OVERSEAS TERRITORIES AVIATION REQUIREMENTS (OTARs)

Part 190

AERODROME OPERATIONS

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Revisions

OTAR Issue	Subject
First Issue	Information related to the operation of aerodromes, heliports and water aerodromes.
Second Issue	Includes the transfer of requirements from OTAR Part 139 related to emergency response and categories, maintenance and the deletion of definitions which are already described in OTAR Part 1 ICAO Annex 14.
Consultation for Third Issue	Includes new requirements for ground handling service providers, new requirements for obstacle surveys, expanded wildlife hazard requirements, expanded apron safety requirements and a revised definitions for local standby and full emergency.

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Subpart A – General

190.1 Purpose

(a) The requirements of this OTAR Part prescribe the requirements governing the operation of an aerodrome requiring to be certificated under the Order.

(b) These Requirements are not in themselves Law. Failure to comply may not constitute an offence. However, the Requirements repeat or reproduce many of the provisions of the Air Navigation (Overseas Territories) Order 2007 (as amended) ("the Order"), including the Rules of the Air set out in Schedule 8 to the Order. Therefore, failure to comply with these Requirements may:

(1) constitute a breach of the Order; and

(2) result in proceedings for breaches of the Order; or

(3) result in the refusal of an application for renewal of a certificate or licence; or

(4) result in action to suspend or revoke a certificate or licence.

(c) The Order details the legal obligations governing the operation of aerodromes, heliports and water aerodromes but specifies these obligations in rather general terms. Therefore, there is a provision in the Order which requires the Governor to publish Requirements to augment, amplify and detail more precisely the manner in which these obligations shall be met. The Requirements are the means by which the aerodrome operator will be able to satisfy the Governor as to the fulfilment of the obligations in respect of the entitlement to hold and exercise the privileges of the aerodrome, heliport, or water aerodrome certificate.

(d) The issue of a certificate shows only that the holder is considered competent to ensure the safe and secure operation of the aerodrome, heliport, or water aerodrome in accordance with the Aerodrome, Heliport, or Water Aerodrome Manual and, where applicable, the Airport Security Programme. The possession of a certificate, Aerodrome, Heliport, or Water Aerodrome Manual or Airport Security Programme does not relieve the certificate holder from the responsibility for compliance with the Order and any other legislation in force. Neither does it relieve them of their responsibility for oversight of any service provider contracted by them to meet the requirements applied to them.

(e) Other OTAR Parts may impinge upon activities conducted under this Part. In particular, Part 1 contains definitions which apply, unless otherwise stated, to all Parts. A full list of OTAR Parts, a description of the legislative structure and the place of OTARs and Overseas Territory Aviation Circulars (OTACs) within it can be viewed on the ASSI website www.airsafety.aero.

(f) References to the Governor in this OTAR Part mean the regulator designated by the Governor of the Territory to exercise his functions under the Order.

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190.3 Use of English

All documentation, written communications and data (electronic or otherwise) for submission to the Governor in support of an application for an approval shall be provided in English.

190.5 Power to Inspect

(a) The holder of a heliport, water aerodrome, or aerodrome certificate shall ensure that any person authorised by the Governor is allowed access to an aerodrome or place where an aircraft has taken off or landed.

(b) The holder of a heliport, water aerodrome, or aerodrome certificate shall ensure that any person authorised by the Governor shall have access to any documentation pertinent to the certification of the aerodrome. The holder of a certificate shall handle any documentation ensuring that, if requested to do so by an authorised person, it is produced within a reasonable period.

(c) The holder of a heliport, water aerodrome, or aerodrome certificate shall comply with any request by the Governor for a practical demonstration or test to verify compliance with the OTARs.

190.7 Definitions

Except where stated, the definitions used throughout OTAR Part 139 are those detailed in OTAR Part 1, ICAO Annex 14, Volumes 1 and 2 (referred to in this OTAR Part as Annex 14) and OTAR Part 178.

190.9 Abbreviations

ACN	Aircraft classification number
AIRAC	Aeronautical information regulation and control
AIS	Aeronautical information service
AMD	Aerodrome mapping data
AMDB	Aerodrome mapping database
ARIWS	Autonomous runway incursion warning system
CG	Centre of gravity
CRC	Cyclic redundancy check
DH	Decision height
FOD	Foreign object debris
GHSP	Ground Handling Service Provider
GSE	Ground Servicing Equipment
LCFZ	Laser-beam critical flight zone
LDA	Landing distance available
LFFZ	Laser-beam free flight zone
LSFZ	Laser-beam sensitive flight zone
MSL	Mean sea level
NFZ	Normal flight zone

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OCA/H	Obstacle clearance altitude/height
OFZ	Obstacle free zone
OMGWS	Outer main gear wheel span
PCN	Pavement classification number
PinS	Point-in-space
RESA	Runway end safety area
RVR	Runway visual range
SMS	Safety management system
TODA	Take-off distance available
TORA	Take-off run available
ULD	Unit Loading Device
WGS-84	World Geodetic System

190.11 Applicability

The requirements of OTAR Part shall apply to all certificated aerodromes or at aerodromes where the Governor requires compliance with this OTAR Part.

190.13 ICAO compliance

(a) Except as set out in sub-paragraphs (b) to (d), the operator of an aerodrome shall comply with:

(i) ICAO Annex 14 and Annex 19 Standards and Recommended Practices; or

(ii) where there is a difference between an applicable Standard and Recommended Practice, the more stringent shall be applied; and

(iii) this OTAR Part; and

(iv) where applicable, OTAR Part 178; and

(v) where the requirements of this OTAR Part are inconsistent with those of paragraph OTAR 190.13(a)(i), the OTAR requirement shall take precedence.

(b) If an aerodrome operator is unable to achieve compliance or wishes to adopt an alternative means of compliance from that specified in paragraph OTAR 191.13(a) it may submit, following consideration through its safety management system, a safety assessment to the Governor in support of its case.

(c) A safety assessment is a study of an aeronautical problem to identify possible solutions and select one that is acceptable without degrading safety. A safety assessment shall:

(i) assess the impact of a proposed deviation from the requirements; and

(ii) present alternative means of ensuring the safety of aircraft operations; and

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(iii) estimate the effectiveness of each alternative and to recommend procedures to compensate for the deviation.

(d) Where ICAO Annex 14 places an obligation on a State, it does not apply to the operator of a certificated aerodrome.

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Subpart B – Operational Services

190.15 General Requirements

(a) The aerodrome certificate holder shall maintain, for compliance by its personnel, an Aerodrome Manual for the service provided which complies with OTAR Part 139.

(b) The aerodrome certificate holder shall maintain compliance with OTAR Part 139, OTAR Part 191, the applicable parts of OTAR Part 178 and OTAR Part 140.

(c) The aerodrome certificate holder shall ensure that the operation is continuously and adequately financed and resourced.

190.17 Emergency Planning and Exercises

(a) The aerodrome certificate holder shall:

(i) establish an emergency response plan commensurate with the aircraft operations and other activities conducted at the aerodrome.

(ii) ensure the emergency response plan defines the co-ordination of the actions to be taken in an emergency occurring at or in the vicinity of the aerodrome.

Note: Examples of emergencies are aircraft emergencies, sabotage including bomb threats, unlawfully seized aircraft, dangerous goods occurrences, building fires, natural disasters and public health emergencies.

(iii) ensure the emergency response plan co-ordinates the response or participation of all existing agencies which, in the opinion of the Governor could be of assistance in responding to an emergency.

Note: Examples of aerodrome agencies: Air traffic control units, rescue and firefighting services, aerodrome administration, medical and ambulance services, aircraft operators, security services, and police.

Note: Examples of off-aerodrome agencies: fire departments, police, health authorities, military, harbour patrol or coast guard.

(iv) ensure the emergency plan provides for cooperation and co-ordination with the appropriate rescue co-ordination, as necessary.

(b) The certificate holder shall ensure that the emergency plan:

(i) includes types of emergencies planned for; and

(ii) includes agencies involved in the plan and their roles and responsibilities; and

(iii) defines the emergency operations centre and the command post for each type of emergency; and

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(iv) includes information on names and telephone numbers of offices or persons to be contacted in the case of a particular emergency; and

(v) includes a grid map of the aerodrome and its immediate vicinity.

(vi) includes, in the case of a Water Aerodrome, water rescue, oil and fuel spillages response and recovery of aircraft from the movement area; and

(vii) is acceptable to the Governor.

(c) The emergency plan shall observe human factors principles to ensure optimum response by all participating agencies.

Note: Guidance on Human Factors in Aviation Organisations is provided in OTAC 139-28.

(d) The emergency plan shall contain provisions for testing the effectiveness of the plan and for reviewing the results of any exercise with the aim of improving the plan.

(e) The emergency plan shall be tested by:

(i) conducting a full-scale aerodrome emergency exercise at intervals not exceeding two years and partial exercises in the intervening year to ensure that any deficiencies found during the full-scale exercise have been addressed; or

(ii) conducting a series of modular tests commencing in the first year and concluding in a full-scale aerodrome emergency exercise at intervals not exceeding three years.

(f) The emergency plan shall be reviewed after each modular test, full-scale exercise, partial exercise, or after an actual emergency to correct any deficiency found during such exercises or an actual emergency.

(g) The aerodrome certificate holder shall notify the Governor well in advance of an intention to conduct an exercise.

(h) Where an actual incident/accident has occurred to which the response could be said to have tested all parts of the plan, an aerodrome operator can request in writing to the Governor to defer the biennial exercise.

Note: The purpose of a full-scale exercise is to ensure the adequacy of the plan to cope with different types of emergencies. The purpose of a partial exercise is to ensure the adequacy of the response to individual participating agencies and components of the plan, such as the communications system. The purpose of modular tests is to enable concentrated effort on specific components of established emergency plans.

Note: The exercises should rotate based on the time of year and daylight or darkness if applicable and if seasonal changes provide an evident change to the environment.

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(i) If the aerodrome is located close to water and/or swampy areas or difficult terrain, then the emergency plan shall include the testing and assessment of a predetermined response for the appropriate specialist rescue services at regular intervals.

(j) A fixed emergency operation centre and mobile command post shall be available for use during an emergency.

(k) The emergency operations centre must be part of the aerodrome facilities and shall be responsible for the overall co-ordination and direction of the emergency response.

(l) The mobile command must be a facility capable of being moved rapidly to the site of an emergency and shall undertake the local co-ordination of agencies responding to the emergency.

(m) A person shall be assigned to assume control of the emergency operations centre and, when appropriate, another person to assume control of the command post.

(n) Adequate communication systems linking the command post and the emergency operations centre with each other and with the participating agencies shall be provided in accordance with the emergency plan and applicable to the operations of the aerodrome.

(o) The Emergency Plan shall comply with the emergency categories defined in Appendix A.

190.19 Wildlife Hazard Management

(a) The aerodrome certificate holder shall establish and maintain a wildlife hazard management programme that represents the size and level of complexity of the aerodrome and takes account of hazardous species and the level of risk associated with the species and the volume of flight operations.

(b) The wildlife hazard management programme shall:

(i) define procedures to collect information from aircraft operators, aerodrome personnel, and other sources on the presence of wildlife on or in the vicinity of the aerodrome that constitutes a potential hazard to aircraft operations.

(ii) define procedures that ensure that personnel undertaking any role in the wildlife hazard management programme are trained and competent.

(iii) define procedures that ensure action is taken to decrease the risk to aircraft operations by adopting measures to minimise the likelihood of collisions between wildlife and aircraft.

(iv) continuously assess the wildlife strike hazard on and in the vicinity of the aerodrome.

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(v) ensure action is taken to decrease the risk to aircraft operations by adopting measures to minimize the likelihood of collisions between wildlife and aircraft.

(vi) ensure coordination with the appropriate authority to take action to eliminate or prevent the establishment of garbage disposal dumps or any other source which may attract wildlife to the aerodrome, or its vicinity.

(vii) sources of wildlife attractant described in 190.19(vi) must be assessed to an acceptable standard which indicates that the site is unlikely to create conditions conducive to a wildlife hazard problem. Where elimination of existing sites is not possible, the aerodrome certificate holder shall coordinate with the appropriate authority to ensure that any risk to aircraft posed by the site is assessed, and the risk reduced to as low as reasonably practicable.

(viii) consider aviation safety concerns related to land developments or aerodrome developments that may attract wildlife.

Note: Guidance on Bird/Wildlife Management is provided in OTAC 139-6.

190.21 Ground Servicing and Vehicle Operations

(a) The aerodrome certificate holder shall ensure that fire extinguishing equipment is available and suitable for initial intervention in the event of a fuel fire and that trained personnel are readily available during the ground servicing of an aircraft, and that means of rapidly notifying the RFFS are employed in the event of a major fuel spill.

(b) When refuelling operations are taking place while passengers are embarking, on board or disembarking, the certificate holder shall ensure that ground equipment is positioned so as to allow the use of a sufficient number of exits for expeditious evacuation and a ready escape route is provided from each exit to be used in an emergency.

(c) Aircraft shall be allocated an aircraft stand or apron area appropriate to the aircraft characteristics.

(d) If there is a need to park an aircraft in an area other than an aircraft stand or apron, then a risk assessment shall be carried out including the aircraft operator and other associated stakeholders.

(e) When allocating an aircraft to an aircraft stand the following parameters shall be considered:

(i) parking aids;

(ii) facilities serving the aircraft stand;

(iii) proximity of associated infrastructure;

(iv) location of other parked aircraft on nearby stands;

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(v) aircraft stand restrictions and dependencies; and

(vi) jet blast and propeller wash hazards and protection.

(f) The aerodrome certificate holder shall:

(i) ensure any vehicle operated on a manoeuvring area is authorised by the Aerodrome Air Traffic Service Unit.

(ii) ensure any vehicle operated within the aerodrome boundary is authorised by the appropriate designated authority.

(iii) ensure that vehicles responding to an emergency are given priority over all other surface movement traffic.

(iv) ensure that a vehicle operating on an apron gives way to an emergency vehicle, an aircraft taxiing, preparing to taxi, or being pushed or towed.

(v) ensure that a vehicle operating on an apron gives way to other vehicles in accordance with local procedures or regulations.

(vi) ensure that an aircraft stand is visually monitored to maintain clearance distances are provided to an aircraft using the stand.

(vii) ensure aircraft are marshalled when arriving on or departing from an aircraft stand or apron.

(viii) ensure emergency stop procedures are in place to stop an aircraft when entering an aircraft stand if the safety of operations is compromised.

(ix) ensure personnel other than those required to assist the initial arrival and departure of the aircraft, do not approach the aircraft when the anti-collision lights are switch on and engines are running.

(x) ensure that parked aircraft are appropriately secured to prevent any unintended movement.

(xi) ensure the driver of a vehicle complies with all instructions, markings and signs including those conveyed by lights unless otherwise authorised by:

(1) the aerodrome Air Traffic Service Unit when on the manoeuvring area; or

(2) the appropriately designated authority when operating within the aerodrome boundary.

(xii) ensure that drivers of any vehicle do not operate:

(1) unless they are trained and competent; and

(2) unless they establish and maintain two-way radio communication with the aerodrome control tower before entering the manoeuvring area; and

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(3) unless they have the approval from the appropriate authority.

(g) The following ground handling services are applicable to GHSPs:

(1) ground administration and supervision including, load control, handling or storage of unit load devices (ULDs), any other supervision service before, during or after the flight; and

(2) passenger handling including, any form of assistance to arriving, departing, or transit passengers that also involves checking tickets, travel documents, registering or tagging of baggage; and

(3) baggage handling including, sorting of baggage, preparing baggage for departure, loading or unloading onto an aircraft or into a ULD, and transporting baggage to and from the sorting area; and

(4) freight and mail handling including, cargo warehouse activities, physical handling of freight or mail, handling of related documents, and customs procedures; and

(5) ramp handling including, any marshalling of an aircraft on the ground, assistance to aircraft parking and provision of suitable devices or infrastructure, communication between the aircraft and any airside supplier of other services; and

(6) transport of crew or passengers between the aircraft and the terminal or other aerodrome facility, transport of baggage between the aircraft and the terminal or other aerodrome facility, operation of units for engine starting, and towing or moving of aircraft; and

(7) aircraft services including the external or internal cleaning of aircraft, toilet or water services, cooling or heating of an aircraft cabin, de-icing of an aircraft, and the rearrangement of the cabin with suitable cabin equipment for a flight operation; and

(8) fuel and oil handling including, fuelling and defueling operations, storage of fuel and control of the quality or quantity of fuel deliveries, and replenishing of oil and other fluids; and

(9) aircraft maintenance performed on an operational apron including, routine or non-routine services performed before flight or requested by the airport user, and request for a suitable parking stand or shared hanger space; and

(10) flight dispatch, in-flight assistance and post flight activities; and

(11) catering services including, storage, the transport, loading onto and unloading from the aircraft of catering.

Note: The ground handling services do not apply to any services provided by an ATSU.

(h) GHSPs shall declare to the Governor their ability to provide ground handling services at a certificated aerodrome which complies with the applicable OTAR requirements.

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(i) The aerodrome certificate holder shall establish and maintain a local agreement for each GHSP prior to the commencement of operations on the aerodrome.

(j) The certificate holder, aircraft operators and GHSPs shall coordinate and agree on common globally recognised standards to be followed at the aerodrome.

Note: Ground handling can be provided by an aircraft operator, an aerodrome or an independent organisation. Any of these organisations are considered GHSPs.

(k) The certificate holder shall:

(1) ensure coordination and safety reporting between its own SMS, that of locally based aircraft operators and where applicable, the GHSPs; and

(2) ensure that GHSPs are included in safety meetings, safety promotion and the aerodrome emergency response plan; and

(3) establish and maintain training standards and procedures for the use of fixed apron equipment; and

(4) define fault reporting and maintenance activities for all fixed apron equipment in the aerodrome maintenance programme; and

(5) monitor and provide safety assurance activities and services conducted on the aerodrome; and

(6) ensure that apron safety rules are enforced by means of monitoring, audits, training and inspections that promote safety and reporting culture; and

(7) ensure that the GHSP complies with the requirements of OTAR Part 139.75,(b)(3)(ii) with regard to the use of psychoactive substances.

Note: Fixed apron equipment refers to stationary infrastructure such as passenger boarding bridges, fixed electrical ground power or fuel hydrant systems. Typically, this equipment is not mobile and forms part of the aerodrome infrastructure.

(l) The GHSP shall:

(1) establish and maintain a safety management system commensurate with the size and complexity of the GHSP and as defined by OTAR Part 139; and

Note: Guidance on occurrence reporting can be found in OTAC 13-1

Note: If the GHSP is an air operator with an AOC issued by the Governor, the acceptance of air operator's SMS by the Governor is deemed adequate.

(2) ensure coordination and safety reporting between its own SMS and the aerodrome certificate holder; and

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(3) have all the means, including facilities, personnel, equipment and material necessary to provide a safe service at the aerodrome; and

(4) comply with procedures in the aerodrome manual, including those in relation to the movements of its vehicles, equipment and personnel and risks related to night operations and adverse weather conditions; and

(5) establish and maintain an operations manual including standards operating procedures appropriate to the tasks and services undertaken by the GHSP; and

(6) ensure the manual for the operation and maintenance of ground handling equipment are applied in practice, cover the operation, maintenance and repair instructions, servicing information, troubleshooting and inspections; and

(7) establish and maintain a maintenance programme for ground servicing equipment (GSE) that includes provisions for preventive maintenance, methods for reporting and identifying GSE as “out of service” when found to be defective and not utilized in operations; and

(8) ensure that unserviceable GSE is subject to an appropriate inspection prior to return to operations; and

(9) adhere to operational restrictions promulgated by the aerodrome certificate holder relative to the current operational status on the aerodrome; and

(10) ensure that personnel are trained, competent and fit to carry out their duties and have access to appropriate manuals or procedures; and

(11) ensure that GSE and vehicles are used for the purpose they are design for, including specific aircraft type and service provided; and

(12) ensure that GSE and vehicles are operated in a manner to minimize the risk of injuries to personnel and damage to aircraft, other GSE and vehicles or aerodrome maintenance.

190.23 Disabled Aircraft Removal

(a) The aerodrome certificate holder shall establish a plan for the removal of an aircraft disabled on or adjacent to the movement area and assign a coordinator designated to implement the plan when necessary.

(b) The removal plan must be based on characteristics of the aircraft that may normally be expected to operate at the aerodrome and include:

(i) a list of equipment and personnel on, or in the vicinity of, the aerodrome which is available for such a purpose; and

(ii) arrangements for the rapid receipt of aircraft recovery equipment available from other sources.

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190.25 Aerodrome Maintenance

(a) The aerodrome certificate holder shall establish a maintenance programme, including preventative maintenance, to maintain facilities in a condition which does not impair the safety, regularity or efficiency of air navigation.

Note: Preventive maintenance is programmed maintenance work done in order to prevent a failure or degradation of facilities.

(b) The design and application of the maintenance programme must observe human factors principles.

Note: Guidance on Human Factors is provided in OTAC 139-28.

(c) The surfaces of all movement areas, including pavements (runways, taxiways and aprons) and adjacent areas, shall be inspected and their conditions monitored regularly as part of an aerodrome preventive and corrective maintenance programme with the objective of avoiding and eliminating any FOD that might cause damage to aircraft or impair the operation of aircraft systems.

(d) The surface of a runway shall be maintained in a condition such as to prevent the formation of harmful irregularities.

(e) A paved runway shall be maintained in a condition so as to provide surface friction characteristics at or above the minimum friction level shown in Table 190-1.

(f) Runway surface friction characteristics for maintenance purposes shall be measured periodically with continuous friction measuring devices using self-wetting features and documented. The frequency of these measurements shall be sufficient to determine the trend of the surface friction characteristics of the runway.

Note: The objective of measuring the runway surface friction characteristics for the entire runway is to ensure that it remains at or above a minimum friction level.

(g) When runway surface friction measurements are made for maintenance purposes using a self-wetting continuous friction measuring device, the performance of the device shall meet the standard set in Table 190-1.

(h) Personnel measuring runway surface friction shall be trained and competent to perform their duties.

(i) Corrective maintenance action shall be taken by the certificate holder to prevent the runway surface friction characteristics for either the entire runway or a portion thereof from falling below the minimum friction level.

(j) The runway surface shall be visually assessed, as necessary, under natural or simulated rain conditions for ponding or poor drainage, and where required, corrective maintenance taken.

Note: A portion of the runway in the order of 100 metres long may be considered significant for maintenance or reporting action. Consideration should be given to the overall length of the runway and other operational conditions when assessing maintenance issues.

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(k) Taxiway shoulders shall be maintained so as to be free of any loose stones or other objects that could be ingested by the aeroplane engines if a taxiway is used by turbine-engines aeroplanes.

(l) Snow, slush, ice, standing water, mud, dust, sand, oil, rubber deposits, and other contaminants shall be removed from the surface of runways in use as rapidly and completely as possible to minimise accumulation.

(m) Taxiways shall be kept clear of contaminants to the extent necessary to enable aircraft to be taxied to and from an operational runway.

(n) Aprons shall be kept clear of contaminants to the extent necessary to enable aircraft to manoeuvre safely or, where appropriate, to be towed or pushed.

(o) Whenever the clearance of snow, slush, ice, etc., from the various parts of the movement area, cannot be carried out simultaneously, the order of priority after the runway(s) in use shall be set in consultation with the affected parties such as rescue and firefighting service and documented in a snow plan.

(p) Chemicals to remove or prevent the formation of ice and frost on aerodrome pavements shall be used when conditions indicate their use could be effective. Caution must be exercised in applying the chemicals so as not to create a more slippery condition.

(q) Chemicals which may have harmful effects on aircraft or pavements or chemicals which may have toxic effects on the aerodrome environment shall not be used.

Note: Guidance on Runway Pavement Characteristics and Maintenance is provided in OTAC 139-23.

Note: Information on the use of chemicals for aerodrome pavements is given in the PANS-Aerodromes (Doc 9981).

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Table 190-1 Runway Surface Condition Levels

Test equipment	Tyre type and Pressure(Kpa)		Speed(km/h)	Water Depth (mm)	Design Objective	Maintenance Planning level	Minimum Friction Level
Mu-metre	A	70	65	1.0	0.72	0.52	0.42
	A	70	95	1.0	0.66	0.38	0.26
Skiddometer	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.47	0.34
Surface Friction Tester Vehicle	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.47	0.34
Runway Friction Tester Vehicle	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.54	0.41

TATRA Friction Tester Vehicle	B	210	65	1.0	0.76	0.57	0.48
	B	210	95	1.0	0.67	0.52	0.42
RUNAR Trailer	B	210	65	1.0	0.69	0.52	0.45
	B	210	95	1.0	0.63	0.42	0.32
Griptester	C	140	65	1.0	0.74	0.53	0.43
	C	140	95	1.0	0.64	0.36	0.24

190.27 Runway Pavement Overlays

Note: If a temporary ramp or overlay between old and new runway surfaces is required during the runway pavement overlay project, and the runway is temporarily returned to an operational status before resurfacing is complete, the certificate holder shall comply with the requirements of this subsection.

(a) The longitudinal slope of the temporary ramp, measured with reference to the existing runway surface or previous overlay course, shall be:

(i) 0.5% to 1.0% for overlays up to and including 5cm in thickness; and

(ii) Not more than 0.5% for overlays more than 5cm in thickness.

(b) Overlaying shall proceed from one end of the runway toward the other end so that based on runway utilisation, most aircraft operations will experience a down ramp.

(c) The entire width of the runway shall be overlaid during each work session.

(d) Before the runway being overlaid is returned to a temporary operational status, a runway centre line marking conforming to the specifications in OTAR Part 191 shall be provided. The location of any temporary threshold shall be identified by a 3.6-metre-wide transverse stripe.

(e) The overlay shall be constructed and maintained above the minimum friction level specified in Table 190-1.

190.29 Maintenance of Visual Aids

(a) The aerodrome certificate holder shall maintain a system of preventative maintenance of visual aids to ensure lighting and marking system reliability in addition to the requirements in section 190.27.

(b) A light shall be deemed to be unserviceable when the main beam average intensity is less than 50 per cent of the value specified in the appropriate figure in OTAR 191. For light units where the designed main beam average intensity is above the value shown in OTAR Part 191, the 50 per cent value shall be related to that design value.

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(c) The aerodrome certificate holder shall employ a system of preventative maintenance for a precision approach runway category I that has objectives that ensure during any period of category I operations, all approach and runway lights are serviceable and that, in any event, at least 85 per cent of the lights are serviceable in each of the following:

(i) precision approach category I lighting system;

(ii) runway threshold lights;

(iii) runway edge lights; and

(iv) runway end lights.

Note: In order to provide continuity of guidance, an unserviceable light shall not be permitted adjacent to another unserviceable light unless the light spacing is significantly less than that specified. In barrettes and crossbars, guidance is not lost by having two adjacent unserviceable lights.

(d) The aerodrome certificate holder shall employ a system of preventative maintenance for a runway meant for take-off in runway visual range conditions of a value of 500m or greater and shall have an objective that, during any period of operations, all runway lights are serviceable and that, in any event, at least 85 per cent of the lights are serviceable in the runway edge lights and runway end lights.

(e) The aerodrome certificate holder shall employ a system of preventative maintenance for a runway meant for take-off in runway visual range conditions of a value less than 550m shall have an objective that, during any period of operations, all runway lights are serviceable and that, in any event:

(i) at least 95 per cent of the lights are serviceable in the runway centre line lights (where provided) and in the runway edge lights; and

(ii) At least 75 per cent of the lights are serviceable in the runway end lights.

190.31 Condition of the Movement Area and Related Facilities

(a) The aerodrome certificate holder shall provide the appropriate Aeronautical Information Service (AIS) with information on the condition of the movement area and the operational status of related facilities and similar information of operational significance to the air traffic service unit. The information must be kept up to date, and any changes in conditions be reported without delay. The information must enable those units to provide the necessary information to arriving and departing aircraft.

(b) The aerodrome certificate holder shall monitor the condition of the movement area and the operational status of related facilities. The certificate holder shall provide a report on matters of operational significance affecting aircraft and aerodrome operations and appropriate action taken in respect of the following:

(i) construction or maintenance work; and

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(ii) rough or broken surfaces on a runway, a taxiway or an apron; and

(iii) water, snow, slush, ice, or frost on a runway, a taxiway or an apron; and

(iv) anti-icing or de-icing liquid chemicals or other contaminants on a runway, taxiway or apron; and

(v) snowbanks or drifts adjacent to a runway, a taxiway or an apron; and

(vi) other temporary hazards, including parked aircraft; and

(vii) failure or irregular operation of part or all of the aerodrome visual aids; and

(viii) failure of the normal or secondary power supply.

Note: Other contaminants may include mud, dust, sand, volcanic ash, oil and rubber.

(c) The operator of an aerodrome where the reference code is one or two shall carry out inspections of the movement area at least once per day.

(d) The operator of an aerodrome where the reference code is three or four shall inspect the movement area at least twice per day.

(e) The aerodrome operator shall inspect the runway whenever the runway surface conditions may have changed significantly due to meteorological conditions.

(f) The aerodrome operator shall ensure that personnel assessing and reporting runway surface conditions required by 190.32 (b) and 190.32(g) are trained and competent to perform their duties.

(g) The aerodrome operator shall assess the runway condition whenever water, snow, slush, ice or frost is present on an operational runway. The assessment shall be in the form of a Runway Condition Report (RCR), which assigns a Runway Condition Code (RWYCC) that is based on the type, depth, and coverage of contaminants.

(h) The runway surface condition shall be described using the following terms:

COMPACTED SNOW
DRY
DRY SNOW
DRY SNOW ON TOP OF COMPACTED SNOW
DRY SNOW ON TOP OF ICE
FROST
ICE
SLUSH
STANDING WATER
WATER ON TOP OF COMPACTED SNOW
WET
WET ICE
WET SNOW
WET SNOW ON TOP OF COMPACTED SNOW

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WET SNOW ON TOP OF ICE
CHEMICALLY TREATED
LOOSE SAND

Note: The terms Chemically Treated and Loose Sand do not appear in the aeroplane performance section but are used in the situational awareness section of the runway condition report.

(i) Whenever an operational runway is contaminated, an assessment of the contaminant depth and coverage over each third of the runway shall be made and reported.

Note: Guidance on Global Reporting Format and reporting of the runway surface condition is provided in OTAC 139-30.

Note: Additional guidance is provided in PANS Aerodromes (Doc 9981)

(j) When friction measurements are used as part of the overall runway surface assessment on compacted snow or ice-covered surfaces, the friction measuring device shall meet a standard acceptable to the Governor.

(k) Friction measurements made on runway surface conditions with contaminants other than compacted snow and ice must not be reported.

Note: Friction measurements on loose contaminants such as snow and slush, in particular, are unreliable due to drag effects on the measurement wheel.

(l) When a paved runway or portion thereof, is slippery wet, the aerodrome operator shall make such information available to the relevant aerodrome users. This shall be done by issuing a NOTAM and shall describe the location of the affected portion.

(m) When a paved runway or portion thereof is at or below the minimum friction level defined in Table 190-1, the aerodrome operator shall make such information available to the relevant aerodrome users. This shall be done by issuing a NOTAM and shall describe the location of the affected portion.

Note: The surface friction characteristics of a runway or a portion thereof can be degraded due to rubber deposits, surface polishing, poor drainage or other factors. Determining that a runway or portion thereof is slippery wet stems from various methods used solely or combined. These methods may be functional friction measurements, using a continuous friction measuring device that fall below a minimum standard as defined in Table 190-1, observations by aerodrome maintenance personnel, repeated reports by pilots and aircraft operators based on flight crew experience, or through analysis of aeroplane stopping performance that indicates a substandard surface.

Note: Guidance on Runway Pavement Characteristics and Maintenance is provided in OTAC 139-23.

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190.33 Co-ordination between AIS and Aerodrome Authorities

(a) The aerodrome certificate holder shall make arrangements with the AIS provider for the provision of pre-flight and in-flight information which satisfies the requirement to update information with minimum delay.

(b) The certificate holder shall report to the AIS provider information related to:

(i) information on the status of certification of the aerodromes and aerodrome conditions as defined by OTAR Part 139, OTAR Part 140, and 191.31; and

(ii) the operational status of associated facilities, services and navigation aids within their area of responsibility; and

(iii) any other information considered to be of operational significance.

(c) The aerodrome operator shall give the AIS provider adequate time to prepare and produce the relevant information required by any change to the air navigation system.

(d) The aerodrome certificate holder shall take the Aeronautical Information Regulation and Control (AIRAC) system into account when considering changes to aeronautical information that affect charts and/or computer-based navigation systems as defined in OTAR 175 and ICAO Annex 15. The predetermined, internationally agreed AIRAC effective dates shall be observed by the responsible aerodrome authority when submitting raw information or data to the AIS provider.

(e) The aerodrome certificate holder shall ensure that the provision of raw aeronautical information/data provided to the AIS provider is accurate and meets the integrity requirements necessary to meet the needs of the end-user of the aeronautical data.

Note: Guidance on the Transition from AIS to AIM is provided in OTAC 139-33.

Note: Guidance on Quality Management Systems is provided in OTAC 139-22.

190.35 Obstacle Management and Safeguarding

(a) The aerodrome certificate holder shall implement safeguarding procedures that ensure all reasonable steps are taken to ensure the aerodrome and its airspace are safe at all times for use by aircraft.

(b) The safeguarding procedures shall include the following:

(1) methods of recording and maintaining current and subsequent obstacle evaluations; and

(2) coordination and notification to planning authorities of objections; and

(3) coordination and consultation with the air traffic service unit and the communication navigation and surveillance provider to ensure any developments or obstacles do not adversely affect their services; and

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(4) potential impacts on instrument flight procedures; and

(5) promulgation of any hazards or infringements as required by OTAR 190.33

(c) The aerodrome certificate holder shall establish procedures for continuous monitoring of the obstacle environment as defined in OTAR 191. The procedures shall ensure that an annual comprehensive assessment is conducted, recorded and subsequent action taken if the obstacle environment has changed.

(d) The aerodrome certificate holder shall ensure that a full survey which conforms to ICAO Doc 9674 is completed every five years or whenever consecutive assessments described in OTAR 190.35(c) are not undertaken.

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Subpart HE Heliport Operational Services

190.HE.17 General Requirements

(a) The heliport operator shall maintain, for compliance by its personnel, a Heliport Manual for the service provided which complies with OTAR Part 139.

(b) The heliport operator shall maintain compliance with OTAR Part 139, OTAR Part 192, OTAR Part 140 and, where applicable, OTAR Part 191.

(c) The heliport operator shall ensure the operation is continuously, adequately financed, and resourced.

190.HE.19 Emergency Planning and Exercises

(a) The heliport operator shall establish and maintain an emergency plan commensurate with the helicopter operations and other activities conducted at the heliport.

(b) The emergency plan shall identify agencies which could be of assistance in responding to an emergency at the heliport or in the vicinity of the heliport.

(c) The heliport emergency plan shall provide for the co-ordination of the actions to be taken in the event of an emergency at the heliport or in the vicinity of the heliport.

(d) If an approach/departure path at a heliport is located over water, the emergency plan shall identify which agency is responsible for co-ordinating rescue in the event of a helicopter ditching and indicate how to contact that agency.

(e) The plan shall include:

(i) the types of emergencies planned for; and

(ii) how to initiate the plan for each emergency specified'; and

(iii) the name of agencies on and off the heliport to contact for each type of emergency with telephone numbers or other contact information; and

(iv) the role of each agency for each type of emergency; and

(v) a list of pertinent on-heliport services available with telephone numbers or other contact information; and

(vi) copies of any written agreements with other agencies for mutual aid and the provision of emergency services; and

(vii) a grid map of the heliport and its immediate vicinity.

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(f) The heliport operator shall consult with all identified agencies about their role in the emergency plan.

(g) The emergency plan shall be reviewed and the information in it updated at least annually or if deemed necessary, after an actual emergency so as to correct any deficiency found during an actual emergency.

(h) A test of the emergency plan shall be carried out at least once every three years.

(i) The Emergency Plan shall comply with the emergency categories defined in Appendix A.

190.HE.21 Wildlife Hazard Management

(a) The heliport operator shall establish and maintain a wildlife hazard management programme that represents the size and level of complexity of the heliport and takes into account hazardous species and the level of risk associated with the species and the volume of flight operations.

(b) All reasonable measures shall be taken to discourage wildlife from gathering on or in the vicinity of the heliport.

(c) The heliport operator shall ensure that all personnel tasked with wildlife hazard management duties are trained and competent.

190.HE.23 Heliport Maintenance

(a) The heliport operator shall establish a maintenance programme, including preventative maintenance, to maintain facilities in a condition which does not impair the safety, regularity or efficiency of air navigation.

(b) The heliport operator shall ensure the surface of the heliport is fit for purpose and fulfils its design objective, including surfaces intended for helicopter touchdown, taxi or parking and general containment.

(c) The surface shall be prepared to allow for essential objects, surface loading, and surface friction, and is resistant to rotor downwash and has adequate drainage to prevent water or other contaminants from pooling.

190.HE.25 Co-ordination between AIS and Heliport Authorities

(a) The aerodrome certificate holder shall make arrangements with the AIS provider for the provision of pre-flight and in-flight information which satisfies the requirement to update information with minimum delay.

(b) The certificate holder shall report to the AIS provider information related to:

(i) information on heliport conditions; and

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(ii) the operational status of associated facilities, services and navigation/visual aids within the certificate holder's responsibility; and

(iii) any other information considered to be of operational significance.

(c) The heliport operator shall give the AIS provider adequate time to prepare and produce the relevant information required by any change to the air navigation system.

(d) The certificate holder shall take the aeronautical information regulation and control (AIRAC) system into account when considering changes to aeronautical information that affect charts and/or computer-based navigation systems as defined in OTAR 175 and ICAO Annex 15. The predetermined, internationally agreed AIRAC effective dates shall be observed by the responsible aerodrome authority when submitting raw information or data to the AIS provider.

(e) The aerodrome certificate holder shall ensure that the provision of raw aeronautical information/data provided to the AIS provider is accurate and meets the integrity requirements necessary to meet the needs of the end-user of the aeronautical data.

Note: Guidance on the Transition from AIS to AIM is provided in OTAC 139-33.

Note: Guidance on Quality Management Systems is provided in OTAC 139-22.

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Subpart WA.A Water Aerodrome Operational Services

190.WA.17 General Requirements

(a) The water aerodrome operator shall maintain, for compliance by its personnel, a Water Aerodrome Manual for the service provided which describes the facilities, physical characteristics and operational procedures of water aerodrome.

(b) The water aerodrome operator shall maintain compliance with OTAR Part 139, OTAR Part 192, OTAR Part 140 and, where applicable, OTAR Part 191.

(c) The water aerodrome operator shall ensure the operation is continuously, adequately financed, and resourced.

190.WA.19 Emergency Planning

(a) The certificate holder shall form an Emergency Planning Committee to develop and implement emergency planning arrangements and produce an aerodrome emergency plan document for responding to and managing emergencies applicable to the water aerodrome's particular characteristics and operations.

(b) The emergency plan shall consider:

(i) the number of passengers on the largest aircraft that may use the water aerodrome; and

(ii) local water and tidal conditions; and

(iii) availability of external rescue boats or specialist equipment; and

(iv) floatation equipment and rafts; and

(v) availability of communication equipment; and

(vi) passenger evacuation into a further life-threatening environment, e.g. deep water; and

(vii) the immediate toxicity and respiratory effects on survivors in the water following the ingestion of floating fuel and oils and their associated vapours, and fire suppressant foams, powders, and gases.

(viii) other such matters the Governor considers to be relevant.

(c) The certificate holder shall define and maintain procedures for co-ordinating the responses of all actions to be taken in the event of an emergency occurring on or in the vicinity of the water aerodrome.

(d) The certificate holder shall define and maintain procedures for the co-ordination and use of specialist rescue equipment if the water aerodrome is located near a difficult environment/terrain and a significant portion of the approach or departure operations takes place over these areas.

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(e) The certificate holder shall consider human factors principles to ensure optimum response by all agencies participating in emergency situations.

(f) The certificate holder shall complete a full-scale emergency exercise that tests all the elements of the plan at a frequency acceptable to the Governor.

(g) The certificate holder shall review the results of the emergency exercise in order to improve its effectiveness.

(h) The Emergency Plan shall comply with the emergency categories defined in Appendix A.

Note: Additional guidance on seaplane accidents in the water is given in Appendix 6 to the ICAO Airport Services Manual (Document 9137) Part 7.

190.WA.21 Wildlife Hazard Management

(a) The water aerodrome operator shall establish and maintain a wildlife hazard management programme that represents the size and level of complexity of the water aerodrome and takes account of the hazardous species and the level of risk associated with the species and the volume of flight operations.

(b) All reasonable measures shall be taken to discourage wildlife from gathering in the movement area and under the anticipated departure and arrival paths.

(c) The water aerodrome operator shall ensure that all personnel tasked with wildlife hazard management duties are trained and competent.

190.WA.23 Water Aerodrome Maintenance

(a) The water aerodrome operator shall inspect the movement areas to remove FOD or other hazards during operational hours.

(b) The certificate holder shall implement a maintenance programme that ensures all markers, buoys, and other infrastructure that supports the operation remain fit for purpose throughout the operational hours of the water aerodrome.

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Appendix A – Emergency categories

The following terms shall be used define aircraft emergencies:

(a) **Aircraft accident/Aircraft accident imminent**

Aircraft accidents that have occurred or are inevitable on, or in the vicinity of, the aerodrome.

(b) **Aircraft ground incident**

Where an aircraft on the ground is known to have an emergency situation, other than an accident, requiring the attendance of emergency services.

(c) **Full emergency**

When it is known that an aircraft is, or is suspected to be, in such trouble that there is a danger of an accident or when the position and/or status of the aircraft is unknown

(d) **Local standby**

When it is known that an aircraft has or is suspected to have, developed some defect but the trouble would not normally involve any serious difficulty in effecting a safe landing.

Also used at some units when:

(i) an aircraft has to be searched following a bomb warning; or

(ii) or requires inspecting on the ground by the aerodrome fire service; or

(iii) post maintenance flight checks; or

(iv) VVIP flights.

Note: the above list is not exhaustive, and Aerodrome shall make an assessment of operations that may require local standby.

(e) **Weather standby**

When weather conditions are such as to render a landing difficult or difficult to observe.

(f) **Domestic fire**

The classification ‘Domestic’ is given to any fire:

(1) on the aerodrome not included in the categories above;

(2) outside the aerodrome boundary (other than aircraft accidents) which is liable to constitute a danger to flying or aerodrome property;

(3) which the Aerodrome Fire Service shall attend:

(i) according to an agreement with the Local Fire Brigade; or

(ii) in response to calls from the public or Police on humanitarian grounds.

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