

LEGAL NOTICE NO. 156 OF 2024

THE CIVIL AVIATION ACT, 2022
(Act No. 04 of 2022)

THE CIVIL AVIATION (METEOROLOGY SERVICES
FOR AIR NAVIGATION) REGULATIONS, 2024.
(Under section 105)

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PART I
PRELIMINARY

In exercise of the powers conferred by Section 105 of the Civil Aviation Act No. 4 of 2022, the Minister of Public Works and Transport makes the following regulations -

Citation and commencement

1. (1) These Regulations may be cited as the Civil Aviation (Meteorology Services for Air Navigation) Regulations, 2024.

(2) These Regulations shall come into force on the date of publication in the Gazette.

Interpretation

2. In these Regulations, unless the context otherwise requires -

“aerodrome” means a defined area on land or water (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 climatological summary” means concise summary of specified meteorological elements at an aerodrome, based on statistical data;

“Aerodrome climatological table” means a table providing statistical data on the observed occurrence of one or more meteorological elements at an aerodrome;

“Aerodrome control tower” means a unit established to provide air traffic control service to aerodrome traffic;

“Aerodrome elevation” means the elevation of the highest point of the landing area;

“Aerodrome meteorological office” means an office designated to provide meteorological service for aerodromes serving air navigation;

“Aerodrome reference point” means the designated geographical location of an aerodrome;

“Aeronautical Fixed Service (AFS)” means 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;

“Aeronautical Fixed Telecommunication Network (AFTN)” means 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;

“aeronautical meteorological station” means a station designated to make observations and meteorological reports for use in air navigation;

“aeronautical mobile service (RR S1.32)” means 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;

“aeronautical telecommunication station” means a station in the aeronautical telecommunication service;

“aircraft” means 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” means the evaluation of one or more meteorological elements made from an aircraft in flight;

“AIRMET information” means 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;

“air-report” means a report from an aircraft in flight prepared in conformity with requirements for position, and operational or meteorological reporting;

“air traffic services (ATS)” means a generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office;

“alternate aerodrome” means 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 where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use including the following -

- (a) take-off alternate an alternate aerodrome at which an aircraft would be able to land shall this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;

- (b) en-route alternate an alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en-route destination alternate and an alternate aerodrome at which an aircraft would be able to land shall it become either impossible or inadvisable to land at the aerodrome of intended landing;

“altitude” means the vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL);

“approach control unit” means a unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes;

“appropriate ATS provider” means the relevant ATS designated by Eswatini responsible for providing air traffic services in the airspace concerned;

“Area Control Centre (ACC)” means a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction;

“area navigation (RNAV) specification” means a navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, RNAV 5;

“area navigation (RNAV)” means 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;

“area navigation (RNAV) specification” means a navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, RNAV 5;

“authority” means Eswatini Civil Aviation Authority as established in terms of section 5 of the Civil Aviation Act, 2022;

“automatic dependent surveillance (ADS)” means a surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position fixing systems, including aircraft identification, four-dimensional position and additional data as appropriate;

“ADS-C” means automatic dependent surveillance-contract;

“briefing” means oral commentary on existing or expected meteorological conditions;

“cloud of operational significance” means a cloud with the height of cloud base below 1500 m (5000 ft) or below the highest minimum sector altitude, whichever is greater, or a cumulonimbus cloud or a towering cumulus cloud at any height;

“consultation” means discussion with a meteorologist or another qualified person of existing or expected meteorological conditions relating to flight operations; a discussion includes answers to questions;

“control area” means a controlled airspace extending upwards from a specified limit above the earth;

“cruising level” means a level maintained during a significant portion of a flight;

“data link-VOLMET (D-VOLMET)” means Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI);

“direct speech” means a direct aeronautical fixed service (AFS) telephone circuit, for direct exchange of voice between air traffic services (ATS) units and other service providers;

“elevation” means the vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level;

“extended range operation” means any flight by an aeroplane with two turbine engines where the flight time at the one engine inoperative cruise speed (in International Standards Aerodrome 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;

“flight crew member” means a licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period;

“flight documentation” means written or printed documents, including charts or forms, containing meteorological information for a flight;

“Flight Information Centre (FIC)” means a unit established to provide flight information service and alerting service;

“flight information region” means airspace of defined dimensions within which flight information service and alerting service are provided;

“flight level” means a surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals-

- (a) Note 1. a pressure type altimeter calibrated in accordance with the standard atmosphere -
- (i) when set to a QNH altimeter setting, will indicate altitude;
 - (ii) when set to a QFE altimeter setting, will indicate height above the QFE reference datum;
 - (iii) when set to a pressure of 1 013.2 hPa, may be used to indicate flight levels.
- (b) Note 2. The terms “height” and “altitude”, used in Note 1, indicate altimetric rather than geometric heights and altitudes;

“forecast” means a statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace;

“GAMET area forecast” means 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 service provider concerned and exchanged with meteorological offices in adjacent flight information regions, as agreed between the meteorological authorities concerned;

“grid point data in digital form” means 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;

“hectopascal (hPa)” means a metric (SI) measurement unit of pressure equivalent to millibar;

“height” means the vertical distance of a level, a point or an object considered as a point, measured from a specified datum;

“human factors principles” means 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;

“International Airways Volcano Watch (IAVW)” means International arrangements for monitoring and providing warnings to aircraft of volcanic ash in the atmosphere;

“level” means a generic term relating to the vertical position of an aircraft in flight and meaning variously height, altitude or flight level;

“meteorological bulletin” means a text comprising meteorological information preceded by an appropriate heading;

“meteorological information” means meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions;

“meteorological office” means an office designated to provide meteorological service for air navigation;

“meteorological report (META)” means a statement of observed meteorological conditions related to a specified time and location;

“meteorological satellite” means an artificial Earth satellite making meteorological observations and transmitting these observations to Earth;

“meteorological service provider” means the National Meteorological Service as established by section 3 of the National Metrological Service Act, 1992.

“Meteorological Watch Office (MWO)” means 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;

“minimum sector altitude” means 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;

“navigation specification” means 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;

“Required Navigation Performance (RNP) specification” means a navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, RNP 4, RNP APCH;

“observation (meteorological)” means the evaluation of one or more meteorological elements;

“operational control” means 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;

“operational flight plan” means 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;

“operational planning” means the planning of flight operations by an operator;

“operator” means a person, organization or enterprise engaged in or offering to engage in an aircraft operation;

“Performance-Based Navigation (PBN)” means Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace;

“person” includes an entity, company or association or body of persons, corporate or incorporate;

“pilot-in-command” means the pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight;

“prevailing visibility” means 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 of contiguous or non-contiguous sectors and the value may be assessed by human observation or instrumented systems which when installed, are used to obtain the best estimate of the prevailing visibility;

“prognostic chart” means 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;

“quality assurance” means part of quality management focused on providing confidence that quality requirements will be fulfilled (ISO 9000*);

“quality control” means Part of quality management focused on fulfilling quality requirements (ISO 9000*);

“quality management” means coordinated activities to direct and control an organization with regard to quality (iso 9000*);

“regional air navigation agreement” means an Agreement approved by the Council of ICAO normally on the advice of a regional air navigation meeting;

“reporting point” means a specified geographical location in relation to which the position of an aircraft can be reported;

“rescue coordination centre” means 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;

“runway” means a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft;

“Runway Visual Range (RVR)” means 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;

“search and rescue services unit” means a generic term meaning, as the case may be, rescue coordination centre, rescue sub-centre or alerting post;

“SPECI” means the special report of meteorological conditions when one or more elements meet specified criteria significant to aviation.

“SIGMET information” means 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;

“standard isobaric surface” means an isobaric surface used on a worldwide basis for representing and analysing the conditions in the atmosphere;

“threshold” means the beginning of that portion of the runway usable for landing;

“touchdown zone” means the portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway;

“tropical cyclone” means 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;

“Terminal Aerodrome Forecast (TAF)” means a concise statement of expected meteorological conditions at an airport during a specified period

“Tropical Cyclone Advisory Centre (TCAC)” means 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;

“upper-air chart” means a meteorological chart relating to a specified upper-air surface or layer of the atmosphere;

“visibility” means visibility for aeronautical purposes is the greater of -

- (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;

- (b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background, and the visibility shall be measured or observed, and reported in metres or kilometres;

“volcanic Ash Advisory Centre (VAAC)” means 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.

“VOLMET” means Meteorological information for aircraft in flight;

“data link-VOLMET (D-VOLMET)” means Provision of current aerodrome routine meteorological reports (METAR) and aerodrome special meteorological reports (SPECI), aerodrome forecasts (TAF), SIGMET, special air-reports not covered by a SIGMET and, where available, AIRMET via data link;

“VOLMET broadcast” means Provision, as appropriate, of current METAR, SPECI, TAF and SIGMET by means of continuous and repetitive voice broadcasts;

“World Area Forecast Centre (WAFC)” means a meteorological centre designated to prepare and issue significant weather forecasts and upper-air forecasts in digital form on a global basis direct to States using the aeronautical fixed service Internet based services; and

“World Area Forecast System (WAFS)” means a worldwide system by which world area forecast centres provide aeronautical meteorological en-route forecasts in uniform standardized formats.

Application

3. (1) These Regulations shall apply to provision of meteorological services for air navigation services within Eswatini air spaces and at aerodromes.

(2) These Regulations shall not apply to provision of air navigation services for state aircraft.

PART II PROVISION OF METEOROLOGY SERVICES FOR AIR NAVIGATION PROVIDER

Designation and Authorization of Meteorology services for air navigation.

4. (1) The Authority shall designate the Air Navigation Service Provider to arrange for the

provision of meteorological service for air navigation.

(2) The Air Navigation Service Provider shall publish the details of the meteorological service provider in the Eswatini Aeronautical Information Publication.

(3) A person shall not provide meteorology services for air navigation unless -

(a) that person has been authorized by the Authority in accordance with Civil Aviation (certification of air navigation service providers) procedures.

(b) the services are provided in accordance with the requirements prescribed in these Regulations and any associated standards and procedures.

Procedures for provision of meteorological services for air navigation

5. A person authorized to provide meteorology services for air navigation under regulation 4 shall do so in accordance with the procedures prescribed in-

(a) the Manual of Operations required under these regulations; and

(b) the Quality Management System Manual required under these Regulations.

Obligations of the service provider

6. (1) A provider of meteorology services for air navigation shall, before providing the service, be satisfied that -

(a) the personnel is adequate in number and is competent to provide the service;

(b) the Manual of Operations contains all the relevant information;

(c) the facilities, services and equipment are established in accordance with these Regulations;

(d) the operating procedures make satisfactory provision for the safety of aircraft;

(e) an approved quality management system is in place;

(f) that person has financial capability to provide the service; and

(g) it has an insurance policy in force in relation to the services provided.

PART III
PREPARATION OF THE MANUAL OF OPERATIONS

Requirements for the manual of operations

7. (1) The manual of operations required under these Regulations shall be -

- (a) type written;
- (b) signed by the service provider;
- (c) in a format that is easy to revise and includes a list of effective pages; and
- (d) organized in a manner that facilitates evaluation and approval processes.

(2) A meteorological service provider shall submit two copies of the manual of operations to the Authority for approval.

(3) A meteorological service provider shall keep at least one approved copy of the manual at the principal place of business.

Contents of the manual of operations

8. A manual of operations, shall contain all information and instructions necessary to enable the service provider to perform their duties and in particular shall include -

- (a) services to be provided;
- (b) personnel requirements and their responsibilities;
- (c) training and performance assessment of staff and how that information is tracked;
- (d) Quality Management System;
- (e) contingency plans developed for part or total system failure;
- (f) Installation and maintenance of facilities and equipment;
- (g) fault and defect reporting;
- (h) maintenance of documents and records;

- (i) search and rescue responsibilities and co-ordination, operations, plan and procedures;
- (j) the proposed hours of service;
- (k) systems and procedures in the provision of Meteorological Services for Air Navigation Service; and
- (l) any other information required by the Authority.

Amendment of Manual of operations

9. The meteorological service provider shall, whenever necessary, amend the manual and keep the operations manual updated and shall submit the said amendments to the Authority for approval.

**PART IV
GENERAL PROVISIONS FOR METEOROLOGY SERVICES
FOR AIR NAVIGATION**

Objective, determination and provision of meteorology service.

10. (1) A meteorological service provider shall be to contribute towards the safety, regularity and efficiency of air navigation.

(2) The meteorological service provider shall supply the following users with the meteorological information necessary for the performance of their respective functions -

- (a) air operators and flight crew members;
- (b) air traffic services units;
- (c) search and rescue services units;
- (d) airport management; and
- (e) any other person as identified by the Authority.

(3) The Authority shall in accordance with these regulations and regional air navigation agreement determine the meteorological services provided to meet the needs of air navigation over international waters and other areas which lie outside the territory of Eswatini.

Personnel qualification and training

11. The designated meteorological services provider under regulation 4(2) shall -
- (a) comply with the requirements of the World Meteorological Organization in respect of qualifications and training of meteorological personnel providing service for air navigation and other requirements as may be provided by the Authority;
 - (b) establish a procedure to assess the competency of personnel authorised to install meteorological facility for operational use and to perform meteorological services; and
 - (c) maintain the competence of the personnel authorised to provide the services.

Supply, use and quality management of meteorological information

12. (1) The Authority shall ensure that close liaison is maintained 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.

(2) The Authority shall ensure that the Meteorological services provider establishes and implements a properly organized quality system comprising procedures, processes and resources necessary to provide for the quality management of the meteorological information to be supplied to users.

(3) The quality system established in accordance with sub- regulation (2) shall be in conformity with the International Organization for Standardization (ISO) 9000 series of quality assurance standards and shall be certified by an approved organization recognized by Authority.

(4) The quality system shall provide the users with assurance that the meteorological information supplied complies with the stated requirements in terms of the geographical and spatial coverage, format and content, time and frequency of issuance and period of validity, as well as the accuracy of measurements, observations and forecasts.

(5) When the quality system indicates that meteorological information to be supplied to the users does not comply with the stated requirements, and automatic error correction procedures are not appropriate, such information shall not be supplied to the users unless it is validated with the originator.

(6) In regard to the exchange of meteorological information for operational purposes, the quality system shall include verification and validation procedures and resources for monitoring adherence to the prescribed transmission schedules for individual messages or bulletins required to be exchanged, and the times of their filing for transmission.

(7) The quality system shall be capable of detecting excessive transit times of messages and bulletins received.

(8) Demonstration of compliance of the quality system applied shall be by audit and if non-conformity of the system is identified, action shall be initiated to determine and correct the cause.

(9) All audit observations shall be evidenced and properly documented.

(10) The specific value of any of the elements given in -

(a) an observation report shall be the best approximation of the actual conditions at the time of observation as prescribed by the Authority; and

(b) a forecast report shall be the most probable value which the element is likely to assume during the period of the forecast as prescribed by the Authority.

(11) The meteorological information supplied to the users listed under regulation 10(2) shall be consistent with human factors principles and shall be in forms which require a minimum of interpretation by the users.

Notifications required from operators

13. (1) An operator requiring meteorological service or changes in existing meteorological service shall notify, sufficiently in advance, the service provider or the aerodrome meteorological office concerned.

(2) The minimum amount of advance notice required shall be as agreed between the service provider or aerodrome meteorological office and the operator concerned.

(3) The service provider shall be notified by the operator requiring service when -

(a) new routes or new types of operations are planned;

(b) changes of a lasting character are to be made in scheduled operations; and

(c) other changes, affecting the provision of meteorological service, are planned.

(4) The information referred to under sub-regulation (3) shall contain all details necessary for the planning of appropriate arrangements by the service provider.

(5) The operator or a flight crew member shall ensure that, where required by the service provider in consultation with users, the aerodrome meteorological office concerned is notified-

- (a) of flight schedules;
- (b) when non-scheduled flights are to be operated; and
- (c) When flights are delayed, advanced or cancelled.

(6) The notification to the aerodrome meteorological office of individual flights shall contain the following information -

- (a) aerodrome of departure and estimated time of departure;
- (b) destination and estimated time of arrival;
- (c) route to be flown and estimated times of arrival at, and departure from, any intermediate aerodrome(s);
- (d) alternate aerodromes needed to complete the operational flight plan and taken from the relevant list contained in the regional air navigation plan;
- (e) cruising level;
- (f) type of flight, whether under visual or instrument flight rules;
- (g) type of meteorological information requested for by a flight crew member, whether flight documentation or briefing or consultation; and
- (h) times at which briefing, consultation or flight documentation are required.

(7) Notwithstanding the provisions of sub-regulation (6), in case of scheduled flights, the requirements of some of the information referred to under sub-regulation.

(8) May be waived by agreement between the aerodrome meteorological office and the operator concerned.

PART V
GLOBAL SYSTEMS, SUPPORTING CENTERS
AND METEOROLOGICAL OFFICES

World Area Forecast Systems and World Area Forecast Centres

14. (1) The world area forecast system, shall supply meteorological authorities and other users with global aeronautical meteorological en-route forecasts in digital form.

(2) The world forecast system shall be comprehensive, integrated, and worldwide and, as far as practicable, uniform system, and in a cost-effective manner, taking full advantage of evolving technologies.

(3) In the event Eswatini has accepted the responsibility for providing for a world area forecast centre (WAFCS) within the framework of the WAFCS, the WAFCS shall-

- (a) prepare global gridded forecasts of -
 - (i) upper air wind;
 - (ii) upper air temperature and humidity;
 - (iii) geopotential altitude of flight level;
 - (iv) flight level and temperature of tropopause;
 - (v) direction, speed and flight level of maximum wind;
 - (vi) cumulonimbus clouds;
 - (vii) icing; and
 - (viii) turbulence.
- (b) prepare global forecasts of significant weather(SIGWX) phenomena;
- (c) issue forecasts referred to in a) and b) in digital form to meteorological authorities and other users, as approved by the Contracting State on advice from the meteorological authority;
- (d) receive information concerning the release of radioactive materials into the atmosphere from its associated World Meteorological Organisation regional specialized meteorological centre (RSMC) for the provision of transport model products for radiological environmental emergency response, in order to include the information in SIGWX forecasts and;
- (e) establish and maintain contact with volcanic ash advisory centres (VAACs) for the exchange of volcanic activity in order to coordinate the inclusion of information on volcanic eruptions in SIGWX forecasts.
- (f) in case of the interruption of the operation of the WAFCS, its function shall be carried out by another WAFCS.

Aerodrome meteorological offices

15. (1) The meteorological service provider shall establish one or more aerodrome or other meteorological offices which shall be adequate for the provision of the meteorological service required to satisfy the needs of air navigation as specified in Part I of the Third Schedule.

(2) An aerodrome meteorological office established under sub- regulation (1) above shall carry out all or some of the following functions as necessary to meet the needs of flight operations at the aerodrome -

- (a) prepare or obtain forecasts and other relevant information for flights with which it is concerned and the extent of its responsibilities to prepare forecasts shall be related to the local availability and use of en-route and aerodrome forecast material received from other offices;
- (b) prepare or obtain forecasts of local meteorological conditions;
- (c) maintain a continuous survey of meteorological conditions over the aerodromes for which it is designated to prepare forecasts;
- (d) provide briefing, consultation and flight documentation to flight crew members or other flight operations personnel;
- (e) supply other meteorological information to aeronautical users;
- (f) display the available meteorological information;
- (g) exchange meteorological information with other aerodrome meteorological offices; and
- (h) supply information received on pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud, to its associated air traffic services (ATS) unit, aeronautical information service unit and meteorological watch office as agreed between the meteorological, aeronautical information service and ATS authorities concerned.

(3) The aerodromes for which landing forecasts are required shall be determined by the Authority through regional air navigation agreement.

(4) For an aerodrome without an aerodrome meteorological office located at the aerodrome, the meteorological service provider shall -

- (a) designate one or more aerodrome meteorological office(s) to supply meteorological information as required; and

- (b) agree with the concerned aerodrome operator or ATS units to establish means by which such information can be supplied to the aerodromes concerned.

Meteorological watch offices

16. (1) A meteorological services provider authorized to provide meteorological services for air navigation, shall establish, on the basis of regional air navigation agreement, one or more meteorological watch offices as prescribed by the Authority.

(2) A meteorological watch office shall -

- (a) maintain continuous watch over meteorological conditions affecting flight operations within its area of responsibility;
- (b) prepare SIGMET information and other information relating to its area of responsibility;
- (c) supply SIGMET information and, as required, other meteorological information to associated air traffic services units;
- (d) disseminate SIGMET information;
- (e) supply information received on pre-eruption volcanic activity, a volcanic eruption and volcanic ash cloud for which a SIGMET has not already been issued, to its associated ACC/FIC, as agreed between the meteorological and ATS authorities concerned, and to its associated VAAC as determined by regional air navigation agreement;
- (f) supply information received concerning the release of radioactive materials into the atmosphere, in Eswatini or adjacent areas, to its associated ACC/FIC, as agreed between the meteorological and ATS authorities concerned, and to aeronautical information service units, as agreed between the meteorological and appropriate civil aviation authorities concerned and such information shall comprise location, date and time of the release, and forecast trajectories of the radioactive materials; and
- (g) prepare, supply and disseminate any other information as required by the regional air navigation agreements.

(3) The boundaries of the area over which meteorological watch is to be maintained by a meteorological watch office shall be coincident with the boundaries of a flight information region or a control area or a combination of flight information regions and control areas.

Volcano observatories

17. Where there are active or potentially active volcanoes the meteorological service provider shall monitor and observe these volcanoes and send the following information, as quickly as practicable to their associated ACC, MWO and VAAC -

- (a) significant pre-eruption volcanic activity, or a cessation thereof;
- (b) a volcanic eruption, or a cessation thereof; or
- (c) volcanic ash in the atmosphere.

Tropical cyclone advisory centres

18. Where Eswatini has accepted the responsibility for providing a tropical cyclone advisory centre (TCAC) Eswatini shall arrange for the centre to -

- (a) monitor the development of tropical cyclones in its area of responsibility, using geostationary and polar-orbiting satellite data, radar and other meteorological information.
- (b) issue advisory information concerning the position of the cyclone center, changes in intensity at time of observation, its direction and speed of movement, central pressure and maximum surface wind near center, in abbreviated plain language to.

**PART VI
METEOROLOGICAL OBSERVATIONS AND REPORTS**

Aeronautical meteorological stations and observations.

19. (1) The Authority shall ensure that aeronautical meteorological stations are established at aerodromes as it may deem necessary and such aeronautical meteorological station may be a separate station or combined with a synoptic station.

(2) The meteorological shall carry out meteorological observations and issue reports in accordance with the technical specification and detailed criteria set out as prescribed by the Authority service provider

(3). The Aeronautical meteorological stations shall include sensors installed outside the aerodrome, where considered justified, by the meteorological service provider to ensure the compliance of meteorological service for air navigation with the provisions of this regulation.

(4). Aeronautical meteorological stations shall make routine observations at fixed time intervals and in case of aerodromes, the routine observations shall be supplemented by special observations whenever specified changes occur in respect of surface wind, visibility, runway visual range, present weather, clouds or air temperature.

(5). The Authority shall ensure that the meteorological service provider arrange for its aeronautical meteorological stations to be inspected at sufficiently frequent intervals to ensure that a high standard of observation is maintained, and instruments and all their indicators are functioning correctly, and that the exposure of the instruments has not changed significantly.

(6). Automated equipment shall be installed at aerodromes with runways intended for category II and III instrument approach and landing operations and such equipment shall be for measuring or assessing, monitoring and remote indicating of surface wind, visibility, runway, visual range, height of cloud base, air and dew-point temperatures and atmospheric pressure.

(7). These devices shall be integrated automatic systems for acquisition, processing, dissemination and display in real time of the meteorological parameters affecting landing and take-off operations.

(8). The design of integrated automatic systems shall observe Human Factors principles and include back-up procedures.

(9) Where an integrated semi-automatic system is used for the dissemination or display of meteorological information, it shall be capable of accepting the manual insertion of data covering those meteorological elements which cannot be observed by automatic means.

(10) The observations shall form the basis for the preparation of reports to be disseminated at the aerodrome of origin and of reports to be disseminated beyond the aerodrome of origin.

Agreement between air traffic services provider and meteorological services provider

20. An agreement between the meteorological services provider and the appropriate air traffic services (ATS) provider shall be established to cover, amongst other things -

- (a) the provision in air traffic services units of displays related to integrated automatic systems;
- (b) the calibration and maintenance of these displays or instruments;
- (c) the use to be made of these displays/instruments by air traffic services personnel;

- (d) as and where necessary, supplementary visual observations including meteorological phenomena of operational significance in the climb-out and approach areas and when made by air traffic services personnel to update or supplement the information supplied by the meteorological station;
- (e) meteorological information obtained from aircraft taking off or landing including on wind shear; and
- (f) any meteorological information obtained from ground weather radar; and
- (g) any meteorological information provided for use by aeronautical information service unit.

Routine observations reports.

21. (1) Routine observations shall be made at aerodromes throughout the twenty four (24) hours each day, except as otherwise agreed between the meteorological service provider, the appropriate ATS provider and the operator concerned and such observations shall be made at intervals of one hour or, as determined by regional air navigation agreement.

(2) Routine observations at other aeronautical meteorological stations shall be made as determined by the meteorological service provider taking into account the requirements of air traffic services units and aircraft operations.

(3) Reports of routine observations shall be issued as -

- (a) local routine reports, only for dissemination at the aerodrome of origin intended for arriving and departing aircraft; and
- (b) METAR for dissemination beyond the aerodrome of origin mainly intended for flight planning, VOLMET broadcasts and D-VOLMET.

(4) METAR shall be issued prior to the aerodrome resuming operations at aerodromes that are not operational throughout twenty four (24) hours in accordance with regional air navigation agreement.

Special observations (SPECI) and reports.

22. (1) A list of criteria for special observations shall be established by the reports meteorological service provider, in consultation with the appropriate air traffic services (ATS) provider, operators and others concerned.

(2) Reports of special observations shall be issued as -

- (a) local special reports, only for dissemination at the aerodrome of origin intended for arriving and departing aircraft; and
 - (b) SPECI for dissemination beyond the aerodrome of origin intended for flight planning, VOLMET broadcasts and D- VOLMET unless METAR are issued at half-hourly intervals.
- (3) SPECI shall be issued, as necessary at aerodromes that are not operational throughout 24 hours, following the resumption of the issuance of METAR.

Content of reports

23. (1) Local routine, special reports, METAR and SPECI shall contain the following elements in the order indicated -

- (a) identification of the type of report;
- (b) location indicator;
- (c) time of the observation;
- (d) identification of an automated or missing report, when applicable;
- (e) surface wind direction and speed;
- (f) visibility;
- (g) runway visual range, when applicable;
- (h) present weather;
- (i) cloud amount, cloud type (only for cumulonimbus and towering cumulus clouds) and height of cloud base or, where measured, vertical visibility;
- (j) air temperature and dew-point temperature; and
- (k) QNH and, when applicable, QFE (QFE included only in local routine and special reports).

(2) In addition to elements listed under sub-regulations (1) above, local routine and special reports and METAR and SPECI shall contain supplementary information to be placed after element referred to under sub-regulation (1) (k).

Observing and reporting meteorological elements

24. (1) The mean direction and the mean speed of the surface wind shall be measured, as well as significant variations of the wind direction and speed, and reported in degrees true and metres per second or knots, respectively.

(2) When local routine and special reports are used for departing aircraft and arriving aircraft, the surface wind observations for these reports shall be representative of conditions along the runway for departing aircraft and the touchdown zone for arriving aircraft.

(3) The surface wind observations for METAR and SPECI, shall be representative of conditions above the whole runway, where there is only one runway and the whole runway complex where there is more than one runway.

(4) Visibility shall be measured or observed and reported in metres or kilometres.

(5) When local routine and special reports are used for departing aircraft, the visibility observations for these reports shall be representative of conditions along the runway; when local routine and special reports are used for arriving aircraft, the visibility observations for these reports shall be representative of the touchdown zone of the runway.

(6) The visibility observations for METAR and SPECI shall be representative of the aerodrome.

(7) Runway visual range as defined in regulation shall be assessed on all runways intended for Category II and III instrument approach and landing operations.

(8) Runway visual range shall be assessed on all runways intended for use during periods of reduced visibility, including -

- (a) precision approach runways intended for Category I instrument approach and landing operations; and
- (b) runways used for take-off and having high-intensity edge lights or centre line lights.

(9) The runway visual range referred to under paragraphs (a) and (b), shall be reported in metres throughout periods when either the visibility or the runway visual range is less than 1 500 metres.

(10) Runway visual range assessments shall be representative of -

- (a) the touchdown zone of the runway intended for non-precision or Category I instrument approach and landing operations;
- (b) the touchdown zone and the mid-point of the runway intended for Category II instrument approach and landing operations; and
- (c) the touchdown zone, the mid-point and stop-end of the runway intended for Category III instrument approach and landing operations.

(11) The units providing air traffic service and aeronautical information service for an aerodrome shall be kept informed without delay of changes in the serviceability status of the automated equipment used for assessing runway visual range.

(12) The present weather occurring at the aerodrome shall be observed and reported as necessary for at least a minimum of rain, drizzle, including intensity, haze, mist, fog, and thunderstorms including thunderstorms in the vicinity.

(13) The present weather information for local routine and special reports shall be representative of conditions at the aerodrome.

(14) The present weather information for METAR and SPECI shall be representative of conditions at the aerodrome and, for certain specified present weather phenomena, in its vicinity.

(15) Cloud amount, cloud type and height of cloud base shall be observed and reported as necessary to describe the clouds of operational significance.

(16) When the sky is obscured, vertical visibility shall be observed and reported, where measured, in lieu of cloud amount, cloud type and height of cloud base and the height of cloud base and vertical visibility shall be reported in metres or feet.

(17) Cloud observations for local routine and special reports shall be representative of the runway threshold(s) in use.

(18) Cloud observations for METAR and SPECI shall be representative of the aerodrome and its vicinity.

(19) The air temperature and the dew-point temperature shall be measured and reported in degrees Celsius.

(20) Observations of air temperature and dew-point temperature for local routine and special reports and METAR and SPECI shall be representative of the whole runway or runway complex.

(21) The atmospheric pressure shall be measured, and QNH and QFE values shall be computed and reported in hectopascals.

(22) Observations made at aerodromes shall include the available supplementary information concerning significant meteorological conditions, particularly those in the approach and climb-out areas and where practicable, the information shall identify the location of the meteorological condition.

Reporting meteorological information from automatic observing systems

25. (1) METAR and SPECI from automatic observing systems may be used during non-operational hours of the aerodrome, and during operational hours of the aerodrome as determined by the service provider in consultation with users based on the availability and efficient use of personnel.

(2) Local routine and special reports and METAR and SPECI from automatic observing systems shall be identified with the word "AUTO."

Observation and reports

26. (1) The occurrence of pre-eruption volcanic activity, volcanic eruptions and volcanic activity ash cloud shall be reported without delay to the associated air traffic services unit, aeronautical information services unit and meteorological watch office.

(2) The report shall be made in the form of a volcanic activity report comprising the following information in the order indicated -

- (a) message type, VOLCANIC ACTIVITY REPORT;
- (b) station identifier, location indicator or name of station;
- (c) date and time of message;
- (d) location of volcano and name if known;
- (e) concise description of event including, as appropriate, level of intensity of volcanic activity, occurrence of an eruption and its date and time, and the existence of a volcanic ash cloud in the area together with direction of ash cloud movement and height; and
- (f) contingency plan on the volcanic activity.

PART VII
AIRCRAFT OBSERVATIONS AND REPORTS

Obligation of the authority

27. (1) The Authority shall ensure that arrangements for observations to be made by aircraft of its registry operating on international air routes and for the recording and reporting of these observations are made in accordance with the provisions of these Regulations.

(2) The aircraft observations and reports referred to sub regulation (1) shall be made by aircraft and reported in accordance with the technical specification and detailed criteria prescribed by the Authority.

Types of aircraft observations

28. The following aircraft observations shall be made -

- (a) routine aircraft observations during en-route and climb-out phases of the flight;
and
- (b) special and other non-routine aircraft observations during any phase of the flight.

Routine aircraft observations

29. (1) When air-ground data link is used and automatic dependent surveillance (ADS) or Secondary surveillance radar (SSR) Mode S is being applied; automated routine observations shall be made every 15 minutes during the en-route phase and every (thirty)30 seconds designation during the climb-out phase for the first 10 minutes of the flight.

(2) Routine observations shall be made from helicopters at points and times as agreed between the meteorological service providers and the helicopter operators concerned for helicopter operations to and from aerodromes on offshore structures.

(3) Where there are air routes with high-density air traffic including organized tracks exist, an aircraft from among the aircraft operating at each flight level shall be designated, at approximately hourly intervals, to make routine observations in accordance sub-regulation (1), provided that the designation procedures under this sub- regulation are subject to regional air navigation agreement.

(4) Where a report is required during the climb-out phase, an aircraft shall be designated, at approximately hourly intervals, at each aerodrome to make routine observations in accordance with sub- regulation (1).

Routine observations- exemptions.

30. Aircraft not equipped with air-ground data link shall be exempted from making aircraft routine aircraft observations.

Special observations

31. Special observations shall be made by all aircraft whenever the following conditions are encountered or observed -

- (a) moderate or severe turbulence;
- (b) moderate or severe icing;
- (c) severe mountain wave;
- (d) thunderstorms, without hail, that are obscured, embedded, widespread or in squall lines;
- (e) thunderstorms, with hail, that are obscured, embedded, widespread or in squall lines;
- (f) heavy dust storm or heavy sandstorm;
- (g) volcanic ash cloud; and
- (h) Pre-eruption volcanic activity or a volcanic eruption.

Other non-routine aircraft observations.

32. Where other meteorological conditions not listed under regulation 30, including wind shear, are encountered and which, in the opinion of the pilot-in-command, may affect the safety or markedly affect the efficiency of other aircraft operations, the pilot-in-command shall advise the appropriate air traffic services unit as soon as practicable.

Reporting of aircraft observations during flight.

33. (1) Aircraft observations shall be reported as air-reports during flight at the time the observation is made or as soon thereafter as is practicable.

(2) Aircraft observations referred to in sub-regulation (1) above shall be reported by air-ground data link but where not available or appropriate, special and other non-routine aircraft observations during flight shall be reported by voice communications.

Relay of air reports by air traffic services units.

34. The meteorological services provider shall make arrangements with the appropriate ATS provider to ensure that, on receipt by the air traffic services units of -

- (a) special air-reports by voice communications, the air traffic services units relay them without delay to their associated meteorological watch office; and
- (b) routine and special air-reports by data link communications, the air traffic services units relay them without delay to their associated meteorological watch office, World Area Forecasting Centres (WAFCs) and the centres designated by regional air navigation agreement for the operation of aeronautical fixed service internet-based services.

Recording and post-flight reporting of aircraft observations of volcanic activity

35. (1) Special aircraft observations of pre-eruption volcanic activity, a volcanic eruption or volcanic ash cloud, shall be recorded on the special air-report of volcanic activity form prepared by meteorological service provider.

(2) A copy of the form shall be included with the flight documentation provided to flights operating on routes which, in the opinion of the service provider, could be affected by volcanic ash clouds.

**PART VIII
FORECASTS**

Interpretation and use of forecasts

36. (1) The meteorological service provider shall issue meteorological forecast in accordance with the technical specification and detailed criteria prescribed by the Authority.

(2) The issue of a new forecast by an aerodrome meteorological office, such as a routine aerodrome forecast, shall be understood to automatically cancel any forecast of the same type previously issued for the same place and for the same period of validity or part thereof.

Aerodrome forecasts

37. (1) An aerodrome forecast shall be prepared, on the basis of regional air navigation agreement, by the aerodrome meteorological office designated by the meteorological service provider.

(2) An aerodrome forecast 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.

(3) Aerodrome forecasts and amendments thereto shall be issued as Terminal Aerodrome Forecast (TAF) and include the following information in the order indicated -

- (a) identification of the type of forecast;
- (b) location indicator;
- (c) time of issue of forecast;
- (d) identification of a missing forecast, when applicable;
- (e) date and period of validity of forecast;
- (f) identification of a cancelled forecast, when applicable;
- (g) surface wind;
- (h) visibility;
- (i) weather;
- (j) cloud; and
- (k) expected significant changes to one or more of these elements during the period of validity.

(4) Notwithstanding the provisions in sub-regulation (2) above, optional elements shall be included in TAF in accordance with regional air navigation agreement.

(5) Aerodrome meteorological offices preparing TAF shall continuously review the forecasts and, when necessary, issue amendments promptly and the length of the forecast messages and the number of changes indicated in the forecast shall be kept to a minimum.

(6) Where TAF cannot be kept under continuous review shall be cancelled. The period of validity of a routine TAF shall be not less than (six) 6 hours nor more than (thirty) 30 hours; and shall be determined by regional air navigation agreement.

(7) Routine TAF valid for less than twelve(12) hours shall be issued every three (3) hours and those valid for (twelve) 12 to thirty (30) hours shall be issued every (six) 6 hours.

(8) Aerodrome meteorological offices shall ensure that not more than one TAF is valid at an aerodrome at any given time, when issuing TAF.

Landing forecasts

38. (1) A landing forecast shall be prepared by the aerodrome meteorological office designated by the service provider as determined by regional air navigation agreement to meet the requirements of local users and of aircraft within about one hour's flying time from the aerodrome.

(2) Landing forecasts referred to under sub-regulation (1) shall be prepared in the form of a trend forecast and shall consist of a concise statement of the expected significant changes in the meteorological conditions at that aerodrome to be appended to a local routine or local special report, or a METAR or SPECI.

(3) The period of validity of a trend forecast shall be 2 hours from the time of the report which forms part of the landing forecast.

Forecasts for take-off.

39. (1) A forecast for take-off shall -

- (a) be prepared by the aerodrome meteorological office designated by the meteorological service provider if required by agreement between the service provider and operators;
- (b) refer to a specified period of time and contain information on expected conditions over the runway complex in regard to surface wind direction, wind speed and any variations thereof, temperature, pressure (QNH), and any other elements as agreed locally;
- (c) be supplied to operators and flight crew members on request within the 3 hours before the expected time of departure; and
- (d) be continuously reviewed and, when necessary, amendments issued promptly by the aerodrome meteorological office.

Area forecasts

40. (1) When the density of traffic, operating below flight level 100 or up to flight level for low-level 150 in mountainous areas, or higher, where necessary warrants the routine issue and flights dissemination of area forecasts for such operations, the frequency of issue, the form and the fixed time or period of validity of those forecasts and the criteria for amendments thereto

shall be determined by the meteorological service provider in consultation with the users.

(2) When abbreviated plain language is used, the forecast shall be prepared as a GAMET area forecast, employing approved ICAO abbreviations and numerical values; when chart form is used, the forecast shall be prepared as a combination of forecasts of upper wind and upper-air temperature, and of SIGWX phenomena.

PART IX
SIGMET INFORMATION, AERODROME WARNINGS AND WIND SHEAR
WARNINGS AND ALERT.

SIGMET information

41. (1) The meteorological service provider shall issue SIGMET information, aerodrome warnings and wind shear warnings and alerts in accordance with the technical specification and detailed criteria as prescribed by the Authority.

(2) SIGMET information shall be -

(a) issued by a meteorological watch office and give a concise description in abbreviated plain language concerning the occurrence or expected occurrence of specified en-route weather phenomena, which may affect the safety of aircraft operations, and of the development of those phenomena in time and space; and

(b) cancelled when the phenomena referred to in sub-regulation (2)(a) above are no longer occurring or are no longer expected to occur in the area.

(3) The period of validity of a SIGMET message shall be not more than 4 hours and in the special case of SIGMET messages for volcanic ash cloud or tropical cyclones, the period of validity shall be extended up to 6 hours.

(4) SIGMET messages concerning volcanic ash cloud or tropical cyclones shall be based on advisory information provided by Volcanic Ash Advisory Centres (VAACs) and Tropical Cyclone Advisory Centres (TCACs), respectively, designated by regional air navigation agreement.

(5) Close coordination shall be maintained between the meteorological watch office and the associated area control centre or flight information centre to ensure that information on volcanic ash included in SIGMET and NOTAM messages is consistent.

(6) SIGMET messages shall be issued not more than 4 hours before the commencement of the period of validity and in the special case for volcanic ash cloud and tropical cyclones, these messages shall be issued as soon as practicable but not more than 12 hours before the commencement of the period of validity, provided that SIGMET messages for volcanic ash or

tropical cyclones shall be updated at least every 6 hours.

Aerodrome warnings

42. (1) Aerodrome warnings shall be issued by the aerodrome meteorological office designated by the service provider concerned and shall give concise information of meteorological conditions which could adversely affect aircraft on the ground, including parked aircraft, and the aerodrome facilities and services.

(2) Aerodrome warnings referred to in sub-regulation (1) above shall be cancelled when the conditions are no longer occurring and/or no longer expected to occur at the aerodrome.

Wind shear warnings and alerts

43. (1) Wind shear warnings shall be prepared by the aerodrome meteorological office designated by the meteorological service provider for aerodromes where wind shear is considered a factor, in accordance with local arrangements with the appropriate air traffic services unit and operators concerned.

(2) Wind shear warnings shall give concise information on the observed or expected existence of wind shear which could adversely affect aircraft on the approach path or take-off path or during circling approach between runway level and 500 m (1 600 ft) above that level and aircraft on the runway during the landing roll or take-off run.

(3) Where local topography has been shown to produce significant wind shears at heights in excess of 500 m (1 600 ft) above runway level, then 500 m (1 600 ft) shall not be considered restrictive.

(4) Wind shear warnings for arriving aircraft or departing aircraft shall be cancelled when aircraft reports indicate that wind shear no longer exists or, alternatively, after an agreed elapsed time.

(5) The criteria for the cancellation of a wind shear warning referred to in sub regulation (4) above shall be defined locally for each aerodrome, as agreed between the meteorological service provider, the appropriate ATS provider and the operators concerned.

(6) At aerodromes where wind shear is detected by automated, ground-based, wind shear remote-sensing or detection equipment, wind shear alerts generated by these systems shall be issued.

(7) Wind shear alerts shall give concise, up-to-date information related to the observed existence of wind shear involving a headwind or tailwind change of 7.5 m/s (15 kt) or more which could adversely affect aircraft on the final approach path or initial take-off path and

aircraft on the runway during the landing roll or take-off run.

(8). Wind shear alerts generated by automated ground-based sensors shall be updated at least every minute and be cancelled as soon as the headwind or tailwind change falls below 7.5 m/s (15 kt).

PART X AERONAUTICAL CLIMATOLOGICAL INFORMATION

Aeronautical climatological information

44. (1) The meteorological service provider shall issue aeronautical climatological information in accordance with the technical specification and detailed criteria as prescribed by the Authority.

(2) Aeronautical climatological information required for the planning of flight operations shall be prepared in the form of aerodrome climatological tables and aerodrome climatological summaries and such information shall be supplied to aeronautical users as agreed between the service provider and those users.

Copies of meteorological observational data

45. The meteorological service provider, on request and to the extent practicable, shall make available to any other meteorological service provider, operators and others concerned with the application of meteorology to international air navigation, copies of meteorological observational data required for research, investigation or operational analysis.

PART XI SERVICE FOR OPERATORS AND FLIGHT CREW MEMBERS

Provisions of Services to Operators and Flight Crew Members

46. (1) The meteorological service provider shall provide service to operators and flight crew members in accordance with the technical specification and detailed criteria as prescribed by the Authority.

(2) Meteorological information required under these regulations shall be supplied to operators and flight crew members for -

- (a) pre-flight planning by operators;
- (b) in-flight re-planning by operators using centralized operational control of flight operations;

- (c) use by flight crew members before departure; and
- (d) aircraft in flight.

(3) Meteorological information supplied to operators and flight crew members shall cover the flight in respect of time, altitude and geographical extent.

(4) The information referred to under sub-regulation (3) shall relate to appropriate fixed times, or periods of time, and shall extend to the aerodrome of intended landing, also covering the meteorological conditions expected between the aerodrome of intended landing and alternate aerodromes designated by the operator.

(5) Meteorological information supplied to operators and flight crew members shall be up to date and include the following information, as established by the service provider in consultation with operators concerned.

- (a) forecasts of -
 - (i) upper wind and upper-air temperature;
 - (ii) upper-air humidity;
 - (iii) geopotential altitude of flight levels;
 - (iv) flight level and temperature of tropopause;
 - (v) direction, speed and flight level of maximum wind;
 - (vi) significant weather(SIGWX) phenomena; and
 - (vii) cumulonimbus clouds, icing and turbulence.
- (b) METAR or SPECI (including trend forecasts as issued in accordance with regional air navigation agreement) for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;
- (c) TAF or amended TAF for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;
- (d) forecasts for take-off;
- (e) SIGMET information and appropriate special air-reports relevant to the whole route;

- (f) volcanic ash and tropical cyclone advisory information relevant to the whole route;
- (g) subject to regional air navigation agreement, GAMET area forecast or area forecasts for low-level flights in chart form, relevant to the whole route;
- (h) aerodrome warnings for the local aerodrome;
- (i) meteorological satellite images;
- (j) ground-based weather radar information; and
- (k) space weather advisory information relevant to the whole route.

(6) Forecasts listed under sub-regulation (5)(a) shall be generated from the digital forecasts provided by the WAFCs whenever these forecasts cover the intended flight path in respect of time, altitude and geographical extent, unless otherwise agreed between the service provider and the operator concerned.

(7) Modifications shall not be made to meteorological content of forecasts when they are identified as being originated by the WAFCs.

(8) Charts generated from the digital forecasts provided by the WAFCs shall be made available, as required by operators, for fixed areas of coverage as prescribed by the Authority.

(9) When forecasts of upper wind and upper-air temperature in regulation 45 (5) (a) are supplied in chart form, they shall be fixed time prognostic charts for flight levels in as prescribed by the Authority, and when forecasts of SIGWX phenomena are supplied in chart form, they shall be fixed time prognostic charts for an atmospheric layer limited by flight levels as prescribed by the Authority.

(10) The forecasts of upper wind, upper-air temperature and of SIGWX phenomena above flight level 100 requested for pre-flight planning and in-flight re-planning by the operator shall be supplied as soon as they become available, but not later than 3 hours before departure. Other meteorological information requested for pre-flight planning and in-flight re-planning by the operator shall be supplied as soon as is practicable.

(11) The meteorological service provider for operators and flight crew members shall initiate coordinating action with the meteorological service provider of other States, when necessary, with a view to obtaining from them the reports or forecasts required.

(12) Meteorological information shall be supplied to operators and flight crew members at the location to be determined by the meteorological service provider, after consultation with the operators and at the time to be agreed upon between the aerodrome meteorological office and

the operator concerned.

(13) The service for pre-flight planning shall be confined to flights originating within Eswatini.

(14) The meteorological service provider and the operator concerned shall agree upon the supply of meteorological information at an aerodrome without an aerodrome meteorological office.

Briefing, consultation and display

47. (1) The meteorological service provider shall provide, on request, briefing or consultation to flight crew members or other flight operations personnel.

(2) The briefing or consultation referred to in sub-regulation (1) shall be to supply the latest available information on existing and expected meteorological conditions along the route to be flown at the aerodrome of intended landing, alternate aerodromes and other aerodromes as relevant, either to explain and amplify the information contained in the flight documentation or, if so agreed between the meteorological service provider and the operator, in lieu of flight documentation.

(3) Meteorological information used for briefing, consultation and display shall include any or all of the information listed in regulation 45 (5).

(4) If the aerodrome meteorological office expresses an opinion on the development of the meteorological conditions at an aerodrome which differs appreciably from the aerodrome forecast included in the flight documentation, the aerodrome meteorological office shall inform the flight crew members of the divergence: Provided the portion of the briefing dealing with the divergence shall be recorded at the time of briefing and this record shall be made available to the operator.

(5) The required briefing, consultation, display or flight documentation shall be provided by the aerodrome meteorological office associated with the aerodrome of departure.

(6) At an aerodrome where the services referred to in sub-regulation (5) are not available, arrangements to meet the requirements of flight crew members shall be as agreed upon between the meteorological service provider and the operator concerned.

(7) In exceptional circumstances, such as an undue delay, the aerodrome meteorological office associated with the aerodrome shall provide or, if that is not practicable, arrange for the provision of a new briefing, consultation or flight documentation as necessary.

(8) The flight crew member or other flight operations personnel for whom briefing, consultation or flight documentation has been requested shall visit the aerodrome meteorological office at the time agreed upon between the aerodrome meteorological office and the operator concerned.

(9) Where local circumstances at an aerodrome make personal briefing or consultation impracticable, the aerodrome meteorological office shall provide those services by telephone or other suitable telecommunications facilities.

Flight documentation

48. (1) The aerodrome meteorological office shall provide flight documentation which shall comprise information on -

- (a) upper winds and upper-air temperature;
- (b) SIGWIX phenomena;
- (c) METAR or SPECI (including trend forecasts as issued in accordance with regional air navigation agreement) for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;
- (d) TAF or amended TAF for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;
- (e) SIGMET information and appropriate special air-reports relevant to the whole route;
- (f) volcanic ash and tropical cyclone advisory information relevant to the whole route; and if appropriate;
- (g) subject to regional air navigation agreement, GAMET area forecast or area forecasts for low-level flights in chart form prepared relevant to the whole route; (2) When agreed between the service provider and operator concerned, flight documentation for flights of two hours' duration or less, after a short stop or turnaround, shall be limited to the information operationally needed, but in all cases the flight documentation shall at least comprise information in regulation 45 (5) (b), (c), (d), (e), (f) and, if appropriate, (g); and
- (h) space weather advisory information relevant to the whole route.

(2) Whenever it becomes apparent that the meteorological information to be included in the flight documentation will differ materially from that made available for pre-flight planning and in flight re planning, the operator shall be advised immediately and, if practicable, be supplied

with the revised information as agreed between the operator and the aerodrome meteorological office concerned.

(3) Where a need for amendment arises after the flight documentation has been supplied, and before take-off of the aircraft, the aerodrome meteorological office shall, as agreed locally, issue the necessary amendment or updated information to the operator or to the local air traffic services unit, for transmission to the aircraft.

(4) The meteorological service provider shall retain information supplied to flight crew members, either as printed copies or in computer files, for a period of at least thirty (30) days from the date of issue and this information shall be made available, on request, for inquiries or investigations and, for these purposes, shall be retained until the inquiry or investigation is completed.

Automated pre-flight information systems for briefing, consultation, and flight planning and flight documentation.

49. (1) Where the service provider uses automated pre-flight information systems to supply and display meteorological information to operators and flight crew members for self-briefing, flight planning and flight documentation purposes, the information supplied and displayed shall comply with regulations 45, 46 and 47.

(2) Automated pre-flight information systems providing for a harmonized, common point of access to meteorological information and aeronautical information services information by operators, flight crew members and other aeronautical personnel concerned shall be established by an agreement between the meteorological service provider and the Authority or AIS provider.

(3) Where automated pre-flight information systems are used to provide for a harmonized, common point of access to meteorological information and aeronautical information services information by operators, flight crew members and other aeronautical personnel concerned, the meteorological service provider and AIS provider shall remain responsible for the quality control and management.

Information for aircraft in flight.

50. (1) Meteorological information for use by aircraft in flight shall be supplied by an aerodrome meteorological office or meteorological watch office to its associated air traffic services unit and through D-VOLMET or VOLMET broadcasts as determined by regional air navigation agreement.

(2) Meteorological information referred to in sub-regulation (1) above for planning by the operator for aircraft in flight shall be supplied on request, as agreed between the service provider and the operator concerned.

(3) Meteorological information for use by aircraft in flight shall be supplied to air traffic services units in accordance with the Part XII of these Regulations.

(4) Meteorological information shall be supplied through D- VOLMET or VOLMET broadcasts in accordance with the requirements in Part XIII of these Regulations.

PART XIII
INFORMATION FOR AIR TRAFFIC SERVICES, SEARCH AND RESCUE
SERVICES AND AERONAUTICAL INFORMATION SERVICES

Information for air traffic services units.

51. (1) The meteorological service provider shall provide information for air traffic services, search and rescue services and aeronautical information services in accordance with the technical specification and detailed criteria as prescribed by the Authority.

(2) The meteorological service provider shall designate an aerodrome meteorological office or meteorological watch office to be associated with each air traffic services unit.

(3) The associated aerodrome meteorological office or meteorological watch office shall, after coordination with the air traffic services unit, supply, or arrange for the supply of, up-to-date meteorological information to the unit as necessary for the conduct of its functions.

(4) An aerodrome meteorological office shall be associated with an aerodrome control tower or approach control unit for the provision of meteorological information.

(5) A meteorological watch office shall be associated with a flight information centre or an area control centre for the provision of meteorological information.

(6) Where, owing to local circumstances, it is convenient for the duties of an associated aerodrome meteorological office or meteorological watch office to be shared between two or more aerodrome meteorological offices or meteorological watch offices, the division of responsibility shall be determined by the meteorological service provider in consultation with the appropriate ATS provider.

(7) Any meteorological information requested by an air traffic services unit in connection with an aircraft emergency shall be provided immediately.

Information for search and rescue services units.

52. (1) Aerodrome meteorological offices or meteorological watch offices designated by the meteorological service provider in accordance with regional air navigation agreement shall supply search and rescue services units with the meteorological information required in a form

established by mutual agreement.

(2) For the purpose of sub-regulation (1), the designated aerodrome meteorological office or meteorological watch office shall maintain liaison with the search and rescue services unit throughout a search and rescue operation.

Information for aeronautical information services units.

53. The meteorological service provider, in coordination with the Authority, shall arrange for the supply of up-to-date meteorological information to aeronautical information services unit, as necessary, for the conduct of its functions.

PART XIII
REQUIREMENTS FOR AND USE OF COMMUNICATIONS

Requirements for use of communications

54. (1) The meteorological service provider shall provide and use communication services in accordance with the technical specification and detailed criteria as prescribed by the Authority.

(2) The Authority shall ensure suitable telecommunications facilities are made available to permit -

- (a) aerodrome meteorological offices and, as necessary, aeronautical meteorological stations to supply the required meteorological information to air traffic services units on the aerodromes for which those offices and stations are responsible, and in particular to aerodrome control towers, approach control units and the aeronautical telecommunications stations serving these aerodromes;
- (b) meteorological watch offices to supply the required meteorological information to air traffic services and search and rescue services units in respect of the flight information regions, control areas and search and rescue regions for which those offices are responsible, and in particular to flight information centres, area control centres and rescue coordination centres and the associated aeronautical telecommunications stations;
- (c) world area forecast centres to supply the required world area forecast system products to aerodrome meteorological offices, meteorological service providers and other users;
- (d) telecommunications facilities between aerodrome meteorological offices and, as necessary, aeronautical meteorological stations and aerodrome control towers or approach control units shall permit communications by direct speech, the speed

with which the communications can be established being such that the required points may normally be contacted within approximately 15 seconds; and

- (e) telecommunications facilities between aerodrome meteorological offices or meteorological watch offices and flight information centres, area control centres, rescue coordination centres and aeronautical telecommunications stations shall permit -
 - (i) communications by direct speech, the speed with which the communications can be established being such that the required points may normally be contacted within approximately fifteen (15) seconds; and
 - (ii) printed communications, when a record is required by the recipients, the message transit time shall not exceed five (5) minutes.

(3) The telecommunications facilities referred to in this regulation shall be supplemented, as and when necessary, by other forms of visual or audio communications, for example, closed-circuit television or separate information processing systems.

(4) Where agreed between the meteorological service provider and operators, provision shall be made to enable operators to establish suitable telecommunications facilities for obtaining meteorological information from aerodrome meteorological offices or other appropriate sources.

(5) The meteorological service provider shall ensure that suitable telecommunications facilities shall be made available to permit meteorological offices to exchange operational meteorological information with other meteorological offices.

(6) The telecommunications facilities used for the exchange of operational meteorological information shall be the aeronautical fixed service or, for the exchange of non-time critical operational meteorological information, the public internet, subject to availability, satisfactory operation, bilateral or multilateral or regional air navigation agreements.

Use of aeronautical fixed service communications and the public internet-meteorological bulletins.

55. (1) The Authority shall ensure that meteorological bulletins containing operational meteorological information to be transmitted via the aeronautical fixed service or the public Internet shall be originated by the appropriate meteorological office or aeronautical meteorological station.

(2) The Authority shall ensure that the Meteorological and ATS service providers maintain coordination in regard to the installation, maintenance and use of the aeronautical fixed services.

Use of aeronautical fixed service Communications

56. The meteorological service provider shall ensure that world area forecast system products in digital form are received using binary data communications techniques and the method and channels used for the dissemination of the products shall be as determined by regional air navigation agreement.

Use of aeronautical mobile service communications.

57. The meteorological and ATS service providers and aircraft operators shall ensure that the content and format of meteorological information transmitted to aircraft and by aircraft shall be consistent with the provisions of these Regulations.

Use of aeronautical data link service contents of D- VOLMET.

58. Where D-VOLMET is required, it shall contain current METAR and SPECI, together with trend forecasts where available, TAF and SIGMET, special air-reports not covered by a SIGMET.

Use of aeronautical broadcasting service—contents of VOLMET broadcasts.

59. (1) Where, continuous VOLMET broadcasts are required, normally on very high frequencies (VHF), they shall contain current METAR and SPECI, together with trend forecasts where available.

(2) Notwithstanding the provisions of sub-regulation (1) above, scheduled VOLMET broadcasts, normally on high frequencies (HF), shall contain current METAR and SPECI, together with trend forecasts where available and, where so determined by regional air navigation agreement, TAF and SIGMET.

PART XIV EXEMPTIONS

Requirements for application for exemption.

60. (1) A person may subject to sub regulation (2) apply to the Authority for an exemption from any provision of these Regulations.

(2) Unless in case of emergency, a person requiring exemptions from any of these regulations shall make an application to the Authority at least sixty days prior to the proposed effective date of commencement of the exemption, giving the following information -

- (a) name and contact address including electronic mail and fax if any;

- (b) telephone number;
- (c) a citation of the specific requirement from which the applicant seeks exemption;
- (d) justification for the exemption;
- (e) a description of the type of operations to be conducted under the proposed exemption;
- (f) the proposed duration of the exemption;
- (g) an explanation of how the exemption would be in the public interest;
- (h) a detailed description of the alternative means by which the applicant will ensure a level of safety equivalent to that established by the regulation in question;
- (i) A safety risk assessment carried out in respect of the exemption applied for;
- (j) if the applicant handles international operations and seeks to operate under the proposed exemption, an indication whether the exemption would contravene any provision of the Standards and Recommended Practices of the International Civil Aviation Organization (ICAO); and
- (k) any other information that the Authority may require.

(3) Where the applicant seeks emergency processing of an application for exemption, the application shall contain supporting facts and reasons for not filing the application within the time specified in sub regulation (2) and satisfactory reason for deeming the application an emergency.

(4) The Authority may in writing, refuse an application made under sub regulation (3), where in the opinion of the Authority, the reasons given for emergency processing are not satisfactory.

(5) The application for exemption shall be accompanied by a fee prescribed by the Authority.

Review and Publication

61. (1) The Authority shall review the application for exemption for accuracy and compliance and if the application is satisfactory, the Authority shall publish a detailed summary of the application for comments, within a prescribed time, in either -

- (a) the Government Gazette; or
- (b) aeronautical information circular; or
- (c) a daily newspaper with a wide national circulation.

(2) Where application requirements have not been fully complied with, the Authority shall request the applicant in writing, to comply prior to publication or making a decision under sub regulation (3).

(3) If the request is for emergency relief, the Authority shall publish the decision as soon as possible after processing the application.

Evaluation of the request

62. (1) Where the application requirements have been satisfied, the Authority shall conduct an evaluation of the request to include -

- (a) determination of whether an exemption would be in the public interest;
- (b) a determination, after a technical evaluation of whether the applicant's proposal would provide a level of safety equivalent to that established by the regulation, although where the Authority decides that a technical evaluation of the request would impose a significant burden on the Authority's technical resources, the Authority may deny the exemption on that basis;
- (c) a determination of whether a grant of the exemption would contravene these Regulations; and
- (d) a recommendation based on the preceding elements, of whether the request should be granted or denied, and of any conditions or limitations that should be part of the exemption.

(2) The Authority shall notify the applicant in writing, the decision to grant or deny the request and publish a detailed summary of its evaluation and decision.

(3) The summary referred to in sub-regulation (2) shall specify the duration of the exemption and any conditions or limitations of the exemption.

(4) If the exemption affects a significant population of the aviation community, the Authority shall publish the summary in aeronautical information circular.

PART XV
GENERAL PROVISIONS

Drug and alcohol testing and reporting.

63. (1) Any person who performs any function prescribed by these Regulations directly or by contract under the provisions of these Regulations may be tested for drug or alcohol usage.

(2) A person who -

- (a) refuses to submit to a test to indicate the percentage by weight of alcohol in the blood; or
- (b) refuses to submit to a test to indicate the presence of narcotic drugs, marijuana, or depressant or stimulant drugs or substances in the body, when requested by a law enforcement officer or the Authority, or refuses to furnish or to authorise the release of the test results requested by the Authority shall -
 - (i) be denied any licence, certificate, rating, qualification, or authorisation issued under these Regulations for a period of up to one year from the date of that refusal; or
 - (ii) have their licence, certificate, rating, qualification, or authorisation issued under these Regulations suspended or revoked.

Changes of certificate

64. (1) A holder of a certificate issued under these Regulations may apply to the Authority for -

- (a) replacement of the certificate if lost or destroyed;
- (b) change of name on the certificate; or
- (c) an endorsement on the certificate.

(2) when applying sub-regulation (1), the holder of a certificate shall submit to the Authority -

- (a) the original certificate or a copy thereof in case of loss; and
- (b) a court order, or other legal document verifying the name change.

(3) The Authority shall return to the holder of a certificate, with the appropriate changes applied for, if any, the originals specified under paragraph (2) and, where necessary, retain copies thereof.

Change of address

65. (1) A holder of a certificate issued under these Regulations shall notify the Authority of the change in the physical and mailing address within fourteen days of such change.

(2) A person who does not notify the Authority of the change in the physical and mailing address within the time frame specified in sub-regulation (1) shall not exercise the privileges of the certificate.

Replacement of documents

66. A person may apply to the Authority in the prescribed form for replacement of documents issued under these Regulations if such documents are lost or destroyed.

Use and retention of documents and records

67. (1) A person shall not -

- (a) use any certificate or exemption issued or required by or under these Regulations which has been forged, altered, cancelled, or suspended, or to which he is not entitled; or
- (b) forge or alter any certificate or exemption issued or required by or under these Regulations; or
- (c) lend any certificate or exemption issued or required by or under these Regulations to any other person; or
- (d) make any false representation for the purpose of procuring for himself or any other person the grant, issue, renewal or variation of any such certificate or exemption; or
- (e) mutilate, alter, render illegible or destroy any records, or any entry made therein, required by or under these Regulations to be maintained, or knowingly make, or procure or assist in the making of, any false entry in any such record, or wilfully omit to make a material entry in such record.

(2) All records required to be maintained by or under these Regulations shall be recorded in a permanent and indelible material.

(3) A person shall not issue any certificate or exemption under these Regulations unless he is authorised to do so by the Authority.

(4) A person shall not issue any certificate referred to in sub- regulation (3) unless he has satisfied himself that all statements in the certificate are correct, and that the applicant is qualified to hold that certificate.

Reports of violation.

68. (1) Any person who knows of a violation of the Act, or any regulations, rules, or orders issued there under, shall report it to the Authority.

(2) The Authority may determine the nature and type of investigation or enforcement action that need to be taken.

Failure to comply with direction.

69. Any person who fails to comply with any direction given to that person by the Authority or by any authorized person under any provision of these Regulations shall be deemed for the purposes of these Regulations to have contravened that provision.

Aeronautical fees

70. (1) The Authority shall notify in writing the fees to be charged in connection with the issue, renewal or variation of any certificate, test, inspection or investigation required by, or for the purpose of these Regulations, any orders, notices or proclamations made there under.

(2) Upon an application being made in connection with which any fee is chargeable in accordance with the provisions of sub- regulation (1), the applicant shall be required, before the application is accepted, to pay the fee so chargeable.

(3) If, after that payment has been made, the application is withdrawn by the applicant or otherwise ceases to have effect or is refused, the Authority shall not refund the payment made.

**PART XVI
MISCELLANEOUS PROVISIONS**

Cancellation or suspension of certificate

71. The Authority may cancel or suspend the certificate of a person who contravenes any provision of these Regulations.

Appeals to the tribunal

72. A person who is aggrieved with the decision of the Authority under these regulations may within twenty-one (21) days appeal to the tribunal.

Offences

73. (1) Any person who contravenes any provision of these Regulations shall upon conviction be liable to a fine not exceeding forty thousand emalangeni (E40 000) or to imprisonment term not exceeding two (2) years or to both.

(2) If it is proved that an act or omission of any person, which would otherwise have been a contravention by that person of a provision of these Regulations, orders, notices or proclamations made there under was due to any cause not avoidable by the exercise of reasonable care by that person, the act or omission shall be deemed not to be a contravention of that provision by that person.

Transitional

74. (1) A licence, certificate, permit or authorization issued or granted by the Authority before the commencement of these Regulations shall remain operational until it expires or is revoked, annulled or replaced.

(2) Notwithstanding any other provision of these Regulations, a person who at the commencement of these Regulations, is carrying out any acts, duties or operations affected by these Regulations shall, within one (1) year from the date of commencement, or within such longer time that the Minister may, by notice in the Gazette prescribe, comply with the requirements of these Regulations or cease to carry out such acts, duties or operations.

CHIEF NDLALUHLAZA NDWANDWE
MINISTER FOR PUBLIC WORKS AND TRANSPORT.