Namibia Civil Aviation Authority

Aviation Directive

Reference Number: 1/2/3-9

Flight Operations

Aug 2021

HELICOPTER OFFSHORE OPERATIONS

INTENTIONALLY BLANK

1) LEGAL AUTHORITY

1.1. Pursuant to section 38 (6) of the Civil Aviation Act, "the Executive Director may issue an Aviation Directive ("AD") comprised of a permission, approval or procedure, or the imposition of a condition, restriction or prohibition which the Executive Director believes on reasonable grounds to be –

a) consistent with the objectives of applicable regulatory requirements, procedures, or documents, and

b) necessary and expedient to better achieve the objects of the Act.

1.2. This AD sets in place requirements for application and approval for Helicopter Offshore Operations (HOFO), and it is issued in terms of NAMCARs, 2001 as amended.

1.3. This Directive number (1/2/3-9) is issued and in compliance with NAMCARs 2001, Part 127.08.12.

2) BACKGROUND

The current NAMCARs and NAMCATS do not have sufficient guidance for the certification and operation of offshore helicopter operations. This directive was produced to bridge the gaps in the current regulations to allow safe and effective offshore helicopter operations.

3) PURPOSE

This Directive is issued to outline the approval and operating requirements for Offshore Operations approval under NAMCARs Part 127.08.12 and supplements the current CARs and CATS where they are found to be deficient.

4) APPLICABILITY

This AD applies to:

4.1 Any commercial operator of an aircraft which intends to conduct offshore operations in Namibia.

4.2 Any Namibian commercial operator of an aircraft engaged in international offshore operations.

5) EFFECTIVE DATE

This Aviation Directive shall come into force on the 15th August 2021 and remain in force until it is withdrawn or replaced.

6) REFERENCES - RELATED READING MATERIAL

1. International Civil Aviation Organization (ICAO)
   - Annex 3, Meteorological Service for International Air Navigation, July 2001
   - Annex 14, Aerodromes, Volume II – Heliports, July 2009
   - Doc 9137, Airport Services Manual (for fire-fighting foam/PPE standards), 2011
   - Doc 9261, AN/903 Heliport Manual, 1995
   - Doc 9284, AN/905 Technical Instruction for the Safe Transport of Dangerous Goods by Air April 2012

2. FAA AC No: 90-80C
3. EASA ANNEX V (PART-SPA) AVIATION DIRECTIVE K: Helicopter Offshore Operations

4. Off-shore Petroleum Industry Training Organisation (OPITO)
   - Helicopter Landing Officer's Handbook (8th Edition, 2007) ICAO

5. UK Civil Aviation Authority – CAPs and Research Papers:
   - CAA Paper 98002 Friction Characteristics of Helidecks on Off-shore Fixed-Manned Installations, 1999
   - CAA Paper 99004 Research on Off-shore Helideck Environmental Issues, 2002
   - CAA Paper 2008/03 Helideck Design Considerations: Environmental Effects, 2009
   - CAP 437 Standards for Offshore Helicopter Landing Areas, May 2012

7) ACTION REQUIRED/EXPECTED

7.1 Approval for helicopter offshore operations:

(a) Prior to engaging in operations under this Aviation Directive, a specific approval by the Executive Director shall have been issued to the operator.

(b) To obtain such approval, the operator shall submit an application to the Executive Director, and shall demonstrate compliance with the requirements of this Aviation Directive.

(c) The operational approval shall be conducted according to the five-phase approval process.

(d) The operator shall, prior to performing operations from a Contracting State other than Namibia, inform the competent authorities in both Contracting States of the intended operation.

7.2 Operating procedures

1) The operator shall, as part of its safety management process, mitigate and minimise risks and hazards specific to helicopter offshore operations. The operator shall specify in the operations manual the:

   a) selection, composition, and training of crew: crew shall consist of a minimum of two flight crew members;
   b) duties and responsibilities of crew members and other involved personnel;
   c) required equipment and dispatch criteria; and
   d) operating procedures and minima, such that normal and likely abnormal operations are described and adequately mitigated.

2) The operator shall ensure that:
   a) an operational flight plan is prepared prior to each flight;
   b) the passenger safety briefing also includes any specific information on offshore related items and is provided prior to boarding the helicopter;
   c) where established, the offshore route structure provided by the appropriate ATS is followed:
   d) Each occupant wears a life jacket;
   e) Pilot make optimum use of the automatic flight control system (AFCS) throughout the flight;
   f) Specific offshore approach profiles are established, including stable approach parameters and the corrective action to be taken if an approach becomes unstable;
   g) Procedures are in place for member of the flight crew to monitor the flight instruments during an offshore flight, especially during approach or departure, to ensure that a safe flight path is maintained:
   h) The flight crew takes immediate and appropriate action when a height alert is activated;
   i) Procedures are in place to require the emergency flotation systems to be armed, when safe to do so, for all overwater arrivals and departures;
   j) Operations are conducted in accordance with any restrictions on the routes or the areas of operation specified by the Executive Director in the Aeronautical Information Publication (AIP) or the appropriate authority responsible for the airspace; and
   k) Operations are only conducted on multi-engine aircraft.

7.3 Use of offshore locations

The operator shall only use offshore locations that are suitable in relation to size and mass of the type of helicopter and to the operations concerned.

7.4 Selection of aerodromes and operating sites

1) Onshore destination alternate aerodrome.
The pilot-in command/commander does not need to specify a destination alternate aerodrome in the operational flight plan when conducting flights from an offshore location to a land aerodrome if either:

a) the destination aerodrome is defined as a coastal aerodrome, or the following criteria are met:

(i) the destination aerodrome has a published instrument approach;
(i) the flight time is less than 3 hours; and
(ii) the published weather forecast valid from1-hour prior, and 1 hour after the expected landing time specifies that:

a) the cloud base is at least 700 feet above the minima associated with the instrument approach, or 1 000 feet above the destination aerodrome, whichever is the higher; and
b) visibility is at least 2 500 meters.

2) Offshore destination alternate helideck. The operator may select an offshore destination alternate helideck when the following criteria are met:
   a) An offshore destination alternate helideck shall be used only after the point of no return (PNR) and when an onshore destination alternative aerodrome is not geographically available. Prior to the PNR, an onshore destination alternate aerodrome shall be used.
   b) One engine inoperative (OEI) landing capability shall be attainable at the offshore destination alternate helideck.
   c) To the extent possible, helideck availability shall be guaranteed prior to Point of No Return (PNR). The dimensions, configuration and obstacle clearance of individual helidecks or other sites shall be suitable for its use as an alternate helideck by each helicopter type intended to be used.
   d) Weather minima shall be established considering the accuracy and reliability of meteorological information.
   e) The Minimum Equipment List (MEL) shall contain specific provisions for this type of operation.
   f) An offshore destination alternate helideck shall only be selected if the operator has established a procedure in the operations manual.

7.5 Airborne radar approaches (ARAs) to offshore locations — CAT operations

1) A commercial air transport (CAT) operator shall establish operational procedures and ensure that ARAs are only flown if:
   a) the helicopter is equipped with a radar that can provide information regarding the obstacle environment; and
   b) either:
      (i) the minimum descent height (MDH) is determined from a radio altimeter; or
      (ii) the minimum descent altitude (MDA) plus an adequate margin is applied.

2) The decision range shall provide adequate obstacle clearance in the missed approach from any destination for which an ARA is planned.

3) The approach shall only be continued beyond decision range or below the minimum descent altitude/height (MDA/H) when visual reference to the destination has been established.
4) When an ARA is flown to a non-moving offshore location (i.e. fixed installation or moored vessel) and a reliable GPS position for the location is available in the navigation system, the GPS/area navigation system shall be used to enhance the safety of the ARA.

7.6 Meteorological conditions:

1) When flying between offshore locations located in class G airspace where the overwater sector is less than 10 NM, VFR flights may be conducted when the limits are at, or better than, the following:

Minima for flying between offshore locations located in class G airspace				
Day			Night	
	Height(*)	Visibility	Height (*)	Visibility
Two pilots	500 feet	1.5 km	500 feet	5 km (**)

(*) The cloud base shall allow flight at the specified height to be below and clear of cloud.

the destination or an inter

(**) Helicopters may be operated in flight visibility down to 1 500 m, provided the destination or an intermediate structure is continuously visible.

2) When the use of an offshore destination alternate helideck is planned, the operator should neither select an offshore location as destination nor as alternate helideck unless the weather forecasts for the two offshore locations indicate that during a period commencing 1 h before and ending 1 h after the expected time of arrival at the destination and the alternate helideck, the weather conditions will be at or above the planning minima shown in the following table:

Planning Minima	Day	Night
Cloud Base	600ft	800ft
Visibility	4km	5km

7.7 Wind limitations for operations to offshore locations:

Operation to an offshore location shall only be performed when the wind speed at the helideck is reported to be not more than 60 knots including gusts.

7.8 Performance requirements at offshore locations:

Helicopters taking off from and landing at offshore locations shall be operated in accordance with the performance requirements of the NAMCAR Part 127 Subpart 9 according to their type of operation.

7.9 Flight data monitoring (FDM) system:

1) When conducting CAT operations with a helicopter equipped with a flight data recorder, the operator shall establish and maintain a FDM system, as part of its integrated management system.
2) The FDM system shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

7.10 Aircraft tracking system:

An operator shall establish and maintain a monitored aircraft tracking system for offshore operations from the time the helicopter departs until it arrives at its final destination.

7.11 Vibration health monitoring (VHM) system:

1) The following helicopters conducting CAT offshore operations shall be fitted with a VHM system capable of monitoring the status of critical rotor and rotor drive systems by:

   a) Complex motor-powered helicopters first issued with and individual Certificate of airworthiness) C of A) after 31 December 2016;
   b) All helicopters with a maximum operational passenger seating configuration (MOPSC) of more than 9 and first issued with an individual C of A before 1 January 2017;
   c) All helicopters first issued with an individual C of A after 31 December 2018.

2) The operator shall have a system to:

   a) collect the data including system generated alerts;
   b) analyse and determine component serviceability; and
   c) respond to detected incipient failures.

7.12 Equipment requirements

1) The operator shall comply with the following equipment requirements:

   a) Public Address (PA) system in helicopters used for operations:

(i) Helicopters with a maximum operational passenger seat configuration (MOPSC) of more than 9 shall be equipped with a PA system.

(ii) Helicopters with a MOPSC of 9 or less need not be equipped with a PA system if the operator can demonstrate that the pilot's voice is understandable at all passengers' seats in flight.

b) Radio altimeter:
Helicopters shall be equipped with a radio altimeter that is capable of emitting an audio warning below a pre-set height and a visual warning at a height selectable by the pilot.

c) Automatically deployable emergency locator transmitter (ELT(AD))
The helicopter shall be equipped with an ELT(AD) that can transmit simultaneously on 121,5 MHz and 406 MHz.

2) Emergency exits:
All emergency exits, including crew emergency exits, and any door, window or other opening that is suitable for emergency egress, and the means for opening them shall be clearly marked for the guidance of occupants using them in daylight or in the dark. Such markings shall be designated to remain visible if the helicopter is capsized or the cabin is submerged.

3) Helicopter terrain awareness warning system (HTAWS)
Helicopters used in CAT operations with a maximum certificated take-off mass of more than 3 175 kg or a MOPSC of more than 9 and first issued with an individual C of A after 31 December 2018 shall be equipped with an HTAWS that meets the requirements for class A equipment as specified in an acceptable standard.

7.13 Additional procedures and equipment for offshore operations in a hostile environment

1) Life jackets:

Approved life jackets shall always be worn by all persons on board unless integrated survival suits that meet the combined requirement of the survival suit and life jacket are worn.

2) Survival suits:

All persons on board shall wear an approved survival suit:

a) when the weather report or forecasts available to the commander/pilot-in command indicate that the sea temperature will be less than plus 10 °C during the flight; or

b) when the estimated rescue time exceeds the calculated survival time; or

c) when the flight is planned to be conducted at night.

3) Emergency breathing system:

All persons on board shall carry and be instructed in the use of emergency breathing systems.

4) Life rafts:

   a) All life rafts carried shall be installed to be usable in the sea conditions in which the Helicopter's ditching, floatation, trim characteristics were evaluated for certification.
   b) All the rafts carried shall be installed to facilitate that they are ready for use in an emergency.
   c) The number of life rafts installed:
      (i) In the case of a helicopter carrying less than 12 persons, at least one life raft with a rated capacity of no less than the maximum number of persons on board; or
      (ii) In the case of a helicopter carrying more than 11 persons, at least two life rafts, sufficient together to accommodate all persons capable of being carried on board and, if one is lost the remaining life raft(s) having the overload capacity sufficient to accommodate all persons on the helicopter.
   d) Each life raft shall contain at least one survival emergency locator transmitter (ELT(S)); and
   e) Each life raft shall contain life-saving equipment, including means of sustaining life, as appropriate to the flight to be undertaken.

5) Emergency Cabin Lightning:

   The helicopter shall be equipped with an emergency lighting system with an independent power supply to provide a source of general cabin illumination to facilitate the evacuation of the helicopter.

6) Securing of Non-jettisonable doors:

   Non-Jettisonable doors that are designated as ditching emergency exits shall have a means of securing them in the open position so that they do not interfere with the occupants egress in all sea conditions up to the maximum sea conditions required to be evaluated for ditching and floatation.

7) Emergency exits and escape hatches:

   All emergency exits; including crew emergency exits, and any door, window or other opening suitable to be used for the purpose of underwater escape shall be equipped to be operable in an emergency.

8) Notwithstanding (1), (2) and (3) above the operator may, based on a risk assessment, allow passengers, medically incapacitate at an offshore location, to partly wear or not wear life jackets, survival suits or emergency breathing systems on the return flights or flights between offshore locations.

7.14 Crew requirements

1) The operator shall establish:
   a) criteria for the selection of flight crew members, taking into account the flight crew members' previous experience;

b) a minimum experience level for a commander/pilot-in-command intending to conduct offshore operations; and

c) a flight crew training and checking programme that each flight crew member shall complete successfully. Such programme shall be adapted to the offshore environment and include normal, abnormal and emergency procedures, crew resource management, water entry and sea survival training.

2) Recency requirements

A pilot shall only operate a helicopter carrying passengers:

a) at an offshore location, as commander or pilot-in-command, or co-pilot, when he or she has carried out in the preceding 90 days at least 3 take-offs, departures, approaches and landings at an offshore location in a helicopter of the same type or a full flight simulator (FFS) representing that type; or

b) by night at an offshore location, as commander or pilot-in-command, or co-pilot, when he/she has carried out in the preceding 90 days at least 3 take-offs, departures, approaches and landings at night at an offshore location in a helicopter of the same type or an FFS representing that type.

c) If the pilot does not comply with the requirements in (a) or (b), he/she shall complete a training flight in the helicopter or an FFS of the helicopter type to be used, which shall include at least the requirements describe in (2)(a) and (b)before he or she can exercise his or her privileges.

8) Issued by

NAMIBIA CIVIL AVIATION AUTHORITY NCAA 12 AUG 2021 PRIVATE BAG 12003 AUSSPANNPLATZ WINDHOEK OFFICE OF THE EXECUTIVE DIRECTOR

Gordon Elliott

Interim Executive Director of Civil Aviation