

**JOINT WMO-IOC TECHNICAL COMMISSION
FOR OCEANOGRAPHY AND MARINE
METEOROLOGY (JCOMM)****JCOMM-4/Doc. 8.3**
Submitted by: WMO Secretary-General
and UNESCO/IOC
Executive Secretary**FOURTH SESSION**Yeosu, Republic of Korea,
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Agenda Item: **8.3**
Status: **DRAFT 1****SAFETY-RELATED MARINE METEOROLOGICAL SERVICES****SUMMARY****ISSUES TO BE DISCUSSED:**

1. Outcome of the work of the SFSPA regarding the maritime safety services
2. Future development of JCOMM/SFSPA activities, including the work programme and tasks

DECISIONS/ACTIONS REQUIRED:

The Commission is requested to:

- (a) Adopt:
 - specifications for ice information in SafetyNET bulletins prepared by ETSI;
 - the list of abbreviations for ice information to be used in NAVTEX bulletins;
- (b) Request the WMO Secretary-General and IOC Executive Secretary to:
 - include the list of abbreviations for ice information to be used in NAVTEX bulletins in the list of abbreviations in the Guide on Marine Meteorological Services (WMO-No.471);
- (c) Request the Expert Team on Maritime Safety Services (ETMSS) to:
 - continue working with IHO and IMO to update the joint Manual on MSI and IMO Resolution A.705(17);
 - conduct surveys more often (ie, every 2 years) with the support of the Issuing Services;
 - explore issuing MSI in text format that can be displayed on ENC systems;
 - contribute to the concept of e-Navigation, and the ongoing review of the GMDSS;
 - interact with IHO to identify possible measures to provide appropriate navigational warnings for mariners of severe solar magnetic storms;
- (d) Request the Expert Team on Sea Ice (ETSI) to:
 - maintain and extend as appropriate WMO sea ice technical documentation of which the list is indicated in the paragraph 8.3.4 of Appendix A;
- (e) Request ETMSS and ETSI to jointly:
 - develop the MPERSS system, as it applies in the Arctic, beyond the minimum requirements during the next intersessional period
- (f) Approve the draft text for inclusion in the general summary of JCOMM-4 given in Appendix A;
- (g) Adopt draft Recommendation 8.3/1 (JCOMM-4) – Enhancement of Capability for Marine Environmental Emergencies given in Appendix B.

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

8.3 SAFETY-RELATED MARINE METEOROLOGICAL SERVICES (*agenda item 8.3*)

8.3.1. The Commission adopted the specifications for ice information in SafetyNET bulletins prepared by ETSI, including the definition of ice-edge and the common set of Sub-Areas agreed by Preparation Services. It requested that the Secretariat update the Manual on Marine Meteorological Services (WMO-No. 558) accordingly. The Commission requested Members/Member States providing MSI in the other METAREAs concerned, especially those covering the Southern Ocean, to follow the agreement of METAREAs XVII-XXI on the exchange and preparation of GMDSS sea ice information. The Commission adopted the list of abbreviations for ice information to be used in NAVTEX bulletins and requested the Secretariat to include it in the list of abbreviations in the Guide on Marine Meteorological Services (WMO-No.471).

8.3.2. The Commission requested that the Secretariat keep the appropriate references to the WWMIWS and to the METAREA Co-ordinators including all the publications on the JCOMM website (<http://www.jcomm.info/GMDSS>). It requested the Expert Team on Maritime Safety Services (ETMSS) to continue working with IHO and IMO to update the joint Manual on MSI and IMO Resolution A.705(17). To facilitate the work of the METAREA Co-ordinators, the Commission urged Members/Member States to disseminate all MSI prepared for GMDSS (i.e. to be broadcast on SafetyNET or International NAVTEX) on the Global Telecommunication System (GTS), and adopted the appropriate amendment to be included in the Manual on Marine Meteorological Services (WMO-No. 558).

8.3.3. The Commission noted that updated versions of both the Manual on Marine Meteorological Services (WMO-No. 558) and the Guide on Marine Meteorological Services (WMO-No. 471) have been prepared to be available online. The Commission adopted several additional changes for the Manual, including the provision of sea ice information, the availability of MSI prepared for the GMDSS on the GTS, and references to the WWMIWS and METAREA Coordinators and the volume II (Regional Aspects). It adopted a change for the Guide in order to include the NAVTEX Ice abbreviations [see agenda item 10].

8.3.4. The Commission anticipated new demands for sea ice standards from the end-users, in connection with the potential International Polar Decade and in the framework of the Global Cryosphere Watch (GCW). It therefore requested ETSI, in cooperation with the International Ice Charting Working Group as a technical forum of ice services, to continue to maintain and extend as appropriate WMO sea ice technical documentation. In particular, this should include “Sea Ice Nomenclature” as the main WMO sea-ice standard, “Sea-Ice Information Services in the World” as extension for Polar Regions of WMO-No. 9, Volume D, “Ice Objects Catalogue” as a joint WMO/IHO standard for ice in the Electronic Chart Display Information System (ECDIS), and new publications such as “Format for Sea Ice Data Assimilation”, “Understanding and Identifying Old Ice in Summer” and “Manual for Ice Experts – Ice Observers”.

8.3.5. The Commission also noted with appreciation the development of the online version of the questionnaire (<http://www.jcomm.info/MMMS>) by the Secretariat, which should enable the dissemination of surveys more frequently to assess the level of satisfaction of end-users. It therefore requested the ETMSS and Secretariat to conduct surveys more often (2 years) with the support of the Issuing Services.

8.3.6. The Commission noted the enrichment of the GMDSS-Weather website (<http://weather.gmdss.org>) including operational and archival SafetyNET ice bulletins in textual and binary (WMO SIGRID-3 format) (<http://gmdss.aari.ru/bull>), the Ice Logistic Portal (

ice.de/IcePortal/index.html), and some of the products prepared for the dissemination by the International NAVTEX service. The Commission noted the challenge for Météo-France to get the appropriate information from Members/Member States required to manage the system. It therefore urged Members/Member States who had not already done so to disseminate all MSI prepared for the GMDSS on the GTS and to provide Météo-France (henri.savina@meteo.fr) with the appropriate metadata.

8.3.7. The Commission re-emphasized the usefulness of graphical products for mariners, and noted that the ETSI have been developing the Sea Ice Objects Catalogue and is engaged in developing the S-1xx version (latest IHO standards) of this catalogue, which includes descriptions of extended set classes, attributes and presentation libraries. The Commission also noted that the ETMSS has initiated the development of a catalogue of Met-Ocean Object Classes and Attributes. The Commission requested that these Teams continue working on the definition of Object Catalogues for the provision of numerical information for mariners, as a set of IHO S-1xx formats. As not all the SOLAS vessels are equipped with ENC's, the Commission requested the continuing broadcast of MSI in text format. The Commission recognized concerns of the Issuing Services on the high telecommunication cost of providing both text and graphical products. Therefore, it encouraged ETMSS to explore issuing MSI in text format that can be displayed on ENC systems.

8.3.8. The Commission emphasized the importance for all NMHSs to implement a Quality Management Framework (QMF) in order to ensure the use of best practices and the improvement of value for mariners. The Commission noted with appreciation the QM training, focused on Internal Audit procedures, provided to Issuing Services by a QM specialist supporting the Australian Bureau of Meteorology during the Maritime Safety Services Enhancement Workshop in May 2010. It further noted with appreciation the "Marine Weather, Tsunami Warning and Ocean Services Quality Manual" as a key document of the QMS that would help to define the roles and responsibilities of the marine meteorological and ocean services [see agenda item 8.4]. Recalling that ISO practices or certificates, although not mandatory at this stage but which may be required in the future by bodies in charge of the coordination of international systems, the Commission encouraged the Members/Member States concerned to implement a Quality Management System (QMS) that includes the provision of Maritime Safety Services.

8.3.9. The Commission also noted the first version of the template for self-assessment reports by Issuing Services or METAREA Co-ordinators prepared by the ETMSS. In order to monitor the WMO contribution to the GMDSS, the Commission therefore requested all Issuing Services/METAREA Co-ordinators to report annually using this template.

8.3.10. Taking into account the work of IMO in developing the concept of e-Navigation, and the ongoing review of the GMDSS, the Commission requested the ETMSS to continue to contribute to these processes.

8.3.11. Noting that volcanic ash floating on the sea surface has the potential to disable a ship's engine through its water intake, the Commission encouraged the ETMSS to develop guidelines for advisories for such events.

8.3.12. The Commission noted that severe solar magnetic storms can disrupt positioning systems, satellite communications and HF radio communications, and therefore might cause severe disturbance in receiving navigation and marine weather information. The Commission noted with concern that the next peak solar activity period (2012-2013) is approaching, and requested ETMSS to interact with IHO to identify possible measures to provide appropriate navigational warnings for mariners.

JCOMM's role in Marine Environmental Accident Responses

8.3.13. The Commission recalled that one of its essential tasks is coordinating the Marine Pollution Emergency Response Support System (MPERSS) as well as maritime search and rescue (SAR) operations, supported by the ETMSS and the Expert Team on Operational Ocean Forecast System (ETOOFS). It also recalled that the current MPERSS capability and framework of the Area Meteorological and Oceanographic Coordinators (AMOCs) focuses on providing tracking for objects adrift (e.g. containers, ships, persons at sea) and forecasts for dispersion of hazardous material spills.

8.3.14. The Commission noted that MPERSS has been extended to the Arctic Ocean with minimum capabilities achieved. It therefore requested ETMSS, ETSI and Arctic METAREA Coordinators to continue to develop the system beyond the minimum requirements during the next intersessional period, taking into account national and international initiatives and projects for the monitoring and forecasting of oil spills.

8.3.15. Considering recent events of marine environmental incidents such as the radioactive material leak at Fukushima, the Commission noted a capability and service gap in MPERSS. The Commission therefore agreed that it should take a proactive role in supporting Members/Member States to respond to marine environmental emergencies. This should include supporting responsible centres to extend their technical capabilities, as well as in providing enhanced coordination for services and information provision.

8.3.16. The Commission endorsed the outline for the JCOMM strategy on developing its work related to a wider range of marine pollution emergencies. It adopted Recommendation 8.3/1 (JCOMM-4) – Enhancement of Capability for Marine Environmental Emergencies. The Commission requested ETMSS, ETOOFS and the Secretariat to develop a full strategy for JCOMM activities in cooperation with IMO, IAEA and other relevant bodies, and to identify and implement actions as appropriate.

REFERENCES FOR DOC. 8.3 (Not to be included in the final Meeting Report):

1. Abridged Final Report with Resolutions of the Sixteenth World Meteorological Congress (WMO-No. 1077) Resolution 24, paragraph number 4.4
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. paragraph number 4.2.46 to 4.2.50
3. Abridged Final Report with Resolutions and Recommendations of the First (WMO-No. 931), Second (WMO-No. 995) and Third (WMO-No. 1049) Sessions of JCOMM:
http://www.jcomm.info/index.php?option=com_oa&task=viewDoclistRecord&doclistID=112
4. Summary Report of the Forty-third (IOC/EC-XLIII) Session of the UNESCO/IOC Executive Council, paragraph number 5.3
5. Summary Report of the Twenty-sixth (IOC-XXVI) Session of the UNESCO/IOC Assembly, paragraph number 6.2
6. Final Reports of the Eighth (JCOMM/MR-No.83) and Ninth (JCOMM/MR-No. 88) Sessions of the JCOMM Management Committee:
http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=639
[7
http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=780](http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=780)
[3](http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=780)

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:
http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=5768
http://www.jcomm.info/index.php?option=com_oa&task=viewDocumentRecord&docID=8248
8. **JCOMM-4/BM. 8:** Report on SFSPA Progress/Achievements

APPENDIX B: DRAFT RECOMMENDATION

Rec. 8.3/1 (JCOMM-4) — Enhancement of Capability for Marine Environmental Emergencies

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

Noting:

- (1) The Guide to Marine Meteorological Services (WMO-No. 471),
- (2) The Abridged Final Report with Resolutions and Recommendations of JCOMM-III (WMO-No. 1049), paragraphs 8.2.8 to 8.2.12 and Recommendation 13 (JCOMM-III) — Amendments to the Marine Accident Emergency,
- (3) The final report of the ninth session of the JCOMM Management Committee (JCOMM/MR-No. 88),
- (4) The final report of the sixth session of the JCOMM Services and Forecasting Systems Programme Area Coordination Group (JCOMM/MR-No. 89),

Considering that:

- (1) One of JCOMM's essential tasks is supporting the Marine Pollution Emergency Response Support System (MPERSS) as well as maritime search and rescue (SAR) operations,
- (2) Operations at sea in response to marine accident emergencies are fundamentally dependent on the support of meteorological and/or oceanographic data, information and services,
- (3) The Expert Team on Maritime Safety Services (ETMSS) and Expert Team on Operational Ocean Forecasting Systems (ETOofs) have been in charge of supporting the MPERSS, in monitoring implementation and operations and in ocean forecasting systems in support of this application area, respectively,

Further noting with concern that the recent nuclear accident at Fukushima had indicated that the current coordination system for MPERSS suffered from a capability and service gap with regard to its ability to respond to marine environmental incidents such as radioactive material discharges,

Recommends that:

- (1) A Strategy for the JCOMM Activities on Marine Environmental Emergencies be developed,
- (2) The direction and contents of this Strategy should include elements as outlined in the Annex to this recommendation,

Requests the ETMSS and ETOofs in cooperation with IMO, IAEA and other relevant bodies, to identify and implement actions to implement the developed Strategy,

Requests Members / Member States to consider making commitment to the resources, directly and/or in-kind, required for planned activities,

Requests the Secretary-General of WMO and the Executive Secretary of UNESCO/IOC to arrange for the development and implementation of the Strategy, in consultation with the co-presidents of JCOMM, and other bodies and organizations as appropriate.

Annex to draft Recommendation 8.3/1 (JCOMM-4)

OUTLINE FOR A STRATEGY FOR THE JCOMM ACTIVITIES ON MARINE ENVIRONMENTAL EMERGENCIES

1 Background

1.1 Consideration on JCOMM's role within the global/international framework:

- International Convention for the Prevention of Pollution from Ships (MARPOL)
- Interaction/cooperation with the International Maritime Organization (IMO) Marine Environment Protection (MEPC) and Maritime Safety Committees (MSC)
- Interaction/cooperation with the International Atomic Energy Agency (IAEA), particularly with its Marine Environmental Studies Laboratory (MESL)
- European Maritime Safety Agency (EMSA)
- ...

1.2 JCOMM activities and roles within WMO-IOC framework

- WMO Emergency Response Activities (ERA) Programme / CBS Coordination Group on Nuclear Emergency Response Activities (coordination for emergency activities for oil spill and burning, radiological accident in marine and coastal zones, etc)
- MPERSS
- IOC's Harmful Algal Bloom (HAB) Programme

2 Emerging issues of marine environmental emergencies

- oil and other noxious substance spills
- accident related to objects (SAR)
- nuclear accidents in marine and coastal zones (after the Fukushima accident)
- other marine environmental hazards (e.g. harmful algal blooms)

3 Strategy for JCOMM on the Marine Environmental Emergency Response

3.1 JCOMM Goals/objectives in this area:

to support NMHS in developing/enhancing capacity to provide a consistent level of met/ocean information and drift information in the event of a range of marine environmental incidents, including;

- spills of oil and other noxious substance
- accidents related to objects (SAR)
- Radioactive material discharges in marine and coastal zones
- other marine environmental hazards (e.g. harmful algal blooms)

to enhance the coordination for JCOMM's basic responsibility to support Marine Accident Emergency Support (MAES), through targeted activities during the intersessional period.

3.2 Strategy

- 3.3.1 MAES should be set as priority for SFSPA and the Commission, in order to develop workplans as cross-PA and cross-programme activities.
- 3.3.2 Post-event analysis of the Fukushima accident identified a capability and service gap for the modelling of radioactive material discharge; in the light of this, there is an opportunity for JCOMM to focus, during the next intersessional period, on enhancing the technical capability for forecasting support in marine & coastal zones.
- 3.3.3 The International Atomic Energy Agency (IAEA), the world's centre of cooperation in the nuclear field under the United Nations framework, has initiated a Coordinated Research Project (CRP) for Benchmarking models for the Ocean Dispersion and Transfer of Radionuclides from the Tokyo Electric Power Company (TEPCO) Fukushima Nuclear Power Plant (NPP).
- 3.3.4 The CRP represents an opportunity for JCOMM to leverage existing expert teams and partner organisations to coordinate the development of this capability and the framework necessary to effectively deliver these services through the member states
- 3.3.5 Undertaking this initiative as a focus for JCOMM-4 will deplete resources for other MAES applications already established within JCOMM. The strategy must include maintenance of established capability.
- 3.3.6 Taking into account related international initiatives to develop dispersion modelling and forecasting capability such as the planning activity for the IAEA's CRP by USA/NOAA, Japan/JAMSTEC, France and others;
- 3.3.7 Establishing this new capability will have benefits for other applications within MAES; however, during JCOMM-4 focus should remain on the application for radioactive material discharge. It is anticipated that the outcome and developed capabilities could be adapted to other MAES related applications.
- 3.3.8 The respective task/responsibility of each Team (mainly in SFSPA) is agreed as following:

[Co-Presidents and MAN]

- General guidance and advice. Intersessional decisions can be made by a Co-president in consultation with the designated experts.

[ETMSS]

- continued coordination of the Marine Pollution Emergency Response Support System (MPERSS), including the update/streamlining of MAES-MPERSS Website (<http://www.maes-mperss.org>) with support by the Secretariat;
- review the role of the Area Meteorological and Oceanographic Coordinators (AMOCs) in support of marine pollution monitoring and response, marine SAR, and their applicability in the context of any response to radioactive material discharge;
- liaise with international organizations, in particular IAEA, on the requirements for the delivery of information in support of radioactive material discharge;
- to plan and support update of WMO-Nos. 471 and 558, and related training initiatives.

[ETOOFS]

- Take responsibility for coordination of extension of capability to fill the identified gap, in cooperation with GOV, IAEA and other partners;
- Liaise with ETMSS on the international coordination for meeting the service requirements.

3.3.9 The implementation of this strategy will be in parallel to and in collaboration with national and international initiatives. A small number of experts in MAES (e.g. Activity Leaders) should be appointed within the members of the responsible Teams (including ETOOFS and ETMSS). Their tasks will include coordinating and facilitating the identified initiatives of relevance, and set the Commission's workplan to support them. They will work directly with the Co-Presidents, SFSPA Coordinator and the Secretariat for the task.

3.3 Resource required:

- Contribution and support by Members / Member States through volunteering experts (to be members of relevant teams/groups)
 - Financial support for activities (mainly experts' participation in meetings). It will include ad hoc group meetings, in conjunction with the regular meetings of the relevant ETs / Groups (at least once during the next intersessional period, but not more than the number of relevant ET/Group meetings).
 - Secretariat time for coordination and support (particularly for regular surveys and reporting)
-