WMO QUALITY MANAGEMENT FRAMEWORK

Report to Plenary on item 4.5

REFERENCE:
Cg-XVI/Doc. 4.5

APPENDICES:
A. Draft text for inclusion in the general summary on item 4.5
B. Draft Resolution 4.5/1 (Cg-XVI) – WMO Quality Management Framework

ACTIONS PROPOSED:

It is recommended that the draft text given in Appendix A be included in the general summary of the work of the session and that the draft resolution in Appendix B be adopted.
4.5 WMO QUALITY MANAGEMENT FRAMEWORK (agenda item 4.5)

Follow-up on EC-LXII decisions and recommendations

4.5.1 Congress agreed with the conclusions by EC-LXII (June 2010), in particular:

(a) That the special emphasis of the WMO on service delivery, including climate services, requires a renewed effort in documenting that all relevant processes from physical measurements in observations to forecasts and warnings issued to all user and customer groups are undertaken within a sound Quality Management (QM) Framework (QMF). In particular, the aviation and marine user communities have, or are, formulating clear requirements for the implementation of quality management systems (QMS) for the delivery of services to them. The full description of this Framework programme can be found in the annex to this paragraph;

(b) To support the recommendation by the Inter-Commission Task Team (ICTT) on QMF to establish a Pilot Project for the development and implementation of a QMS in the WMO Secretariat. Congress believed that such an implementation would send a strong signal of WMO’s commitment to the adoption of a Quality Management (QM) approach whilst also enhancing the Secretariat’s understanding of, and familiarity with quality management principles and practices. The experiences gained in this Pilot Project would directly benefit the implementation of QMS in Members NMHS’s through increased practical expertise in the Secretariat;

(c) On the need for an all-encompassing approach to Quality Management. Congress noted with satisfaction the ongoing commitment of the Aeronautical Meteorology Programme (AMP) and the initiatives being undertaken by the Marine Meteorology and Oceanography Programme (MMOP), and the Hydrology and Water Resources Programme (HWRP) in this regard, as well as the inclusion of QM in the WMO Information System (WIS) and WMO Integrated Global Observing System (WIGOS) concepts;

(d) On the need for effective and economical use of existing QMS guidance. In this respect, Congress appreciated the updating of the WMO-No. 1001 “Guide on the Quality Management System for the Provision of Meteorological Services for International Aviation” and progress made in producing a generic “Guide on the Adoption of a Quality Management Approach to the Delivery of NMHS Services” that is fit for purpose of all WMO Programmes with additional sections that include, but are not restricted to:

(i) Selecting a QM consultant (if required);

(ii) Developing and producing a quality manual;

(iii) Selecting and developing appropriate staff as internal auditors;

(iv) Developing procedures and conducting internal audits; and,

(v) Selecting an organization to perform the International Standardization Organization (ISO) certification.
4.5.2 Congress recognized that the diversity in size and operational complexity of Members’ National Meteorological and Hydrological Services (NMHSs), including many Small Island Developing States (SIDS) and some Least Developed Countries (LDCs), will require a cooperative and mutually supportive approach to the implementation of a QMS. Congress strongly supported the EC-LXII recommendation to the ICTT to identify and obtain a commitment from Members operating a well developed QMS to form twinning partnerships with Members currently planning or developing a QMS. This is addressed in greater detail under paragraph 4.5.8. Congress noted with appreciation the support from the Finnish Government for QMS training in the Small Island Developing States (SIDS) in Pacific and Caribbean areas as well as training organized in SADC countries in Southern Africa. These projects can be seen as a practical and highly successful example of twinning style cooperation.

4.5.3 Congress noted with appreciation the progress achieved in the updating, modernizing and transformation of the QMF Website (http://www.wmo.int/pages/prog/amp/QMF-Web/home.html) into an interactive tool for Members. This initiative will greatly facilitate the exchange of existing resource material, such as documentation examples, templates, sample Quality Objectives and suitable contents for Quality Manuals. It therefore requested the Secretary-General to continue along this path and keep Members informed of milestones achieved and measures of usage and benefits of this Website. Congress agreed that each NMHS should make efforts to improve its service, e.g., through the implementation of the Plan-Do-Check-Action (PDCA) cycle in the QMS. Congress further agreed that Members should strike a balance between the resources invested in the introduction of QMS and those to be put to work to improve the quality of their output, by using QMS as a tool to ensure high quality of services are delivered to the community.

4.5.4 Congress noted with appreciation the progress achieved in developing and updating of the publication of Volume IV of the Technical Regulations (WMO-No. 49): “Quality Management”, and agreed that the series of publications (generic QMS Guidance Document, WMO-No. 49, Technical Regulations, Volume IV, and a sample Quality Manual) would constitute “living documents”, with regularly updated best practice examples and references. Congress commended the efforts of the ICTT-QM and others involved in preparing Volume IV of the Technical Regulations and its recent review (December 2010) and acknowledged the importance of this step in support of the WMO-QMF.

**Establish a Pilot Project for Quality Management System (QMS) implementation in the WMO Secretariat**

4.5.5 Congress debated a number of options for such a Pilot Project that would demonstrate the determination of the Organization to not only support Members in their quest for implementation of a QMS, but to also benefit from the introduction of such a system in the day-to-day running of the Secretariat. Congress strongly supported the introduction of a Quality Management System, while requesting that the implementation of such a system should be done in a simple and un-bureaucratic manner, thus increasing the efficiency of the Secretariat.

4.5.6 Whilst the adoption of the *ISO 9001:2008 Standard for Quality Management Systems* was considered the “gold standard” and preferred option, Congress also debated other options, such as the possibility of implementing the “*ISO 9004:2009 Standard, Managing for the sustained success of an organization – A quality management approach* “as a first step. ISO 9004:2009 provides guidance for the continual improvement of an organization’s overall performance, efficiency and effectiveness based on a process-based approach. It focuses on meeting the needs and expectations of customers and other relevant stakeholders, through a long term balanced approach. It also provides an overarching internationally recognized and accepted management framework that enables an organization to establish the effectiveness or otherwise of its corporate governance and day-to-day activities. Other management approaches such as a QMS based on ISO 9001:2008 in combination with a Balanced Score Card (BSC) management system were also
considered, taking into account different management cultures and corresponding management tools. Congress, after some discussion, considered that a Pilot Project of QMS in the Secretariat would have to:

(a) Complement and enhance the effectiveness of the existing and emerging management systems (Enterprise Risk Management, Results Based Management, and Monitoring and Evaluation) to form a holistic, coherent and thus resource-effective system;

(b) Encompass some of the typical service delivery areas, e.g., PWS, but may also be extended to administrative and support units;

(c) Demonstrate through a business case that its application would result in a net benefit for Members by reducing overheads and inefficiencies.

4.5.7 Congress thus requested the Secretary-General, in whose remit the organization of the Secretariat falls, to undertake a gap analysis with help of Member’s experts in QMS and present a business case to EC-LXIV for the implementation of a QMS Pilot Project.

Establishing a “QM Twinning Partnership” Framework

4.5.8 Congress agreed that such a framework would link Members who are currently ISO 9001:2008 certified with Members commencing the development and implementation of a QMS based approach to the delivery of services. Congress identified the following strategies as the most promising to achieve the widest possible implementation of QMS among Members:

(a) Identify Members in each Region commencing or contemplating adopting a QM approach and who would welcome a twinning partnership approach;

(b) Identify suitable Members with a well-developed QMS preferably within the Region prepared to enter into a twinning partnership;

(c) Develop a comprehensive protocol for engagement of partners;

(d) Establish a set of criteria including qualifications for personnel offering assistance and guidance to other Members;

(e) Building on the extensive training, that has been delivered in close cooperation with ICAO and Members, undertake an initial gap analysis. This analysis could potentially utilize the Self-Assessment Tool component of the ISO 9004:2008 “Managing for the sustained success of an organization - A quality management approach” international standard or a comparison of goals and status in the framework of other management approaches based on strategic planning and controlling;

(f) Identify the budget and associated resources to implement the programme and secure funding;

(g) Establish an implementation schedule for the “QM Twinning Programme” and implement.

Additional Strategies in QMF

*Monitoring the implementation and ongoing development of the QMF*
4.5.9 Congress noted that the ICTT – QMF has operated for the past five years developing the WMO – QMF and enhancing the profile of QM within the WMO community. Congress recognized that future development, monitoring and review of the QMF requires enhanced input from experienced QMS practitioners. Congress thus requested the Executive Council to establish a small Executive Council Panel of Experts consisting of appropriately qualified QMS practitioners selected from Members and supported by the Secretariat.

**Quality Management Services Provider Register**

4.5.10 Congress noted that one of the significant concerns of implementing a QMS and achieving compliance with ISO 9001:2008, is the associated costs that can be largely attributed to consultancy fees. Congress thus discussed and supported the notion of creating a QM Services Provider Register which would be available to all Members. This should provide a comprehensive list by WMO Region of:

(a) Quality management consultants;

(b) Quality management training organizations;

(c) ISO 9001 Quality management certification bodies that comply with ISO/EC 17021:2006 Conformity assessment - requirements for bodies providing audit and certification of management systems and can demonstrate a positive track record in assisting Member NMHSs in developing and implementing QMS.

Such a Register would be established by the members of the EC Panel of Experts on QMF and built upon collective experiences of Members having gone through the implementation and certification process.

**Continued improvement of the WMO QMF Website**

4.5.11 Congress noted with appreciation the considerable support from the Australian Bureau of Meteorology (BoM), who had kindly provided the necessary expertise and human resources to re-build a new, interactive and user-friendly QMF Website for the WMO Secretariat, and encouraged all Members to make any of their guidance, best practice examples and know-how that would be suitable for inclusion in this site available for the wider community. The website will incorporate contributions from the different WMO Programmes and technical commissions as they become available, and provide useful guidance for their implementation activities.

4.5.12 Congress, after some discussion, adopted Resolution 4.5/1 on the WMO Quality Management Framework.
Annex to paragraph 4.5.1 of the general summary

1. PURPOSE AND SCOPE

WMO has encouraged Member NMHSs to implement an end-to-end Quality Management System (QMS) covering all activities from raw measurements and observations to services delivered to end users. To this end, the WMO Secretariat has developed a Quality Management Framework (QMF) and has tasked an Inter-Commission Task Team (ICTT) with the development and implementation of this Framework for National Meteorological Services (NMSs) to address:

(a) WMO technical standards;
(b) Quality management system(s) including quality control; and,
(c) Certification procedure(s).

The WMO Quality Management Framework is an appropriate holistic approach to the delivery of meteorological, climatological, hydrological, marine and related environmental data, products and services.

The aim of the WMO Quality Management Framework is to ensure the development, use and maintenance of the WMO technical documentation, supporting quality management systems for meteorological, climatological, hydrological, marine and related environmental data, products and services.

It consists of the following key elements:

(a) A WMO quality policy;
(b) Objectives aligned with the WMO Strategic Plan; and,
(c) Technical documentation and the procedures relevant to their development, review and adoption.

2. STRUCTURE AND GOVERNANCE

The Inter-Commission Task Team on QMF (ICTT-QMF) reports to the Executive Council and is currently chaired by M. Yap Kok Seng (Malaysia). Within the WMO Secretariat, the Chief of the Aeronautical Meteorology Division (C/AEM) is the officer in charge of QMS, whereas the Director of the Observing and Information Systems Department (D/OBS) is in charge of the relationship to ISO and matters of Technical Standards.

3. COOPERATION WITH AND IMPLEMENTATION BY TECHNICAL COMMISSIONS

All technical commissions have nominated experts as a minimum, or expert/working groups to interact with the ICTT-QMF. In particular, the following technical commissions are active in implementing QMS for data, products and services:

(a) CAeM has successfully completed a Pilot Project for the implementation of QMS in a developing country (United Republic of Tanzania) for services to aviation (see item 11.7);
(b) JCOMM is actively taking steps to implement a QMS for MET-OCEAN data, products and services (Recommendation 8 (JCOMM-III) refers). It was noted that the Australian Bureau of Meteorology has commenced the development and implementation of a QMS for the delivery of Marine Weather and Ocean Services as a pilot project on behalf of JCOMM;

(c) CBS has decided that QMS must be an integral part of the WIGOS, and that it would form a core component of the service-oriented parts of the Commission such as PWS or GDPFS;

(d) CHy has chosen both standardization of measurements and observations and the status of regulatory documents as priority areas of their QMS initiatives;

(e) CIMO has taken a lead in developing new Technical Standards in cooperation with ISO. The instruments and methods of observation used form the essential basis for QMS on the data input for all WMO Programmes and activities;

(f) CCI has taken the decision to apply QMS to climate observations, data exchange, data base and service delivery, publications, capacity-building and research;

(g) CAS has chosen its GAW Programme as a lead for QMS; and,

(h) CAgM has nominated a Rapporteur for QMS.
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THE CONGRESS,

Noting the increasingly high impact of weather, water and climate information on crucial societal decision making processes,

Noting further the increased scrutiny of the quality, reliability and accuracy of weather, water and climate products and services by critical stakeholders,

Having considered recent developments in some application areas such as aviation or marine meteorology, where partner organizations are mandating the implementation of QMS for services to them,

Recognizing the high importance of the working arrangements between WMO and ISO including the recognition of WMO as a Standardizing Organization for Technical Standards, a rare distinction given only to three organizations worldwide,

Recommends a full integration of the QMF into the wider WMO Strategic and Operational Planning process as part of a holistic management system encompassing Quality Management, Risk Management, Results-based Management as well as Monitoring and Evaluation;

Invites Members with a well-developed QMS in place to share experiences, expertise and documentation with other Members currently developing or planning such systems;

Agrees with the conclusions of the Inter-Commission Task Team on Quality Management Framework (ICTT-QMF) and the Executive Council concerning the need for a twinning partnership system;

Requests the Executive Council to establish an appropriate mechanism with the task to promote, oversee and guide the further implementation of the Quality Management Framework;

Requests the Secretary-General, in cooperation with this EC Panel of Experts, to undertake an in-depth Gap Analysis of the WMO Secretariat in terms of QMS with a view of developing a business case for a Pilot Project of QMS implementation;

Urges the technical commissions to explore opportunities to develop new common Technical Standards under the Working Arrangements between ISO and WMO;

Encourages Members to provide in-kind and extrabudgetary resources to help achieve these goals; and

Further encourages Members to subject their QMS to regular monitoring and evaluation to ensure sustained compliance with ISO 9001:2008

Note: This resolution replaces Resolution 32 (Cg-XV), which is no longer in force.