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| **World Meteorological Organization**  **Commission for Instruments and Methods of Observation OPAG on Remote-Sensing Technologies**  **Inter-Programme Expert Team on Operational Weather Radars** Tokyo, Japan, 13-16 March 2017 | **CIMO/OPAG-RST/IPET-OWR-1/Doc. 2.2(2)** |
| Submitted by: [the Secretariat]  28.Feb.2017  **[DRAFT 1]** |

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# IPET-OWR in the WIGOS Context

### SUMMARY

This document provides information on the Terms of Reference and work plan activities in the context of WIGOS.

### DECISIONS/ACTIONS REQUIRED: see part 1

### REFERENCES:

1. IPET-OWR Terms of Reference: <http://www.wmo.int/pages/prog/www/CBS/Lists_WorkGroups/CIMO/opag%20rsnt/ipet-owr/tors>
2. IPET-OWR Draft Work Plan ([Doc 5.1](http://www.wmo.int/pages/prog/www/IMOP/meetings/IPET-OWR-1/CIMO_IPET-OWR-1_5.1_DraftWorkPlan.docx))
3. [Guide to Instruments and Methods of Observation, WMO No. 8](http://www.wmo.int/pages/prog/www/IMOP/CIMO-Guide.html), Part II, Chapter 7
4. 1st Session of ICG-WIGOS Task Team on WIGOS Data Quality Monitoring System (TT-WDQMS-1), 13-15 December 2016, Geneva, Switzerland – [Document Plan](http://www.wmo.int/pages/prog/www/WIGOS-WIS/meetings/TT-WDQMS-1/TT-WDQMS-1.html)

### ANNEXES:

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1. **DECISIONS/ACTIONS REQUIRED**

**The IPET-OWR is invited to decide on the following**:

1. How it might best contribute to the development and implementation of WIGOS metadata activities in line with ICG-WIGOS and the PWPP (***who; deadline*** );
2. How it might best contribute to the development of WIGOS guidance materials in line with ICG-WIGOS and the PWPP (***who; deadline*** );
3. Whether activities relating to the development of the OWR component of the WIGOS Data Quality Monitoring System should be considered in the work plan (***who; deadline*** ).

**2. Background Information on WIGOS**

Seventeenth World Meteorological Congress (Geneva, 25 May - 12 June 2015) decided that the development of WIGOS will continue during its Pre-Operational Phase in the seventeenth financial period (2016-2019) building upon and adding to those key building blocks of the WIGOS Framework that have already been implemented, while shifting the emphasis from the global level toward implementation activities at the regional and national levels. The goal is to have Members and their partners benefit from a fully operational system from 2020.

The highest priorities for the WIGOS Pre-operational Phase will be: (a) National WIGOS implementation; (b) WIGOS Regulatory Material complemented with necessary guidance material to assist Members with the implementation of the WIGOS technical regulations; (c) Further development of the WIGOS Information Resource (WIR), with special emphasis on the operational deployment of the OSCAR databases; (d) Development and implementation of the WIGOS Data Quality Monitoring System; (e) Concept development and initial establishment of Regional WIGOS Centres.

The need to enhance existing observing networks and systems through integrated efforts of NMHSs and their partners was recognized, too. Particular attention should be given to the sustainability of observing systems at the national level, especially in less and least developed countries. Members were urged to follow the Observing Network Design principles specified in the *Manual on WIGOS* when designing and implementing their observing networks.

Congress approved Volume I, Part I – WIGOS, of the WMO *Technical Regulations* (WMO-No. 49) and its Annex - M*anual on WIGOS*, with effect from 1 July 2016. Congress recognized the urgent need for accelerating the development of corresponding WIGOS guidelines and guidance material to facilitate the implementation of WIGOS technical regulations as specified in Volume I, Part I and the *Manual on WIGOS* by Members. In order to assist Members to implement WIGOS regulations, Congress requested the Secretary-General to develop and publish a set of guidelines incorporated in an initial *Guide to WIGOS* to be provided to WMO Members by 1 July 2016, to be progressively revised and enhanced through the WIGOS Pre-operational Phase.

Congress further requestedthe technical commissions:

(1) To develop technical guidelines and related guidance material incorporated in the Guide to WIGOS, to assist Members in implementing and operating their observing networks and systems in accordance with the WMO Technical Regulations (WMO-No. 49);

(2) To develop, in collaboration with partner organizations and programmes, technical standards to support WIGOS and propose as needed related updates to the WIGOS regulatory material;

(3) To provide technical expertise, assistance and advice to Members and the regional associations on WIGOS;

(4) To continue to provide the technical lead for WIGOS through the Commission for Basic Systems (CBS) and the Commission for Instruments and Methods of Observation (CIMO);

Congress further called on technical commissions: (a) to complement their regulatory material with necessary guidance material to assist Members with the implementation of the Technical Regulations; (b) to monitor compliance through system performance/monitoring mechanisms (such as WIS monitoring and performance mechanism and WIGOS Data Quality Monitoring System, as part of the WMO Monitoring and Evaluation System); (c) to provide related technical expertise, assistance and advice to Members and the regional associations; and (d) to perform regular reviews of the compliance of specialized centres.

The Fifth Session of the Inter-Commission Coordination Group on the WMO Integrated Global Observing System (ICG-WIGOS-5) (Geneva, Switzerland, from 25 to 28 January 2016) reviewed the progress towards the implementation of WIGOS achieved by the Technical Commissions (TCs) and the Regional Associations (RAs). Further, it reviewed outcomes from ICG-WIGOS Task Team meetings, and WIGOS-relevant workshops.

ICG-WIGOS further discussed the progress made in the five key priority areas established by Cg-17 for the WIGOS Pre-operational Phase (2016-2019) (Item 5) and formulated its recommendations on a further elaboration of the draft Plan for the WIGOS Pre-operational Phase (PWPP) to be submitted to EC-68 for approval (Item 7).

The draft Plan for the WIGOS Pre-operational Phase (PWPP) has been finalized and approved by EC-68 (2016).

**3. CIMO and IPET-OWR Contribution to WIGOS Activities**

Given the fact that IPET-OWR is an Inter-Programme team, dealing with an observing system that clearly must meet the requirements of a wide community and set of applications areas, it is clear that the work plan of the IPET should focus on ensuring that the operation of the global weather radar network is well integrated into the developing WIGOS framework. This will ensure that user requirements for data availability, inter-operability and other important aspects of observing system operation are developed and implemented. This is well reflected in the team’s Terms of Reference (Reference 1), which begin with the introductory clause “Within the WIGOS framework…”.

**Contribution to the Development of OSCAR and WIGOS Metadata**

It will be critical to WIGOS development during the Pre-Operational Phase, that the various relevant teams of CBS and CIMO contribute to the development of the WIGOS Information Resource, OSCAR and the implementation of the WIGOS Metadata Standard. This will include the development, implementation and maintenance of the databases supporting metadata requirements for observing system sites and instruments and also the development of supporting regulations and guidance.

In particular, WIGOS metadata about weather radars shall be submitted by Members to OSCAR via the WMO Weather Radar Database (<http://wrd.mgm.gov.tr/>) and WIGOS metadata about marine meteorological and oceanographic observing systems shall be submitted via JCOMMOPS.

IPET-OWR is invited to consider how it might contribute to the development and implementation of WIGOS metadata in line with ICG-WIGOS and the PWPP.

**Contribution to Development of Guidance Material for OWR**

Development of guidance for OWR is already advanced and the Guide to Instruments and Methods of Observation, WMO No. 8 should continue to be the focus for provision of guidance on radar system operation, however there are many areas of the observing system operation where Members are expressing a requirement for additional or improved guidance, including in the areas of radar installation and maintenance, networking, calibration, data processing, data exchange and data integration.

The IPET work plan is already strongly focussed on the development of new guidance and the session will consider particular aspects under agenda items 3.2, 4 and 5.

IPET-OWR is invited to consider how it might contribute to the development and implementation of additional guidance for OWR and how it can best be structured and incorporated into the technical material of WIGOS, the World Weather Watch Programme (Manual and Guide to the GOS) and the CIMO Guide.

**Development of a WIGOS Data Quality Monitoring System for OWR**

Under ICG-WIGOS, the Task Team on the WIGOS Data Quality Monitoring System (WDQMS) is developing a framework for international, regional and global monitoring and quality analysis for WIGOS observing systems. While this is perhaps a less urgent aspect for OWR currently, and the development of a framework for international data exchange is the higher priority, the IPET might like to consider how this aspect might be developed in the future.

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[Annex(es): xxx](#_Annex_to_Draft)

## Annex 1

### TITLE

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