit that, the provision of clean drinking water and adequate sanitation is necessary, and they agree to halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water and the proportion of people who do not have access to basic sanitation.

In that context, the governments should try to ensure that all their population has access to drinking water and sanitation. They should try to manage equitably and durably the water resources, which are a common heritage and they should try to entitle public authorities, responsible for the organization of drinking water supply and sewerage. When these essential conditions are met, the solutions for appropriate operation and maintenance of water supply and sanitation systems, will be achieved in case by case according to the solutions available.

There are two principal aspects of sustainability, of concern to hygiene, sanitation and water supply:

- 1) Functional sustainability: Will the system collapse into disuse because essential funds or skills for operation and maintenance cannot be found ?
- 2) Environmental sustainability: Will system operation damage the environment for future generation ? Will other environmental changes damage the water resource to the point where future services become difficult or impossible to maintain ?
- 3) Health Objectives: can technology be developed and implemented that can adequately (economically and technically) carry out preventive actions of fighting against water pollution.

Maintaining a truly sustainable system in the water supply and sanitation sector, is as much difficult and important as making the initial capital investment. The provision of safe water is a service and requires a service-orientated attitude on the part of the operators involved. Water use may be financially sound, but subject to legal and regulatory controls to see to its conservation,

protection and well-balanced use. Water and sanitation services may normally be set at an affordable level for the consumers. Water supply and sanitation systems may be managed and operated in accordance with the principles of good business practice and with the regulations, which are intended to protect the consumers and the environment. The form of management will vary according to the local situation. For example it happens that the public authority is fully accountable to its customers.

While national statistics are helpful to national planners and international agencies, they are of limited value in setting priorities for practical action. For this, a more local picture is crucial and this picture cannot be built up from simple coverage statistics. More work is therefore needed to develop and apply management procedure and criteria to help clarify the current situation. Ideas about monitoring and assessment have developed significantly during the 1990s. The routine collection of data for possible use only by a distant project manager or official is no longer considered adequate, and it is increasingly recognized that monitoring needs to be designed and implemented with a view to answering specific practical questions.

2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC:

See 2.1.

3 BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC

The demographic, industrial and agricultural expansion observed throughout the world has induced the highest political authorities to concern themselves with the fresh water resources required for this expansion.

It appears that these resources, in particular the portion that can be used for meeting the needs of human consumption, are becoming scarcer both quantity and quality wise, in part because of competition from other water using activities such as agriculture, mining, transportation and habitat protection, and that considerable investments will be required in order to meet the needs of the world population and more especially of the emerging countries.

There is growing widespread concern about the availability of acceptable quality water supplies in reasonable quantities at affordable prices both in centrally supplied systems and in private, rural supply situations. A clear limitation on economic growth and sustainable development will be assuring that reasonable quantities of water of an appropriate quality are delivered reliably at an affordable price within the local market place.

In that respect, ISO/TC 224 decided to include in the term coverage, all means used to come up to consumers' expectations for water supply and sanitation; as for example, household connection, public standpipe, vendor provided water, tanker truck provision of water, and for sanitation, connection to a public sewer, or to septic system, public latrines,....

Moreover, as a result of the world consumer movement, consumers who use the water services, both in the most industrialised countries and in the emerging countries, are more and more demanding concerning the quality of the water service. They are also more and more sensitive to the transparency of the management and to the quality/price ratio of these services.

They are therefore very concerned about understanding their water invoice and about obtaining as low a rate as possible, for a specified level of service.

Admittedly, in the majority of the countries, regulations in more or less abundant number exist concerning the water intended for human consumption and the wastewater discharged after treatment to the natural environment. They decree quality criteria for the water guaranteeing the health protection of the populations and the preservation of the environment. But the purpose of these regulations is not to describe the manner in which a water supply service is to be managed.

These legal requirements may also concern other aspects. It is why the normative channel, consensus-based and associating the reflections of all the interested parties, appears the best suited for seeking to meet the needs of the users and of their environment, while complying with the regulations.

The work of the ISO/TC 224 concerns the sector of services pertaining to the supply of drinking water and to wastewater sewerage, services for which public authorities are locally responsible vis-à-vis their populations and their environment.

The ISO/TC 224 has recourse to standardisation as an instrument of progress for improving the quality of these services.

It will contribute towards :

- 1) facilitating the dialogue between the users, the authorities and the service suppliers responsible for the water supply and sewerage system services so that user expectations are better taken into account and so that the management of services by the relevant authorities is more transparent;
- 2) contributing to a better operation and management of the assets of the services, and respecting the water resources, in proposing a list of requirements to fulfil, quality assessment criteria and related performance indicators;
- 3) defining objective service quality assessment criteria and related performance indicators enabling to measure the results of the services delivered and to compare them with the objectives agreed upon between the interested parties, knowing that the quality of service may be appreciated according to users' satisfaction and respect of environment;
- 4) facilitating the monitoring of the progress accomplished within a same water supply service and a possible benchmarking between different water services.

ISO/TC 224 criteria and indicators may on a voluntary basis be introduced in support of administrative instructions or of contracts concluded between the authorities in charge of the water supply and/or sanitation services and the operators (public or private) to whom they will decide to entrust the management of the said services.

4 REPRESENTATION AND PARTICIPATION IN THE ISO/TC

4.1 *Countries/ISO members bodies that are P and O members of the ISO committee*

4.2 *Analysis of the participation*

ISO/TC 224 currently has 25 P-members (Argentina, Austria, Belgium, Canada, Denmark, France, Germany, Japan, Kenya, Republic of Korea, Malaysia, Morocco, Netherlands, Nigeria, Norway, Portugal, Russian Federation, Slovakia, South Africa, Spain, Sweden, Tunisia, United Kingdom, USA, Zimbabwe), and 18 O-members (Australia, Bulgaria, Colombia, Cuba, Czech Republic, Ecuador, Finland, Hungary, Ireland, Italy, Mexico, New Zealand, Oman, Poland, Serbia and

Montenegro, Switzerland, Turkey, Zambia). Thus, most industrialised nations and a significant number of developing countries are represented in ISO/TC 224.

ISO/TC 224 has category-A liaisons with AIDIS (American Association of Sanitary and Environmental Engineering), Consumers International, Eureau, International Water Association, Norm APME (European Office of Crafts, trades and Small and Medium-sized Enterprises for Standardisation), the World Bank, and the World Health Organization (WHO). In addition, ISO/TC 224 has liaisons with CEN/TC 164 "Water supply" and CEN/TC 165 "Waste water engineering".

ISO/TC 224 established 4 Working Groups and an ad hoc group. Experts are appointed to these groups by the P-members of ISO/TC 224.

ISO/TC 224 wishes to develop standards that can be used/implemented as broadly as possible so as to take into account the specifications of Southern countries and of rural areas. To ensure the broadest possible dissemination of information and exchange on the committee's work, **three regional fora** were organized for 2004, the Asian forum took place in the Republic of Korea in April 2004, the Latin-American forum was held in Puerto Rico in August 2004, and the African forum in Morocco in September 2004.

5 OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 *Defined objectives of the ISO/TC*

The objectives of the proposed standardisation are to provide guidelines for service activities relating to the management of drinking water supply systems and wastewater sewerage systems.

These standards will be designed to assist the relevant public authority, and its chosen private or public operator(s) in providing the consumers with a continually improving quality of service at optimal cost.

Use of the standards will be voluntary and will be irrespective of the operator's legal status.

These standards will recommend to the public authority and its operator(s) to establish dialogue with consumers' representatives, in order to determine the quality of service that best meets the expectations of the majority of consumers.

With using these standards as a basis, the definition of the means of providing the quality of service expected, remains the responsibility of the public authority and its operates. They also agree on the costs, a schedule and a monitoring plan using a system of indicators.

In order to ensure an effective monitoring plan, the public authority and its operator(s) will have to choose an appropriate number of indicators related to each area in which progress is expected and together fix the target values associated with this progress. In this spirit, the standards will not impose minimum values or performance ranges for specific indicators.

In order to stick to these objectives, the ISO/TC 224 proposed the scope as follows :

- 1) The defining of a language common to the different stakeholders : consumers, local or national public authorities responsible for the water services, public or private technicians entrusted by these authorities, with the management of the water services, research departments, laboratories, etc.

- 2) The clarification of the consumers' expectations, specifying the characteristics of the elements of the service as well as the manner in which to express the performances awaited by the users,
- 3) The drawing up of the list of actions to achieve, for the management of a drinking water supply system including all the operations allowing to meet the needs of consumers : production, transport, storage, distribution of drinking water, maintenance and development of the material and immaterial assets of the service. Actions relating to water demand management may also be considered.
- 4) The drawing up of the list of actions to achieve, for the management of a wastewater sewerage system including all the operations allowing to meet the health-related needs of the users and the protection of the environment and of the water resources : collection of wastewater, treatment prior to discharge into the receiving medium, or reuse in either potable or non-potable applications, conditioning of the sludges and residues in view of their recovery or elimination, maintenance and development of the assets,
- 5) The proposal, in each case, of measurable service quality criteria and performance indicators allowing comparing the observed results with the targeted objectives, given by the authority in charge of drinking water or wastewater services.

The planned standards would place particular emphasis on the «results» aspect of the different service activities and would give full scope to the authorities in charge, as regards the level of the results and the means to be implemented in order to attain them.

Consequently, the users of the standards will be free to select corresponding quality criteria, performance indicators and values for objectives to be reached.

These standards are of voluntary application. They will not act as a substitute for regulations. They will exclude standardization in the field of drinking water quality which is already dealt with by WHO (Guidelines for drinking water quality), and drinking water analysis, which is the scope of ISO/TC 147. The development of the standards should reference and be compatible with standards of ISO/TC 176 – Quality management and quality assurance. They will exclude standardization in the field of the limits of acceptability for wastewater discharged to the receiving waters, subject already treated by national regulations.

The standard should not regulate the management structure and methodology of water and wastewater systems including contracting.

The methods of design and construction of drinking water supply systems and sewerage systems are also excluded from the scope of ISO/TC 224, as well for repair and maintenance techniques. Even if these standards will recommend the operator(s) to do preventive maintenance and to repair the sewerage system, when it fails to function, they will give no indications on the repair techniques, which fall within the competence of the relevant authority and/or its operator(s).

The operator may use the management system ISO 9001 and 14001 series, in order to achieve his targeted performance.

5.2 Identified strategies to achieve the ISO/TC's defined objectives

The ISO/TC 224 will ensure that, all stakeholders concerned by service activities relating to drinking water supply and sewerage, will be invited to join the TC. Are concerned :

- consumers' representatives ;

- governments and public authorities in charge of drinking water supply and sewerage ;
- public and private operators in charge of drinking water supply and sewerage systems operations.

In order to develop its standards, the ISO/TC 224 will examine published documents and experiences relating to service activities on drinking water supply and sewerage.

International Organisations and NGOs, which already have an experience and expertise in that field, are invited to join the TC (World Health Organisation, World Bank, International Water Association, ...).

National Authorities, operators, and non-governmental organisations will have the opportunity to bring their experience, by participating in their national delegations.

Because the operation conditions of drinking water supply and sewerage are different in developed and new developing countries, as well as in arid and temperate areas, the participation of a large panel of countries, will help ISO/TC 224 to consider all existing situations.

6 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC WORK PROGRAMME

In order to prepare globally relevant standards that would be used and implemented in industrialized as well as developing countries, in big cities or small towns and in rural areas, the participation of developing countries and “emerging” countries in ISO/TC 224 is essential but it can be difficult to obtain the participation of such countries due to the lack of funding.

Like the [information brochure](#) states it, these works are of great importance for all the partners involved in the water sector. Are mainly concerned consumers's representatives, governments, public and local authorities in charge of drinking waters and sewerage, public and private operators. This is why it is of utmost importance that all the key players in this sector are represented and involved in the TC works.

It is also important to take into account the differences among countries regarding hydrological, socio-economical and political characteristics of water services.

7 STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC

This section gives an overview of the ISO/TC's structure, scopes of the ISO/TCs and any existing subcommittees and information on existing and planned standardization projects, publication of the ISO/TC and its subcommittees.

7.1 Structure of the ISO committee

| Nber | Title | Terms of reference | Convenor | Secretariat |
|------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------|
| CG | Coordination | <p>Coordination of the working groups, concerning planning and monitoring of the work.</p> <p>To provide a mechanism for the convenors and co-convenors to get together; To exchange information on how the groups are progressing, and if there are opportunities or needs for joint meetings of groups, and to promote the alignment and timeliness of the documents being produced.</p> | <i>Mr. Jean-Luc REDAUD</i> | AFNOR |
| WG1 | Terminology | Define terms for drinking water supply and wastewater service activities, including different technical terms based on regional use and application, when those terms are common to several work items or upon request from another WG | <i>Mr. Dominique OLIVIER</i> | AFNOR |
| WG 2 | Service to the consumers | Specify the characteristics of the elements of service activities relating to drinking water supply and wastewater systems, in order to meet the customers expectations. Define a language common to the different stakeholders and propose a selection of quality criteria that will be applicable to the service expected by the customer. For each of the criteria, define the indicators and tools used to measure performance, but do not set any target value or performance thresholds | <i>Mr. Enrique CABRERA</i> | AENOR |
| WG 3 | Drinking water | Standardization of a framework for the definition and measurement of service activities relating to drinking water supply systems. The standardization includes: the definition of a language common to the different stakeholders, the definition of the characteristics for drinking water services, a list of requirements to fulfil for the management of a drinking water supply system, service quality criteria and a related system of performance indicators, without setting any target values or thresholds | <i>Mr. T. Duncan ELLISON</i> <i>Mr. M. S PILLAY</i> | SCC DSM |

| Nber | Title | Terms of reference | Convenor | Secretariat |
|---------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------|
| | | | | |
| WG 4 | Wastewater systems | Standardization of a framework for the definition and measurement of service activities relating to wastewater systems. The standardization includes: the definition of a language common to the different stakeholders, the definition of the characteristics of the elements of the service according to the consumers expectations, a list of requirements to fulfil for the management of a wastewater system, service quality criteria and a related system of performance indicators, without setting any target values or thresholds | <i>Mr Karl J. ROHRHOFER</i> <i>Mr. Heekyung PARK</i> | ON KATS |
| <i>Ad hoc</i> | Developing countries | | <i>Mr M ZOUGGARI</i> | SNIMA |

7.2 Current projects of the ISO technical committee and its subcommittees

7.3 Publications of the ISO technical committee and its subcommittees

Reference information

[Glossary of terms and abbreviations used in ISO/TC Business Plans](#)

[General information on the principles of ISO's technical work](#)