

Advisory Circular

FATIGUE RISK MANAGEMENT FOR ULTRA LONG RANGE OPERATIONS

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GENERAL

Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 3C of the Air Navigation Act (Cap. 6) (ANA), to demonstrate compliance with a statutory requirement. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

PURPOSE

This AC provides guidance to demonstrate compliance with, and information related to, fatigue risk management on Ultra Long Range (ULR) operations in accordance with ANR-121.

APPLICABILITY

This AC is for reference by the AOC holder operating in accordance with ANR-121.

RELATED REGULATIONS

This AC relates specifically to Division 11 in Part 2 and the Fifth Schedule of ANR-121.

RELATED ADVISORY CIRCULARS

- AC 121-11-1 Guidance for Fatigue Risk Management for ANR-121 Operations

CANCELLATION

This is the first AC issued on the subject.

EFFECTIVE DATE

This AC is effective from 1 October 2018.

OTHER REFERENCES

Nil.

1 REQUIREMENT FOR APPROVAL

- 1.1 As required in Regulation 178 of ANR-121, the AOC holder must establish a fatigue risk management programme that is either:
- (a) a system as specified in Part 1 of the Fifth Schedule with prescribed flight time, flight duty period, duty period and rest period limitations for all operations; or
 - (b) a Fatigue Risk Management System (FRMS) in accordance with Part 2 of the Fifth Schedule for all operations; or
 - (c) a FRMS in accordance with subparagraph (b) for part of its operations and the requirements of subparagraph (a) for the remainder of its operations.
- 1.2 An Ultra Long Range (ULR) flight generally refers to a continuous non-stop flight with flight time, flight duty period etc. that exceed the limits prescribed in Part 1 of the Fifth Schedule of ANR-121. Such flights, with a flight crew FDP exceeding 18 hours should therefore be managed under an approved FRMS as provided in Part 2 of the Fifth Schedule.
- 1.3 This AC describes an ULR operation that the DGCA may consider approving under conditions consistent with the requirements of FRMS. The approval will include specific conditions such as:
- (a) Aircraft, including the in-flight rest facilities, that may be used for ULR operations.
 - (b) Extended flight duty periods
 - (c) Departure windows for the ULR flights
- 1.4 Any change to an approved FRMS, including those conditions mentioned in paragraph 1.3, will need to be approved by the DGCA.

2 DEFINITIONS

The following definitions apply to this AC:

“Base” means the designated place from where a crew member starts and ends a ULR Rostered Duty Assignment (RDA).

“Duty Flight Crew” means those members of the flight crew who are on duty in the cockpit.

‘In-flight Rest Facilities’ means facilities as classified in AC 121-11-1.

“In-flight Rest Period” means a period of time within a flight duty period (FDP) which is to give a crew member an opportunity to rest on board a flight before commencing or recommencing duty as a duty flight crew or cabin crew.

“Outstation” means the destination city away from base to which a crew member operates to as part of a ULR RDA.

“Rostered Duty Assignment (RDA)” means a sequence of FDPs, off-duty periods, standby duty periods, crew positioning and rest periods for which crew are rostered when assigned to operate a ULR flight.

3 REST FACILITIES

- 3.1 Flight crew rest facilities provided on board the aircraft for the purpose of ULR operations should be Class 1 or equivalent (ref: AC 121-11-1).
- 3.2 Cabin crew rest facilities should be equipped with surfaces that allow for flat sleeping positions, located separately from the passenger cabin, with due consideration to temperature and light controls. They should be isolated from disturbance and intrusive noises from doors, galleys, toilets etc.

4 CREW COMPLEMENT AND COMPOSITION

Flight Crew

- 4.1 Each ULR flight is to be operated by no less than four (4) pilots of whom two (2) must be pilot-in-command qualified. The duty flight crew should comprise at least two pilots, including one who is pilot-in-command qualified.
- 4.2 Specific instructions should be included in the AOC holder’s Operations Manual to ensure that the ULR flight meets the following requirements:

- (a) ULR Pre-flight and In-flight Rest Planning

A scheme should be established to provide guidance to the flight crew on the expected pre-flight preparations and in-flight rest to be taken. Flight crew members are to be appropriately rested for the ULR flight. The in-flight rest plan should provide for at least two (2) rest periods, one of which should not be less than four (4) hours.

- (b) ULR Pre-flight Rostering Requirements

The flight crew should be acclimatised at base before undertaking a ULR RDA. Immediately prior to commencing the ULR RDA, the crew member should be rostered for a rest period of no less than 48 hours, which should include two (2) local nights, free from flight duties.

- (c) ULR Flight Rest Period away from Base

In the ULR RDA, the scheduled period free of flight duties away from base should be at least 48 hours, with at least two (2) local nights.

- (d) Post ULR RDA Rest at Base before embarking on the next flight

The ULR flight crew member should be provided with at least three (3) days of rest, inclusive of three (3) consecutive local nights, on completion of the ULR RDA, before the crew member may be rostered for another ULR flight or other flights.

(e) Travelling Time - Crew Responsibilities

Travelling time, other than time spent on positioning, should not be counted in the computation of the FDP. Where the usual travelling time from the crew member's home to the normal departure aerodrome is in excess of 1½ hours, the crew member concerned should make rest arrangements nearer the departure aerodrome, so as to ensure that he has the minimum rest period for a ULR flight as specified in sub-paragraph (b).

Note: Where long distances are involved, travelling time from home to departure aerodrome is a factor influencing subsequent onset of fatigue.

Cabin Crew

4.3 The minimum number of cabin crew to operate a ULR flight is one and a half times the cabin crew complement specified in Regulation 138 of ANR-121.

4.4 The crew complement for each ULR sector should include at least two crew members who are qualified as Crew-in-Charge (CIC), with one of them being appointed as the Overall CIC in fulfilment of Regulation 139 of ANR-121. The AOC holder should ensure that at least one of the 2 CICs is on duty at any one time.

Note: The "Crew-in-Charge" refers to a cabin crew member who has been trained as a CIC in accordance with the approved training programme of the AOC holder.

4.5 Specific instructions should be included in the AOC holder's Operations Manual to ensure that the ULR flight meets the following requirements:

(a) ULR Pre-flight and In-Flight Rest Planning

A scheme should be established to provide guidance to the cabin crew on the expected pre-flight preparations and in-flight rest to be taken. Cabin crew members are to be appropriately rested for the ULR flight. With the exception of flights originating from Singapore, when the cabin crew maximum planned FDP is longer by one hour, the cabin crew maximum planned FDP for flights originating from other stations should be the same as the maximum planned FDP for flight crew.

For ULR FDP of 19 hours or less, a cabin crew member should be provided with a minimum in-flight rest period of 4 hours. For ULR FDP greater than 19 hours, the cabin crew member should be provided a minimum in-flight rest period of 5 hours.

(i) When the approved cabin crew rest facilities are not available due to unforeseen circumstances, the minimum in-flight rest may be taken in a passenger seat. In this case the stipulated ULR FDP minimum in-flight rest period provided to the cabin crew should be increased by two hours. The non-availability of cabin crew rest facilities should only be allowed for one sector in a Crew Operating Pattern.

(ii) The in-flight rest period may be taken either as a single period or broken into multiple rest periods.

(b) ULR Pre-flight Rostering Requirements

Prior to commencing an ULR RDA, the AOC holder should ensure that the cabin crew member is provided with at least a rest period of one calendar day and three (3) local nights at base.

(c) ULR Flight Rest Period away from Base

In the ULR RDA, the scheduled period free of flying duties away from base should be at least 48 hours inclusive of two (2) local nights.

(d) Post ULR Rest at Base before embarking on the next flight

Upon completion of a ULR RDA, the cabin crew member should be provided with a rest period of at least 48 hours inclusive of at least three (3) consecutive local nights.

5 DISCRETION TO EXTEND A ULR FDP IN EVENT OF FLIGHT DISRUPTIONS

5.1 In the event of a flight disruption, the pilot-in-command of the ULR flight, may, at his discretion and after taking into account the circumstances of the other crew members of that ULR flight, extend a flight duty period of the ULR flight for up to three (3) hours.

5.2 Whenever such discretion is exercised, a report should be submitted to the DGCA by the AOC holder within 30 days if the normal limitations are exceeded by 2 hours from base or 1 hour from outstation. The report should include date, time, aircraft, crew, details of planned and achieved schedules and the report of the circumstances. Such reports will be examined by CAAS from time to time.

6 FLIGHT DELAYS AND DISRUPTIONS

6.1 Flight delays and disruptions may occasionally cause the flight departure to be outside the permitted departure window. In such situations, the flight may be permitted to continue provided the crewing and flight crew FDP have been appropriately managed to cater to the requirements for the amended departure time.

7 STANDBY FLIGHT CREW

7.1 At base, the standby flight crew for a ULR RDA should be rostered such that the standby flight crew meet the requirements specified in paragraph 4.2 (b).

7.2 At outstation, the standby flight crew may be called to operate an ULR FDP after achieving a rest period of at least 24 hours including one local night provided the Pilot-in-command and one other flight crew member have met the rest requirement of paragraph 4.2 (c). The standby flight crew if activated for the ULR FDP will be deemed to have completed a ULR RDA and should be given the rest provided in paragraph 4.2 (d).

8 DISCRETION TO REDUCE A REST PERIOD AT LAYOVER

Flight Crew

- 8.1 The following conditions apply to the exercise of discretion to reduce a rest period for a ULR flight.
- (a) The exercise of discretion to reduce a rest period should be treated as an exception. If exercised, the rest taken in the accommodation should be of at least 24 hour duration and to include one local night;
 - (b) Such discretion should not be routinely exercised.
- 8.2 Whenever such discretion is exercised, a report should be submitted to the DGCA by the AOC holder within 30 days. The report should include date, time, aircraft, crew, details of planned and achieved schedules and the report of the circumstances. Such reports will be examined by CAAS from time to time.

Cabin Crew

- 8.3 The following conditions apply to the Crew-in-Charge when exercising the discretion to reduce a rest period for a ULR flight on behalf of the crew, or to an individual exercising the discretion on his/her own behalf:
- (a) The exercise of discretion to reduce a rest period should be treated as an exception. If exercised, the rest taken in the accommodation should be of at least 24 hours duration and should include one local night; and
 - (b) Such discretion should not be routinely exercised.
- 8.4 Whenever such discretion is exercised, a report should be submitted to the DGCA by the AOC holder within 30 days. The report should include date, time, aircraft, crew, details of planned and achieved schedules and the report of the circumstances. Such reports will be examined by CAAS from time to time.