

**JOINT WMO-IOC TECHNICAL COMMISSION
FOR OCEANOGRAPHY AND MARINE
METEOROLOGY (JCOMM)**

Submitted by: **JCOMM-4/Doc. 8.4**
WMO Secretary-General
and UNESCO/IOC
Executive Secretary

FOURTH SESSION

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QUALITY MANAGEMENT**SUMMARY****ISSUES TO BE DISCUSSED:**

1. Future development of Quality Management System for marine meteorological and oceanographic services;
2. Development of competency requirements for marine meteorological and oceanographic personnel.

DECISIONS/ACTIONS REQUIRED:

The Commission is requested to:

- (a) Request the Management Committee to:
 - continue coordinate Commission's activities on Quality Management System (QMS), through its Activity Leader on QMS;
 - maintain liaison with the WMO Task Team on Quality Management Systems Implementation,
 - establish a small *ad hoc* task team chaired by the Activity Leader on QMS, to prepare a draft of internationally acceptable competencies focusing on the competency requirements for a Quality Management Framework (QMF) for marine meteorological and oceanographic services,
- (b) Request the Management Committee and the Services and Forecasting Systems Coordination Group (SCG) to continue to be kept closely informed on the implementation of a QMS pilot project by the Australian Bureau of Meteorology, to assist other countries to implement their own QMSs for met-ocean services,
- (c) Request Members / Member States to:
 - actively share experiences for the establishment of best practices for enhancing the development and implementation of a QMS,
 - apply the developed framework of practice described in a *Practical Guide for the Implementation of Quality Management System for National Meteorological and Hydrological Services*, for the implementation of the QMS,
 - consider undertaking another Demonstration Project on QM exercise for marine meteorological and oceanographic services, in coordination with the Activity Leader on QMS and SCG;
- (d) Recommend JCOMM to discuss with the International Maritime Organization (IMO) possible future working arrangements to develop QMS requirements for marine meteorological and oceanographic services, in consultation with the WMO Commission for Aeronautical Meteorology (CAeM);
- (e) Approve the draft text for inclusion in the general summary of JCOMM-4 given in Appendix A;
- (f) Adopt draft Recommendation 8.4/1 (JCOMM-4) – Quality Management Implementation for JCOMM given in Appendix B.

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APPENDIX A: DRAFT TEXT FOR INCLUSION IN THE GENERAL SUMMARY OF JCOMM-4

8.4 QUALITY MANAGEMENT (*agenda item 8.4*)

8.4.1 The Commission recognized that quality management issues related to instruments, observations and data management were discussed at the session under the relevant agenda items. It agreed that the JCOMM should continue to encourage a quality management approach to the delivery of met-ocean data, products and services, and requested the Management Committee to coordinate the related intersessional activities. To continue to deal effectively with quality management, the Commission decided to maintain one of its Management Committee members as Activity Leader for the issue. Action in this regard is taken under Agenda Item 12.4.

8.4.2 The Commission considered that the adoption of a quality management approach would: assist the efficient and effective management and operation of a Service; assist Members / Member States in adopting good management practices; and, enhance user confidence in the quality of data, products and services backed by a quality management framework.

8.4.3 The Commission noted that Members/Member States had to comply with national and regional policies, and that the implementation of a QMS was both customer-driven and country-specific. The Commission further noted that a number of Members/Member States have undergone ISO 9001 certification processes, and that the WMO Resolution 26 (Cg-XVI) invited Members with a well-developed QMS in place to share experiences, expertise and documentation with other Members currently developing or planning such systems. In this context, the Commission urged Members / Member States to actively share experiences for the establishment of best practices for enhancing the development and implementation of a QMS.

8.4.4 The Commission noted that the working arrangements between WMO and the International Civil Aviation Organization (ICAO) had been a driver for the coordination of the implementation of the QMS for aeronautical meteorology by the Commission for Aeronautical Meteorology. It considered that the International Maritime Organization (IMO) would have an interest in the development of the QMS requirements for marine meteorological and oceanographic services, and therefore suggested that JCOMM, on behalf of WMO, discuss with IMO future directions and strategy related to this matter. It further suggested that, in relation to this process it consult with the WMO Commission for Aeronautical Meteorology (CAeM) as necessary.

8.4.5 The Commission noted with interest the work of a WMO Task Team on Quality Management Systems Implementation to promote, oversee and guide the further implementation of the Quality Management Framework. The Commission recognized that this Task Team could provide valuable support to JCOMM in implementing its own work in QMS, and requested the Management Committee, through the Activity Leader on QMS, to maintain close liaison with the Task Team (which is chaired by the Activity Leader).

8.4.6 The Commission noted with appreciation that the Australian Bureau of Meteorology was continuing to implement a QMS pilot project on behalf of JCOMM to achieve certification of compliance with the AS/NZS ISO 9001:2008 Quality Management Standard for the delivery of marine weather, tsunami warning and ocean services. The Commission agreed that this continued to be an important project and requested that the Management Committee and the Services and Forecasting Systems Coordination Group (SCG) continue to be kept informed on progress, with a view to using the results as a pilot, to assist other countries to implement their own QMSs for met-ocean services. The Commission recommended that demonstration projects leading to the implementation of QMSs for marine meteorological and oceanographic services be carried out, particularly in developing countries, and encouraged interested Members / Member States to undertake such projects in coordination with the Activity Leader on QMS and SCG.

8.4.7 The Commission noted with satisfaction that a new WMO Quality Management web site hosted by the Australian Bureau of Meteorology had been launched at http://www.bom.gov.au/wmo/quality_management/index.shtml. The web site also provided access to the WMO QM Forum where issues of best practice and benchmarking could be shared amongst Members. The Commission noted with satisfaction that *A Practical Guide for the Implementation of Quality Management System for National Meteorological and Hydrological Services* (also available on the above-mentioned website and to be translated in six official languages), a result of the QMS pilot project on behalf of JCOMM, was a valuable resource for the adoption of a quality management approach to the delivery of met-ocean data, services and products. It therefore encouraged Members / Member States to apply the developed framework of practice described in the new *QM Guide* for the development and implementation of the QMS.

8.4.8 Whilst it encouraged Members/Member States to implement, where possible, a QMS following as far as possible the ISO 9000 quality management standards, the Commission recognized that the key element in implementation of the QMS for marine meteorological and oceanographic service was the capacity development and associated training. The Commission noted the decision by the WMO Congress at its 16th session (2011) that all Technical Commissions make this a high priority activity and follow the model developed by the WMO Commission for Aeronautical Meteorology (CAeM). A key part of the implementation of this model in the marine sector will be the development of competency requirements for personnel in marine meteorological and oceanographic agencies. To pursue this work during the intersessional period, the Commission decided to establish a small ad hoc task team chaired by the Activity Leader on QMS. The Commission requested this team to prepare and submit to the Management Committee a draft of an internationally acceptable competency framework focusing on the competency requirements for marine meteorological and oceanographic services. The competency framework should be consistent with the Commission's Quality Management Framework (QMF) and be based on the model used in CAeM and other related Frameworks such as "Knowledge and Skill Guidelines for Marine Science and Technology" developed by US Marine Advanced Technology Education. Trials of the draft competency framework should be carried out in conjunction with one of the QMS pilot projects. The Commission further noted that the developed standards and related material should be used to update the part IV of the WMO-No. 558 (Training in the Field of Marine Meteorology), and to develop education and training programmes to meet competency based requirements for marine meteorology and oceanography [see also item 9].

8.4.9 The Commission adopted Recommendation 8.4/1 (JCOMM-4) – Quality Management Implementation for JCOMM.

REFERENCES FOR DOC. 8.4 (Not to be included in the final Meeting Report):

1. Abridged Final Report with Resolutions of the Sixteenth World Meteorological Congress (WMO-No. 1077)
2. Abridged Final Reports with Resolutions of the Sixty-second (WMO-No. 1059) and Sixty-third Sessions (WMO-No. 1078) of the WMO Executive Council
3. Abridged Final Reports with Resolutions and Recommendations of the First (WMO-No. 931), Second (WMO-No. 995) and Third (WMO-No. 1049) Sessions of JCOMM
4. Final Reports of the Eighth (JCOMM/MR-No.83) and Ninth (JCOMM/MR-No. 88) Sessions of the JCOMM Management Committee
7. Final Reports of the Fifth (JCOMM/MR-No.76) and Sixth (JCOMM/MR-No.89) Sessions of the Services and Forecasting Systems Coordination Group
8. **JCOMM-4/BM 8.4:** WMO Quality Management and Development of Competency Requirements of Meteorological Personnel.

APPENDIX B: DRAFT RECOMMENDATION

Rec. 8.4/1 (JCOMM-4) — Quality Management Implementation for JCOMM

THE JOINT WMO-IOC TECHNICAL COMMISSION FOR OCEANOGRAPHY AND MARINE METEOROLOGY,

Noting:

- (1) Abridged Final Report with Resolutions of the Sixteenth World Meteorological Congress (WMO-No. 1077), paragraphs 4.5.1 to 4.5.11 and 6.2.14 to 6.2.15, particularly Resolution 26 (Cg-XVI) – WMO Quality Management Framework,
- (2) The Abridged Final Report with Resolutions and Recommendations of JCOMM-III (WMO-No. 1049), paragraphs 11.0.1 to 11.2.2 and Recommendation 13 (JCOMM-III) — 8 (JCOMM-III) – Implementation of Quality Management Systems for Met-ocean Information and Warning Service,
- (3) The final report of the ninth session of the JCOMM Management Committee (JCOMM/MR-No. 88),
- (4) The outcomes of the second meeting of WMO Task Team on Quality Management Systems Implementation (29 February – 2 March 2012, Marrakesh, Morocco),

Noting with appreciation the ongoing implementation by the Australian Bureau of Meteorology of a QMS pilot project on behalf of JCOMM, to achieve certification of compliance with the AS/NZS ISO 9001:2008 Quality Management Standard for the delivery of marine weather, tsunami warning and ocean services, including the recent publication of *A Practical Guide for the Implementation of Quality Management System for National Meteorological and Hydrological Services*,

Noting further:

- (1) the working arrangements between the International Organization for Standardization (ISO) and WMO formally adopted on 16 September 2008,
- (2) the working arrangements between WMO and the International Civil Aviation Organization (ICAO), as an example, which recognize the ICAO as the decision-making body on the QMS requirement for meteorological services for aviation,

Recognizing:

- (1) the increasing requirements of a quality management approach for the efficient and effective management and operation of marine meteorological and oceanographic services,
- (2) the value of a Quality Management System (QMS) to assist Members / Member States enhance confidence in the quality of their data, products and services,
- (3) the implementation of a QMS should be user-driven and country-specific,

Recommends:

- (1) Members / Member States to apply the developed framework of practice described in the new *Practical Guide for the Implementation of Quality Management System for National*

Meteorological and Hydrological Services, taking into account the relevant national/regional policies,

- (2) Members / Member States with a well-developed QMS in place to share experiences, expertise and documentation with other Members currently developing or planning such systems;
- (3) To discuss with the International Maritime Organization (IMO) possible future working arrangements to develop QMS requirements for marine meteorological and oceanographic services, and to consult, as necessary with the WMO Commission for Aeronautical Meteorology (CAeM) on their experiences in developing such requirements,

Considering further that the key element in implementation of the QMS is the capacity development, particularly through the development and implementation of competence standards for personnel,

Agrees that JCOMM should give high priority to the development of the competency requirements for a Quality Management Framework (QMF) for marine meteorological and oceanographic services, and to supporting associated education and training activities by providing guidance and training material,

Requests the Management Committee to arrange for the development and implementation of internationally acceptable competencies, in cooperation with WMO Task Team on Quality Management,

Recommends Members / Member States to provide in kind and extra-budgetary resources to help achieve these goals,

Requests the Secretary-General of WMO and the Executive Secretary of UNESCO/IOC to support developing guidelines and training material for QMF/QMS for marine meteorological and oceanographic services, based on the developed competence standards.
