

**Secretariat of ISO/TC 224**

Service activities relating to drinking
water supply systems and wastewater systems

*Resolutions of ISO/TC 224
4th plenary meeting held on
September 26th to 29th in Rabat
(Morocco)*

Your contact : Laurence THOMAS

Tel : +33 (0)1 41 62 83 70

laurence.thomas@afnor.fr

Date : 2004-10-11

Resolution 1

The TC adopts the revised schedule as follows :

Date	ACTIONS
September, 27th 28th and 29th	TC meeting in Rabat, Morocco
Before end of January 2005	WG meetings in order to study comments received on each working document and for implementation of TC decisions
Before the end of February 2005	Work and meeting of the editing group to finalize the drafts
End of February 2005/March 2005	Decision of the TC chairman and secretariat and the editing group on the launching of the CD enquiry. Possible editorial work to be done by the TC secretariat
April 2005 to end of June 2005	CD enquiries
July 2005	ISO DEADLINE FOR CD ENQUIRY 1)
18th-21st October 2005	ISO/TC 224 TC + WGs meeting in Berlin (Germany). Examination of comments received during CD enquiry
March 2006	4th World Water Forum in Mexico
July 2006	ISO DEADLINE FOR DIS ENQUIRY 1)
End of 2006	ISO/TC 224 TC meeting in Punta del Este (Uruguay). Examination of comments received during DIS enquiry.
April 2007	ISO DEADLINE FOR FDIS ENQUIRY 1)
July 2007	PUBLICATION OF THE ISO STANDARD
1) If the deadline is not met, the work items will be cancelled by ISO central secretariat, according to ISO rules.	

Resolution 2

The TC decides to create an editing group for preparing the drafts for the subsequent CD enquiries. Jack Hoffbuhr (USA) is appointed as convenor.

Taking into account the criteria of working groups and continents, the following experts are nominated : Dominique Olivier (France and WG 1), Enrique Cabrera (Spain and WG 2), Michael Buckler (Germany and WG 2), Duncan Ellison (Canada and WG 3), Denis Horsman (UK and WG 3), Heekyung Park (South Korea and WG 4), Kees Snaterse (NL and WG 4), Javier Mijangos (Argentina), Mounir Zougari (Morocco).

The mandate of the editing group is to finalize the drafts, based on the following documents : TC Resolutions and revised drafts from the working groups. The group will focus on:

- consistency in terminology
- consistency in style
- understandable English and suitable for translation into French.

In the event that minor technical changes are required to maintain consistency among the documents, the editing group is authorized to make such changes if it is approved by a consensus of members of the group.

It is resolved to meet the editing group in January 2005 (week 24th to 29th) in Valencia (Spain).

Resolution 3

The TC gives a mandate to the TC chairman to decide to launch the CD enquiries upon proposals from the editing group.

Resolution 4

WGs 2, 3 and 4 agree to have first a joint meeting to ensure consistency, during the same week as the editing group.

The WGs 2, 3 and 4 agree to meet for two to three days prior to the editing group during the same week and at the same location.

Resolution 5

The TC resolves that the PI/Assessment results (see Annex 1) shall be submitted to the working groups for inclusion in the drafts.

Resolution 6

Having considered the current structure and content of the WGs 3 and 4 documents and the comments made from P members and the developing country representatives, it is resolved that the documents shall be aligned to show greater consistency in their respective structure, content and level of detail.

Resolution 7

Bearing in mind particularly the statements of P members and the developing country representatives that separate documents would reflect their general conditions, water and wastewater service providers are separate entities and separate documents would facilitate the implementation of the provisions of the standards in their countries, it is resolved that separate documents for drinking water services and wastewater services shall be produced.

Resolution 8

It was resolved that the titles of the documents of WGs 3 and 4 shall be parallel, as follows:

Service activities relating to drinking water and wastewater – Guidelines for the management and assessment of drinking water services.

Service activities relating to drinking water and wastewater – Guidelines for the management and assessment of wastewater services.

Resolution 9

It is resolved that the scope of the documents of WGs 3 and 4 shall have the same structure.

The 3 drafts shall also cover stand-alone/on-site systems.

Resolution 10

It is resolved that the objectives, service assessment criteria, and performance indicators shall also be applicable to stand-alone/on-site systems in the documents for WGs 2, 3 and 4.

It is resolved that a schematic showing the relationship between service objectives, service assessment criteria, related performance indicators and actions to take to meet the objectives, shall be inserted in the Introduction to indicate clearly the importance of this relationship.

Resolution 11

Taking note of the need to effectively utilize both human and financial resources and the plans of WGs 3 and 4 to produce parallel documents in accordance with the resolutions of the joint meeting of the WGs, the TC encourages the WGs to adhere to their planned schedule and activities of a single joint meeting and ad hoc technical drafting group in the coming months.

Resolution 12

The TC decides to create a “Developing countries” ad hoc group who will :

- propose adaptations for the definitions and PI's chosen by the different WGs to fit with the situation in developing countries ;
- study the development of a user's guide for the developing countries ;
- list and define precisely the different kinds of water supply and wastewater services in developing countries and to link them to types of services described in the WGs drafts.

The TC secretariat will ask all P members, O members of the committee and organizations in A liaison to propose experts for such a group.

Resolution 13

The TC decides to appoint Mounir Zougari as convenor of the Developing countries ad hoc group.

Resolution 14

The TC supports the suggestion of the developing countries to undertake a test of the draft standards in some cities from developing countries in conjunction with associations of professionals and local authorities, before the DIS Enquiry (July 2006).

Resolution 15

The TC requests the chairman and secretary to contact the multilateral organizations to seek better consistency of the standards with their recommendations, directives and tools (WHO, WB ...).

Resolution 16

The TC thanks the developing countries for the comments made on the drafts as a result of the fora, the internal consultation and Rabat workshops. These comments will be incorporated into the minutes of the TC meeting (see annex 3). The TC notes that these will be taken into consideration by the WGs before delivering the drafts to the editing group.

Resolution 17

The TC resolves to request the ad hoc group in charge of drafting the introduction (see resolution 5 taken in Daejeon) to follow up this task considering the comments provided by the member bodies and developing countries.

Resolution 18

The TC resolves to ask the ISO Council to approve the following specific procedures for ISO/TC 224 in line with the ISO global relevance of standards : to allow participation of developing countries having interest in ISO/TC 224 work and without ISO member body in their country (subscriber or non member) in TC224 plenary meetings as observers on their own (not as part of another P member or liaison delegation).

Resolution 19

ISO/TC 224 resolves to hold its next meeting and WGs meetings in Berlin from 18th to 21st October 2005, and thanks the German delegation for this invitation.

Resolution 20

The TC thanks Mr. Javier Mijangos (AIDIS) for the invitation to hold the TC meeting in October/November 2006 in Punta del Este in Uruguay.

Resolution 21

The TC expresses its very warm thanks to the Moroccan host for the perfect organization of the meeting.

Annex 1

Conclusions from the workshop PI / Assessment - Rabat

9. Performance Indicators

9.1. General

Performance indicators are used to measure the efficiency and effectiveness of a system in achieving its objectives. (particularly those identified in clause 6).

Performance indicators should be used within the context of a comprehensive service assessment system. This system should include, among other tools, a coherent set of indicators and the related components that allow for a clear definition of these performance indicators and assist in their interpretation.

9.2. Performance indicators systems

9.2.1. General

A performance indicator system comprises a set of performance indicators, context information and variables.

9.2.2. Performance indicators

Individual performance indicators should be unique and collectively appropriate for representing the relevant aspects of the service in a true and unbiased way.

Each performance indicator should:

- be clearly defined, with a concise meaning and univocal;
- be assessed from variables that can be easily measurable at a reasonable cost;
- contribute to the expression of the level of actual performance achieved in a certain area;
- allow for a clear comparison with targeted objectives and simplify an otherwise complex analysis;
- be verifiable;
- be simple and easy to understand;
- be objective and avoid any personal or subjective appraisal

Performance indicators are typically expressed as ratios between variables. These ratios may be commensurate (e.g. %) or non-commensurate (e.g. \$/m³). In the case of non-commensurate ratios, the denominator should represent one dimension of the system (e.g. number of service connections; total mains length; annual costs). This allows for comparisons through time, or between systems of different sizes.

Variables that may vary substantially in time (e.g. annual consumption) particularly if not under the control of the service provider should be avoided as denominators in the indicator ratios. An exception can be made when the numerator varies in the same proportion as the denominator.

A clear *processing rule* should be defined for calculating each indicator. The rule should specify all the variables required and their algebraic combination. The variables may be data generated and managed within the service (service data) or externally (external data). The use of internal *service data* is generally preferred to *external data* because the quality of external data is out of the control of the service provider and/or the responsible body.

The interpretation of the performance indicators should not be carried out without taking into account the context, particularly if it is based on comparisons with other cases. Therefore, complementary to the performance indicators, the *context information* should consider also the characteristics of the system and the region in which the services are provided.

Examples of performance indicators and how to calculate them are provided in informative Annex D. Additional information on performance indicators and grading systems for performance indicators are provided in Annexes E and F respectively. Reference to existing relevant performance indicator systems is provided in Bibliography.

9.2.3. Variables

Each variable should:

- fit the definition of the performance indicator or context information it is used for;
- refer to the same geographical area and the same period of time or reference date as the performance indicator or context information it will be used for;
- be as reliable and accurate as the decisions made based on it require.

Some of the variables are external data and mainly informative, and their availability, accuracy, reference dates and limits of the corresponding geographical area are generally out of the control of the service provider and/or responsible body. In this case, variables should also:

- whenever possible be collected from official sources;
- be essential for the performance indicator assessment or interpretation;

9.2.4. Context Information

Context information defines inherent characteristics of a system that are relevant for the interpretation of the performance indicators. There are two possible types of context information:

- Information describing pure context and external factors that are not under the control of the service provider and/or the responsible body (e.g. demographics, topography, climate, etc.)
- Characteristics that can only be influenced by management decisions in the long term (e.g. age of the infrastructures).

9.3. Quality of the information

The quality of the data should reflect the importance of the assessment being conducted.

A scheme providing information on data quality is needed so that users of the performance indicators and context information are aware of the reliability of the information available. The value of the performance indicators is questionable without this scheme.

The recommended confidence grade of a performance indicator can be assessed in terms of its accuracy and reliability. The accuracy accounts for measurement errors in the acquisition of input data. The reliability accounts for uncertainties in how reliable the source of the data may be.

An example of a confidence-grading scheme is presented in **Annex F**.

9.4. Using Performance Indicators

Performance indicators need to be linked to objectives (please see the schematic produced by joint working groups 3 and 4). Interpretation of the results is part of the overall use of performance indicators.

Definition of the strategic performance assessment policy

(Definition of objectives and scope of application, Resources planning and allocation)

Establishment of the set of PI and related components

(Selection / definition of PI system elements according to objectives, Establishment of data management routines, schedules and responsibilities)

Periodic assessment *(Result interpretation and global reporting, Definition and implementation of improvement measures)*

Example of use in Informative Annex.

Annex 2 - Resolutions made in the joint meeting of working Group 3 and working Group 4, September 27-28, 2004, - Rabat, Morocco

These resolutions are intended to give direction to a small, combined group of Experts who will prepare new draft technical documents for review and finalization at a planned joint meeting of Working Groups 3 and 4 in January 2005.

Resolution 1: General Matters

The joint meeting of Experts from Working Groups 3 and 4, having considered the current structure and contents of the two documents and the comments made from the developing country representatives are resolved that the documents should be aligned to show greater consistency in their respective structures, contents and level of details.

Resolution 2: Structure and Contents

It is resolved that the **principal** components of the Table of Contents (section headings) should reflect an entirely parallel construction and subject matter content (subject to necessary references to water and wastewater services).

It is resolved that **subordinate** components of the Table of Contents (sub-section headings, etc) while essentially following a parallel pattern, may differ to reflect the differences between water and wastewater services.

It is further resolved that the Table of Contents should be as follows:

- Foreword
- Introduction
- 1. Scope
- 2. Normative references
- 3. Terms and definitions
- 4. Components of [drinking water][wastewater] systems
- 5. Objectives of [drinking water][wastewater] services
- 6. Management components of [drinking water][wastewater] services
- 7. Requirements for the management of [drinking water][wastewater] services
- 8. Service assessment criteria
- 9. Performance indicators
- Informative annexes

It is intended that the sub-sections should generally also be aligned, although some variance will be required because of the different natures of the two services.

Resolution 3: Number of Documents

Bearing in mind particularly the statements of the developing country representatives that separate documents would reflect their general conditions, water and wastewater service providers are separate entities and separate documents would facilitate the implementation of the provisions of the standards in their countries, it is resolved that separate documents for drinking water services and wastewater services shall be produced.

Resolution 4: Level of detail and tone

Noting that the informal enquiry indicated an overwhelming preference for the level of detail, tone of guidance and intended audience from the respondents, and that the developing country representatives indicated a need for such detail and tone of guidance to encourage application, it is resolved that the Working Group 4 document should reconsider the extensive use of “bulleted” information statements and redraft the text in a prose style.

It is also resolved that the Working Groups should retain the liberty of determining the level of detail to be provide in respect of any subsection, bearing in mind resolution 2.

Resolution 5: Level of Detail

It is resolved that presentational material developed by Working Group 4 regarding the pyramid level of detail and normative/informative nature of the contents and their potential uses should be written up as an informative annex and incorporated in both documents.

The Working Groups accepted the offer of the Netherlands (Snaterse) to provide this material.

Resolution 6: Titles

It was resolved that the Titles of the Working Group documents should be parallel, and as follows:

Service activities relating to drinking water and sewerage – Guidelines for the management and assessment of drinking water services.

Service activities relating to drinking water and sewerage – Guidelines for the management and assessment of wastewater services.

Resolution 7: Former Section 1 - Scope of document

It is resolved that Working Group 4 scope would refer to wastewater **services** (instead of systems).

It is resolved that Working Group 3 should revise their scope to introduce the concept of stand-alone / on-site drinking water systems.

It is resolved that Working Group 3 considers whether or not to revise their scope to include the exclusionary paragraphs of Working Group 4.

Resolution 8: Former Table of Contents - Sludges

It is resolved that Working Group 4 should consider how sewerage sludge could be separately identified in the Table of Contents of the Working Group 4 Document.

Resolution 9: Former Section 4 - Components of a System

It is resolved that the section addressing “components of a system” should describe the physical, infrastructural components of water and wastewater systems.

It is resolved that Working Group 3 should remove the word “service” from the title of this section.

Resolution 10: Former Section 5 - Management Components of a Service

The Joint Group noted that following the Ottawa meeting, sections 5 and 7 of the respective drafts became mixed between the two Working Groups.

It is resolved that Working Group 4 would re-draft former section 5, Management components of a system, to reflect the wording and contents appearing in the Working Group 3 document. The titles would read, respectively: Management components of [drinking water][wastewater] services.

Resolution 11: Former Section 5.1 – General Requirements

It was resolved that the general introductory sub-section in former section 5 should not make reference to integrated management systems, as this is addressed in the Introduction and in Section 7.

Resolution 12: Former Section 6 – Title

It is resolved that the title of Section 6 should be revised to read “Objectives for the management of [drinking water] [wastewater] services”.

Resolution 13: Former Section 6 – 6.1 General

It is resolved that both texts should have a common “general” section providing in addition to the present Working Group 3 texts, reference to the expectation that the objectives would also be applicable to stand-alone / on-site systems.

Note: This expectation also applies to Service Assessment Criteria and Performance Indicators.

Resolution 14: Former Section 6 – Remaining sections

It is resolved that the provisions of Working Group 4 text should be restructured and re-written to follow the outline and style of Working Group 3.

It is further resolved that the sub-sections should reflect the elements of water and wastewater services, and it is not expected that the sub-sections should be identical.

Resolution 15: Former Section 7 – Requirements for the management of a service

It is resolved that the section titles of the two documents should be consistent with the new Table of Contents (resolution 2).

Resolution 16: Former Section 7.1 – General Requirements

It is resolved that this section should have a requirement to implement the concept of the Plan-Do-Check-Act management cycle.

Resolution 17: Former Section 7 – Requirements Subsections

It is resolved that the sub-sections of Section 7 should follow the pattern for former Section 5.

Resolution 18: New Informative Annex on Institutional Arrangements

It is resolved that a new informative Annex should be created to describe the general institutional arrangements that could exist to reflect responsible public bodies (regulators), service providers, and the customers of the service.

Canada (Ellison) will draft the section.

Resolution 19: Former Section 8 – Service Assessment

It is resolved that the two sections should have the same structure and the title should be Service Assessment Criteria.

Resolution 20: Former Section 8 – Service Assessment

It is resolved that the contents of Section 8 will provide as an example, One Objective and a consequential set of Possible Service Assessment Criteria with the other examples being shown in an Annex.

The format of Working Group 3 will be the model, but will show only one objective.

The schematic from the Marrakech WG 3 presentation outlining the relationship between service objectives , actions to take, service assessment criteria and related performance indicators as amended should be introduced into the introduction and repeated in this section.

Resolution 21: Former Section 9 – Performance Indicators

The text of Section 9 is to comprise two parts: the first being the development methodology being supplied by the other group and the second being an example in the form of Working Group 3, showing one Objective, Possible Service Assessment Criteria and Possible Related Performance Indicators.

The other examples would be shown in an informative Annex.

Resolution 22: Next Steps

It is resolved that the next steps will include the production of:

1. A **formal combined text** (in a side-by-side format) showing the current drafts of the two Working Groups,
2. An **informal combined draft** reflecting the resolutions of the joint Working Group meeting in Morocco,

and that the **formal combined text** and the **informal combined draft** will be circulated prior to January 1, in readiness for a future joint meeting of the two Groups.

The Netherlands (Snaterse and Derwort), the United Kingdom (Horsman) and France (Olivier) agreed to undertake this work.

Annex 3 : Proposals from the workshop Developing countries - Rabat

Proposal from Developing Countries for minutes of the TC meeting: To have a final decision on the normative or informative characters of the PI and their location (in the norm or in an annex). Developing Countries suggest to put the PI in an informative annex

Proposal from DC for minutes: To have the TC pursue the resolution taken in Daejeon to support the development of training agreements, advice services, twinning, bursaries and financial support for the participation of developing countries.

Introduction

Proposal from DC for minutes: Add after paragraph 8 “The object of the standard is not to constitute referential to certificate service activities but to give guidelines to improve the management of the services”

Proposal from DC for minutes: Add after Paragraph 10 “the standard constitutes a privileged tool to improve services and must not necessarily be fully applied. Efforts could be focused on this choice, on the implementation of one of its parts or fully”

Proposal from DC for minutes: In paragraph 10, after the word “needs” add “based on survey of water demand”

Proposal from DC for minutes: Add after 13 : “This Standard must not constitute a prerequisite or a conditionality to the Implementation of policy or infrastructure financing”

Proposal from DC for minutes: For some specifics kind of services, kind of users must be precised and PI adapted, by the “Developing Countries” Working Group

Proposal from DC for minutes: Add “The users expects may be impossible to meet due to the climate conditions and their effects on the resources availability, and to the difficulties to reach the economic equilibrium of the service, particularly in relation to the projects financing and the users capacity of payment. Those conditions may restrict the use of some provisions of the standard in developing countries”.

Proposal from DC for minutes for the 3 WGs: Describe the methodology of the elaboration of PI, put in informative annex examples of calculation and implementation of some PIs particularly for the stand-alone system.

Proposal from DC about WG 4 for minutes: Rewrite chapters 4, 6 and 7, as made in WG2 and WG3 drafts.

Proposal from DC for minutes: Clarify the difference between ISO 14000, ISO 9000 and this standard.