

	TANZANIA CIVIL AVIATION AUTHORITY AIR NAVIGATION SERVICES INSPECTORATE	Revision: 1
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1.0 PURPOSE

- 1.1 This Advisory Circular (AC) is issued to provide general information and guidance on the development of a training programme for technical staff providing Aeronautical Meteorological services for air navigation.

2.0 REFERENCES.

- 2.1 Civil Aviation (Meteorological Services for International Air Navigation) Regulations,
- 2.2 ICAO Doc 8896 – Manual of Aeronautical Meteorological Practice;
- 2.3 WMO Documents 258-Guidelines for Education and Training of Personnel in Meteorology and Operational Hydrology

3.0 GUIDANCE AND PROCEDURES

3.1 General

- 3.1.1 Meteorological services for air navigation shall be provided by the designated Meteorological Authority. Details of the services provided are included in the Civil Aviation regulation. A suitable number of meteorological offices, watch offices and other meteorological stations shall be established to provide information required for operational planning, flight operations, and protection of aeronautical equipment on the ground and for various other aeronautical uses.
- 3.1.2 The information provided includes observations and reports of actual weather conditions at aerodromes and forecasts. This information is made available at aerodrome meteorological offices and is disseminated as appropriate to aeronautical users including operators, flight crew members, air traffic services units, search and rescue units, airports and others concerned with the conduct, or development of air navigation.
- 3.1.3 The Authority is hereby recommending a systematic approach in the provision of training to technical staff engaged in provision of meteorological services for air navigation.

3.2 Categories of personnel to be trained

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- 3.2.1 The following categories of personnel are covered by this circular
- a) Aeronautical Meteorological Observers (AMO: WMO-Met. Technician Mid and Senior levels)
 - b) Aeronautical Meteorological Forecasters (AMF-Meteorologist)

3.2.2 Minimum Academic Qualification

- a) Aeronautical Meteorological Observers; a person who has completed the basic Instruction Package for Meteorological Technicians (BIP-MT)
- b) Aeronautical Meteorological Forecasters: a person who holds a university level degree or equivalent,; has acquired an appropriate level of knowledge of mathematics, physics, chemistry and computer science and has completed the Basic Instruction Package for Meteorologists (BIP-M)

3.3 Approved training organizations

- 3.3.1 A number of organizations provide training in aviation meteorology. The CAA shall provide oversight to organizations providing training to personnel involved in the provision of meteorological service for air navigation.

3.4 Requirements for training

3.4.1 Aeronautical Meteorological Forecaster

Basic education and training of meteorological personnel engaged in the provision of meteorological forecast for aeronautical purposes is similar to that of all meteorological personnel engaged in operational weather forecasting. However, for AMF, the weather forecasting instruction should be supplemented by special courses in aviation knowledge and procedures for meteorological service to International air navigation

3.4.2 Knowledge and Skills requirements in Weather Forecasting

Forecasters working in meteorological offices serving International air navigation must have the knowledge and skills to maintain an appropriate weather watch to analyze the weather situation and prepare and communicate weather forecasts. The guidance below is recommended by WMO and CAA;

3.4.3 Specific knowledge and skills for aeronautical Forecaster

In addition to the general weather analysing and forecasting skills, an aeronautical forecaster is required to have skills in diagnosing and forecasting aviation specific

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phenomena, knowledge and skills in the use of aviation specific codes and practices, as well as an appreciation of the impact of their forecasts on aviation operations.

3.4.4 Competency Requirements in Aeronautical Meteorology

In addition to the knowledge requirements set out above, a practicing forecaster should have developed appropriate 'job competencies'. These comprise the characteristics that should be displayed on a day-to-day basis. Additional to this, job competencies also demonstrate whether the forecaster has understood the special requirements of the area of operations, and can interpret which elements of the job competencies are of high and which are of lower importance. That balance will change depending on the region.

Job competency will vary from country to country and job to job but the following are the minimum generic competencies that should be demonstrated by all aeronautical forecasters;

3.4.5 Syllabus Framework for Aeronautical Meteorological Forecasters.

The designated Meteorological Authority shall train new aeronautical meteorological forecasters according to requirements set out in detail in the WMO guide lines. The AMF syllabus is intended to be used to both confirm that the training of existing aeronautical forecasters is adequate and to help identify any gaps or omission so that they may be corrected and the integrity of air safety maintained. The topics that should be covered shall provides the underpinning skills and knowledge for the competencies, the order of presentation and the extent to which the topics are addressed may vary from one country to another depending on local conditions.

3.5 Aeronautical meteorological observers

The basic education and training of meteorological personnel engaged in meteorological observing for aeronautical purposes are similar to that of all meteorological personnel engaged in all operational weather observing.

3.5.1 Knowledge and skills requirements in weather observing

In order to carry out these duties and tasks, observers need to constantly monitor the local meteorological conditions by doing surface observations, weather watch, weather alert, product distribution and equipment maintenance.

3.5.2 Specific knowledge and skills for aeronautical observing

In addition to the general observing skills, an aeronautical observer is required to constantly monitor the meteorological conditions at the aerodrome and its vicinity;

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and to have skills and knowledge in the use of aviation specific codes and practices as well as an appreciation of the impact of their observations on aviation operations.

3.5.3 Competency requirements in aeronautical observing

Following training, it is usual for observers to undergo a period of on-the-job training at an aviation observing office before being permitted to operate unsupervised. During this period of training, observers develop the job competencies;

- a) Make and disseminate aeronautical weather observations in accordance with Tanzania Civil Aviation Regulations and WMO requirements.
- b) Identify hazardous aviation conditions and their likely impact on aircraft operations.
- c) Describe the impact of a range of meteorological conditions on aviation operations and procedures.
- d) Assist the aeronautical aviation forecaster.

3.5.4 Syllabus framework for AMO

The AMO syllabus is intended to be used to both confirm that the training of existing aeronautical observers is adequate and to help identify any gaps or omissions so that they may be corrected and the integrity of air safety maintained

3.5.5 On -the-Job Training

3.5.5.1 The designated Meteorological Authority shall ensure that performance based OJT programmes are conducted before any individual can be approved to carry out specified duties.

3.5.5.2 The designated Meteorological Authority shall engage qualified OJT instructors to carry out specialized training in the field.

3.5.6 Refresher training

3.5.6.1 The designated Meteorological Authority provides personnel with courses of instruction designed to bring knowledge and skills up to date, in order to cope with the changing technology and operating procedures..

3.5.6.2 Refresher courses may range from in-house to fully fledged training in specialized training organizations.

3.5.7 Recurrent training

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3.5.7.1 The designated Meteorological Authority shall provide recurrent training necessary to meet operational requirements in line with the Civil Aviation (Air Navigation Services) Regulations.

3.5.7.2 Recurrent training will be provided to ensure that the technical personnel remain current and that there is no need to retrain personnel following a long period of not practicing.

3.6 Training records

3.6.1 The designated Meteorological Authority shall ensure that training records, including OJT are properly kept for inspection by the CAA as may be required.

3.6.2 The training records shall include certificates, OJT tasks performed and any other documents related to training and approval of jobs performed.



Tanzania Civil Aviation Authority