



INTERNATIONAL CIVIL AVIATION ORGANISATION
AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP (APIRG)
FIRST MEETING OF THE ATM/MET TASK FORCE (ATM/MET/1)
(Nairobi, Kenya, 10-11 June 2013)

Agenda Item 2: Review the structure of the APIRG ATM Contingency Plan template.

**AERONAUTICAL METEOROLOGICAL REQUIREMENTS FOR AIR TRAFFIC
MANAGEMENT OPERATIONAL CONCEPT.**

(Presented by the Secretariat)

SUMMARY

This paper gives an overview of the Global ATM operational concept and the MET information that will be tailored to meet the ATM requirements.

1. Introduction

1.1 In 2005, ICAO published the first edition of its 'Global Air Traffic Management Operational Concept Navigation' (Doc 9854 AN/458) It recognizes that the air transport industry plays a major role in world economic activity and remains one of the fastest growing sectors; however, in many places, demand often exceeds the available capacity of the system, resulting in significant negative consequences, not only to the aviation industry, but also to general economic health.

1.2 The ICAO developed Doc 9854 as a means to guide the implementation of communications, navigation, surveillance and air traffic management (ATM) technology by providing a description of how the emerging and future ATM system should operate. This, in turn, will assist the aviation community through the transition from today's technology centred air traffic control to tomorrow's performance-based and collaborative ATM environment.

1.3 The primary functions of the ATM system will enable flight from/to an aerodrome into airspace, safely separated from hazards, within capacity limits, making optimum use of all system resources.

1.4 The ICAO's global ATM concept acknowledges that the provision of aeronautical meteorological (MET) information is a key enabler of the future ATM system, with MET information tailored to fulfill user expectations.

1.5 The global ATM system will require access to global meteorological information on a shorter time scale than has been customary in the past. In many cases virtually "instant" access, including real-time data, will be required. Such stringent requirements will dictate that as many of the processes as possible must be automated. Development of the meteorological systems to support a global ATM system is taking place,

specifically in, among others, the automatic uplink of aerodrome weather observations to aircraft on approach or departure, and dedicated systems to detect hazardous weather; and, automatic downlink of meteorological information derived from aircraft sensors (wind, temperature, turbulence and humidity) to ATC computer.

2. Discussion

2.1 The provision of meteorological information will be an integrated function of the ATM system. The information will be tailored to meet ATM requirements in terms of content, format and timeliness. The main benefits of meteorological information, for the ATM system, will be related to the following:

- a) the improved accuracy and timeliness of meteorological information will be used to optimize flight trajectory planning and prediction, thus improving the safety and efficiency of the ATM system;
- b) the increased availability of shared meteorological information on-board the aircraft will allow the preferred trajectory to be refined in real time;
- c) better identification, prediction and presentation of adverse weather will allow the management of its effects more efficiently, thereby improving safety and flexibility, for example, by providing accurate and timely information on the need for diversion or re-routing;
- d) improved aerodrome reports and forecasts will facilitate the optimum use of available aerodrome capacity;
- e) increased availability of meteorological information (air-reports) from on-board meteorological sensors will contribute to improving forecast meteorological information and the display of real-time information; and
- f) meteorological information will contribute to minimizing the environmental impact of air traffic.

3. ACTION BY THE MEETING

3.1 The task Force is invited to:

- a) Note the information in this paper,