



# CIVIL AVIATION REGULATION 005

## METEOROLOGICAL SERVICE PROVIDER CERTIFICATION REGULATIONS

04 April 2016

## **PREFACE**

These Regulations set out the means by which the Kingdom certifies Meteorological Service Providers. These Regulations accord with Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law and its Executive Regulations issued by Ministerial Decree No. 21 of 2013, ANTR Volume III Part 3, and with Annex 3 to the Convention on International Civil Aviation.

This document specifies the criteria applied by the Certification Authority (BCAA) on any person or organization desiring to provide a Meteorological Service in the Kingdom of Bahrain serving aviation. The document also provides a reference to the holders of a certificate so that they may ensure compliance with the BCAA's requirements as they relate to the developments and operational management of a certified Meteorological Service.

If the BCAA determines that an applicant is properly and adequately organized, resourced, equipped and able to conduct a safe operation in accordance with the requirements of these rules, Regulations, and standards prescribed hereunder, the BCAA shall issue or renew a Meteorological Service certificate to the applicant as the Meteorological Service provider.

The Regulations represent the minimum standards necessary to meet the licensing requirement, and its amendment is the responsibility of the Bahrain Civil Aviation Affairs. Suggestions for improvement should be forwarded to the Authority.

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## RECORD OF AMENDMENTS AND CORRIGENDA

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Meteorological Service Provider Certificate

## INTRODUCTION

### METEOROLOGICAL SERVICE PROVIDER (MSP) CERTIFICATION

(1) Civil Aviation Affairs of the Kingdom of Bahrain (the Authority) may make Regulations with respect to aviation and, without restricting the generality of the foregoing, may make Regulations with respect to activities of Meteorological Services and the location, inspection, certification, registration and operation of Meteorological Service providers.

(2) Any registered organization or individual desiring to provide a Meteorological Service that is described in paragraph (1) and that is required by the Authority, by rule, to be certified may file with the Authority an application for a Meteorological Service Provider certificate. Such application shall include any documentation required by these Regulations for the Meteorological Service. If the Authority determines that an applicant is properly and adequately equipped and able to conduct a safe operation in accordance with the requirements of these rules, and the Regulations, and standards prescribed hereunder, the Authority shall issue a Meteorological Service Provider certificate to the applicant. Each Meteorological Service Provider certificate shall prescribe such terms, conditions, and limitations as are reasonably necessary to assure adequacy.

(3) The Authority or its representative may

a) enter any MSP for the purposes of making inspections relating to the enforcement of this Regulation;

b) enter any place in the MSP for the purposes of an investigation of matters concerning aviation safety;

c) seize anything found in any place referred to in paragraph (a) or (b) that the Authority or its representative believes on reasonable grounds will afford evidence with respect to an offence under paragraph (4) or the causes or contributing factors pertaining to an investigation referred to in sub-paragraph b).

(4) It shall be an offence to provide false information in support of an application for an MSP certificate or to otherwise act, or fail to act, so as to endanger the provision of a certified Meteorological Service. The provider of a Meteorological Service may be proceeded against if found to have committed

an offense in relation to the Meteorological Service or associated facility for which he is responsible under the terms of the Meteorological Service Provider certificate. In such eventuality the operator of the MSP is liable to the penalty prescribed in Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law.

## Chapter 1 GENERAL

### 1.1 Application

- 1.1.1 These Regulations apply to Meteorological Services within the Kingdom of Bahrain that provide those services to any operations by aircraft.
- 1.1.2 This Regulation governs the certification and operation of organisations providing meteorological services to aviation.
- 1.1.3 No person or entity shall provide an aviation meteorological service to civil operations except under the authority of, and in accordance with the provisions of, a Meteorological Service Provider certificate issued under this Regulation.

### 1.2 Interpretation and Definitions

- 1.2.1 The terms described in this sub-section shall have the following meaning whenever they appear in these Regulations;

Accepted/Acceptable; Means not objected to by the BCAA as suitable for the purpose intended.

Accountable Manager; The person within an organisation who has:

1. Full control of the human resources required for the operations authorized to be conducted under the MSP certificate;
2. Full control of the financial resources required for the operations authorized to be conducted under the MSP certificate;
3. Final authority over operations authorized to be conducted under the MSP certificate;
4. Direct responsibility for the conduct of the MSP's affairs; and
5. Final responsibility for all safety issues related to the MSP.

Accuracy; A degree of conformance between the estimated or measured value and the true value.

Aerodrome; A defined area on land (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Aerodrome manual; A manual included in an application for an Aerodrome Certificate pursuant to Regulations and incorporating any amendments to the manual accepted by the Authority.

Aerodrome Meteorological Office; An office, located at an aerodrome, designated to provide meteorological services for air navigation.

Aeronautical Meteorological Station; A station designated to make observations and meteorological reports for use in air navigation.

Aircraft; 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.

Aircraft observation; The evaluation of one or more meteorological elements made from an aircraft in flight.

AIRMET Information; 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 regions concerned, or sub-area thereof.

Approved by the Authority; Means documented by the Authority as suitable for the purpose intended.

Authority; the Civil Aviation Affairs of the Kingdom of Bahrain (CAA or BCAA).

BCAA; The Civil Aviation Affairs of the Kingdom of Bahrain (The Authority). Also, CAA.

Briefing; Oral commentary on existing and/or expected meteorological conditions.

CAA; see BCAA.

Certified aerodrome; An aerodrome whose operator has been granted an aerodrome certificate.

Data quality; A degree or level of confidence that the data provided meet the requirements of the data user in terms of accuracy, resolution and integrity.

Forecast; A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

Helicopter; An aircraft whose lift is derived from the aerodynamic forces acting on one or more powered rotors turning about substantially vertical axes.

Helicopter Landing Area (HLA); A defined area on the surface of the earth or on a structure to be used in other than international operations for the arrival and departure of aircraft other than fixed-wing aircraft, or

(ii) a heliport, or

(iii) a helideck.

Helideck; an area intended for use wholly or partly for the arrival or departure of helicopters on:

(i) a ship; or

(ii) a floating or fixed off-shore structure.

Heliport; An area that is intended to be used wholly or in part for the arrival, departure and surface movement of helicopters in either domestic or international operations and meets or exceeds the heliport standards set out in Volume II of Annex 14 to the Chicago Convention

- (i) on land, or
- (ii) on a building or other raised structure on land.

ICAO; International Civil Aviation Organization.

IMC; (Instrument Meteorological Conditions) Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.

International airport; Any airport designated by the BCAA as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

Local mean sea level; the mean sea level measured at Mina Salman – the location of the Bahrain National Level Datum.

LSALT: Lowest safe altitude.

Meteorological Authority; The authority providing or arranging for the provision of meteorological service for air navigation on behalf of the Kingdom of Bahrain (The BCAA unless otherwise specified).

Meteorological bulletin; A text comprising meteorological information preceded by an appropriate heading.

Meteorological information; Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.

Meteorological office; An office designated to provide meteorological service for air navigation.

Meteorological report; A statement of observed meteorological conditions related to a specific time and location.

Meteorological Service; The measurements and forecasts of the state of the atmosphere with respect to wind, temperature, cloudiness, moisture, pressure, etc. en route and at, or on the approach to, aerodromes, and the supply of that information to users.

MSP (Meteorological Service Provider); A provider certified by the BCAA to provide a Meteorological Service.

Observation (meteorological); The evaluation of one or more meteorological elements.

Orthometric height; Height of a point related to the geoid, generally presented as an MSL elevation.

Quality; Degree to which a set of inherent characteristics fulfils requirements.

Quality control; Part of quality management focused on fulfilling quality requirements.

Quality management; Coordinated activities to direct and control an organization with regard to quality.

Quality management system; Set of interrelated or interacting elements to establish quality management policy and objectives and to achieve those objectives.

Safety management system; A systematic approach to managing safety including the necessary organizational structure, accountabilities, policies and procedures.

SIGMET information; 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 aircraft operations.

UTC (Coordinated Universal Time); time scale which forms the basis of a coordinated radio dissemination of standard frequencies and time signals.

VMC; Visual meteorological conditions.

World Meteorological Organisation (WMO); The agency of the United Nations relating to climate, meteorology, hydrology and related geophysical sciences.

### **1.3 Standards and Recommended Practices**

1.3.1 Any reference in these Regulations to standards is a reference to ICAO standards and recommended practices with particular reference to the latest version of Annex 3 to the Convention on International Civil Aviation (Chicago 1944).

### **1.4 Reference Systems**

- 1.4.1 *Horizontal reference system:* WGS–84 shall be used as the horizontal (geodetic) reference system. Reported aeronautical geographical data (indicating latitude and longitude) shall be expressed in terms of the WGS-84 geodetic reference datum.
- 1.4.2 *Vertical reference system:* Mean seal level (MSL) datum, which gives the relationship of gravity-related height (elevation) to the geoid shall be used as the vertical reference system.
- 1.4.3 *Temporal reference system:* The Gregorian calendar and Coordinated Universal Time (UTC) shall be used as the temporal reference system.

## **Chapter 2 Meteorological Service Provider Certification**

### **2.1 Requirement for a Meteorological Service Provider certificate**

2.1.1 The provider of a Meteorological Service to civil air traffic shall be in possession of a Meteorological Service Provider certificate.

### **2.2 Application for a Meteorological Service Provider certificate**

2.2.1 An applicant for a Meteorological Service Provider certificate shall submit to the Authority an application in the form prescribed in Appendix A. The application shall include the Meteorological Service Provider manual.

### **2.3 Grant of a Meteorological Service Provider certificate**

2.3.1 Subject to the provisions in Regulations 2.3.2 the Authority may approve the application and accept the manual submitted under Regulation 2.2.1 and grant a Meteorological Service Provider certificate to the applicant in the form prescribed in Appendix B.

2.3.2 Before granting a Meteorological Service Provider certificate, the Authority shall be satisfied that:

- a) an acceptable safety management system is in place;
- b) the provider's facilities, services and equipment are in accordance with these Regulations;
- c) the provider's operating procedures make satisfactory provision for delivery of the service;
- d) a Meteorological Service Provider manual that has been prepared for the applicant's service and submitted with the application, contains all the relevant information; and
- e) The applicant has the necessary competence, experience and resources to provide the service properly.

2.3.3 The Authority may refuse to grant an MSP certificate to an applicant. In such cases, the Authority shall notify the applicant, in writing, of its reason no later than 7 days after making its decision.

### **2.4 Endorsement of conditions**

2.4.1 After a successful completion of the processing of the application and inspection of the provider's facilities, the Authority, while granting the Meteorological Service Provider certificate may endorse any conditions or other details as required.

## **2.5 Validity of the Meteorological Service Provider certificate**

2.5.1 A Meteorological Service Provider certificate shall be valid for 3 Years or until it is suspended or cancelled, whichever is earlier.

## **2.6 Transfer of a Meteorological Service Provider certificate**

2.6.1 The Authority may give its consent to, and issue an instrument of transfer of an Meteorological Service Provider certificate to a transferee where:

- a) the current holder of the Meteorological Service Provider certificate notifies the Authority in writing at least 90 days before ceasing to operate the Meteorological Service Provider that the current holder will cease to operate the Meteorological Service Provider as of the date specified in the notice;
- b) the current holder of the Meteorological Service Provider certificate notifies the Authority in writing, the name of the transferee;
- c) the transferee applies in writing to the Authority within 60 days before the current holder of the Meteorological Service Provider certificate cease to operate the service, for the Meteorological Service Provider certificate to be transferred to the transferee; and
- d) the requirements of 2.2.1 and 2.3.2 are met.

2.6.2 If the Authority does not consent to the transfer of a Meteorological Service Provider certificate, it shall notify the transferee, in writing, of its reasons within 7 days after making that decision, and the certificate shall not transfer.

## **2.7 Amendment of the Meteorological Service Provider certificate**

2.7.1 The Authority may, provided that the requirements of paragraph 2.2.1 and 2.3.2, and 3.5.1 are met, amend a Meteorological Service Provider certificate where:

- a) there is a change in the use or operation of the service;
- b) there is a change in the location of the service; or
- c) The holder of the Meteorological Service Provider certificate requests the amendment.

2.7.2 If there is a change in ownership or management of the provider, the new owner or manager shall apply for a transfer of the Meteorological Service Provider certificate in accordance with 2.6.1.

2.7.3 If the Meteorological Service Provider requests an amendment to the Meteorological Service Provider certificate or the endorsed conditions such request shall be accompanied by:

- a) a detailed account of the proposed amendment including the reasons for the amendment;
- b) an assessment of the safety risks associated with any change in use or provision of the service including, where appropriate, the findings of any aeronautical study undertaken on behalf of the Meteorological Service Provider; and
- c) Particulars of any consequential changes to the AIP or the Meteorological Service Provider manual.

2.7.4 The Authority may amend a Meteorological Service Provider certificate so as to restrict or prohibit specific operations if the Meteorological Service Provider breaches the conditions of the certificate. The Authority shall provide written notice of intention to amend a Meteorological Service Provider certificate stating the reasons for the proposed amendment.

## **2.8 Suspension or Withdrawal of a Meteorological Service Provider Certificate**

2.8.1 The Authority may suspend or withdraw a Meteorological Service Provider certificate if the provider fails to meet the obligations set out in Chapter 4 of these Regulations.

2.8.2 In the event of a serious failure of provider's safety management system the Authority may require specific operations to be suspended with immediate effect.

## **Chapter 3 Meteorological Service Provider MANUAL**

### **3.1 Preparation of a Meteorological Service Provider Manual**

3.1.1 The provider of a certified Meteorological Service shall have a manual, to be known as the Meteorological Service Provider manual.

3.1.2 The Meteorological Service Provider manual shall:

- a) be type written or printed and signed on behalf of the Meteorological Service Provider by a duly authorised manager or executive;

- b) be in a format that is easy to revise and insert replacement pages;
- c) have a system for recording the currency of page and amendments thereto;
- d) include a page for logging revisions; and
- e) be organized in a manner that will facilitate the preparation review and approval process.

### **3.2 Location of the Meteorological Service Provider Manual**

3.2.1 The Meteorological Service Provider shall provide the Authority with a complete and current copy of the Meteorological Service Provider manual.

3.2.2 The Meteorological Service Provider shall keep at least one complete and current copy of the Meteorological Service Provider manual at each Meteorological Service Provider operations facility and one copy at the operator's principal place of business if that is other than the Meteorological Service Provider operations facility.

3.2.3 The Meteorological Service Provider shall make the Meteorological Service Provider manual available to all relevant organizations operating at an airport served by the provider, and take all reasonable steps to ensure that all relevant Meteorological Service Provider personnel, regardless of their employer, are familiar with sections of the Meteorological Service Provider manual relevant to their activity.

3.2.4 The Meteorological Service Provider shall make the Meteorological Service Provider manual available for inspection by the Authority.

### **3.3 Information to be included in the Meteorological Service Provider Manual**

3.3.1 The following information shall be included in the Meteorological Service Provider Manual:

3.3.1.1 A statement signed by the Chief Executive on behalf of the applicant's organization confirming that the manual and any included documents;

a) define the organisation and demonstrate its means and methods for ensuring ongoing compliance with this Regulation; and

b) will be complied with at all times; and

3.3.1.2 The titles and names of the person or persons required by 4.1.1.1 and 4.1.1.2; and

3.3.1.3 The duties and responsibilities of the person or persons specified in 3.3.1.2; and

3.3.1.4 An organisational chart showing lines of responsibility of the persons specified in 3.3.1.2; and

3.3.1.5 A summary of the applicant's staffing structure at each meteorological office listed under 3.3.1.7; and

3.3.1.6 A list of the meteorological services to be covered by the certificate; and

3.3.1.7 A list providing—

a) the location of each meteorological office operated by the applicant; and

b) the location of each facility operated by the applicant that provides meteorological information directly to the users; and

c) the meteorological services provided by each of those meteorological offices and facilities; and

d) the locations and airspace covered by such meteorological services; and

3.3.1.8 Details of the applicant's output meteorological information identified under 4.5.1.1 and the standards and formats for that information determined under 4.5.1.2; and

3.3.1.9 Details of the applicant's procedures and systems required by;

a) 4.1.2 regarding competence of personnel; and

b) 4.2 regarding site requirements; and

c) 4.3 regarding communication requirements; and

d) 4.4 regarding meteorological service input requirements; and

e) 4.5 regarding meteorological service output requirements; and

f) 4.6 regarding data facility requirements; and

g) 4.7.2 regarding control of documents; and

h) 4.8 regarding verifications, inspections, tests and calibrations; and

i) 4.9 regarding release of meteorological information and the placing of facilities into operational service; and

j) 4.10 regarding notification of meteorological office and facility status; and

k) 4.11 regarding meteorological information checks after notification of an accident or incident; and

l) 4.12 regarding identification, collection, indexing, storage, maintenance and disposal of records; and

m) 4.13 regarding internal quality assurance of the organisation; and

n) 4.14 regarding safety management requirements.

3.3.1.10 Procedures to control, amend and distribute the manual.

3.3.2 The applicant's manual shall be acceptable to the Authority.

### **3.4 Continued Compliance**

3.4.1 Each holder of a meteorological service provider certificate shall –

3.4.1.1 Hold at least one complete and current copy of their manual at each meteorological office; and

3.4.1.2 Comply with all procedures and systems detailed in their manual; and

3.4.1.3 Make each applicable part of their manual available to personnel who require those parts to carry out their duties; and

3.4.1.4 Continue to meet the standards and comply with the requirements of this Regulation; and

3.4.1.5 Notify the Authority, of any change of address, telephone or facsimile number, or email address required by the BCAA within 28 days of the change.

## **Chapter 4 CERTIFICATION REQUIREMENTS**

### **4.1 Personnel Requirements**

4.1.1 Each applicant for the grant of a meteorological service certificate shall engage, employ or contract:

4.1.1.1 A person identified as the Chief Executive who has the authority within the applicant's organisation to ensure that each meteorological service listed in their manual can be financed and carried out to meet the operational requirements, and in accordance with the requirements prescribed by this Regulation; and

4.1.1.2 A person or group of persons who are responsible for ensuring that the applicant's organisation complies with the requirements of this Regulation. Such nominated person or persons shall be ultimately responsible to the Chief executive; and

4.1.1.3 An accountable manager responsible for the provision of a safety management system according to the requirements of ANTR Volume III Part 19; and

4.1.1.4 Sufficient personnel to plan, operate, supervise, inspect and certify the meteorological offices and facilities and provide the meteorological services listed in the applicant's manual.

4.1.2 Each applicant shall establish procedures:

4.1.2.1 To provide training for meteorological personnel in accordance with the WMO requirements contained in WMO publication 258 and supplement 1 to WMO 258 as well as WMO 49, Vol. 1 and 2.

4.1.2.2 To assess the competence in accordance with WMO requirements of those personnel who are authorised by the applicant to –

- a. place facilities listed in the applicant's manual into operational service; and
- b. produce and release meteorological information; and

4.1.2.3 Establish a procedure to maintain and develop the competence of those authorized personnel; and

4.1.2.4 Provide those authorised personnel with written evidence of the scope of their authorisation.

## **4.2 Facility Requirements**

4.2.1 Each applicant for the grant of a meteorological service provider certificate shall determine which meteorological office/s they wish to establish.

These shall be one or more of the following —

4.2.1.1 A meteorological office either located at, or associated with an aerodrome to carry out some or all of the following tasks as required to meet the requirements of flight operations at the aerodrome:

a) Prepare and/or obtain forecasts complying with Annex 3 format and validity requirements for

i) departing aircraft

ii) local meteorological conditions; or

b) maintain a continuous watch of meteorological conditions over the aerodrome/s for which it prepares forecasts; or

c) provide briefing, consultation and flight documentation to crew members and other flight operations personnel; or

d) supply other meteorological information, complying with Annex 3 format requirements, to aeronautical users including:

i) routine observations and reports;

ii) special observations and reports;

iii) aerodrome warnings;

iv) wind shear warnings;

- v) other warnings as locally agreed or
- e) display available meteorological information;
- f) exchange meteorological information with other meteorological offices; or
- g) supply information on pre-eruption volcanic activity, volcanic eruptions or ash cloud to associated ATS units, AIS units and meteorological watch offices as per letters of agreement; or

4.2.1.2 A meteorological watch office which shall—

- a) maintain a watch over meteorological conditions affecting flight operations within the watch office's area of responsibility; and
- b) prepare and supply SIGMET and other information related to its area of responsibility to associated air traffic services; and
- c) disseminate SIGMET information by AFTN;
- d) when required by regional air navigation agreements or letters of agreement—
  - i) prepare AIRMET information related to its area of responsibility;
  - ii) supply AIRMET information to associated ATS units;
- e) disseminate AIRMET information;
- f) supply information on pre-eruption volcanic activity, volcanic eruptions or ash cloud, for which a SIGMET has not been issued, to its associated ATS units, AIS units as per letters of agreement, and to its associated VAAC as determined by regional air navigation agreement;
- g) supply information received concerning the accidental release of radioactive materials into the atmosphere in the area for which it has responsibility, or in adjacent areas to its associated ATS units, AIS units as per letters of agreement.

4.2.1.3 An aeronautical meteorological station which shall –

- a) be established at aerodromes and offshore structures as deemed necessary by the Authority to support both international air operations and off shore helicopter operations;
- b) make routine observations at fixed intervals;
- c) at aerodromes, make special observations whenever specified changes occur in respect of surface wind, visibility, runway visual range, present weather, clouds and /or air temperature.

4.2.2 Each applicant for the grant of a meteorological service certificate shall establish procedures to ensure that:

4.2.2.1 Each of the meteorological offices and facilities listed in their manual is;

a) sited and configured in accordance with security measures designed to prevent unlawful or accidental interference; and

b) provided with suitable power supplies and means to ensure appropriate continuity of service; and

4.2.2.2 The equipment is sited in accordance with ICAO Doc 8896; and

4.2.2.3 When applicable, each remote weather sensing facility listed in their manual is installed and maintained in a technically appropriate position to ensure that the facility provides an accurate representation of the local meteorological conditions.

### **4.3 Communication Requirements**

4.3.1 Each applicant for the grant of a meteorological service provider certificate shall establish communication systems and procedures to ensure that each of the meteorological offices and facilities listed in their manual can provide the meteorological information for which it was established in a timely reliable manner.

4.3.2 The communication systems and procedures must be able to handle the volume and nature of the meteorological information being communicated so that no meteorological information is delayed to the extent that the information becomes out of date.

### **4.4 Input Requirements**

4.4.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures to obtain input meteorological information appropriate to the meteorological service being provided.

4.4.2 The procedures shall ensure that:

4.4.2.1 Each meteorological office and facility listed in the applicant's manual that provides a forecast service has continuous access to appropriate historical, real-time, and other meteorological information for the applicant's forecast areas; and

4.4.2.2 Each meteorological office and facility listed in the applicant's manual that provides a meteorological briefing service in person or by any other interactive visual means, has adequate display and briefing resources available for the briefings; and

4.4.2.3 Each meteorological office and facility listed in the applicant's manual that provides a meteorological reporting service has adequate observing systems to supply adequate, accurate and timely meteorological reports in accordance with the requirements of ICAO Annex 3 Chapter 4; and

4.4.2.4 Each meteorological office and facility listed in the applicant's manual that provides a meteorological watch service has adequate meteorological information to supply an adequate, accurate and timely meteorological watch service; and

4.4.2.5 Each meteorological office and facility listed in the applicant's manual that provides a climatology service has adequate meteorological information for the preparation of climatological information; and

4.4.2.6 Aircraft reports and observations are processed appropriately according to the service being provided by the meteorological office.

#### **4.5 Output Requirements**

4.5.1 Each applicant for the grant of a meteorological services provider certificate shall:

4.5.1.1 Identify the output meteorological information provided by each meteorological service listed in their manual; and

4.5.1.2 Determine the standards and formats for that output meteorological information, in accordance with the requirements of the relevant chapter and appendix of ICAO Annex 3 as well as the requirements of Attachments A, B and C of Annex 3

4.5.2 Each applicant for the grant of a meteorological services provider certificate shall establish procedures to ensure that the meteorological information supplied by each meteorological office and facility listed in their manual complies with the standards and formats determined under 4.5.1.2

4.5.3 Each applicant for the grant of a meteorological services provider certificate shall establish procedures to ensure that the meteorological information supplied by each meteorological office and facility listed in their manual is consistent with ICAO Human Factors principles and shall be in forms which require a minimum of interpretation by users.

Holders of meteorological service provider certificates shall establish letters of agreement or similar service provision agreements with the users of the applicant's meteorological service/s, covering the user's requirements including notification requirements.

4.5.4 Each applicant for the grant of a meteorological services provider certificate with respect to a meteorological briefing service, wishing to automate an information bulletin shall obtain BCAA acceptance of the automated system.

4.5.5 Each applicant for the grant of a meteorological services provider certificate with respect to a meteorological reporting service shall establish procedures to ensure that the reports issued comply with the requirements of ICAO Annex 3, Chapter 4.

#### **4.6 Data Facility Requirements**

4.6.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures to ensure that all electronic data processing facilities used in the acquisition, compilation, computing, access or dissemination of meteorological information are of a nature, configuration and capability to ensure the adequacy, accuracy and timeliness of that meteorological and related information.

4.6.2 At aerodromes with runways intended for Category I, II and III ILS operations, automated equipment for measuring or assessing, as appropriate, and for monitoring and remote indicating of surface wind, visibility, RVR, cloud base height, air and dew-point temperatures and atmospheric pressure shall be installed to support approach, landing and takeoff operations. These devices shall be integrated automatic systems for the acquisition, processing, dissemination and display in real time of the meteorological parameters affecting landing and takeoff operations. Human factor principles should be observed in the design of these devices.

#### **4.7 Documentation**

4.7.1 Each applicant for the grant of a meteorological services provider certificate shall hold copies of meteorological service provider manual, facility manuals, technical standards and practices, procedure manuals and any other documentation that is necessary for the provision of the meteorological services listed in their MSP manual.

These documents shall include, but are not limited to:

1. Annex 3;
2. ICAO Doc 7030;
3. ICAO Doc 7192;
4. ICAO Doc 8896;
5. ICAO Doc 9328;
6. ICAO Doc 9377;
7. ICAO Doc 9708;
8. ICAO Doc 9837;
9. ICAO Doc 9859.
10. WMO Publication 49
11. WMO Publication 258

4.7.2 Each applicant for the grant of a meteorological services certificate shall establish a procedure to control the documentation required by 4.7.1.

The procedure shall ensure that:

4.7.2.1 The documentation is reviewed and authorised by appropriate personnel before issue; and

4.7.2.2 Current issues of relevant documentation are available to personnel at all locations where they need access to such documentation for the provision of the meteorological services listed in the applicant's manual; and

4.7.2.3 Obsolete documentation is promptly removed from all points of issue or use; and

4.7.2.4 Changes to documentation are reviewed and approved by appropriate personnel; and

4.7.2.5 The current version of each item of documentation can be identified to preclude the use of out of date editions.

#### **4.8 Periodic Inspection, Testing and Calibration**

4.8.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures for:

4.8.1.1 The periodic inspection of each aeronautical meteorological office listed in the applicant's manual; and

4.8.1.2 The periodic inspection, testing and calibration of each facility listed in the applicant's manual.

4.8.2 The procedures shall ensure that:

4.8.2.1 Appropriate inspection equipment and systems are available to personnel for the inspection of each meteorological office; and

4.8.2.2 Appropriate inspection, measuring and test equipment and systems are available to personnel for the inspection, testing and calibration of each facility; and

4.8.2.3 The inspection, measuring and test equipment and systems have the precision and accuracy necessary for the inspections, measurements and tests being carried out; and

4.8.2.4 All meteorological sensing facilities are calibrated and configured so that the environmental sensors fitted or incorporated yield, as far as possible, reliable, accurate and representative meteorological information.

#### **4.9 Release of Meteorological Information**

4.9.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures for:

4.9.1.1 The release of meteorological information from each meteorological office listed in their manual;  
and

4.9.1.2 The placing of facilities listed in their manual into operational service.

4.9.2 The procedures shall ensure that persons authorised to supervise the production and release of meteorological information and persons authorised to place meteorological facilities into operational service have been assessed as competent under the procedures required by 4.1.2.

#### **4.10 Notification of Meteorological Office and Facility Status**

4.10.1 Each applicant for the grant of a meteorological service provider certificate shall establish procedures to notify the users of the applicant's meteorological services of relevant operational information and of any changes in the operational status of each meteorological office or facility listed in the applicant's manual.

4.10.2 The applicant must ensure that the procedures established under 4.10.1 require:

4.10.2.1 The operational information for each of the applicant's meteorological services that support the Bahrain air navigation system or an air traffic service to be forwarded to the Aeronautical Information Service for publication in the Bahrain AIP; and

4.10.2.2 The users of a meteorological office or facility to be notified without delay of any change in the operational status of the meteorological office or facility if the change may affect the safety of air navigation. For those meteorological offices and facilities published in the Bahrain AIP, the information concerning any change to their operational status must be forwarded to the AIS for the issue of a NOTAM.

#### **4.11 Meteorological Information Check after Accident or Incident**

4.11.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures for checking the adequacy, accuracy and timeliness of any of their meteorological information that may have been used by an aircraft or an air traffic service involved in an accident or incident.

4.11.2 The procedures shall ensure that:

4.11.2.1 The checks are carried out as soon as practicable after notification to the applicant's organisation of such an accident or incident; and

4.11.2.2 Copies of the meteorological information are kept in a secure place for possible use by any subsequent investigation.

#### **4.12 Records**

4.12.1 Each applicant for the grant of a meteorological services provider certificate shall establish procedures to identify, collect, index, store, maintain and dispose of the records that are necessary for the supply of the meteorological services listed in their manual.

4.12.2 The procedures shall ensure that:

4.12.2.1. There is a record of the input meteorological information obtained under the procedures required by 4.4; and

4.12.2.2. There is a record of all output meteorological information identified under 4.5; and

4.12.2.3. The records specified in 4.12.2.1 and 4.12.2.2 are retained for a period of at least 31 days or for such longer period as may be required by the Authority; and

4.12.2.4. There is a record for each meteorological office and facility listed in the applicant's manual, in order to document the performance of each meteorological office and facility and to provide a traceable history of its maintenance, service and product quality, its periodic inspections, and the person responsible for each of these activities; and

4.12.2.5. There is a record of the equipment and systems used for verification, inspection, testing and calibration under the procedures required by 4.8. The record shall provide a traceable history of the location, maintenance and calibration checks for the equipment and systems; and

4.12.2.6. There is a record of each occurrence of erroneous meteorological information reported and of each malfunction detected under the procedures required by 4.13.5. The record shall detail the nature of the erroneous meteorological information or malfunction and the findings of the investigation and the follow-up corrective actions; and

4.12.2.7. There is a record of each internal quality review of the applicant's organization carried out under the procedures required by 4.13. The records shall detail the part or activity of the organisation that was reviewed, the findings of the review and any necessary follow-up corrective actions; and

4.12.2.8. There is a record for each person who is authorised by the applicant to supervise the production and release of meteorological information and for each person who is authorised by the applicant to place facilities into operational service. The record shall include details of their experience, qualifications, training and current authorisations; and

4.12.2.9. All records are legible and of a permanent nature; and

4.12.2.10. All records other than those required by 4.12.2.1 and 4.12.2.2 are retained for at least one year, or for such longer period as may be required by the Authority, in order to establish a history of the performance of the meteorological services.

#### **4.13 Internal Quality Assurance**

4.13.1 Each applicant for the grant of a Meteorological Service Providers Certificate shall establish internal quality assurance procedures to ensure compliance with, and the adequacy of, the procedures required by this Regulation.

4.13.2 The quality system established in accordance with 4.13.1 shall conform to ISO 9000 standards and shall be certified by an approved organization.

4.13.3 The person who has responsibility for internal quality assurance shall have direct access to the Chief Executive on matters affecting the adequacy, accuracy and timeliness of the meteorological information.

4.13.4 When the quality assurance procedures indicate that meteorological information to be supplied does not comply with the output requirements of 4.5.2 and automatic error correction procedures are not appropriate, such information shall not be supplied to the users unless it is validated with the originator.

4.13.5 The quality system shall include procedures and resources for –

4.13.5.1 The routine verification of meteorological information obtained and provided by the applicant; and

4.13.5.2 The assessment of the timeliness of transmission of messages or bulletins.

4.13.6 Each applicant for the grant of a meteorological services provider certificate shall establish procedures:

4.13.6.1 To identify, record, notify, investigate and rectify any report of erroneous meteorological information; and

4.13.6.2 To identify, record, notify, investigate and rectify any detected malfunction in the facilities and meteorological services listed in their exposition that may result in the supply of erroneous meteorological information; and

4.13.6.3 To notify without delay all users that have received the erroneous meteorological information; and

4.13.6.4 To notify the Authority, within 12 hours, of those malfunctions that cannot be remedied within 72 hours; and

4.13.6.5 For the continuation of malfunction status reports in the event that such reports are required by the Authority.

#### **4.14 Safety Management**

4.14.1 Each applicant for the grant of a Meteorological Service Provider Certificate shall establish a safety management system in accordance with ANTR Vol III Part 19.

4.14.2 The safety management system shall include:

4.14.2.1. Hazard identification; and

4.14.2.2. Risk management; and

4.14.2.3. Safety assurance; and

4.14.2.4. Safety performance monitoring, auditing and measurement; and

4.14.2.5. Change management; and

4.14.2.6. Management Reviews.

## **Chapter 5 Safety Inspections and Audits**

5.1 The Authority may, in writing, require the holder of a meteorological service provider certificate to undergo or carry out such inspections and audits of the holder's meteorological offices, facilities, documents and records as the Authority consider necessary in the interests of civil aviation safety and security.

5.2 The Authority may require from the holder of a meteorological service provider certificate such information as the Authority considers relevant to the inspection or audit.

## APPENDIX A

KINGDOM OF BAHRAIN  
Ministry of Transportation  
and Telecommunications



مملكة البحرين  
وزارة المواصلات والاتصالات

### Application for the grant of a Meteorological Service Provider Certificate

**NAME:**

**ADDRESS:**

**DATE OF APPLICATION:**

**LIST OF SUPPORTING DOCUMENTS:**

Include Type of Services applied for, Locations, and MSP Manual.

**ACCOUNTABLE MANAGER:**

On behalf of the applicant named above, I hereby certify that the information contained in this application is true and complete.

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Name

Date

Position

Contacts

## APPENDIX B



### METEOROLOGICAL SERVICE PROVIDER CERTIFICATE

**CERTIFICATE NUMBER:**

**NAME OF THE HOLDER:**

**DATE OF VALIDITY:**

**SPECIAL CONDITIONS:**

This certificate is issued by the Civil Aviation Affairs of the Kingdom of Bahrain (the Authority) in pursuance of its obligations to ensure enforcement of Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law, and acceptance of international standards in the provision of meteorological services to air navigation. The Authority hereby certifies that above named holder is in compliance with Bahrain Civil Aviation Regulation 005 Meteorological Service Provider Certification Regulations, subject to any Special Conditions attached.

This certificate may be amended, suspended or withdrawn at any time by the Authority in the event of failure of the holder to comply with Regulations or the Special Conditions attached.

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Signing authority:

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Date

Title: