ISLE OF MAN METEOROLOGICAL SERVICES FOR AIR NAVIGATION

1. Background

1.1 International civil aviation is governed by the Chicago Convention and the United Kingdom’s (UK) ratification of the Convention extends to all of the Crown Dependencies. Annex 3 to the Chicago Convention provides SARPs regarding the Meteorological Service for International Air Navigation.

1.2 Isle of Man Civil Aviation Administration has adopted a number of UK Civil Aviation Publications (CAP) as part of its ICAO compliance. These include CAP746 (Requirements for Meteorological Observations at Aerodromes and CAP 782 (Regulation of Aeronautical Meteorological Services); however, these publications do not ensure complete compliance with all aspects of ICAO Annex 3, and Isle of man specifics must also be specified.

1.3 The Department of Infrastructure (DOI) is empowered in the Airports and Civil Aviation Act 1987 to establish and maintain airports. Responsibility is delegated to the Director of Ports and the functions are carried out by Isle of Man Airport.

1.4 The Department of Economic Development is empowered in the Civil Aviation Act 1982 (as it has effect in the Isle of Man) to regulate air navigation. Responsibility is delegated to the Isle of Man Director of Civil Aviation (DCA) and the functions are administered by the Isle of Man Civil Aviation Administration (CAA).

2. Purpose

2.1 The purpose of this Isle of Man CAA Publication is to specify how the Standards and Recommended Practices contained within ICAO Annex 3 are met through the activities of the Isle of Man CAA and Isle of Man Airport.

3. Isle of Man CAA

3.1 Isle of Man CAA is designated as the "Meteorological Authority", and will promulgate appropriate and complete legislation and policy on meteorological services for international air navigation, and assess and record compliance with ICAO Annex 3 SARPs.

3.2 The Isle of Man CAA will:

a. Ensure that meteorological services for international air navigation are provided on its behalf by Isle of Man Airport.

b. Promulgate details of the Isle of Man Meteorological Authority in the Aeronautical Information Publication.

c. Arrange for aeronautical meteorological stations to be inspected at sufficiently frequent intervals to ensure that a high standard of observation is maintained, that instruments and all their indicators are functioning correctly, and that the exposure of the instruments has not changed significantly.
4. **Isle of Man Airport**

**OVERVIEW**

4.1 Isle of Man Airport is the “Meteorological Service Provider” and is also designated as the meteorological office associated with Isle of Man Airport Air Traffic Control (ATC).

**GENERAL RESPONSIBILITIES**

4.2 Isle of Man Airport will follow the UK CAA policies and procedures promulgated in CAP746 (Requirements for Meteorological Observations at Aerodromes and CAP 782 (Regulation of Aeronautical Meteorological Services), unless authorised otherwise by the Isle of Man CAA. In addition, Isle of Man Airport will:

- a. Determine the meteorological service required and establish aeronautical meteorological offices as determined to be necessary, which shall be adequate to satisfy the needs of international air navigation and helicopter operations to offshore structures.

- b. Comply with the requirements of the World Meteorological Organization (WMO) in respect of qualifications and training of meteorological personnel providing service for international air navigation.

- c. Maintain close liaison between those concerned with the supply and those concerned with the use of meteorological information on matters which affect the provision of meteorological service for international air navigation.

- d. Agree, as necessary, with aircraft operators, the minimum notice periods required from operators for changes in existing meteorological services.

- e. Originate meteorological bulletins containing operational meteorological information transmitted by AFTN or the public Internet.

- f. Ensure that suitable telecommunication facilities (including AFTN) are available to permit meteorological watch officers to supply and receive the required meteorological information. Such telecommunications shall enable direct speech and be supplemented by other forms of visual or audio communication as and when necessary.

**AERODROME METEOROLOGICAL OFFICE RESPONSIBILITIES**

4.3 Isle of Man Airport will carry out the following functions to meet the needs of flight operations at Isle of Man Airport and as associated with the Prestwick Area Control Centre:

- a. Preparing and/or obtaining forecasts (TAF) and other relevant information of local meteorological conditions and for flights with which it is concerned. TAF shall:
  - be issued at a specified time not earlier than one hour prior to the beginning of its validity period and consist of a concise statement of the expected meteorological conditions at an aerodrome for a specified period.
  - include the information and their order as specified in ICAO Annex 3, 6.2.3;
• be kept under continuous review and when necessary amended promptly or cancelled\textsuperscript{15}. The length of the forecast and the number of changes indicated in the forecast shall be kept to a minimum\textsuperscript{16}.

• have a period of validity not less than 6 hours and not more than 30 hours\textsuperscript{17}. TAF valid for less than 12 hours should be issued every 3 hours and those valid for more than 12 hours should be issued every 6 hours\textsuperscript{18}. Not more than one TAF shall be valid at an aerodrome at any given time\textsuperscript{19}.

• cancel automatically any forecast of the same type issued for the same place and for the same period of validity or part thereof\textsuperscript{20}.

b. Preparing landing forecasts in the form of a trend forecast to meet the requirements of local users and of aircraft within about one hour’s flying time from the aerodrome\textsuperscript{21}.

c. Maintaining a continuous survey of meteorological conditions over Isle of Man Airport, including ensuring that observations of air temperature and dew point are representative of the whole runway complex\textsuperscript{22}.

d. Providing up to date briefing, consultation, flight documentation and other meteorological information (including that obtained from other States)\textsuperscript{23} to operators, flight crew members and/or other flight operations personnel for: pre-flight planning\textsuperscript{24}; in-flight re-planning; use by flight crew before departure; and for aircraft in flight\textsuperscript{25}. Such information shall cover the flight in respect of time, altitude and geographical extent, including alternate aerodromes; relate to fixed times or periods of time\textsuperscript{26} and include the following information\textsuperscript{27}:

• forecast upper wind and upper air temperature (as soon as it becomes available and no later than 3 hours before departure)\textsuperscript{28};

• SIGWX phenomena (as soon as it becomes available and no later than 3 hours before departure)\textsuperscript{29};

• METAR or SPECI for aerodromes of departure, landing and for the take-off, en-route and landing alternates;

• TAF or amended TAF for aerodromes of departure, landing and for the take-off, en-route and landing alternates;

• volcanic ash information relevant to the whole route;

• aerodrome warnings for the local aerodrome;

• meteorological satellite images;

• digital forecasts and charts provided by the World Area Forecast Centre (WAFC) where these cover the flight path, time and altitude\textsuperscript{30}; in such cases no modifications shall be made to their content\textsuperscript{31}; and

• advising operators (via ATC where necessary) when the meteorological information provided in the flight documentation will differ materially from that made available in pre-flight planning and in-flight re-planning, and providing revised information as necessary\textsuperscript{32}.

e. Displaying the available meteorological information.
f. Exchanging meteorological information with other aerodrome meteorological offices.

g. Issuing aerodrome warnings on meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft and the aerodrome facilities and services.\(^3^3\)

h. Maintaining aerodrome climatological tables and summaries in accordance with WMO procedures to support the planning of flight operations, and providing these to aeronautical users or those requiring such data for research, investigation or analysis when requested.\(^3^4\) Such information should normally be based on observations made over a period of at least five years and the period should be indicated in the information supplied.\(^3^5\)

i. Supplying up to date meteorological information and details of volcanic activity or volcanic ash clouds to Isle of Man Airport ATC as necessary for the conduct of its functions and ensure that there is agreement with Isle of Man Airport ATC on:\(^3^6:\)

- The provision within the ATC building of displays related to integrated automated systems, their calibration and maintenance, and their use by ATC personnel.
- Supplementary visual observations by ATC personnel to update or supplement the information provided by the meteorological station.
- Meteorological information obtained from aircraft taking off or landing and, if available, ground weather radar.

**METEOROLOGICAL WATCH OFFICE RESPONSIBILITIES**

4.4 Isle of Man Airport will act as the Isle of Man Meteorological Watch Office for the territory of the Isle of Man from surface level to the upper limit of the Isle of Man Control Zone/Area, delivering the following functions:\(^3^7:\)

a. Maintaining a continuous watch over meteorological conditions affecting flight operations;

b. Supplying information received on pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud to Prestwick Centre and the London VAAC.

c. Supplying information received concerning the release of radioactive materials into the atmosphere in Isle of Man airspace or adjacent areas to Isle of Man ATC, Prestwick Centre, and Isle of Man DCA. The information shall comprise location, date and time of the release, and forecast trajectories of the radioactive materials.

d. Supplying search and rescue service units with the meteorological information they require in a form established by mutual agreement and maintain liaison with the search and rescue services unit throughout a search and rescue operation.\(^3^8\)

\(^1\) ICAO Annex 3, 2.1.4
\(^2\) ICAO Annex 3, 2.1.4
\(^3\) ICAO Annex 3, 4.1.4
\(^4\) ICAO Annex 3, 10.1.1/10.1.2
\(^5\) ICAO Annex 3, 2.1.3/3.3.1/4.1.1/4.1.2
\(^6\) ICAO Annex 3, 2.1.5
\(^7\) ICAO Annex 3, 2.2.1
\(^8\) ICAO Annex 3, 2.3.1
\(^9\) ICAO Annex 3, 11.2
\(^11\) ICAO Annex 3, 3.3.2
12 ICAO Annex 3, 10.1.3
13 ICAO Annex 3, 6.2.1
14 ICAO Annex 3, 6.2.2
15 ICAO Annex 3, 6.2.4/6.2.5
16 ICAO Annex 3, 6.2.4
17 ICAO Annex 3, 6.2.6
18 ICAO Annex 3, 6.2.6
19 ICAO Annex 3, 6.2.7
20 ICAO Annex 3, 6.1.2
21 ICAO Annex 3, 6.3.1/6.3.2
22 ICAO Annex 3, 4.6.6.2
23 ICAO Annex 3, 9.1.9/9.2.1
24 ICAO Annex 3, 9.1.10
25 ICAO Annex 3, 9.1.1
26 ICAO Annex 3, 9.1.2
27 ICAO Annex 3, 9.1.3/9.3.1
28 ICAO Annex 3, 9.1.8
29 ICAO Annex 3, 9.1.8
30 ICAO Annex 3, 9.1.4/9.1.6/9.2.4
31 ICAO Annex 3, 9.1.5
32 ICAO Annex 3, 9.3.2/9.3.3
33 ICAO Annex 3, 7.3.1
34 ICAO Annex 3, 8.1.1/8.2/8.3/8.4
35 ICAO Annex 3, 8.1.2
36 ICAO Annex 3, 4.2/9.5.2/10.1.1
37 ICAO Annex 3, 3.4.1/3.4.2
38 ICAO Annex 3, 10.2