International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Tenth Meeting of the GREPECAS Aeronautical Meteorology Subgroup (AERMETSG/10)
Buenos Aires, Argentina, 19 to 23 October 2009

Agenda Item 4: Implementation of SIGMET

b) Implementation Issues

IMPLEMENTATION OF SIGMET FOR ACCIDENTAL RELEASE OF RADIOACTIVE MATERIAL INTO THE ATMOSPHERE

(Presented by United States of America)

SUMMARY

This paper provides information on implementation issues that need to be considered for the issuance of a SIGMET for accidental release of radioactive material into the atmosphere.

1. Introduction

1.1 In accordance with ICAO Annex 3 section 3.4.2 g), a Meteorological Watch Office (MWO) is to supply information concerning the accidental releases of radioactive materials into the atmosphere, in the area for which it maintains watch or adjacent areas to its associated Area Control Center (ACC) and Flight Information Center. The information shall comprise of location, date and time of the accident and forecast trajectories of the radioactive materials.

1.2 With Amendment 74 to Annex 3 effective 11 November 2007, MWO are required to issue a Significant Meteorological Advisory (SIGMET) for accidental releases of radioactive materials into the atmosphere referred to as RDOACT CLD.

1.3 Even though progress has been made in regard to the provision of information on the release of accidental radioactive material into the atmosphere, there still are some implementation issues that require further discussion. This paper will help identify some of those implementation issues that need to be addressed by ASIA/PAC Region but also other ICAO Regions, on how to provide a SIGMET for a radioactive cloud.

2. Discussion

2.1 ICAO is responsible to defining the operational service requirements for international air navigation and collaborates with the World Meteorological Organization (WMO) on the provision of those services. One of the responsibilities that belong to ICAO is to define how information is coordinated and who requires this information in support of flight planning.

2.2 As in the provision of volcanic ash advisories and tropical cyclone advisories, ICAO, in cooperation with WMO, has established Volcanic Ash Advisory Centers and Tropical Prediction Advisory Centers for the purpose of monitoring and tracking volcanic ash and tropical cyclones, accordingly, in support of providing advisories to MWO for the issuance of SIGMET.

2.3 Similarly, ICAO has noted in Annex 3 that information on accidental release of radioactive material into the atmosphere can best be supported by the WMO Regional Specialized Meteorological Centers (RSMC) who could send information to a single contact point of the national meteorological service in each State. It is not automatically understood that that single point is the MWO since some States have multiple MWO or the State may elect to have another single point to disseminate information such as emergency managers for other purposes beside aviation, similar to volcanic ash and tropical cyclones. Also, it is not to say that RSMC is the only source of this information; however, it is part of the RSMC mission to operate transport models that forecast the trajectory of a radioactive cloud. It is believed for most States, the RSMC is most suited to support the MWO. It is not the purpose of this paper to go into the details of the operation of the RSMC but to note they are a source of information to MWO for the issuance of the SIGMET and identify roles and responsibilities for implementation.

2.4 In that light, the CAR/SAM Facility and Services Implementation Document (FASID) does not adequately define how and who will support the MWO for the issuance of RADOACT CLD in that MWO do not have the expertise to provide this information without support from experts in transport modeling. Thus, it is recognized that a template should be developed for the FASID to clarify the role and responsibilities of the source of information to the MWO.

2.5 Another implementation issue that needs to be addressed is that IAVWOPSG should provide further guidance via development of a template of information, similar to the template for VAA and TCA that can be used for the issuance of SIGMET. Referencing Annex 3 paragraph 3.4.2 g) the MWO shall identify the location, date and time of the accident and forecast the trajectory of the radioactive materials requires support to the MWO from experts. Again, this information is vague and the designated single source for the State may not understand what information is required by the MWO. Therefore, a template is required for the single designated source to provide information to the MWO. The IAVWOPSG provided guidance on the issuance of a Nuclear Emergency Message for the ACC but none exists for the MWO. In addition to this, Table A6-1 in Annex 3 requires further clarification or notes in support of the issuance of RDOACT CLD. For instance, Annex 3 Table A6-1 for Forecast Position, Note 20, states “Only for SIGMET messages for volcanic ash and tropical cyclones” which is contrary to section 3.4.1 g) which requires forecast trajectories of the radioactive cloud if known.

2.6 Also, the meeting should be aware that at APANPIRG CNS/MET13 the meeting also noted that there was a deficiency in guidance on the issuance of Tsunami in the aerodrome warning message.

3. Recommendation

3.1 Given the information provided in the discussion, the meeting could formulate the following draft conclusion:

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CONCLUSION 10/XX IMPLEMENTATION OF RADIOACTIVE SIGMET

That, in view of clarifying existing Annex 3 provisions,

1. the IAVWOPSG consider developing Annex 3 provisions and guidance material, as necessary, related to the issuance of SIGMET on radioactive clouds; and

2. ICAO considers developing Annex 3 provisions and guidance material as necessary relate to the issuance of aerodrome warnings on Tsunami.

4. **Action required**

4.1 The Meeting is invited to:

a) take note of the information presented in this paper; and

b) decide on the formulation of the proposed draft conclusion for the Meeting report.

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