UGANDA

ADVISORY CIRCULAR

UCAA-AC-MET010

DECEMBER 2022

GUIDANCE ON ESTABLISHING AGREEMENT FOR COORDINATION BETWEEN THE AIR TRAFFIC SERVICES (ATS) AND METEOROLOGICAL AUTHORITIES

1.0 PURPOSE

This Advisory Circular (AC) provides guidance to the Meteorological authority and Air Traffic Services (ATS) authority in respect to establishment of coordination at administrative and operational levels for provision of meteorological services for air navigation. The agreement enhances continued consultation between the Meteorological and ATS units, offices and stations for an efficient exchange of meteorological information. The arrangements established under the agreement should also provide for the involvement, as necessary, of Aeronautical Information Services (AIS), Communications, airport management and Operators where necessary.

2.0 REFERENCES

2.1 Regulation 18 & 58 of Civil Aviation (Meteorological Service for Air Navigation) Regulation, 2022.
2.2 Regulation 20 of the Civil Aviation (Certification of Air Navigation Services) Regulations, 2022
2.3 ICAO Doc 9377

3.0 GUIDANCE AND PROCEDURES

3.1 General

3.1.1 The Civil Aviation (Meteorological Services for Air Navigation) Regulation, 2022 under Regulation 18 and 58, requires establishment of agreements between the ATS and meteorological authorities in the provision of meteorological services for air navigation.

3.1.2 The Meteorological Service Provider (MSP) should ensure that effective coordination between the meteorological authority and Air Traffic Services (ATS) authority is defined in an Agreement that elaborates the responsibility of each entity. The agreement inform of a memorandum of understanding (MOU) is an important instrument that provides:

(a) A systematic listing of services and responsibilities which ensures a complete and efficient meteorological service for air navigation.

(b) A better understanding of the needs and capabilities of the parties involved; and

(c) The responsibilities of each entity in order to improve services; and

(d) Provisions for resolution of disputes or omissions that may have legal implication.

3.2 Elements of the Agreement Between the ATS and Meteorological Authorities.

3.2.1 ***Preamble.*** The MSP and ATS should ensure that the agreement have a preamble as an introductory statement that explains the background and objectives of the document, presenting the intention of the parties and purpose of the agreement as well as the core values and principles of the parties framing the agreement.

3.2.2 ***Table of Content.*** The parties must ensure that the table lists the major sections of the agreement, with their page numbers that demonstrates to readers and users the flow of sections in the agreement.

3.2.3 ***Responsibility of the Parties to the Agreement.*** The obligations of the MSP and ATS should be clearly defined and each party should offer to perform their respective obligations unless such performance is dispensed with or excused under the provisions of the agreement or any other superior laws of the country.

3.2.4 ***Arrangements for coordination meetings.*** The agreement should ensure that the MSP and ATS make arrangements for meetings at operational and administrative levels to discuss requirements for meteorological information, methods of meeting these requirements and changes in procedures where applicable. The arrangements should also provide for involvement, where necessary of AIS, CNS and airport operators.

3.2.5 ***Arrangement for the periodic familiarization*** of ATS, SAR and meteorological personnel with each other's facilities, functions and procedures; where necessary, arrangements for meteorological personnel to train ATS and SAR personnel on interpretation of critical data such as the weather radar or satellite data.

3.3 Requirements for Meteorological Information Provided to ATS units

The MSP and ATS should ensure that the agreement specifies the meteorological information to be provided to ATS units and this should include, but not limited to;

3.3.1 Local routine reports and local special reports including special reports for Runway Visual Range (RVR), METAR and SPECI including trend forecasts, TAF and amendments thereto, for the aerodrome concerned.

3.3.2 SIGMET, wind shear warnings and alerts, and aerodrome warnings and, in the case of an approach control unit, also appropriate special air-reports for the Uganda airspace.

3.3.3 Any additional meteorological information as agreed locally (such as forecasts of surface wind for the determination of possible runway changes in the case of TWRs);

3.3.4 Information received on volcanic ash cloud including volcanic ash advisories, for which a SIGMET message has not already been issued as well as information obtained on pre-eruption volcanic activity, volcanic eruptions; and information concerning the release into the atmosphere of radioactive materials and toxic chemicals.

3.3.5 The MSP should provide to ATS units with displays related to integrated automatic systems for relay of routine meteorological information and information displayed should be updated regularly.

3.3.6 Information obtained through any visual observations by ATS personnel.

3.3.7 Transmission to meteorological offices weather information obtained in ATS units from aircraft taking off, landing and en-route, via voice communications (i.e., routine and special air-reports and non-routine aircraft observations).

3.3.8 The agreement should provide for the MSP to observe and report significant meteorological conditions in the vicinity of the aerodrome, particularly in the climb-out and approach areas. These conditions include;

a) cumulonimbus or thunderstorms; including moderate or severe turbulence;
b) wind shear, including microbursts;
c) hail; moderate or severe icing;
d) duststorm;
e) funnel cloud (waterspout); and
f) volcanic ash.

3.3.9 Arrangement for installation of new equipment, maintenance as well as calibration schedules of meteorological equipment.

3.3.10 The means and facilities to be used for the supply, exchange and dissemination of all meteorological information from the meteorological offices

3.4 Requirement for Safety Oversight of the Meteorological Service Provider.

3.4.1 The MSP and ATS should ensure that agreement includes the requirement of safety oversight of the aeronautical meteorological services in accordance with the Civil Aviation (meteorological services for air navigation) Regulations, 2022 that empowers Civil Aviation Safety Inspectors to conduct surveillance activities to verify validity of services provided and compliance with the regulatory requirements.

3.4.2 The safety oversight to be conducted in accordance with time periods as established by UCAA and shared with the MSP as the annual surveillance schedule

3.4.3 In the agreement the MSP should commit to among others cover the following aspects;

3.4.3.1 Facilitate the surveillance activity by ensuring that appropriate staff are available for interviews with the safety oversight team as well as providing access to necessary documentation, records, facilities, equipment and office space where necessary.

3.4.3.2 Designate an appropriate officer as a representative of the MSP before, during and after each safety oversight activity.

3.4.3.3 After completion of the safety oversight activity, a report will be issued and upon submission of the report, appropriate corrective actions for any findings/non-conformances identified should be submitted to UCAA with 30 calendar days from the date of the report.

3.4.3.4 Further agree to facilitate the process of safety oversight activity by providing;

a) Office space with necessary privacy

b) Access to facilities and restricted areas that may be critical for the safety oversight activity
c) Access to electronic communications such as internet and emails
d) Access to selected personnel who may provide the necessary information
e) Access to electronic machines such as photocopiers and printers

3.4.4 Undertake remedy in respect to the identified findings/non-conformances through implementation of corrective action plans and agree to subsequent follow-up inspections to confirm the implementation of the corrective action.

3.5 Financial Obligation

The financial obligations regarding cost-recovery fee for the meteorological services also referred to as Aviation Meteorological (AVMET) charge should be mutually agreed between the parties including the mode of payments.

3.6 Dispute Resolution

The agreement should define a mechanism for resolution of any differences or dispute in respect to interpretation or application of any section of the agreement.

3.7 Effective Date and Duration

The effective or commencement date and duration period for the agreement should be define in the agreement.

3.8 Modification/Revision

A mechanism for modification/revision of part and/or the whole agreement as well as the intention of any of the parties to cease any part of its obligations should be well spelt out in the agreement.

3.9 Termination of the Agreement

The rights and circumstances for any of the parties to terminate the agreement should be clearly defined in the agreement.

3.10 Consent to the Agreement

Both parties must consent to the agreement and this consent shall be valid by appending signatures of the representatives of the parties to the agreement in the presence of their appointed witnesses. The agreement shall not be valid without the signatures of the representative of both parties and their appointed witnesses.

UGANDA CIVIL AVIATION AUTHORITY
UGANDA
DIRECTOR
SAFETY, SECURITY AND ECONOMIC REGULATION

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APPENDIX

SAMPLE AGREEMENT FOR COORDINATION BETWEEN THE METEOROLOGICAL AND AIR TRAFFIC SERVICES AUTHORITIES

1.0 PREAMBLE

State the statutory establishment of the Parties to the agreement i.e. Uganda Civil Aviation Authority (UCAA) and Uganda National Meteorological Authority. The physical and post address of the parties should be clearly stated. The responsibility for provision of meteorological services for air navigation should be stated and the responsibility of each party.

The facilities and operational responsibility for equipment installation, maintenance and calibration where applicable should be stated. Where the parties collaborate to jointly establish infrastructure and their maintenance to enhance service provision should also be indicated. The preamble should be concluded by commitment of the parties to undertake the stated responsibilities.

2.0 TABLE OF CONTENT

This lists the major sections of the agreement, with their page numbers that demonstrates to readers and users the flow of sections in the agreement.

3.0 OBJECTIVE

The objective of the Agreement between [the ATS authority] and [the meteorological authority] is to establish the directives for the necessary coordination between ATS units and meteorological offices and stations to ensure the provision of the meteorological service required for civil (international and national) air navigation, in accordance with national regulatory requirements and the international standards as prescribed in the ICAO annexes.

The Agreement also specifies the responsibility of ATS units in relation to the transmission to meteorological offices and stations of air-reports and other meteorological information obtained from aircraft in flight or resulting from observations made by ATS personnel at aerodromes.

The Agreement also includes the responsibilities of ATS units and meteorological offices and stations in relation to the mutual exchange of information on pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud, and information on the release into the atmosphere of radioactive materials and toxic chemicals [if applicable].

The Agreement covers implementation of the following Civil Aviation Regulations [List the applicable regulations], including detailed directives, Manuals of Operations (MANSOPS) prepared as requirement from the regulations [List the MANSOPS of Parts of MANSOPS applicable] and arrangements pertaining to individual aerodromes, ATS units, meteorological offices and stations servicing the aerodromes.

4.0 RESPONSIBILITY OF THE PARTIES TO THE AGREEMENT.

The obligations of the MSP and ATS should be clearly defined and each party should offer to perform their respective obligations unless such performance is dispensed with or excused under the provisions of the agreement or any other superior laws of the country.

4.1 Responsibilities of [the meteorological authority], the meteorological offices and stations

4.1.1 Meeting the requirements for provision of meteorological services for national and international air navigation as well as meteorological watch over the Entebbe Flight Information Region (FIR).

4.1.2 Timely provision of appropriate aeronautical meteorological services to various ATS units (aerodrome control tower, approach control service centre and area control centre), search and rescue unit, aeronautical information management, airport management and flight crew on pre-flight briefings.

4.1.3 [The meteorological authority], through the meteorological offices and aeronautical meteorological stations as established, is responsible for the provision of up-to-date information on existing and forecast meteorological conditions to those ATS units that need it in order to carry out their functions. The necessary meteorological information to be supplied to individual ATS units from the associated meteorological offices and relevant meteorological stations at aerodromes. A list of the associated meteorological offices designated by [the meteorological authority] to serve individual ATS units and rescue coordination centres and sub-centres should be provided.

4.1.4 Meteorological offices will be located, or suitable arrangements will be made, so that meteorological briefings for ATS personnel, as well as consultations between meteorological and ATS personnel, are facilitated and fast and reliable communications are established in order to effect coordination in the most efficient manner possible.

4.1.5 The meteorological information provided will, as far as possible, be in a format that facilitates easy interpretation by ATS personnel, and the frequency of meteorological reports, forecasts, warnings, etc., will cover the needs of each of the ATS units. A list of meteorological information to be supplied to ATS units, its format and the frequency with which it is to be supplied to individual ATS units should be provided.

4.1.6 In providing local reports and current altimeter setting (atmospheric pressure) information to ATS units at aerodromes, consideration will be given to the type and volume of air traffic and the availability of meteorological instruments/displays and/or automated observing system displays in the units concerned.

4.1.7 Detailed information on the location, vertical extent, direction and speed of movement of significant meteorological phenomena in the proximity of aerodromes, which may present a danger to aircraft operations, particularly in the areas of the initial climb-out and approach, will be provided to the appropriate ATS units as soon as such information has been observed. This information will be derived from weather radar observations, remote-sensing equipment and meteorological satellite data available in [the meteorological authority].

4.1.8 Meteorological offices and/or meteorological stations will provide other information as agreed locally concerning, for example, surface wind, rapid deterioration of weather conditions or sudden fluctuations of temperatures that could adversely affect the operation of certain types of aircraft, either en route or on take-off and landing.

4.1.9 Meteorological offices will provide the meteorological information needed to meet non-routine requests from aircraft in flight (e.g. requests from distant aerodromes for meteorological reports).

4.1.10 Computer-processed meteorological information in digital form will be provided to ATS computerized centres in accordance with the arrangements agreed between [the meteorological authority] and [the ATS authority] concerning its content, format and transmission. Details of these arrangements are specified in [relevant Annexes to this Letter of Agreement].

4.1.11 Copies of meteorological flight documentation supplied to flight crews will be kept for a period of at least 30 days (i.e. stored as hard copies or in computer memory), from the date of issue and will be made available on request for inquiries or investigations and, for these purposes, will be retained until the inquiry or investigation is completed.

4.1.12 Aeronautical climatological information (i.e. in particular, aerodrome climatological tables and summaries) will be provided to [the ATS authority] as agreed between the two parties to the Agreement.

4.1.13 Up-to-date local reports with trend forecasts, including current pressure data for the setting of altimeters, and TAF, related to the aerodrome concerned, will be provided to the aerodrome control tower of each aerodrome.

4.1.14 Local special reports with trend forecasts, including current pressure data for the setting of altimeters, and the list of criteria for special observations and amendments to TAF will be communicated to the TWR in accordance with locally established procedures as soon as they are issued, i.e. without waiting for the next local routine report or forecast.

4.1.15 Aerodrome warnings issued and wind shear warnings and alerts and relevant SIGMET information will be communicated to the TWR without delay.

4.1.16 TWRs will be equipped with displays for surface wind and runway visual range (RVR), [other meteorological elements/phenomena, as appropriate]. The displays will relate to the same points of observation and will obtain data from the same sensors as those to which the corresponding displays in the meteorological station are connected.

4.1.17 Information received on pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud, for which SIGMET information has not been issued, will be communicated to individual TWRs by their associated meteorological offices [if applicable].

4.2 Responsibilities of [the ATS authority] and ATS units

4.2.1 [The ATS authority] makes the necessary arrangements for ATS units to:

a) transmit routine and special air-reports received by voice communications to the Meteorological Watch Office (MWO) established by the [Meteorological Authority];
b) automatically transmit routine air-reports by data link communications to WAFCs London and Washington;
c) automatically transmit special air-reports received by data link communications to the local MWO, WAFCs London and Washington. The special air-reports will be transmitted without delay and the routine air-reports will be transmitted as soon as practicable.

4.2.2 Reports of non-routine observations from aircraft in flight (Annex 3, 5.6 refers) will be transmitted without delay to the local MWO and meteorological offices and stations concerned.

4.2.3 [The ATS authority], in coordination with [the meteorological authority], establishes a list of ATS/MET reporting points, coordinates the list with the ICAO Regional Office and submits the list to the AIS office concerned for inclusion in the aeronautical information publication of [the State concerned].

4.2.4 Supplementary meteorological observations made by personnel in local ATS units, as well as the meteorological information that the meteorological offices and stations have requested them to obtain will be supplied without delay to the meteorological offices and stations concerned.

4.2.5 Meteorological information obtained from ATS radar will be provided to meteorological offices and stations whenever necessary and feasible and, in particular, when information from weather radar is not available. This information should be relayed to the associated meteorological offices and stations as soon as possible and should contain the time of observation, location, extent, distance and intensity of the identified significant weather areas. In this regard, it is recognized that it is not mandatory for radar controllers to maintain watch over significant weather areas [if applicable].

4.2.6 ATS units will transmit to the associated meteorological offices and to the local MWO, as appropriate (and to the ..... VAAC [if so agreed with the VAAC]), without delay, information received on pre-eruption volcanic activity, volcanic eruptions and volcanic ash cloud for which SIGMET information has not been issued, [if applicable.]

4.2.7 Within the frame of the FIS, relevant ATS units will transmit to aircraft pertinent:

a) SIGMET information up to a distance normally corresponding to two hours' flying time and appropriate special air-reports for which SIGMET information has not been issued. The transmission to aircraft of such air-reports will continue for ..... from the time of issuance of the respective air-reports;

b) information concerning pre-eruption volcanic activity, volcanic eruptions and volcanic ash clouds received from [the sources specified in arrangements developed by the ATS, AIS, vulcanological and meteorological authorities in the State concerned] until the respective SIGMET and/or ASHTAM or NOTAM are issued [if applicable];

c) information received from [the source designated in the State concerned] concerning the release into the atmosphere of radioactive materials or toxic chemicals, in accordance with arrangements developed by [the ATS and AIS authorities] in coordination with the meteorological authority [if applicable]; and

d) as necessary, weather conditions at departure, destination and alternate aerodromes reported in relevant METAR and SPECI, with TREND forecasts and TAF.

5.0 INSTALLATION, MAINTENANCE AND CALIBRATION OF EQUIPMENT

The agreement should clearly elaborate on the arrangements for installation of new equipment, maintenance as well as calibration schedules of equipment required to facilitate the aeronautical meteorological services.

6.0 DISSEMINATION OF METEOROLOGICAL INFORMATION

Given the vital importance of meteorological information to the safety of aircraft in flight, it is necessary that the units providing ATS always keep aircraft informed of the prevailing weather conditions. The agreement

should outline the requirements for supplying aeronautical meteorological information to the various ATS units as well as the means of communication to be utilized so that this information reaches the ATS units in timely manner.

7.0 ATS UNITS AND METEOROLOGICAL OFFICES AND STATIONS — COORDINATION MEETINGS

Regular and/or adhoc coordination meetings between the heads of the ATS units and heads of meteorological offices and stations, and other interested parties, aimed at improving the meteorological services provided to support aircraft operations, will be convened as appropriate and at least every ..... months [interval of coordination meetings should be specified].

8.0 TRAININGS FOR METEOROLOGAL AND ATC PERSONNEL

8.1 Tailored training courses or on-the-job training for meteorological and ATS personnel will be organized periodically with the objective of familiarizing them with activities performed by both entities.

8.2 Periods and dates for these courses will be agreed by [the ATS authority] and [the meteorological authority] taking into account the availability of personnel and the necessary equipment.

9.0 REQUIREMENT FOR SAFETY OVERSIGHT OF THE METEOROLOGICAL SERVICE PROVIDER.

The MET and ATS authorities should ensure that the agreement includes requirement of safety oversight of the aeronautical meteorological services in accordance with the Civil Aviation (meteorological services for air navigation) Regulations as amended that empowers Civil Aviation Safety Inspectors to conduct surveillance activities to verify validity of services provided and compliance with the regulatory requirements.

10.0 FINANCIAL OBLIGATION

The financial obligations regarding cost-recovery fee for the meteorological services also referred to as Aviation Meteorological (AVMET) charge should be mutually agreed between the parties including the mode of payments.

11.0 DISPUTE RESOLUTION

The agreement should define a mechanism for resolution of any differences or dispute in respect to interpretation or application of any section of the agreement.

12.0 EFFECTIVE DATE AND DURATION

The effective or commencement date and duration period for agreement should be define in the agreement.

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A mechanism for modification/revision of part and/or the whole agreement as well as the intention of any of the parties to cease any part of its obligations should be well spelt out in the agreement.

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---------- **END** ----------