

PART 139
AERODROMES

This new part of the Jordanian Civil Aviation Regulations is hereby adopted under the authority and provisions of the Civil Aviation Law No. (41) 2007, and its amendments.

Eng. Ahmad Azzam
Acting Chief Commissioner/CEO
Civil Aviation Regulatory Commission



Contents

<u>Section No.</u>	Subject	<u>Page No.</u>
---------------------------	----------------	------------------------

**SUBPART- A
General**

139.1	<u>Applicability.</u>	
139.3	<u>Definitions.</u>	
139.5	<u>General.</u>	
139.7-139.99	<u>Reserved.</u>	

**SUBPART- B
Certification**

139.101	<u>General requirements.</u>	
139.103	<u>Application for an aerodrome operating certificate.</u>	
139.105	<u>Reserved.</u>	
103.107	<u>Issuance of certificate.</u>	
139.109	<u>Duration of certificate.</u>	
139.111	<u>Exemptions, limitations and deviations.</u>	
139.113-139.115	<u>Reserved.</u>	
139.117	<u>Amendment of Certificate.</u>	
139.119	<u>Surrender of an aerodrome operating certificate.</u>	
139.121	<u>Reserved.</u>	
139.123	<u>Interim aerodrome operating certificate.</u>	
139.125	<u>Suspension of an aerodrome operating certificate</u>	
139.127	<u>Revocation of an aerodrome operating certificate.</u>	
139.129	<u>Renewal of the aerodrome operating certificate.</u>	
139.131-139.199	<u>Reserved.</u>	

**SUBPART –C
Aerodrome Certification Manual (ACM)**

139.201	<u>General requirements.</u>	
139.203	<u>Preparation of aerodrome certification manual (ACM).</u>	
139.205	<u>Contents of aerodrome certification manual (ACM).</u>	
139.207	<u>Maintenance of aerodrome certification manual (ACM).</u>	

139.209	<u>Location of the aerodrome certification manual (ACM).</u>
139.211-	<u>Reserved.</u>
139.215	
139.217	<u>Amendment of aerodrome certification manual (ACM).</u>
139.219-	<u>Reserved.</u>
139.299	

**SUBPART-D
Operations.**

139.301	<u>Reserved.</u>
139.303	<u>Personnel.</u>
139.305	<u>Paved areas.</u>
139.307	<u>Reserved</u>
139.309	<u>Safety areas.</u>
139.311	<u>Marking , Signs and airfield lighting.</u>
139.313	<u>Snow and ice control.</u>
139.315	<u>Reserved.</u>
139.317	<u>Aircraft rescue and firefighting.</u>
139.319	<u>Reserved.</u>
139.321	<u>Handling and storing of dangerous goods and hazardous substances.</u>
139.323	<u>Traffic wind direction</u>
139.325	<u>Aerodrome emergency plan</u>
139.327	<u>Self inspection program</u>
139.329	<u>Ground vehicles</u>
139.331	<u>Obstructions.</u>
139.333	<u>Protection of NAVAIDs.</u>
139.335	<u>Expansions on the movement area.</u>
139.337	<u>Wildlife hazard management.</u>
139.339	<u>Aerodrome condition reporting.</u>
139.341	<u>Identifying, marking, and reporting construction and other unserviceable, restricted areas.</u>
139.343	<u>Disabled aircraft removal.</u>
139.345	<u>Apron management.</u>
139.347	<u>Apron safety management.</u>
139.349	<u>Aircraft ground servicing.</u>
139.351	<u>Procedures for Aircraft Operators.</u>
139.353	<u>Obligations to Restricted Certain Aircraft.</u>
139.355	<u>Accident and mandatory occurrence reporting and investigation.</u>
139.357	<u>Low visibility and adverse weather conditions.</u>
139.359	<u>Safety management system.</u>

139.361	Internal Safety Audits and Safety Reporting.
139.363	Non complying conditions.
139.365	Notifying and Reporting.
139.367	Public protection.
139.369	Medical services
139.371-139.399	Reserved

Subpart E Aerodrome Authorization

139.401	Scope
139.403	Application for aerodrome approval
139.405	Grant/Refusal of an aerodrome approval.
139.407	Endorsement of conditions.
139.409	Duration of an aerodrome approval.
139.411	Surrender of an aerodrome approval
139.413	Cancelation or suspension of an aerodrome approval.
139.415	Amendment of an aerodrome approval
139.417	Operation and maintenance procedure.
139.419	Notification of change.
139.421-139.499	Reserved.

Appendices

APPENDIX A- [GENERAL.](#)

APPENDIX B- [AERODROME DATA.](#)

APPENDIX C- [PHYSICAL CHARACTERISTICS.](#)

APPENDIX D- [OBSTACLE RESTRICTION & REMOVAL.](#)

APPENDIX E- [VISUAL AIDS FOR NAVIGATION.](#)

APPENDIX F- [VISUAL AIDS FOR DENOTING OBSTACLES.](#)

APPENDIX G- [VISUAL AIDS FOR DENOTING RESTRICTED AND UNSERVICEABLE AREA.](#)

APPENDIX H- [ELECTRICAL SYSTEM.](#)

APPENDIX I- [AERODROME OPERATIONAL SERVICES, EQUIPMENT AND INSULATIONS.](#)

APPENDIX J- [AERODROME MAINTENANCE.](#)

APPENDIX K- COLOURS FOR AERONAUTICAL GROUND LIGHTS,
MARKINGS, SIGNS AND PANELS.

APPENDIX L- AERONAUTICAL GROUND LIGHTS CHARACTERISTICS.

APPENDIX M- MANDATORY INSTRUCTION MARKINGS AND INFORMAT
MARKINGS.

APPENDIX N- REQUIREMENTS CONCERNING TAXING GUIDANCE
SIGNS.

APPENDIX O- AERONAUTICAL DATA QUALITY REQUIREMENTS.

APPENDIX P- PARTICULARS TO BE INCLUDED IN
AERODROME MANUAL.

APPENDIX Q- APPLICATION FOR ISSUE OR RENEWAL
AERODROME CERTIFICATION.

ATTACHMENT- A
GUIDANCE MATERIAL
SUPPLEMENTS TO JCAR PART 139.

ATTACHMENT- B
OBSTACLES LIMITATION SURFACES.

Abbreviations and Symbols.

(a) Abbreviations.

ACN:	Aircraft classification number.
AFFF:	Aqueous film forming foam agent.
APAPI:	Abbreviated precision approach path indicator.
ARFF:	Aircraft Rescue and Firefighting.
aprx:	Approximately.
ASDA:	Accelerate-stop distance available.
ATS:	Air traffic services.
AT-VASIS:	Abbreviated T visual approach slope indicator system.
C:	Degree Celsius.
CARC:	Civil Aviation Regulatory Commission.
CBR:	California bearing ratio.
Cd:	Candela.
CEO:	Chief Commissioner Executive Officer of CARC.
CIE:	Commission Internationale de l'Éclairage.
Cm:	Centimetre.
DME:	Distance measuring equipment.
DASS:	Directorate of Airport Safety and Standards.
Ft:	Foot.

ILS:	Instrument landing system.
IMC:	Instrument meteorological conditions.
JCAR:	Jordan Civil Aviation Regulation.
K:	Degree Kelvin.
Kg:	Kilogram.
Km:	Kilometre.
km/h:	Kilometre per hour.
kt:	Knot.
L:	Litre.
LDA:	Landing distance available.
m:	Metre.
max:	Maximum.
MLS:	Microwave landing system.
mm:	Millimetre.
mm:	Minimum.
MN:	Meganewton.
MPa:	Megapascal.
NM:	Nautical mile.
NU:	Not usable.
OCA/H:	Obstacle clearance altitude/height.
OFZ:	Obstacle free zone.
OLS:	Obstacle limitation surface.

PAPI:	Precision approach path indicator.
PCN:	Pavement classification number.
RESA:	Runway end safety area.
RVR:	Runway visual range.
TODA:	Take-off distance available.
TORA:	Take-off run available.
T-VASIS:	T visual approach slope indicator system.
VMC:	Visual meteorological conditions.
VOR:	Very high frequency omnidirectional radio range.

(b) Symbols.

°	Degree
=	Equals
'	Minute of arc
μ	Friction coefficient
>	Greater than
<	Less than
%	Percentage
±	Plus or minus

SUBPART-A General

139.1 Applicability.

- (a) This Part prescribes rules governing the certification and operation of land aerodromes which are open for public civilian use in the Hashemite Kingdom of Jordan.
- (b) The interpretation of some of the specifications in this part expressly requires the exercising of discretion, the taking of a decision or the performance of a function by aerodrome operator. However, any determination or action taken in this regard shall acquire prior approval of CARC.
- (c) The specifications, unless otherwise indicated in a particular context, shall apply to all aerodromes open to public use in accordance with the requirements of Article 15 of the Chicago Convention. The specifications of this part, Appendix (C) shall apply only to land aerodromes. The specifications in this part shall apply, where appropriate, to heliports but shall not apply to stolports.

Although, there are at present no specifications relating to stolports, it is intended that specifications for these aerodromes will be included as they are developed. In the interim, guidance material on stolports is given in the ICAO Stolport Manual (Doc. 9150).

- (d) This Part represent the minimum requirements to achieve an acceptable level of safety.
- (e) Wherever a colour is referred to in this part, the specifications for that colour given in Appendix (K) shall apply.

139.3 Definitions.

The following are definitions of terms as used in this part:

Accuracy: a degree of conformance between the estimated or measured value and the true value.

For measured positional data, the accuracy is normally expressed in terms of a distance from a stated position within which there is a defined confidence of the true position falling.

Aerodrome: 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 beacon: aeronautical beacon used to indicate the location of an aerodrome from the air.

Aerodrome certificate: a certificate issued by the appropriate authority under applicable regulations for the operation of an aerodrome.

Aerodrome elevation: the elevation of the highest point of the landing area.

Aerodrome identification sign: a sign placed on an aerodrome to aid in identifying the aerodrome from the air.

Aerodrome mapping data (AMD): data collected for the purpose of compiling aerodrome mapping information for aeronautical uses.

Aerodrome mapping data are collected for purposes that include the improvement of the user's situational awareness, surface navigation operations, training, charting and planning.

Aerodrome mapping database (AMDB): a collection of aerodrome mapping data organized and arranged as a structured data set.

Aerodrome reference point: the designated geographical location of an aerodrome.

Aerodrome traffic density:

- (a) Light: where the number of movements in the mean busy hour is not greater than 15 per runway or typically less than 20 total aerodrome movements.
- (b) Medium: where the number of movements in the mean busy hour is of the order of 16 to 25 per runway or typically between 20 to 35 total aerodrome movements.

- (c) Heavy: where the number of movements in the mean busy hour is of the order of 26 or more per runway or typically more than 35 total aerodrome movements.

The number of movements in the mean busy hour is the arithmetic mean over the year of the number of movements in the daily busiest hour.

Either a take-off or a landing constitutes a movement.

Aeronautical beacon: an aeronautical ground light visible at all azimuths, either continuously or intermittently, to designate a particular point on the surface of the earth.

Aeronautical ground light. any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.

Aeroplane reference field length: the minimum field length required for take-off at maximum certificated take-off mass, sea level, standard atmospheric conditions, still air and zero runway slope, as shown in the appropriate aeroplane flight manual prescribed by the certifying authority or equivalent data from the aeroplane manufacturer. Field length means balanced field length for aeroplanes, if applicable, or take-off distance in other cases.

Attachment A, Section 2, provides information on the concept of balanced field length and the Airworthiness Manual (Doc 9760) to Chicago Convention contains detailed guidance on matters related to take-off distance.

Aircraft classification number (ACN): a number expressing the relative effect of an aircraft on a pavement for a specified standard subgrade category.

The aircraft classification number is calculated with respect to the centre of gravity (CG) position which yields the critical loading on the critical gear. Normally the aftmost CG position appropriate to the maximum gross apron (ramp) mass is used to calculate the ACN. In exceptional cases the forward-most CG position may result in the nose gear loading being more critical.

Aircraft stand: a designated area on an apron intended to be used for parking an aircraft.

Apron: a defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Apron management service: a service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

Balked landing: a landing manoeuvre that is unexpectedly discontinued at any point below the obstacle clearance altitude/height (OCA/H).

Barrette: three or more aeronautical ground lights closely spaced in a transverse line so that from a distance they appear as a short bar of light.

Calendar: discrete temporal reference system that provides the basis for defining temporal position to a resolution of one day (ISO 19108; *Geographic information — Temporal schema*).

Capacitor discharge light: a lamp in which high-intensity flashes of extremely short duration are produced by the discharge of electricity at high voltage through a gas enclosed in a tube.

Certified aerodrome: an aerodrome whose operator has been granted an aerodrome certificate.

Clearway: a defined rectangular area on the ground or water under the control of the appropriate authority, selected or prepared as a suitable area over which an aeroplane may make a portion of its initial climb to a specified height.

Cyclic redundancy check (CRC): a mathematical algorithm applied to the digital expression of data that provides a level of assurance against loss or alteration of data.

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

Datum: any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities (ISO 19104; *Geographic information — Terminology*).

De-icing/anti-icing facility: a facility where frost, ice or snow is removed (de-icing) from the aeroplane to provide clean surfaces, and/or where clean surfaces of the aeroplane receive protection (anti-icing) against the formation of frost or ice and accumulation of snow or slush for a limited period of time.

Further guidance is given in the manual of aircraft De-icing/Anti-icing Operation (Doc 9640) to Chicago Convention.

De-icing/anti-icing pad: an area comprising an inner area for the parking of an aeroplane to receive de-icing/anti-icing treatment and an outer area for the manoeuvring of two or more mobile de-icing/anti-icing equipment.

Declared distances:

- (a) *Take-off run available (TORA):* the length of runway declared available and suitable for the ground run of an aeroplane taking off.
- (b) *Take-off distance available (TODA):* the length of the take-off run available plus the length of the clearway, if provided.
- (c) *Accelerate-stop distance available (ASDA):* the length of the take-off run available plus the length of the stopway, if provided.
- (d) *Landing distance available (LDA):* the length of runway which is declared available and suitable for the ground run of an aeroplane landing.

Dependent parallel approaches: simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre lines are prescribed.

Displaced threshold: a threshold not located at the extremity of a runway.

Effective intensity. the effective intensity of a flashing light is equal to the intensity of a fixed light of the same colour which will produce the same visual range under identical conditions of observation.

Ellipsoid height (Geodetic height): the height related to the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question.

Fixed light: a light having constant luminous intensity when observed from a fixed point.

Frangible object: an object of low mass designed to break, distort or yield on impact so as to present the minimum hazard to aircraft.

Guidance on design for frangibility is contained in the Aerodrome Design Manual (Doc 9157), Part 6 to Chicago Convention.

Geodetic datum. a minimum set of parameters required to define location and orientation of the local reference system with respect to the global reference system/frame.

Geoid: the equipotential surface in the gravity field of the Earth which coincides with the undisturbed mean sea level (MSL) extended continuously through the continents.

The geoid is irregular in shape because of local gravitational disturbances (wind tides, salinity, current, etc.) and the direction of gravity is perpendicular to the geoid at every point.

Geoid undulation: the distance of the geoid above (positive) or below (negative) the mathematical reference ellipsoid.

In respect to the World Geodetic System — 1984 (WGS-84) defined ellipsoid, the difference between the WGS-84 ellipsoidal height and orthometric height represents WGS-84 geoid undulation.

Gregorian calendar: calendar in general use; first introduced in 1582 to define a year that more closely approximates the tropical year than the Julian calendar (ISO 19108; *Geographic information — Temporal schema*).

In the Gregorian calendar, common years have 365 days and leap years 366 days divided into twelve sequential months.

Hazard beacon: an aeronautical beacon used to designate a danger to air navigation.

Heliport: an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

Holding bay: a defined area where aircraft can be held, or bypassed, to facilitate efficient surface movement of aircraft.

Holdover time: the estimated time the anti-icing fluid (treatment) will prevent the formation of ice and frost and the accumulation of snow on the protected (treated) surfaces of an aeroplane.

Hot spot: a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

Human Factors principles: 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.

Human performance: human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

Identification beacon: an aeronautical beacon emitting a coded signal by means of which a particular point of reference can be identified.

Independent parallel approaches: simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre lines are not prescribed.

Independent parallel departures: simultaneous departures from parallel or near-parallel instrument runways.

Instrument runway: one of the following types of runways intended for the operation of aircraft using instrument approach procedures:

- (a) ***Non-precision approach runway:*** a runway served by visual aids and non-visual aid(s) intended for landing operations following an instrument approach operation type A and a visibility not less than 1 000 m.
- (b) ***Precision approach runway, category I:*** a runway served by visual aids and non-visual aid(s) intended for landing operations following an instrument approach operation type B with a decision height (DH) not lower than 60 m (200 ft) and either a visibility not less than 800 m or a runway visual range not less than 550 m.
- (c) ***Precision approach runway, category II:*** a runway served by visual aids and non-visual aid(s) intended for landing operations following an instrument approach operation type B with a decision height (DH) lower than 60 m (200 ft) but not lower than 30 m (100 ft) and a runway visual range not less than 300 m.
- (d) ***Precision approach runway, category III:*** a runway served by visual aids and non-visual aid(s) intended for landing operations following an instrument approach operation type B to and along the surface of the runway and:

- (i) intended for operations with a decision height (DH) lower than 30 m (100 ft), or no decision height and a runway visual range not less than 175 m.
- (ii) intended for operations with a decision height (DH) lower than 15 m (50 ft), or no decision height and a runway visual range less than 175 m but not less than 50 m.
- (iii) intended for operations with no decision height (DH) and no runway visual range limitations.

Visual aids need not necessarily be matched to the scale of non-visual aids provided. The criterion for the selection of visual aids is the conditions in which operations are intended to be conducted

Integrity (aeronautical data): a degree of assurance that an aeronautical data and its value has not been lost nor altered since the data origination or authorized amendment.

Integrity classification (aeronautical data): classification based upon the potential risk resulting from the use of corrupted data. Aeronautical data is classified as:

- (a) routine data: there is a very low probability when using corrupted routine data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe;
- (b) essential data: there is a low probability when using corrupted essential data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe; and
- (c) critical data: there is a high probability when using corrupted critical data that the continued safe flight and landing of an aircraft would be severely at risk with the potential for catastrophe.

Intermediate holding position: a designated position intended for traffic control at which taxiing aircraft and vehicles shall stop and hold until further cleared to proceed, when so instructed by the aerodrome control tower.

Landing area: that part of a movement area intended for the landing or take-off of aircraft.

Landing direction indicator: a device to indicate visually the direction currently designated for landing and for take-off.

Laser-beam critical flight zone (LCFZ): airspace in the proximity of an aerodrome but beyond the LFFZ where the irradiance is restricted to a level unlikely to cause glare effects.

Laser-beam free flight zone (LFFZ): airspace in the immediate proximity of the aerodrome where the irradiance is restricted to a level unlikely to cause any visual disruption.

Laser-beam sensitive flight zone (LSFZ): airspace outside, and not necessarily contiguous with, the LFFZ and LCFZ where the irradiance is restricted to a level unlikely to cause flash-blindness or after-image effects.

Lighting system reliability: the probability that the complete installation operates within the specified tolerances and that the system is operationally usable.

Manoeuvring area: that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Marker: an object displayed above ground level in order to indicate an obstacle or delineate a boundary.

Marking: a symbol or group of symbols displayed on the surface of the movement area in order to convey aeronautical information.

Movement area: that part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

Near-parallel runways: non-intersecting runways whose extended centre lines have an angle of convergence/divergence of 15 degrees or less.

Non-instrument runway: a runway intended for the operation of aircraft using visual approach procedures or an instrument approach procedure to a point beyond which the approach may continue in visual meteorological conditions.

Normal flight zone (NFZ): airspace not defined as LFFZ, LCFZ or LSFZ but which must be protected from laser radiation capable of causing biological damage to the eye.

Obstacle: all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that:

- (a) are located on an area intended for the surface movement of aircraft; or
- (b) extend above a defined surface intended to protect aircraft in flight; or
- (c) stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

Obstacle free zone (OFZ): the airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangibly mounted one required for air navigation purposes.

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

Pavement classification number (PCN): a number expressing the bearing strength of a pavement for unrestricted operations.

Precision approach runway, see *Instrument runway*.

Primary runway(s): runway(s) used in preference to others whenever conditions permit.

Protected flight zones: airspace specifically designated to mitigate the hazardous effects of laser radiation.

Road: an established surface route on the movement area meant for the exclusive use of vehicles.

Road-holding position: a designated position at which vehicles may be required to hold.

Runway: a defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway end safety area (RESA): an area symmetrical about the extended runway centre line and adjacent to the end of the strip primarily intended to reduce the risk of damage to an aeroplane undershooting or overrunning the runway.

Runway guard lights: a light system intended to caution pilots or vehicle drivers that they are about to enter an active runway.

Runway-holding position: a designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.

In radiotelephony phraseologies, the expression “holding point” is used to designate the runway-holding position.

Runway strip: a defined area including the runway and stopway, if provided, intended:

- (a) to reduce the risk of damage to aircraft running off a runway; and
- (b) to protect aircraft flying over it during take-off or landing operations.

Runway turn pad: a defined area on a land aerodrome adjacent to a runway for the purpose of completing a 180-degree turn on a runway.

Runway visual range (RVR): 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.

Safety management system (SMS): a systematic approach to managing safety including the necessary organizational structure, accountabilities, policies and procedures.

Segregated parallel operations: simultaneous operations on parallel or near-parallel instrument runways in which one runway is used exclusively for approaches and the other runway is used exclusively for departures.

Shoulder: an area adjacent to the edge of a pavement so prepared as to provide a transition between the pavement and the adjacent surface.

Sign:

- (a) *Fixed message sign:* a sign presenting only one message.
- (b) *Variable message sign:* a sign capable of presenting several predetermined messages or no message, as applicable.

Signal area: an area on an aerodrome used for the display of ground signals.

Slush: water-saturated snow which with a heel-and-toe slap-down motion against the ground will be displaced with a splatter; specific gravity: 0.5 up to 0.8.

Combinations of ice, snow and/or standing water may, especially when rain, rain and snow, or snow is falling produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, will have a transparent rather than a cloudy appearance and, at the higher specific gravities, will be readily distinguishable from slush.

Snow (on the ground):

- (a) **Dry snow:** snow which can be blown if loose or, if compacted by hand, will fall apart again upon release; specific gravity: up to but not including 0.35.
- (b) **Wet snow:** snow which, if compacted by hand, will stick together and tend to or form a snowball; specific gravity: 0.35 up to but not including 0.5.
- (c) **Compacted snow:** snow which has been compressed into a solid mass that resists further compression and will hold together or break up into lumps if picked up; specific gravity: 0.5 and over.

Station declination: an alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated.

Stopway: a defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

Switch-over time (light): the time required for the actual intensity of a light measured in a given direction to fall from 50 per cent and recover to 50 per cent during a power supply changeover, when the light is being operated at intensities of 25 per cent or above.

Take-off runway: a runway intended for take-off only.

Taxiway: A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

- (a) **Aircraft stand taxiway.** A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
- (b) **Apron taxiway.** A portion of a taxiway system located on an apron and intended to provide a through taxi-route across the apron.
- (c) **Rapid exit taxiway.** A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.

Taxiway intersection: a junction of two or more taxiways.

Taxiway strip: an area including a taxiway intended to protect an aircraft operating on the taxiway and to reduce the risk of damage to an aircraft accidentally running off the taxiway.

Threshold: the beginning of that portion of the runway usable for landing.

Touchdown zone: the portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway.

Usability factor: the percentage of time during which the use of a runway or system of runways is not restricted because of the crosswind component.

Crosswind component means the surface wind component at right angles to the runway centre line.

139.5 General.

(a) Inspection Authority.

(1) All aerodromes available for public use shall allow the Chief Commissioner/CEO, or his representative to make any inspections, including announced and unannounced inspections to ensure aviation safety and compliance with:

- (i) The Civil Aviation law No. 41 of 2007, as amended; and

(ii) The requirements of this Part.

(a) Chief Commissioner/CEO, or his representative empowered to address safety-critical findings and the related safety recommendations to ensure compliance with the requirements of this Part.

(b) Compliance

The Aerodrome Operator shall comply with all applicable JCARs and Publications. The Aerodrome Operator shall also comply with any conditions that may be endorsed in the Aerodrome Certificate or Aerodrome Authorization.

139.9-139.99 Reserved

SUBPART-B Certification

139.101 General requirements.

(a) All aerodromes open for international operations and public civilian use in the Hashemite Kingdom of Jordan shall be certified in accordance with the specifications contained in this Part as well as JCARs Part 150, Part 301, Part 19 and other related Jordan Civil Aviation Regulations and publications.

(b) As part of the certification process, CARC will ensure that an aerodrome manual which will include all pertinent information on the aerodrome site, facilities, services, equipment, operating procedures, organization and management including a safety management system, is submitted by the applicant for approval/acceptance prior to granting the aerodrome certificate.

139.103 Application for an aerodrome operating certificate.

Each applicant for an aerodrome operating certificate must submit an expression of interest and formal application, in the CARC FORM 34/ACRT and in a manner acceptable by the Chief Commissioner/CEO, and submit with it:

- (a) Two hard copies of an aerodrome certification manual and one soft copy, as appropriate, prepared in accordance with subpart C of this part; and
- (b) A payment of the appropriate application fee prescribed by related regulations;
- (c) Evidence of lawful entitlement to use the place as an aerodrome;
- (d) A plan of the aerodrome and its facilities certified by a registered surveyor.
- (e) Possessing a third party insurance policy acceptable to the Chief Commissioner /CEO, or his designee.

139.105 Reserved.

139.107 Issuance of certificate.

An applicant for an aerodrome operating certificate holder is entitled to an aerodrome operating certificate holder if:

- (a) The provisions of paragraph 139.103 of this part are met;
- (b) The Chief Commissioner/CEO, after inspection, finds that the applicant is properly and adequately equipped and able to provide a safe aerodrome operating environment in accordance with:
- (1) This part, and
 - (2) Any limitations which the Chief Commissioner/CEO finds necessary in the public interest; and
- (c) The Chief Commissioner/CEO, after inspection, finds that:
- (1) The applicant and aerodrome staff have the necessary competence and experience to operate and maintain the aerodrome properly;
 - (2) The aerodrome manual contains all relevant information;
 - (3) The aerodrome facilities, services and equipment are in accordance with the standard and practices specified in this part;
 - (4) The aerodrome operating procedures make satisfactory provision for the safety of aircraft; and
 - (5) An acceptable safety management system is in place at the aerodrome.
- (d) The Chief Commissioner/CEO approved the aerodrome certification manual;
- (e) The aerodrome has in effect an approved aerodrome security manual from concerned parties.
- (f) Aerodrome operating certificate holders shall establish an environmental management system in compliance with the related national regulations.

139.109 Duration of certificate.

An aerodrome operating certificate issued under this part is effective for two years or until it is surrendered by the aerodrome operator, or is suspended, revoked by the Chief Commissioner/CEO.

139.111 Exemptions, limitations and deviations.**(a) Exemptions.**

(1) An applicant or aerodrome operating certificate holder may petition the Chief Commissioner/CEO under JCAR Part 11 (General Rule Making), from any requirements of this Part if deemed necessary for the operation of aerodrome providing that equivalent safety measure is ensured or;

(2) The findings of the risk assessment indicate that the exiting level of risk is within the acceptable levels that established by CARC.

(3) Each petition filed under this section shall be submitted in duplicate to the Civil Aviation Regulatory Commission in form and manner acceptable to the Chief Commissioner/CEO.

(4) An exemption is subject to the aerodrome operating certificate holder complying with conditions and procedures specified by the Chief Commissioner/CEO in the aerodrome certificate as being necessary in the interest of safety.

(b) Deviations.

(1) In emergency conditions requiring immediate action for the protection of life or property, involving the transportation of persons by air carriers, the aerodrome operating certificate holder may deviate from any requirement of this part to the extent required to meet that emergency. Each aerodrome operating certificate holder who deviates from a requirement under this paragraph shall, as soon as practicable, but not later than 14 days after the emergency, report in writing to the Chief Commissioner/CEO stating the nature, extent, and duration of the deviation.

(2) Any other existing deviations in the aerodrome facilities from the requirements of this part shall be pursued according to the requirements established under paragraph (a) of this section. Such deviations will be set out as an endorsement on the aerodrome operating certificate.

(c) Limitations.

To serve public interest, and to ensure safe aircraft operation at any certify aerodrome, the Chief Commissioner/CEO may impose an operation restrictions as well as impose any limitation on the use of any aerodrome facilities.

139.113 – 139.115 Reserved.**139.117 Amendment of Certificate.**

Provided that the requirements of 139.107 and 139.217 have been met, Chief Commissioner/CEO may amend an aerodrome operating certificate when:

- (a) There is a change in the use or operation of the aerodrome ;
- (b) There is a change in the boundaries of the aerodrome ; or
- (c) There is a change in the physical characteristics of the aerodrome ; or
- (d) The holder of the aerodrome operating certificate request an amendment.

139.119 Surrender of an aerodrome operating certificate.

(a) If the aerodrome operating certificate holder decides not to renew the aerodrome operating certificate, he must give the Chief Commissioner/CEO, not less than 90 days, written notice of the date on which the certificate is to be surrendered in order that suitable promulgation action can be taken.

(b) The Chief Commissioner/CEO will cancel the certificate on the date specified in the notice.

(c) The aerodrome may remain open to public use as an uncertified aerodrome upon the approval of Chief Commissioner/CEO with the issuance of an exemption and NOTAM.

139.121 Reserved.**139.123 Interim aerodrome operating certificate.**

(a) The Chief Commissioner/CEO may issue an interim aerodrome operating certificate to an applicant to operate an aerodrome if the Chief Commissioner/CEO is satisfied that:

- (1) An aerodrome operating certificate in respect of the aerodrome will be issued to the applicant as soon as the application procedure for an aerodrome operating certificate has been completed; and

(2) The grant of the interim certificate is in the public interest and is not detrimental to aviation safety.

(b) Suspension and revocation of interim aerodrome operating certificate will be in pursuant of sections 139.123 and 139.125 of this subpart.

139.125 Suspension of an aerodrome operating certificate.

Suspension of an aerodrome operating certificate may be considered if:

(a) The established safety management system at the certified aerodrome is found to be inadequate;

(b) It is in the interest of operational safety;

(c) All other means for timely correction of the unsafe condition or ensuring safe aircraft operations have not yielded the required results;

(d) The technical proficiency or qualifications of the aerodrome operator to perform the duties to meet the critical safety requirements in accordance with the regulations are found inadequate;

(e) The aerodrome operating certificate holder is unwilling to take action to correct or mitigate the condition affecting aviation safety; or

(f) Aerodrome operating certificate holder wilfully fails to perform an already agreed upon corrective action and suspension of the certificate is the last resort to avoid unsafe operations of aerodrome.

139.127 Revocation of an aerodrome operating certificate.

Revocation of an aerodrome operating certificate holder may be warranted if the aerodrome operating certificate holder:

(a) Incapable or unwilling to carry out corrective action or has committed/repeated serious violations;

(b) Has demonstrated a lack of responsibility, such as deliberate and flagrant acts of non-compliance or falsification of records jeopardizing aviation safety; or

(c) Has made it convincingly clear that the continued operation of the aerodrome will be detrimental to the public interest.

139.129 Renewal of the aerodrome operating certificate.

(a) An application for the renewal of aerodrome operating certificate shall be made on CARC FORM 34/ACRT in a manner acceptable to the Chief Commissioner/CEO.

(b) A payment of the appropriate application fee prescribed by related regulations must be paid to the Civil Aviation Regulatory Commission.

139.131 -139.199 Reserved.**SUBPART -C****Aerodrome Certification Manual (ACM).****139.201 General requirements.**

(a) An applicant for an aerodrome operating certificate must prepare, and submit with an application, two copies of the aerodrome certification manual for approval by the Chief Commissioner/CEO. Only those items addressing subjects required for certification under this part shall be included in the aerodrome certification manual.

(b) Each aerodrome operating certificate shall comply with an approved aerodrome certification manual that meets the requirements of sections 139.203 and 139.205.

139.203 Preparation of aerodrome certification manual (ACM).

ACM required by this part shall:

(a) be typewritten and signed by the aerodrome operator;

(b) be in a form that is easy to revise;

(c) has the effective date and issuance status (original/ amendment number on each page);

(d) has approval sheet showing issue number, amendment number and it is effective date;

(e) be organized in a manner helpful to the preparation, review, and approval processes; and

(f) has a distribution list against signature internally and externally.

139.205 Contents of aerodrome certification manual (ACM).

ACM shall include the particulars as specified in Appendix P to this part, and to the extent these are applicable to the aerodrome, under six parts as the following:

- Part 1: General Information.
- Part 2: Particulars of the Aerodrome Site.
- Part 3: Particulars of the Aerodrome Required to be Reported to the Aeronautical Information Services (AIS).
- Part 4: Particulars of the Aerodrome Operating Procedures Measures.
- Part 5: Rescue and Firefighting Requirements.
- Part 6: Aerodrome Administration and Safety Management System.

139.207 Maintenance of aerodrome certification manual (ACM).

Each holder of an aerodrome operating certificate shall:

- (a) keep the ACM current at all times;
- (b) maintain at least one complete and current copy of its approved ACM on the aerodrome;
- (c) furnish the applicable portions of the approved ACM to the aerodrome personnel responsible for their implementation;
- (d) make the copy required by paragraph (b) of this section available for inspection by the Chief Commissioner/CEO upon request; and
- (e) provide the Chief Commissioner/CEO with two complete and current copies of the ACM.

139.209 Location of the aerodrome certification manual (ACM).

- (a) The aerodrome operator shall provide CARC with a complete and current copy of the aerodrome certification manual.

- (b) The aerodrome operator shall keep at least one complete and current copy of the aerodrome certification manual at the aerodrome and one copy at the operator's principle place of the business if other than the aerodrome.
- (c) The aerodrome operator shall make the copy available for the inspection by authorized CARC inspectors.
- (d) The aerodrome operator shall distribute a complete and current copy to all stakeholders.

139.211-139.215 Reserved.

139.217 Amendment of aerodrome certification manual (ACM).

- (a) The amendment of the approved ACM may be initiated either by:
 - (1) The aerodrome operating certificate holder; or
 - (2) the Chief Commissioner/CEO; when he determines that safety in air transportation or air commerce and the public interest require the amendment.
- (b) An applicant for an amendment to its ACM shall notify the Chief Commissioner/CEO at least 30 days before the proposed effective date of the amendment, and obtain CARC approval before publishing any changes to the ACM, unless a shorter period of the notification is allowed by the Chief Commissioner/CEO for the interest of safety operation.
- (c) At any time within 30 days after receiving a notice of refusal to approve the application for amendment, the aerodrome operating certificate holder may petition the Chief Commissioner/CEO to reconsider the refusal to amend.
- (d) In the case of amendments initiated by the Chief Commissioner/CEO, the Civil Aviation Regulatory Commission shall notify the aerodrome operating certificate holder of the proposed amendment, in writing, fixing a reasonable period (but not less than 7 days) within which the aerodrome operator certificate holder may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the Chief Commissioner/CEO notifies the aerodrome operating certificate holder of any amendment adopted or rescinds the notice. The amendment becomes effective not less than 30 days after the aerodrome operating certificate holder receives notice of it, except that prior to the effective date the aerodrome operating certificate holder may petition the Chief Commissioner/CEO to reconsider the

amendment, in which case its effective date is delayed pending a decision by the Chief Commissioner/CEO.

(e) Notwithstanding the provisions of paragraph (d) of this section, if the Chief Commissioner/CEO finds that there is an emergency requiring immediate action with respect to safety in air transportation or air commerce, the Chief Commissioner/CEO may issue an amendment, effective without delay on the date the aerodrome operating certificate holder receives notice of it. In such a case, the Chief Commissioner/CEO incorporates the finding of the emergency, and a brief statement of the reasons for the finding, in the notice of the amendment, and the aerodrome operating certificate holder shall immediately amend the ACM and distribute the amendment. Within 30 days after the issuance of such an emergency amendment, the aerodrome operating certificate holder may petition the Chief Commissioner/CEO to reconsider either the finding of an emergency or the amendment itself or both. This petition does not automatically delay the effective date of the emergency amendment.

139.219- 139.299 Reserved.

SUBPART-D Operations.

139.301 Reserved.

139.303 Personnel.

(a) Each aerodrome operating certificate holder shall maintain sufficient qualified personnel to comply with the requirements of its ACM or aerodrome certification specifications and the applicable rules of this Part.

(b) Where the Chief Commissioner/CEO, has prescribed a competency certification requirement for the personnel referred to in paragraph (a), the aerodrome operating certificate holder shall employ only those persons possessing such certificates.

(c) The aerodrome operating certificate holder shall implement a programme to upgrade the competency of the personnel referred to in paragraph (a).

139.305 Paved areas.

(a) Each aerodrome operating certificate holder shall employ a maintenance program, including preventive maintenance where appropriate ,to maintain the

aerodrome facilities in condition does not impair the safety of aircraft operation, and promptly repair the pavement of, each runway, taxiway, loading ramp, and parking area on the aerodrome which is available for air carrier use as follows:

(1) The pavement edges shall not exceed three inches difference in elevation between abutting pavement sections and between full strength pavement and abutting shoulders.

(2) The pavement shall have no hole exceeding three inches in depth nor any hole the slope of which from any point in the hole to the nearest point at the lip of the hole is 45 degrees or greater as measured from the pavement surface plane, unless, in either case, the entire area of the hole can be covered by a 5-inch diameter circle.

(3) The pavement shall be free of cracks and surface variations which could impair directional control of air carrier aircraft.

(4) Except as provided in paragraph (b) of this section, mud, dirt, and loose aggregate, debris, foreign objects, rubber deposits, and other contaminants shall be removed promptly and as completely as practicable.

(5) Except as provided in paragraph (b) of this section, any chemical solvent that is used to clean any pavement area shall be removed as soon as possible, consistent with the instructions of the manufacturer of the solvent.

(6) The pavement shall be sufficiently drained and free of depressions to prevent ponding that obscures markings or impairs safe aircraft operations.

(b) Paragraphs (a)(4) and (a)(5) of this section do not apply to snow and ice accumulations and their control, including the associated use of materials such as sand and deicing solutions.

139.307 Reserved.

139.309 Safety areas.

Each aerodrome operating certificate holder shall maintain its safety areas as follows:

(a) Each safety area shall be cleared and graded, and have no potentially hazardous ruts, humps, depressions, or other surface variations.

- (b) Each safety area shall be drained by grading or storm sewers to prevent water accumulation and ponding.
- (c) Each safety area shall be capable under dry conditions of supporting snow removal equipment, and aircraft rescue and fire-fighting equipment, and supporting the occasional passage of aircraft without causing major damage to the aircraft.
- (d) No object may be located in any safety area, except for objects that need to be located in a safety area because of their function. These objects shall be constructed, to the extent practical, on frangible mounted structures of the lowest practical height with the frangible point no higher than three inches above grade.

139.311 Marking, signs and airfield lighting.

(a) Each aerodrome operating certificate holder shall provide and maintain the following marking systems as appropriate for air carrier operations on the aerodrome :

- (1) Runway markings meeting the specifications for the approach with the lowest minimums authorized for each runway.
- (2) Taxiway centerline, edge markings and aprons marking.
- (3) Signs identifying taxiing routes on the movement area.
- (4) Runway holding position markings and signs.
- (5) ILS critical area markings and signs.

(b) Each aerodrome operating certificate holder shall provide and maintain the following lighting systems as appropriate to meet minimums authorized for each runway:

- (1) Runway lighting meeting the specifications for the approach with the lowest minimums;
- (2) Taxiway and apron lighting systems.
- (3) An aerodrome beacon.

(4) Approach lighting meeting the specifications for the approach with the lowest minimums authorized for each runway.

(5) Obstruction marking and lighting, as appropriate, on each object within its authority.

However, this lighting and marking is not required if it is determined to be unnecessary by CARC aeronautical study.

(c) Each aerodrome operating certificate holder shall employ preventive maintenance programs and properly maintain each marking, sign or lighting system installed on the aerodrome which is owned by the certificate holder. As used in this section, to "properly maintain" includes: To clean, replace, or repair any faded, missing, or nonfunctional item of lighting; to keep each item unobscured and clearly visible; and to ensure that each item provides an accurate reference to the user.

(d) Each aerodrome operating certificate holder shall ensure that all lighting on the aerodrome, including that for aprons, vehicle parking areas, roadways, fuel storage areas, and buildings, is adequately adjusted or shielded to prevent interference with air traffic control and aircraft operations.

139.313 Snow and ice control.

(a) Each aerodrome operating certificate holder whose aerodrome is located where snow and icing conditions regularly occur shall prepare, maintain, and carry out a snow and ice control plan.

(b) The snow and ice control plan required by this section shall include instructions and procedures for:

(1) Prompt removal or control as completely as practical of snow, ice, and slush on each movement area;

(2) Positioning snow off of movement area surfaces so that all air carrier aircraft propellers, engine pods, rotors, and wingtips will clear any snowdrift and snow bank as the aircraft's landing gear traverses any full strength portion of the movement area;

(3) Selection and application of approved materials for snow and ice control to ensure that they adhere to snow and ice sufficiently to minimize engine ingestion;

- (4) Timely commencement of snow and ice control operations; and
- (5) Prompt notification, in accordance with 139.339, of all air carriers using the aerodrome when any portion of the movement area normally available to them is less than satisfactorily cleared for safe operation by their aircraft.

139.315 Reserved

139.317 Aircraft rescue and firefighting.

(a) General.

The principal objective of a rescue and firefighting service is to save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of, an aerodrome. The rescue and firefighting service is provided to create and maintain survivable conditions, to provide egress routes for occupants and to initiate the rescue of those occupants unable to make their escape without direct aid. The rescue may require the use of equipment and personnel other than those assessed primarily for rescue and firefighting purposes.

The most important factors bearing on effective rescue in a survivable aircraft accident are: the training received, the effectiveness of the equipment and the speed with which personnel and equipment designated for rescue and firefighting purposes can be put into use.

Requirements to combat building and fuel farm fires, or to deal with foaming of runways, are not taken into account.

(b) Application.

1. Rescue and firefighting equipment and services shall be provided at an aerodrome.

Public or private organization suitably located and equipped, may be designated to provide the rescue and firefighting services. It is intended that the fire station housing these organizations be normally located on the aerodrome, although an off-aerodrome location is not precluded provided the response time can be met.

- (2) Where an aerodrome is located close to water/swampy areas, or difficult terrain, and where a significant portion of approach or departure operations takes place over these areas, specialist rescue services and firefighting equipment appropriate to the hazard and risk shall be available.

The objective is to plan and deploy the necessary life-saving flotation equipment as expeditiously as possible in a number commensurate with the largest airplane normally using the aerodrome.

Additional guidance is available in Chapter 13 of the ICAO Airport Services Manual (Doc 9137), Part 1.

(c) Level of protection to be provided.

(1) The level of protection provided at an aerodrome for rescue and firefighting shall be equal to the aerodrome category determined using the following principles:

(i) The aerodrome category shall be determined from Table-1 and shall be based on the longest airplanes normally using the aerodrome and their fuselage width.

To categorize the airplanes using the aerodrome, first evaluate their overall length and second, their fuselage width.

(ii) If, after selecting the category appropriate to the longest airplane's overall length, that airplane's fuselage width is greater than the maximum width in Table-1, column 3 for that category, then the category for that airplane shall actually be one category higher.

See guidance in the ICAO Airport Services Manual, Part 1 for categorizing aerodromes, including those for all-cargo aircraft operations, for rescue and firefighting purposes.

Guidance on training of personnel, rescue equipment for difficult environment and other facilities and services for rescue and firefighting is given in Attachment A, Section 18 and in the ICAO Airport Services Manual, Part 1.

**Table-1
Aerodrome category for rescue and firefighting**

Aerodrome category	Airplane overall length	Maximum fuselage width
(1)	(2)	(3)
1	0 m up to but not including 9 m	2 m
2	9 m up to but not including 12 m	2 m
3	12 m up to but not including 18 m	3 m
4	18 m up to but not including 24 m	4 m
5	24 m up to but not including 28 m	4 m

2. During anticipated periods of reduced activity, the level of protection available shall be no less than that needed for the highest category of airplane planned to use the aerodrome during that time irrespective of the number of movements.

(d) Extinguishing agents.

(1) Both principal and complementary extinguishing agents shall be provided at an aerodrome.

Descriptions of the agents may be found in the ICAO Airport Services Manual (Doc 9137), Part 1.

(2) The principal extinguishing agent shall be:

(i) a foam meeting the minimum performance level A; or

(ii) a foam meeting the minimum performance level B; or

(iii) a foam meeting the minimum performance Level C; or

(iv) a combination of these agents; except that the principal extinguishing agent for aerodromes in categories 1 to 3 shall preferably meet performance level B or C foam.

Information on the required physical properties and fire extinguishing performance criteria needed for a foam to achieve an acceptable performance level A, B or C rating is given in the ICAO Airport Services Manual (Doc 9137), Part 1.

(3) The complementary extinguishing agent shall be a dry chemical powder suitable for extinguishing hydrocarbon fires.

When selecting dry chemical powders for use with foam, care must be exercised to ensure compatibility.

Alternate complementary agents having equivalent firefighting capability may be utilized. Additional information on extinguishing agents is given in the ICAO Airport Services Manual (Doc 9137), Part 1.

(4) The amounts of water for foam production and the complementary agents to be provided on the rescue and firefighting vehicles shall be in accordance with the aerodrome category determined under 139.317 paragraph (c) (1) and Table-2, except that for aerodrome categories 1 and 2 up to 100 per cent of the water may be complementary agent.

For the purpose of agent substitution, 1 kg of complementary agent shall be taken as equivalent to 1.0L of water for production of a foam meeting performance level A.

The amounts of water specified for foam production are predicated on an application rate of 8.2 L/min/m² for a foam meeting performance level A, 5.5 L/min/m² for a foam meeting performance level B and 3.75L/min/m² for a foam meeting performance Level C.

When any other complementary agent is used, the substitution ratios need to be checked.

(5) At aerodromes where operation by aeroplanes larger than the average size in a given category are planned, the quantities of water shall be recalculated and the amount of water for foam production and the discharge rates for foam solution shall be increased accordingly.

Guidance on the determination of quantities of water and discharge rates based on the largest theoretical aeroplane in a given category is available in Chapter 2 of the ICAO Airport Services Manual, Part 1.

(6) At aerodromes where operations by aeroplanes larger than the average size in a given category are planned, the quantities of water shall be recalculated and the amount of water for foam production and the discharge rates for foam solution shall be increased accordingly.

Guidance on the determination of quantities of water and discharge rates based on the largest overall length of aeroplane in a given category is available in Chapter 2 of the Airport Services Manual (Doc 9137), Part 1.

- (7) The quantity of foam concentrates separately provided on vehicles for foam production shall be in proportion to the quantity of water provided and the foam concentrate selected.
- (8) The amount of foam concentrate provided on a vehicle shall be sufficient to produce at least two loads of foam solution.
- (9) Supplementary water supplies, for the expeditious replenishment of rescue and firefighting vehicles at the scene of an aircraft accident, shall be provided.
- (10) When a combination of different, the total amount of water to be provided for foam production shall be calculated for each foam type and the distribution of these quantities shall be documented for each vehicle and applied to the overall rescue and firefighting requirement.
- (11) The discharge rate of the foam solution shall not be less than the rates shown in Table-2.
- (12) The complementary agents shall comply with the appropriate specifications of the International Organization for Standardization (ISO).
- (13) The discharge rate of complementary agents shall be no less than the rates shown in Table-2.

Table-2
Minimum usable amounts of extinguishing agents

Aerodrome Category	Foam meeting performance level A		Foam meeting performance level B		Foam meeting performance level C		Complementary agents	
	Water (L)	Discharge rate foam solution/minute (L)	Water (L)	Discharge rate foam solution/minute (L)	Water (L)	Discharge rate foam solution/minute (L)	Dry Chemical powder (kg)	Discharge Rate Kg/sec
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	350	350	230	230	160	160	45	2.25
2	1 000	800	670	550	460	360	90	2.25
3	1 800	1 300	1 200	900	820	630	135	2.25
4	3 600	2 600	2 400	1 800	1 700	1 100	135	2.25

5	8 100	4 500	5 400	3 000	3 900	2 200	180	2.25
6	11 800	6 000	7 900	4 000	5 800	2 900	225	2.25
7	18 200	7 900	12 100	5 300	8 800	3 800	225	2.25
8	27 300	10 800	18 200	7 200	12 800	5 100	450	4.5
9	36 400	13 500	24 300	9 000	17 100	6 300	450	4.5
10	48 200	16 600	32 300	11 200	22 800	7 900	450	4.5

The quantities of water shown in columns 2, 4 and 6 are based on the average overall length of aeroplanes in a given category.

(14) Dry chemical powders shall only be substituted with an agent that has equivalent or better firefighting capabilities, for all types of fires where complementary agent is expected to be used.

Guidance on the use of complementary agents can be found in the ICAO Airport Services Manual – Part 1.

(15) A reserve supply of foam concentrate, equivalent to 200 per cent of the quantities identified in Table-2, shall be maintained on the aerodrome for vehicle replenishment purposes.

Foam concentrate carried on fire vehicles in excess of the quantity identified in Table-2 can contribute to the reserve.

(16) A reserve supply of complementary agent, equivalent to 100 per cent of the quantity identified in Table I-2, shall be maintained on the aerodrome for vehicle replenishment purposes. Sufficient propellant gas shall be included to utilize this reserve complementary agent.

(17) Category 1 and 2 aerodromes that have replaced up to 100 per cent of the water with complementary agent shall hold a reserve supply of complementary agent of 200 per cent.

(18) Where a major delay in the replenishment of the supplies is anticipated, the amount of reserve supply in 139.317 paragraphs (d) (15), (d) (16), and (d) (17) shall be increased as determined by a risk assessment.

See Airport Services Manual (Doc 9137), Part 1 for guidance on the conduct of a risk analysis to determine the quantities of reserve extinguishing agents.

(e) Rescue Equipment.

Rescue equipment commensurate with the level of aircraft operations shall be provided on the rescue and firefighting vehicle(s).

Guidance on the rescue equipment to be provided at an aerodrome is given in the ICAO Airport Services Manual (Doc 9137), Part 1.

(f) Response time.

(1) The operational objective of the rescue and firefighting service shall be to achieve a response time not exceeding three minutes to any point of each operational runway, in optimum visibility and surface conditions.

(2) The operational objective of the rescue and firefighting service shall be to achieve a response time not exceeding three minutes to any part of the movement area in optimum visibility and surface conditions.

Response time is considered to be the time between the initial call to the rescue and firefighting service, and the time when the first responding vehicle(s) is (are) in position to apply foam at a rate of at least 50 per cent of the discharge rate specified in Table I-2.

Optimum visibility and surface conditions are defined as daytime, good visibility, no precipitation with normal response route free of surface contamination e.g. water, ice or snow.

(3) To meet the operational objective as nearly as possible in less than optimum conditions of visibility, especially during low visibility operations, suitable guidance, equipment and/or procedures for rescue and firefighting services shall be provided.

Additional guidance is available in the ICAO Airport Services Manual, Part 1.

(4) Any vehicles, other than the first responding vehicle(s), required to deliver the amounts of extinguishing agents specified in Table I-2 shall ensure continuous agent application and shall arrive no more than four minutes from the initial call.

(5) Any vehicles, other than the first responding vehicles(s), required to deliver the amounts of extinguishing agents specified in Table I-2 shall

ensure continuous agent application and should arrive no more than three minutes from the initial call.

(6) A system of preventive maintenance of rescue and firefighting vehicles shall be employed to ensure effectiveness of the equipment and compliance with the specified response time throughout the life of the vehicle.

(g) Emergency access roads.

(1) Emergency access roads shall be provided on an aerodrome where terrain conditions permit their construction, so as to facilitate achieving minimum response times. Particular attention shall be given to the provision of ready access to approach areas up to 1 000 m from the threshold, or at least within the aerodrome boundary. Where a fence is provided, the need for convenient access to outside areas shall be taken into account.

Aerodrome service roads may serve as emergency access roads when they are suitably located and constructed.

(2) Emergency access roads shall be capable of supporting the heaviest vehicles which will use them, and be usable in all weather conditions. Roads within 90 m of a runway shall be surfaced to prevent surface erosion and the transfer of debris to the runway. Sufficient vertical clearance shall be provided from overhead obstructions for the largest vehicles.

(3) When the surface of the road is indistinguishable from the surrounding area, or in areas where snow may obscure the location of the roads, edge markers shall be placed at intervals of about 10 m.

(h) Fire stations

(1) All rescue and firefighting vehicles shall normally be housed in a fire station. Satellite fire stations shall be provided whenever the response time cannot be achieved from a single fire station.

(2) The fire station shall be located so that the access for rescue and firefighting vehicles into the runway area is direct and clear, requiring a minimum number of turns.

(i) Communication and alerting systems

(1) A discrete communication system shall be provided linking a fire station with the control tower, any other fire station on the aerodrome and the rescue and firefighting vehicles.

(2) An alerting system for rescue and firefighting personnel, capable of being operated from that station, shall be provided at a fire station, any other fire station on the aerodrome and the aerodrome control tower.

(j) Number of rescue and firefighting vehicles

The minimum number of rescue and firefighting vehicles provided at an aerodrome shall be in accordance with the following tabulation:

Aerodrome category	Rescue and firefighting vehicles
1	1
2	1
3	1
4	1
5	1
6	2
7	2
8	3
9	3
10	3

Guidance on minimum characteristics of rescue and firefighting vehicles is given in the ICAO Airport Services Manual (Doc 9137), Part 1. Personnel

(k) Personnel

(1) All rescue and firefighting personnel shall be properly trained to perform their duties in an efficient manner and shall participate in live fire drills commensurate with the types of aircraft and type of rescue and firefighting equipment in use at the aerodrome, including pressure-fed fuel fires.

Guidance to assist the concerned party responsible for rescue and firefighting in providing proper training is given in Attachment A, Section 17; and ICAO Airport Services Manual, Part 1.

Fires associated with fuel discharged under very high pressure from a

ruptured fuel tank are known as “pressure-fed fuel fires”.

(2) The rescue and firefighting personnel training program shall include training in human performance, including team coordination.

Guidance material to design training programs on human performance and team coordination can be found in the ICAO Human Factors Training Manual (Doc 9683).

(3) During flight operations, sufficient trained and competent personnel shall be designated to be readily available to ride the rescue and firefighting vehicles and to operate the equipment at maximum capacity. These personnel shall be deployed in a way that ensures that minimum response times can be achieved and that continuous agent application at the appropriate rate can be fully maintained. Consideration shall also be given for personnel to use hand lines, ladders and other rescue and firefighting equipment normally associated with aircraft rescue and firefighting operations.

(4) In determining the number personnel required a task resource analysis should be completed and the level of staffing documented in the Aerodrome Manual.

Guidance on the use of a task resource analysis can be found in the Airport Services Manual (Doc 9137), Part 1.

(5) All responding rescue and firefighting personnel shall be provided with protective clothing and respiratory equipment to enable them to perform their duties in an effective manner.

139.317-139.319 Reserved.

139.321 Handling and storing of Dangerous Goods and Hazardous Substances.

(a) Each aerodrome operating certificate holder, and any other entity, which acts as a cargo handling agent at the aerodrome shall establish and maintain procedures for the protection of persons and property on the aerodrome during the handling and storing of any material regulated by the Dangerous Goods / Hazardous Materials Regulations, that is, or is intended to be, transported by air,

or used on aerodrome facilities. These procedures shall provide for at least the following:

- (1) Designated personnel to receive and handle hazardous substances and materials.
- (2) Assurance from the shipper that the cargo can be handled safely, including any special handling procedures required for safety.
- (3) Special areas for storage of hazardous materials while on the aerodrome

(b) Each aerodrome operating certificate holder shall establish and maintain standards acceptable to the Chief Commissioner/CEO for protecting against fire and explosions in storing, dispensing, and otherwise handling fuel, lubricants, and oxygen (other than articles and materials that are, or are intended to be, aircraft cargo) on the aerodrome. These standards shall cover facilities, procedures, and personnel training and shall address at least the following:

- (1) Grounding and bonding.
- (2) Public protection.
- (3) Control of access to storage areas.
- (4) Fire safety in fuel farm and storage areas.
- (5) Fire safety in mobile fullers, fueling pits, and fueling cabinets.
- (6) The fire code of the public body having jurisdiction over the aerodrome.

(c) Each aerodrome operating certificate holder shall, as a fueling agent, comply with and, except as provided in paragraph (h) of this section, require all other fueling agents operating on the aerodrome to comply with the standards established under paragraph (b) of this section and shall perform reasonable surveillance of all fueling activities on the aerodrome with respect to those standards.

(d) Each aerodrome operating certificate holder shall inspect the physical facilities of each aerodrome tenant fueling agent at least once every three months for compliance with paragraph (b) of this section and maintain a record of that inspection for at least 12 months. The certificate holder may use an independent organization to perform this inspection if:

- (1) It is acceptable by the Chief Commissioner/CEO; and

(2) It prepares a record of its inspection sufficiently detailed to assure the certificate holder and the Civil Aviation Regulatory Commission that the inspection is adequate.

(e) The training required in paragraph (b)(6) of this section shall include at least the following:

(1) At least one supervisor with each fueling agent shall have completed an aviation fuel training course in fire safety which is acceptable to the Chief Commissioner/CEO.

(2) All other employees who fuel aircraft, accept fuel shipments, or otherwise handle fuel shall receive at least on-the-job training in fire safety from the supervisor trained in accordance with paragraph (e)(1) of this section.

(f) Each aerodrome operating certificate holder shall obtain certification once a year from each aerodrome tenant fueling agent that the training required by paragraph (e) of this section has been accomplished.

(g) Unless otherwise authorized by the Chief Commissioner/CEO, each certificate holder shall require each tenant fueling agent to take immediate corrective action whenever the certificate holder becomes aware of noncompliance with a standard required by paragraph (b) of this section. The certificate holder shall notify the Civil Aviation Regulatory Commission immediately when noncompliance is discovered and corrective action cannot be accomplished within a reasonable period of time.

(h) The aerodrome operator shall also ensure that:

(1) Any entity dealing with hazardous substances shall have an operation manual detailing procedures related to the handling of hazardous substances, storage, disposal as well as training requirements for personnel.

(2) The Dangerous Goods Operation Manual is reviewed and approved by a third party every 2 years.

(3) The procedures set in the Dangerous Goods Operations Manual are implemented.

(4) The substances are stored in appropriate area.

139.323 Traffic wind direction indicators.

Each aerodrome operating certificate holder shall provide the following on its aerodrome:

(a) A wind cone that provides surface wind direction information visually to pilots. For each aerodrome in a Class B airspace area, supplemental wind cones must be installed at each runway end or at least at one point visible to the pilot while on final approach and prior to takeoff. If the aerodrome is open for air carrier operations during hours of darkness, the wind direction indicators must be lighted.

(b) For aerodromes serving any air carrier operation when there is no control tower operating, a segmented circle around one wind cone and a landing direction indicator for each runway with a right-hand traffic pattern.

139.325 Aerodrome emergency plan.

(a) Each aerodrome operating certificate holder shall develop and maintain an aerodrome emergency plan designed to minimize the possibility and extent of personal injury and property damage at the aerodrome in an emergency. The plan shall include a set of instructions dealing with the arrangements designed to meet emergency conditions and steps shall be taken to ensure that the provisions of the instructions are periodically tested. The plan shall include:

- (1) Procedures for prompt response to all of the emergencies listed in paragraph (b) of this section, including a communications network; and
- (2) Sufficient detail to provide adequate guidance to each person who must implement it.
- (3) A system for locating and reaching each accident site in a minimum time, with adequate rescue.
- (4) Each aerodrome shall be equipped with fire-fighting and medical equipments.
- (5) A detailed grid map(s) shall be available in the emergency plan. The grid maps shall reflect a distance of at least 100 m beyond the threshold and the aerodrome perimeter

(6) The full contacts list of the responsible entities from the aerodrome operator and the parties involved with the plan, full description of the duties of each person shall be illustrated in the plan.

(b) The plan required by this section shall contain instructions for response to:

- (1) Aircraft incidents and accidents;
- (2) Bomb incidents, including designated parking areas for the aircraft involved;
- (3) Structural fires;
- (4) Natural disaster;
- (5) Radiological incidents;
- (6) Sabotage, hijack incidents, and other unlawful interference with operations;
- (7) Failure of power for movement area lighting; and
- (8) Water rescue situations.

(c) The plan required by this section shall address or include:

(1) The extent practicable, provisions for medical services including transportation and medical assistance for the maximum number of persons that can be carried on the largest air carrier aircraft that the aerodrome reasonably can be expected to serve. The number of ambulances required to be provided on the aerodrome shall be determined taking into considerations.

(i) The criteria set in table (4) below :

Table (4)

Aircraft Occupants	Number of casualties (75% of occupants)	20 percent casualties immediate care Priority I	30 % casualties Delayed care Priority	50 % Casualties Minor care
(1)	(2)	(3)	(4)	(5)

500	375	75	113	187
450	338	68	101	169
400	300	60	90	150
350	263	53	79	131
300	225	45	68	112
250	188	38	56	49
200	150	30	45	75
150	113	23	34	56
100	75	15	23	37
50	38	8	11	19

(ii) The ability of ambulances in terms of numbers and capacity , to carry personnel teams qualified in first aid and medical supplies, which are vital to the success of initial triage in the event of an accident.

(iii) Arrangements are made with local health authorities to provide ambulance services, the aerodrome operator shall ensure their ability to meet within a reasonable time a sudden demand for assistance on the scale envisaged, as well as the suitability of such ambulances for movement on the terrain in the vicinity of the aerodrome .

(2) The name, location, telephone number, and emergency capability of each hospital and other medical facility, and the business address and telephone number of medical personnel on the aerodrome or in the communities it serves, agreeing to provide medical assistance or transportation;

(3) The name, location, and telephone number of each rescue squad, ambulance service, military installation, and government agency on the aerodrome or in the communities it serves, that agrees to provide medical assistance or transportation;

(4) An inventory of surface vehicles and aircraft that the facilities, agencies, and personnel included in the plan under paragraphs (c)(2) and (c)(3) of this section will provide to transport injured and deceased persons to locations on the aerodrome and in the communities it serves;

(5) Each hangar or other building on the aerodrome or in the communities it serves that will be used to accommodate uninjured, injured, and deceased persons;

- (6) Crowd control, specifying the name and location of each safety or security agency that agrees to provide assistance for the control of crowds in the event of an emergency on the aerodrome ; and
 - (7) The removal of disabled aircraft including to the extent practical the name, location and telephone numbers of agencies with aircraft removal responsibilities or capabilities.
- (d) The plan required by this section must provide for:
- (1) The marshaling, transportation, and care of ambulatory injured and uninjured accident survivors;
 - (2) The removal of disabled aircraft;
 - (3) Emergency alarm systems; and
 - (4) Coordination of aerodrome and control tower functions relating to emergency actions.
- (e) The plan required by this section shall contain procedures for notifying the facilities, agencies, and personnel who have responsibilities under the plan of the location of an aircraft accident, the number of persons involved in that accident, or any other information necessary to carry out their responsibilities, as soon as that information is available.
- (f) The plan required by this section shall contain provisions, to the extent practicable, for the rescue of aircraft accident victims from significant bodies of water or marsh lands adjacent to the aerodrome which are crossed by the approach and departure flight paths of air carriers. A body of water or marsh land is significant if the area exceeds one-quarter square mile and cannot be traversed by conventional land rescue vehicles. To the extent practicable, the plan shall provide for rescue vehicles with a combined capacity for handling the maximum number of persons that can be carried on board the largest air carrier aircraft that the aerodrome reasonably can be expected to serve.
- (g) In addition the above, each aerodrome operating certificate holder shall:
- (1) Coordinate its plan with law enforcement agencies, rescue and firefighting agencies, medical personnel and organizations, the principal tenants at the aerodrome , and all other persons who have responsibilities under the plan;

- (2) To the extent practicable, provide for participation by all facilities, agencies, and personnel specified in paragraph (g)(1) of this section in the development of the plan;
- (3) Ensure that all aerodrome personnel having duties and responsibilities under the plan are familiar with their assignments and are properly trained;
- (4) At least once every 12 months, review the plan with all of the parties with whom the plan is coordinated as specified in paragraph (g)(1) of this section, to ensure that all parties know their responsibilities and that all of the information in the plan is current; and
- (5) Hold a full-scale aerodrome emergency plan exercise at least once every 2 years.

139.327 Self-inspection program.

(a) Each aerodrome operating certificate holder shall inspect the aerodrome to assure compliance with this subpart:

- (1) Daily inspection, except as otherwise required by the aerodrome certification manual;
- (2) When required by any unusual condition such as construction activities or meteorological conditions that may affect safe air carrier operations;
- (3) Night inspections including the evaluation and checking for compliance with the standard related to runway, taxiway and apron lighting and signage, pavement marking aerodrome beacons, wind direction indicator lighting, obstacle lighting and the marking and lighting of construction areas; and
- (4) Special Inspections as circumstances require, to ensure aviation safety:
 - i) immediately after an accident or incident;
 - ii) during any period of construction or repair of the aerodrome facilities or equipment that is critical to the safety of aircraft operation; and
 - iii) at any other time when there are conditions at the aerodrome that could affect aviation safety.

(b) Each aerodrome operating certificate holder shall provide the following:

- (1) Equipment for use in conducting safety inspections of the aerodrome ;
- (2) Procedures, facilities, and equipment for reliable and rapid dissemination of information between aerodrome personnel and its air carriers;
- (3) Procedures to ensure that qualified inspection personnel perform the inspections; and
- (4) A reporting system to ensure prompt correction of unsafe aerodrome conditions d during the inspection.

(c) Each aerodrome operating certificate holder shall prepare and keep for at least 6 months, and make available for inspection by the Chief Commissioner/CEO on request, a record of each inspection prescribed by this section, showing the conditions found and all corrective actions taken.

139.329 Ground vehicles.

Each aerodrome operating certificate holder shall:

- (a) Limit access to movement areas and safety areas only to those ground vehicles necessary for aerodrome operations;
- (b) Establish and implement procedures for the safe and orderly access to, and operation on, the movement area and safety areas by ground vehicles, including provisions identifying the consequences of noncompliance with the procedures by an employee, tenant, or contractor;
- (c) When an air traffic control tower is in operation, ensure that each ground vehicle operating on the movement area is controlled by one of the following:
 - (1) Two-way radio communications between each vehicle and the tower,
 - (2) An escort vehicle with two-way radio communications with the tower to accompany any vehicle without a radio, or
 - (3) Measures acceptable to the Chief Commissioner /CEO for controlling vehicles, such as signs, signals, or guards, when it is not operationally practical to have two-way radio communications with the vehicle or an escort vehicle;

- (d) When an air traffic control tower is not in operation, provide adequate procedures to control ground vehicles on the movement area through prearranged signs or signals;
- (e) Ensure that each employee, tenant, or contractor who operates a ground vehicle on any portion of the aerodrome that has access to the movement area is familiar with the aerodrome 's procedures for the operation of ground vehicles and the consequences of noncompliance; and
- (f) On request by the Chief Commissioner /CEO, make available for inspection any record of accidents or incidents on the movement areas involving air carrier aircraft and/or ground vehicles.

139.331 Obstructions.

Each aerodrome operating certificate holder shall:

- (a) Ensure that each object in each area within its authority which exceeds any of the heights or penetrates the imaginary surfaces described in the Civil Aviation Regulations is either removed, marked, or lighted. However, removal, marking, and lighting is not required if it is determined to be unnecessary by a Civil Aviation Regulatory Commission upon conducting aeronautical study.
- (b) Management of obstructions on the aerodrome shall be the responsibility of the aerodrome operator.

139.333 Protection of NAVAIDs.

Each aerodrome operating certificate holder shall:

- (a) Prevent the construction of facilities on its aerodrome as determined by the Chief Commissioner /CEO, that would derogate the operation of an electronic or visual NAVAID and air traffic control facilities in the aerodrome;
- (b) Protect, or if the owner is other than the certificate holder, assist in protecting, all NAVAIDs on its aerodrome against vandalism and theft; and
- (c) Prevent, insofar as it is within the aerodrome 's authority, interruption of visual and electronic signals of NAVAIDs.

139.335 Expansions on the movement area.

Management of expansions on the movement area shall be the responsibility of the aerodrome operator to ensure that the expansions meet the requirements prescribed in this Part, regarding aerodrome physical characteristics, visual aids and operational procedures.

139.337 Wildlife hazard management.

(a) Each aerodrome operating certificate holder shall provide for the conduct of a wildlife hazard assessment, acceptable to the Chief Commissioner/CEO, when any of the following events occurs on or near the aerodrome :

- (1) An air carrier aircraft experiences a multiple bird strike.
- (2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component.
- (3) An Air carrier experiences an engine ingestion of wildlife.
- (4) Wildlife of a size or in numbers capable of causing an event described in paragraph (a) (1), (2) or (3) of this section is observed to have access to any aerodrome flight pattern or movement area.

(b) The wildlife hazard assessment required in paragraph (a) of this section shall be conducted by a credentialed wildlife management biologist. The assessment shall contain at least the following:

- (1) Analysis of the event or circumstances which prompted the study.
- (2) Identification of the species, numbers, locations, local movements, and daily and seasonal occurrences of wildlife observed.
- (3) Identification and location of features on and near the aerodrome that attract wildlife.
- (4) Description of the wildlife hazard to air carrier operations.
- (5) Recommended actions for reducing identified wildlife hazards to air carrier operations.

(c) The study required by paragraph (a) of this section shall be submitted to the Chief Commissioner/CEO for approval and determination on the need for a wildlife hazard management plan. In reaching this determination, the Chief Commissioner/CEO considers:

- (1) The wildlife hazard assessment;
- (2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;
- (3) The aeronautical activity at the aerodrome , including the frequency and size of air carrier aircraft.
- (4) The views of the certificate holder.
- (5) The views of the aerodrome users; and
- (6) Any other factors bearing on the matter of which the Chief Commissioner/CEO is aware.

(d) When the Chief Commissioner/CEO determines that a wildlife hazard management plan is needed, the certificate holder shall formulate and implement a plan using the wildlife hazard assessment as a basis. The plan shall:

- (1) Be submitted to, and approved by, the Chief Commissioner/CEO prior to implementation; and
- (2) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations; and
- (3) As authorized by the Chief Commissioner/CEO, become a part of the Aerodrome Certification Manual.

(e) The plan shall include at least the following:

- (1) The persons who have authority and responsibility for implementing the plan.
- (2) Priorities for needed wildlife population management, habitat modification, and changes in land use identified in the wildlife hazard assessment, with target dates for initiation and completion.

- (3) Requirements for and, where applicable, copies of wildlife control permits.
- (4) Identification of resources to be provided by the certificate holder for implementation of the plan.
- (5) Procedures to be followed during air carrier operations, including at least:
 - (i) Designation of personnel responsible for implementing the procedures;
 - (ii) Provision to Conduct physical inspections of the movement area and other areas critical to successfully manage known wildlife hazards sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;
 - (iii) Wildlife hazard control measures; and
 - (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.
- (6) Procedures to review and evaluate the wildlife hazard management plan annually or following an event described in paragraphs (a)(1),(2), or (3) of this section, including:
 - (i) The plan's effectiveness in dealing with known wildlife hazards on, and in the vicinity of, the aerodrome ; and
 - (ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.
- (7) A training program to provide aerodrome personnel with the knowledge and skills needed to carry out the wildlife hazard management plan required by paragraph (c) and (d) of this section.
- (f) Notwithstanding the other requirements of this section, each certificate holder shall take immediate measures to alleviate wildlife hazards whenever they are detected.

139.339 Aerodrome condition reporting.

(a) Each aerodrome operating certificate holder shall provide for the collection and dissemination of aerodrome condition information to air carriers.

(b) In complying with paragraph (a) of this section, the certificate holder shall utilize the NOTAM system and, as appropriate, other systems and procedures acceptable to the Chief Commissioner/CEO.

(c) In complying with paragraph (a) of this section, the certificate holder shall provide information on the following aerodrome conditions which may affect the safe operations of air carriers:

(1) Construction or maintenance activity on movement areas, safety areas, or loading ramps and parking areas.

(2) Surface irregularities on movement areas or loading ramps and parking areas.

(3) Snow, ice, slush, or water on the movement area or loading ramps and parking areas.

(4) Snow piled or drifted on or near movement areas contrary to 139.313.

(5) Objects on the movement area or safety areas contrary to 139.309.

(6) Malfunction of any lighting system required by 139.311.

(7) Unresolved wildlife hazards as identified in accordance with 139.337.

(8) Non-availability of any rescue and firefighting capability required in 139.317 and 139.319.

(9) Any other condition as specified in the aerodrome certification manual or which may otherwise adversely affect the safe operations of air carriers.

139.341 Identifying, marking, and reporting construction and other unserviceable, restricted areas.

Each aerodrome operating certificate holder shall:

(a) Mark and, if appropriate, light in a manner acceptable to the Chief Commissioner/CEO:

- (1) Each construction area and unserviceable area which is on or adjacent to any movement area or any other area of the aerodrome on which air carrier aircraft may be operated;
- (2) Each item of construction equipment and each construction roadway, which may affect the safe movement of aircraft on the aerodrome ; and
- (3) Any area adjacent to a NAVAID that, if traversed, could cause derogation of the signal or the failure of the NAVAID.

(b) Provide procedures, such as a review of all appropriate utility plans prior to construction, for avoiding damage to existing utilities, cables, wires, conduits, pipelines, or other underground facilities.

139.343 Disabled aircraft removal.

Each aerodrome operating certificate holder shall establish procedures for removing the disabled aircraft on or adjacent to the movement area, including the following:

- (a) The roles of the aerodrome operator and the holder of the aircraft certificate of registration;
- (b) Arrangements for notifying the holder of the certificate of registration;
- (c) Arrangements for liaising with the air traffic control unit;
- (d) Arrangements for obtaining equipment and personnel to remove the disabled aircraft; and
- (e) The names, role and telephone numbers of persons responsible for arranging for the removal of disabled aircraft.

139.345 Apron management.

Each aerodrome operating certificate holder shall establish procedures for apron management, including the following:

- (a) Arrangements between air traffic, control and the apron management unit;
- (b) Arrangements for allocating aircraft parking positions;

- (c) Arrangements for initiating engine start and ensuring clearance of aircraft push-back;
- (d) Marshalling service;
- (e) Leader (van) service; and
- (f) Visual monitoring of aircraft stand clearance.

139.347 Apron safety management.

Each aerodrome operating certificate holder shall establish procedures for apron safety management, including the following:

- (a) Protection from jet blasts;
- (b) Enforcement of safety precautions during aircraft refueling operations;
- (c) Apron sweeping;
- (d) Apron cleaning;
- (e) Arrangements for reporting incidents and accidents on an apron; and
- (f) Arrangements for auditing the safety compliance of all personnel working on the apron

139.349 Aircraft ground servicing.

Each aerodrome operating certificate holder shall:

- (a) Make readily available during the ground servicing of an aircraft a fire extinguishing equipment suitable for at least initial intervention in the event of a fuel fire, and personal trained its uses .
- (b) When air aircraft refueling operations take place while passengers are embarking, on board or disembarking, ground equipment shall be positioned so as to allow:
 - (1) The use of a sufficient number of exits for expeditious evacuation;
 - (2) A ready escape route from each of the exits to be used in an emergency;

- (3) Fuel Safety zones are clear;
 - (4) Two-way communication shall be established and tested between ground staff and a qualified person on board; and
 - (5) Fuel spillage procedures are in place.
- (c) All employees shall avoid driving equipment under the aircraft wings and fuselage.
- (d) Ground servicing equipment are properly maintained and equipped with fire extinguishers.
- (e) Aircraft approach procedures are conducting when the ground servicing equipment is required.

139.351 Procedures for Aircraft Operators.

An Aerodrome Operator shall develop and implement procedures for briefing Aircraft Operators of the necessary safety and regulatory requirements for aircraft before operation in Amman Flight Information Region (FIR) or from Jordan Territory. The Aerodrome Briefing shall include but not be limited to at least the following requirements:

- (a) provision of up to date aerodrome information as contained in the AIP to be available to the flight crew;
- (b) requirement for the aircraft operator to follow correct ICAO flight planning principles including the provision of aircraft registration and correct ICAO designators;
- (c) requirement for the aircraft operator to report either flight or ground based incidents to the CARC, including bird or wildlife strikes or near misses; and
- (d) requirement for the aircraft to be adequately equipped in accordance with the rules and regulations governing the airspace in which it will be flying.

139.353 Obligations to Restricted Certain Aircraft.

- (a) In respect to 139.351, the Aerodrome Operator or their agent shall ensure that procedures are developed to negate aircraft operators from operation at their

aerodrome when such aircraft operators cannot meet the Jordan regulatory requirements, or are subject to:

- (1) a ban based upon the origin of registry as notified by CARC;
- (2) a cease and desist order as notified by CARC; or
- (3) when the aircraft is subject to a grounding order as notified by CARC.

(b) The procedures above shall include immediate notification to CARC of actions taken against such aircraft or aircraft operators.

(c) The Aerodrome Operator shall monitor and ensure that third parties at the aerodrome comply with such procedures.

(d) The provision of weigh scales appropriate to the task to random check of aircraft payload shall be immediately available at the aerodrome.

139.355 Accident and mandatory occurrence reporting and investigation.

Each aerodrome operating certificate holder shall establish procedure for:

- (a) Report accidents / incidents at the aerodrome premises.
- (b) Remedial, investigation and corrective actions.
- (c) Accidents / incidents recording.

139.357 Low visibility and adverse weather conditions.

(a) Each aerodrome operating certificate holder shall establish

- (1) Procedures for low visibility operations.
- (2) Procedures for mitigating the effect of strong winds conditions.
- (3) Winter operations and apron hazards.
- (4) A criteria for Measurement and reporting of runway visual range (RVR) when required.
- (5) A NOTAM shall be issued when RVR is below 550 m.

(6) The availability of guiding the aircraft using follow-me cars when visibility is 550 m.

(b) The names and the telephone numbers of the responsible employees during and after working hours, responsible for measuring the RVR shall be included in the low visibility procedure.

139.359 Safety Management System.

As part of the certification process, an Aerodrome Certification Manual which includes all pertinent information on the aerodrome site, facilities, services, equipment, operating procedures, organization and management including a safety management system, shall be submitted by the applicant for approval/acceptance prior to granting the aerodrome operating certificate.

The intent of a safety management system is to have in place an organized and orderly approach in the management of aerodrome safety by the aerodrome operator. Guidance on an aerodrome safety management system is given in Appendix P to this Part.

139.361 Internal Safety Audits And Safety Reporting.

(a) The aerodrome operating certificate holder shall arrange for an internal audit of the safety management system, including an inspection of the aerodrome facilities and equipment. The audit shall cover the aerodrome operator's own functions. The aerodrome operating certificate holder shall also arrange an external audit and inspection programme for evaluation of other users including fixed-base operators, ground handling agencies and other organizations working at the aerodrome referred to in 139.359.

(b) The audits referred to in 139.361 (a) shall be carried out every 12 months or less, as agreed with the Chief Commissioner/CEO.

(c) The aerodrome operating certificate holder shall ensure that the audit reports including the report on the aerodrome facilities, equipment and services, are prepared by suitably qualified safety experts.

(d) The aerodrome operating certificate holder shall retain a copy of the report(s) referred to in regulation 139.361 (c) for a period of three years. The Chief Commissioner/CEO may request a copy of the report(s) for its review and reference.

(e) The report(s) referred to in regulation 139.361 (c) must be prepared and signed by the persons who carried out the audits and inspections.

139.363 Non complying conditions.

Unless otherwise authorized by the Chief Commissioner/CEO, whenever the requirements of subpart D of this part cannot be met to the extent that unsafe conditions are uncorrected on the aerodrome, the certificate holder shall limit air carrier operations to those portions of the aerodrome not rendered unsafe by those conditions.

139.365 Notifying and reporting.

(a) An aerodrome operating certificate holder shall notify and report to the Chief Commissioner/CEO, Aeronautical Information Service (AIS) and air traffic control at the aerodrome within the specified time limits required by these regulations.

(b) Notification of inaccuracies in Aeronautical Information Service(AIS) publications:

An aerodrome operating certificate holder shall review the issues of Aeronautical Information Publication (AIP), AIP Supplements, AIP Amendments, and Notices to Airmen (NOTAM), Pre-flight Information Bulletins and Aeronautical Information Circulars issued by the AIS on initial receipt thereof and at regular intervals thereafter. Immediately after such reviews, an aerodrome operating certificate holder shall notify AIS of any inaccurate information contained, therein, that pertains to the aerodrome.

(c) Notification of changes in aerodrome facilities, equipment, and level of service planned in advance:

An aerodrome operating certificate holder shall submit a request for approval from the Chief Commissioner/CEO in writing at least three months before any change to the aerodrome facility or equipment or the level of service at the aerodrome that has been planned in advance and that is likely to affect the accuracy of the information contained in any AIS publication referred to in paragraph (b) of this section.

(d) Issues requiring immediate notification: An aerodrome operating certificate holder shall immediately notify the AIS and air traffic control at the aerodrome the details of any of the following circumstances of which the operator has the knowledge:

(1) Obstacles, obstructions and hazards:

(i) Any projections by an object through an Obstacle Limitation Surface (as approved by the Chief Commissioner/CEO) relating to the aerodrome ; and

(ii) The existence of any obstruction or hazardous condition affecting aviation safety at or near the aerodrome ;

(2) Level of service: Reduction in the level of service at the aerodrome as set out in any of the AIS publications referred to in paragraph (b) of this section;

(3) Movement area: Closure of any part of the movement area of the aerodrome ; and

(4) Any other condition that could affect aviation safety at the aerodrome and against which precautions are warranted.

139.367 Public protection.

(a) Each aerodrome operating certificate holder shall establish procedures for public protection, including Fencing, Gates, Terminal gates, Public information, Lighting, Firearms, Access control, Aircraft blast protection and Crowd control.

(b) Each aerodrome operating certificate holder shall provide:

(1) Safeguards acceptable to the Chief Commissioner/CEO to prevent inadvertent entry to the movement area by unauthorized persons or vehicles; and

(2) Protection of persons and property from aircraft blast.

(c) In implementation of the requirement of paragraph (a) of this section, the provided fence shall meet the requirements of the National Security Program.

139.369 Medical services.

Each aerodrome operating certificate holder shall provide medical services, including the following:

(a) First aid and medical arrangements.

(b) Scales of medical services to be held at the aerodrome .

(c) First aid activates coordination with ARFF.

(d) Assistance with sick or disabled passengers.

139.371-139.399 Reserved

**SUBPART-E
Aerodrome Authorization.**

139.401 Scope

The Chief Commissioner/CEO, for public interest, may authorize any uncertified aerodrome for a specified period of time to operate under the requirements of operations and maintenance as specified in Subpart D and E, and related provisions of this Part.

139.403 Application for an aerodrome approval.

(a) An Aerodrome Operator, who does not meet the complete certification requirements, may apply to Chief Commissioner/CEO, for an approved authorization in the CARC Form 34/APRV.

(b) The application shall include aerodrome operations and maintenance procedures; aerodrome layout including visual aids locations and its aeronautical data; aerodrome approach category; aerodrome reference code; aircraft rescue and firefighting category and safety management system in place.

139.405 Grant/Refusal of an aerodrome approval.

(a) The Chief Commissioner/CEO may grant the authorization, if the requirements in section 139.383 (b) are in accordance with this Part.

(b) The Chief Commissioner/CEO will refuse the authorization, if the requirements in section 139.383 (b) are not in accordance with this Part.

139.407 Endorsement of conditions.

The Chief Commissioner/CEO may grant a conditional aerodrome approval subject to any conditions necessary in the interest of safety.

139.409 Duration of an aerodrome approval.

An aerodrome approval shall remain in force for 12 months from the date of issuance.

139.411 Surrender of an aerodrome approval.

(a) An aerodrome approval holder shall give CARC not less than 60 days written notice before the date on which the approval is to be surrendered in order that suitable promulgation action can be taken.

(b) The Chief Commissioner/CEO will cancel the approval on the date specified on the notice.

139.413 Cancellation or suspension of an aerodrome approval.

(a) The Chief Commissioner/CEO may suspend or cancel an aerodrome approval if there are reasonable grounds to believe that:

- (1) a condition to which the approval was subjected to, has been breached; or
- (2) the aerodrome facilities, operations or maintenance are not of the standards required in the interests of the safety of air operations.

(b) Notice of suspension or cancellation shall enter into effect in accordance within the time prescribed in a written notice that decided by the Chief Commissioner/CEO.

139.415 Amendment of an aerodrome approval.

In respect to 139.381 and 139.383, the Chief Commissioner/CEO may amend an aerodrome approval where:

- (a) there is a change in the use or operation of the aerodrome;
- (b) there is a change in the boundaries of the aerodrome;
- (c) the holder of the aerodrome approval requests the amendment.

139.417 Operation and maintenance procedures.

(a) The aerodrome operator shall produce and implement the necessary procedures for the operation and the maintenance of the aerodrome for the safety of the operations.

(b) The aerodrome operator shall provide The Chief Commissioner/CEO with a complete and current copy of the aerodrome operation and maintenance procedures for his approval.

139.419 Notification of changes.

An aerodrome operator must notify the Chief Commissioner/CEO for his approval, as soon as practicable, of any major alterations that the operator intends to make to the procedures.

139.421-139.499 Reserved