

# Meteorological Services for Air Navigation

Policy and guidance for the provision of meteorological services for air navigation in the Isle of Man

**CP5**

**14 April 2021**



**Isle of Man**  
CIVIL AVIATION ADMINISTRATION

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## 2. Revision history

Issue	Date	Details
1	January 2017	Initial issue
2	14 April 2021	New format, typographical amendments Updated definitions Addition of the objectives of meteorological service for international air navigation Enhanced details on oversight arrangements Addition of management system and change notification requirements as per existing ATS and Aerodrome

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## 3. Foreword

- 3.1 The IOM CAA is the division of the Government's Department for Enterprise that is responsible for regulating aviation safety and security in the Isle of Man. The IOM CAA also administers the Isle of Man Aircraft Registry and is responsible for ensuring aviation legislation in the Isle of Man meets International Civil Aviation Organisation (ICAO) Standards and Recommended Practices and other relevant European aviation standards.
- 3.2 The Isle of Man has its own aviation safety legislation separate from the UK. Therefore, unless UK or EU aviation safety regulations have been explicitly applied into Isle of Man law, they have no legal effect on the Island.
- 3.3 This IOM CAA Publication:
- (a) identifies relevant legislation and IOM CAA policy requirements for the provision of Meteorological Services for Air Navigation in the Isle of Man; and
  - (b) clarifies the relationship to UK and EU ATS requirements and the respective roles of the IOM CAA and the UK CAA.

## 4. Interpretations and abbreviations

The following interpretations shall be applied in the regulation and provision of meteorological services for air navigation.

Term	Meaning
<b>Aerodrome</b>	A defined area (including any buildings, installations and equipment) on land or water or on a fixed, fixed off-shore or floating structure intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.
<b>Aerodrome climatological summary</b>	Concise summary of specified meteorological elements at an aerodrome, based on statistical data.
<b>Aerodrome climatological table</b>	Table providing statistical data on the observed occurrence of one or more meteorological elements at an aerodrome.
<b>Aerodrome control tower</b>	A unit established to provide air traffic control service to aerodrome traffic.
<b>Aerodrome elevation</b>	The elevation of the highest point of the landing area.
<b>Aerodrome meteorological (stations) observing units</b>	A unit on an aerodrome that produces METAR observations or is responsible for the receipt (and onward transmission around the aerodrome, where appropriate) of aerodrome meteorological warnings.
<b>Aerodrome reference point</b>	The designated geographical location of an aerodrome.
<b>Aeronautical fixed service (AFS)</b>	A telecommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air services.
<b>Aeronautical fixed telecommunication network (AFTN)</b>	A worldwide system of aeronautical fixed circuits provided, as part of the aeronautical fixed service, for the exchange of messages and/or digital data between aeronautical fixed stations having the same or compatible communications characteristics.
<b>Aeronautical meteorological station</b>	A station designated to make observations and meteorological reports for use in international air navigation.
<b>Aeronautical mobile service (RR S1.32)</b>	A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.

Term	Meaning
<b>Aeronautical telecommunication station</b>	A station in the aeronautical telecommunication service.
<b>Aircraft</b>	Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.
<b>Aircraft operator</b>	A person, organisation or enterprise engaged in or offering to engage in an aircraft operation.
<b>Aircraft observation</b>	The evaluation of one or more meteorological elements made from an aircraft in flight.
<b>AIRMET information</b>	Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.
<b>Air-report</b>	A report from an aircraft in flight prepared in conformity with requirements for position, and operational and/or meteorological reporting.
<b>Air traffic services unit</b>	A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.
<b>Alternate aerodrome</b>	<p>An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following:</p> <ul style="list-style-type: none"> <li>(a) 'take-off alternate' means an alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.</li> <li>(b) 'en-route alternate' means an aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route.</li> <li>(c) 'ETOPS en-route alternate' means a suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an ETOPS operation.</li> <li>(d) 'destination alternate' means an alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing.</li> </ul>

Term	Meaning
<b>Altitude</b>	The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).
<b>Approach control unit</b>	A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.
<b>Appropriate ATS authority</b>	The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.
<b>Area control centre (ACC)</b>	A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.
<b>Area navigation (RNAV)</b>	A method of navigation which permits aircraft operations on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.
<b>Automatic dependent surveillance — contract (ADS-C)</b>	A means by which the terms of an ADS-C agreement will be exchanged between the ground system and the aircraft, via a data link, specifying under what conditions ADS-C reports would be initiated, and what data would be contained in the reports.
<b>Briefing</b>	Oral commentary on existing and/or expected meteorological conditions.
<b>Cloud of operational significance</b>	A cloud with the height of cloud base below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater, or a cumulonimbus cloud or a towering cumulus cloud at any height.
<b>Consultation</b>	Discussion with a meteorologist or another qualified person of existing and/or expected meteorological conditions relating to flight operations; a discussion includes answers to questions.
<b>Control area (CTA)</b>	A controlled airspace extending upwards from a specified limit above the earth.
<b>Cruising level</b>	A level maintained during a significant portion of a flight.
<b>Elevation</b>	The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.
<b>Extended range operation</b>	Any flight by an aeroplane with two turbine engines where the flight time at the one engine inoperative cruise speed (in ISA and still air conditions), from a point on the route to an adequate alternate aerodrome, is greater than the threshold time approved by the State of the Operator.



Term	Meaning
<b>Flight crew member</b>	A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.
<b>Flight documentation</b>	Written or printed documents, including charts or forms, containing meteorological information for a flight.
<b>Flight information centre (FIC)</b>	A unit established to provide flight information service and alerting service.
<b>Flight information region (FIR)</b>	An airspace of defined dimensions within which flight information service and alerting service are provided.
<b>Flight level</b>	A surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.
<b>Forecast</b>	A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.
<b>GAMET area forecast</b>	An area forecast in abbreviated plain language for low-level flights for a flight information region or sub-area thereof, prepared by the meteorological office designated by the meteorological authority concerned and exchanged with meteorological offices in adjacent flight information regions, as agreed between the meteorological authorities concerned.
<b>Grid point data in digital form</b>	Computer processed meteorological data for a set of regularly spaced points on a chart, for transmission from a meteorological computer to another computer in a code form suitable for automated use.
<b>Height</b>	The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.
<b>Human Factors principles</b>	Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.
<b>ICAO meteorological information exchange model (IWXXM)</b>	A data model for representing aeronautical meteorological information.
<b>International airways volcano watch (IAVW)</b>	International arrangements for monitoring and providing warnings to aircraft of volcanic ash in the atmosphere.
<b>Level</b>	A generic term relating to the vertical position of an aircraft in flight and meaning variously height, altitude or flight level.

Term	Meaning
<b>Meteorological authority</b>	The authority providing or arranging for the provision of meteorological service for international air navigation on behalf of a Contracting State.
<b>Meteorological bulletin</b>	A text comprising meteorological information preceded by an appropriate heading.
<b>Meteorological information</b>	Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.
<b>Meteorological office</b>	An office designated to provide meteorological service for international air navigation.
<b>Meteorological report</b>	A statement of observed meteorological conditions related to a specified time and location.
<b>Meteorological satellite</b>	An artificial Earth satellite making meteorological observations and transmitting these observations to Earth.
<b>Meteorological watch office (MWO)</b>	An office designated to provide information concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations within its specified area of responsibility.
<b>Minimum sector altitude</b>	The lowest altitude which may be used which will provide a minimum clearance of 300 m (1 000 ft) above all objects located in an area contained within a sector of a circle of 46 km (25 NM) radius centred on a radio aid to navigation.
<b>Navigation specification</b>	<p>A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:</p> <ul style="list-style-type: none"> <li>• Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.</li> <li>• Area navigation (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.</li> </ul>
<b>Observation (meteorological)</b>	The evaluation of one or more meteorological elements.
<b>Operational control</b>	The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

Term	Meaning
<b>Operational flight plan</b>	The operator’s plan for the safe conduct of the flight based on considerations of aeroplane performance, other operating limitations and relevant expected conditions on the route to be followed and at the aerodromes concerned.
<b>Operational planning</b>	The planning of flight operations by an operator.
<b>Performance-based navigation (PBN)</b>	Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.
<b>Pilot-in-command</b>	The pilot designated by the operator or the owner as being in command and charged with the safe conduct of a flight.
<b>Prevailing visibility</b>	The greatest visibility value, observed in accordance with the definition of “visibility”, which is reached within at least half the horizon circle or within at least half of the surface of the aerodrome. These areas could comprise contiguous or non-contiguous sectors.
<b>Prognostic chart</b>	A forecast of a specified meteorological element(s) for a specified time or period and a specified surface or portion of airspace, depicted graphically on a chart.
<b>Quality assurance</b>	Part of quality management focused on providing confidence that quality requirements will be fulfilled.
<b>Quality control</b>	Part of quality management focused on fulfilling quality requirements.
<b>Quality management</b>	Coordinated activities to direct and control an organization with regard to quality.
<b>Regional air navigation agreement</b>	Agreement approved by the Council of ICAO normally on the advice of a regional air navigation meeting.
<b>Reporting point</b>	A specified geographical location in relation to which the position of an aircraft can be reported.
<b>Rescue coordination centre</b>	A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.
<b>Runway</b>	A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.
<b>Runway visual range (RVR)</b>	The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

Term	Meaning
<b>Search and rescue services unit</b>	A generic term meaning, as the case may be, rescue coordination centre, rescue sub centre or alerting post.
<b>SIGMET information</b>	Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather and other phenomena in the atmosphere that may affect the safety of aircraft operations.
<b>Space weather centre (SWXC)</b>	A centre designated to monitor and provide advisory information on space weather phenomena expected to affect high-frequency radio communications, communications via satellite, GNSS-based navigation and surveillance systems and/or pose a radiation risk to aircraft occupants.
<b>Standard isobaric surface</b>	An isobaric surface used on a worldwide basis for representing and analysing the conditions in the atmosphere.
<b>State volcano observatory</b>	A volcano observatory, designated by regional air navigation agreement, to monitor active or potentially active volcanoes within a State and to provide information on volcanic activity to its associated area control centre/flight information centre, meteorological watch office and volcanic ash advisory centre.
<b>Threshold</b>	The beginning of that portion of the runway usable for landing.
<b>Touchdown zone</b>	The portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway.
<b>Tropical cyclone</b>	Generic term for a non-frontal synoptic-scale cyclone originating over tropical or sub-tropical waters with organized convection and definite cyclonic surface wind circulation.
<b>Tropical cyclone advisory centre (TCAC)</b>	A meteorological centre designated by regional air navigation agreement to provide advisory information to meteorological watch offices, world area forecast centres and international OPMET databanks regarding the position, forecast direction and speed of movement, central pressure and maximum surface wind of tropical cyclones.
<b>Upper-air chart</b>	A meteorological chart relating to a specified upper-air surface or layer of the atmosphere.
<b>Visibility</b>	<p>Visibility for aeronautical purposes is the greater of:</p> <ul style="list-style-type: none"> <li>(a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;</li> </ul>

Term	Meaning
	(b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.
<b>Volcanic ash advisory centre (VAAC)</b>	A meteorological centre designated by regional air navigation agreement to provide advisory information to meteorological watch offices, area control centres, flight information centres, world area forecast centres and international OPMET databanks regarding the lateral and vertical extent and forecast movement of volcanic ash in the atmosphere.
<b>VOLMET</b>	A Very High Frequency broadcast, typically providing METAR reports for a maximum of nine aerodromes on each channel in a continuous loop. Intended for aircraft in flight, it has a range of around 300 nautical miles at FL300.
<b>World area forecast centre (WAFC)</b>	A worldwide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized formats.
<b>World area forecast system (WAFS)</b>	A worldwide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized format.

Abbreviation	Meaning
<b>ATM</b>	Air Traffic Management
<b>ANS</b>	Air Navigation Services
<b>AFTN</b>	Aeronautical Fixed Telecommunications Network
<b>CAP</b>	Civil Aviation Publication
<b>DCA</b>	Director of Civil Aviation
<b>EASA</b>	European Aviation Safety Agency
<b>IOM CAA</b>	Isle of Man Civil Aviation Administration
<b>TAF</b>	Terminal Aerodrome Forecast
<b>UK CAA</b>	United Kingdom Civil Aviation Authority
<b>VAAC</b>	Volcanic Ash Advisory Centre
<b>WMO</b>	World Meteorological Organisation

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## 5. Objective of Meteorological Service for International Air Navigation

5.1 The objective of meteorological service for international air navigation shall be to contribute towards the safety, regularity and efficiency of international air navigation<sup>1</sup>. This objective shall be achieved by supplying the following users with the meteorological information necessary for the performance of their respective functions<sup>2</sup>:

- (a) operators;
- (b) flight crew members;
- (c) air traffic services units;
- (d) search and rescue services units;
- (e) airport managements and others concerned with the conduct or development of international air navigation.

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<sup>1</sup> ICAO Annex 3, 2.1.1

<sup>2</sup> ICAO Annex 3, 2.1.2

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## 6. Meteorological Authority

- 6.1 The IOM CAA is 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<sup>3</sup>. The IOM CAA also has a direct responsibility for the safety oversight of meteorological services for international air navigation in the Isle of Man, excluding those services delivered by UK CAA certificated and military providers.
- 6.2 The IOM CAA will also:
- (a) Ensure that meteorological services for international air navigation are provided on its behalf by Isle of Man Airport in its role as the “Meteorological Service Provider” and the meteorological office associated with Isle of Man Airport Air Traffic Control (ATC)<sup>4</sup>.
  - (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<sup>5</sup>. Day to day surveillance, advice and guidance by the IOM CAA is supplemented by a formalised safety audit programme with audits routinely taking place every 2 years on a risk and performance based schedule. These formal audits are conducted by the UK CAA on behalf of the IOM CAA under a contract with CAA International (CAAi).
  - (d) Ensure that the meteorological service in the Isle of Man meet the needs of international air navigation in the Isle of Man and helicopter operations to offshore structures and that aeronautical metrological offices are established as determined to be necessary<sup>6</sup>.

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<sup>3</sup> ICAO Annex 3, 2.1.4

<sup>4</sup> ICAO Annex 3, 2.1.4/3.3.1/10.1.1

<sup>5</sup> ICAO Annex 3, 4.1.4

<sup>6</sup> ICAO Annex 3, 2.1.3/4.1.1/4.1.2

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## 7. Requirements on Meteorological Service Providers

### 7.1 Management Systems

- 7.1.1 Providers of meteorological services for international air navigation in the Isle of Man are expected to comply with Regulation (EU) No.1035/2011 subject to the following variations:
- (a) References to a “Member State” shall be taken as including the Isle of Man and the Island shall be treated for this purpose as a Member State separate from the UK.
  - (b) The ‘competent authority’ for the purposes of Article 3 is the IOM CAA.
  - (c) Article 4 (Granting of a Certificate), Article 5 (Derogations), Article 10 (Peer review procedure), and Article 11 (Transitional Provisions) do not apply.
  - (d) Annexes II, IV and V are not applicable to the provision of meteorological services for international air navigation.
- 7.1.2 Where the meteorological service provision is conducted by an organisation that is also an Aerodrome Licence holder, it is preferable that there is one integrated management system covering all regulated functions under the remit of the aerodrome accountable manager/licence holder. The implementation of a management system in accordance with the [EASA Aerodrome Regulation](#) is considered to be an acceptable alternative to the requirements specified in Section 3 of Annex I to [Regulation \(EU\) No.1035/2011](#).

### 7.2 Change Notification

#### 7.2.1 Overview

- 7.2.1.1 Meteorological service providers should have a documented change management procedure which has been approved by the IOM CAA. The change management procedure shall contain a process for implementing all changes and assessing the risks associated with changes.
- 7.2.1.2 Changes fall into the following categories:
- (a) changes that may require review and approval before implementation;
  - (b) changes that will require prior approval before implementation;
  - (c) changes that require notification but do not require approval before implementation;
  - (d) changes that do not require notification.
- 7.2.1.3 Changes that are required to be notified to or reviewed/approved by the IOM CAA should be submitted by sending [IOM CAA Form 2](#) (Change Notification Form) by e-mail to [caa@gov.im](mailto:caa@gov.im). The relevant safety assurance documents should accompany the form.

#### 7.2.2 Changes that may require IOM CAA review and approval before implementation

- 7.2.2.1 Changes to or that affect the functional system are to be notified and may require IOM CAA review and prior approval before implementation.



7.2.2.2 The functional system is defined as 'a combination of procedures, human resources and equipment including hardware and software organised to perform a function within the context of Air Traffic Management/Air Navigational Services (ATM/ANS) and other ATM network functions' and can be broken down as follows:

- (a) changes to the way the components of the functional system are used;
- (b) changes to equipment, either hardware or software;
- (c) changes to roles and responsibilities of operational personnel;
- (d) changes to operating procedures;
- (e) changes to system configuration, excluding changes during maintenance, repair and alternative operations that are already part of the accepted operational envelope;
- (f) changes that are necessary as a result of changing circumstances to the operational context under the managerial control of the provider that can impact the service, e.g. provision of service under new conditions;
- (g) changes that are necessary as a result of changing circumstances to the local physical (operational) environment of the functional system; and
- (h) changes to the working hours and/or shift patterns of operational personnel which could impact on the safe delivery of meteorological services.

7.2.2.3 For changes to the functional system a completed [IOM CAA Form 2](#) and relevant documents should be sent to [caa@gov.im](mailto:caa@gov.im). The IOM CAA will assess the change from the information provided and decide which of the following options is applicable:

- (a) where a review is not required the IOM CAA will advise the notifier (within 30 days) as such;
- (b) where a review is required the IOM CAA will inform the notifier (within 30 days) that the change cannot be implemented until the review is completed and the change approved;
- (c) where there is insufficient information to allow a review decision to be made the IOM CAA will ask for further information.

*Note: changes where the risk assessment has indicated a significantly high severity level will routinely be subject to review.*

### **7.2.3 Changes that will require IOM CAA approval before implementation**

7.2.3.1 Modifications to the approved change management procedure require prior approval by the IOM CAA. A completed [IOM CAA Form 2](#) and relevant documents should be sent to [caa@gov.im](mailto:caa@gov.im). Modifications will be reviewed and approved or rejected (within 30 days).

### **7.2.4 Changes that require IOM CAA notification but not approval**

7.2.4.1 The following types of change shall be notified to the IOM CAA using [CAA Form 2](#) sent to [caa@gov.im](mailto:caa@gov.im), but do not require prior approval:

- (a) A change to the service provider's management system and/or safety management system that does not impact on the functional system or the change management process.
- (b) Change of accountable manager and the management personnel in charge of safety, quality, security, finance and human resources-related functions as applicable.

### **7.2.5 Changes that do not need to be notified to the IOM CAA**

7.2.5.1 The following types of change do not need to be notified to the IOM CAA but shall be implemented in accordance with local safety assurance procedures:

- (a) Equipment faults that result in the changing of components that do not affect the operating parameters.
- (b) Changes to maintenance routines, except those that impact on service provision.
- (c) Equipment modifications/manufacture's upgrades that do not affect the operating parameters.
- (d) Document changes, typos, formatting etc. that do not impact on the content of management systems, change management systems, training courses or service provision.

## **7.3 General Responsibilities**

7.3.1 Meteorological service providers shall follow the UK CAA policies and procedures contained in the following UK Civil Aviation Publications (CAP) unless authorised otherwise by the IOM CAA:

- (a) CAP746 (Requirements for Meteorological Observations at Aerodromes);
- (b) CAP 782 (Regulation of Aeronautical Meteorological Services).

*Note: References in the above CAPs to 'the CAA' shall be taken to mean 'the IOM CAA' for applicability in the Isle of Man.*

7.3.2 In addition, meteorological service providers shall:

- (a) 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<sup>7</sup>.
- (b) 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<sup>8</sup>.
- (c) Agree, as necessary, with aircraft operators, the minimum notice periods required from operators for changes in existing meteorological services<sup>9</sup>.

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<sup>7</sup> ICAO Annex 3, 2.1.5

<sup>8</sup> ICAO Annex 3, 2.2.1

<sup>9</sup> ICAO Annex 3, 2.3.1

- (d) Originate meteorological bulletins containing operational meteorological information transmitted by AFTN or the public Internet<sup>10</sup>.
- (e) 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<sup>11</sup>.

## 7.4 Aerodrome Meteorological Office Responsibilities

7.4.1 Isle of Man Airport will carry out the following functions to meet the needs of flight operations at Isle of Man Airport<sup>12</sup> and as associated with the Prestwick Area Control Centre<sup>13</sup>:

- (a) Preparing and/or obtaining forecasts (TAF) and other relevant information of local meteorological conditions and for flights with which it is concerned<sup>14</sup>. 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<sup>15</sup>.
  - 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<sup>16</sup>. The length of the forecast and the number of changes indicated in the forecast shall be kept to a minimum<sup>17</sup>.
  - have a period of validity not less than 6 hours and not more than 30 hours<sup>18</sup>. 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<sup>19</sup>. Not more than one TAF shall be valid at an aerodrome at any given time<sup>20</sup>.
  - cancel automatically any forecast of the same type issued for the same place and for the same period of validity or part thereof<sup>21</sup>.
- (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<sup>22</sup>.

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<sup>10</sup> ICAO Annex 3, 11.2

<sup>11</sup> ICAO Annex 3, 11.1.1/11.1.2/11.1.3/11.1.4/11.1.5/11.1.6/11.1.7/11.1.8/11.1.9

<sup>12</sup> ICAO Annex 3, 3.3.2/10.1.1/10.1.2

<sup>13</sup> ICAO Annex 3, 10.1.3

<sup>14</sup> ICAO Annex 3, 6.2.1 and 10.1.2

<sup>15</sup> ICAO Annex 3, 6.2.2

<sup>16</sup> ICAO Annex 3, 6.2.4/6.2.5

<sup>17</sup> ICAO Annex 3, 6.2.4

<sup>18</sup> ICAO Annex 3, 6.2.6

<sup>19</sup> ICAO Annex 3, 6.2.6

<sup>20</sup> ICAO Annex 3, 6.2.7

<sup>21</sup> ICAO Annex 3, 6.1.2

<sup>22</sup> ICAO Annex 3, 6.3.1/6.3.2

- (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<sup>23</sup>.
- (d) Providing up to date briefing, consultation, flight documentation and other meteorological information (including that obtained from other States)<sup>24</sup> to operators, flight crew members and/or other flight operations personnel for: pre-flight planning; in-flight re-planning; use by flight crew before departure; and for aircraft in flight<sup>25</sup>. 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<sup>26</sup> and include the following information<sup>27</sup>:
- forecast upper wind, upper air temperature upper and air humidity geopotential altitude of flight levels, flight level and temperature of tropopause, direction, speed and flight level of maximum wind (as soon as it becomes available and no later than 3 hours before departure)<sup>28</sup>;
  - SIGWX phenomena (as soon as it becomes available and no later than 3 hours before departure)<sup>29</sup>;
  - 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<sup>30</sup>; in such cases no modifications shall be made to their content<sup>31</sup>; 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<sup>32</sup>.

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<sup>23</sup> ICAO Annex 3, 4.6.6.2

<sup>24</sup> ICAO Annex 3, 9.1.9/9.2.1

<sup>25</sup> ICAO Annex 3, 9.1.1

<sup>26</sup> ICAO Annex 3, 9.1.2

<sup>27</sup> ICAO Annex 3, 9.1.3/9.3.1

<sup>28</sup> ICAO Annex 3, 9.1.8

<sup>29</sup> ICAO Annex 3, 9.1.8

<sup>30</sup> ICAO Annex 3, 9.1.4/9.1.6

<sup>31</sup> ICAO Annex 3, 9.1.5

<sup>32</sup> ICAO Annex 3, 9.3.2/9.3.3

- (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<sup>33</sup>.
- (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<sup>34</sup>. 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<sup>35</sup>.
- (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<sup>36</sup>:
  - 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.

## 7.5 Meteorological Watch Office Responsibilities

7.5.1 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<sup>37</sup>:

- (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 IOM CAA. 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<sup>38</sup>.

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<sup>33</sup>ICAO Annex 3, 7.3.1

<sup>34</sup> ICAO Annex 3, 8.1.1/8.2/8.3/8.4

<sup>35</sup> ICAO Annex 3, 8.1.2

<sup>36</sup> ICAO Annex 3, 4.2/9.5.2/10.1.1

<sup>37</sup> ICAO Annex 3, 3.4.1/2/3

<sup>38</sup> ICAO Annex 3, 10.2

## 7.6 Adoption of the EASA ATM Implementing Rule

- 7.6.1 The Isle of Man anticipates formally implementing the meteorological service requirements of the [EASA ATM IR](#) (Regulation (EU) 2017/373) into Isle of Man legislation in due course. Therefore voluntary adoption of these requirements is encouraged as part of an incremental transition ahead of the requirements becoming binding.