



**GOVERNMENT OF INDIA  
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION  
TECHNICAL CENTRE, OPP SAFDURJUNG AIRPORT, NEW DELHI**

**CIVIL AVIATION REQUIREMENT  
SECTION 7 – FLIGHT CREW STANDARDS  
TRAINING AND LICENSING  
SERIES J PART I  
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**File No. AV-22024/03/2018-CS**

**Subject: Flight Duty Time and Flight Time Limitations – Cabin Crew**

**1. INTRODUCTION**

- 1.1 The Annex 6, Operation of Aircraft, Part I, to the Convention on International Civil Aviation, requires Contracting States to establish regulations specifying the limits applicable to Flight Time, Flight Duty Period, Duty Period and Rest Period for Cabin Crew.
- 1.2 Cabin Crew member are crew who perform duties in the interest of safety of passengers, duties assigned by the operator and the pilot-in-command of the aircraft but who shall not act as flight crew member.
- 1.3 In order to enhance safety of operations and in exercise of powers conferred under Rule 42A of the Aircraft Rules, 1937 read with Rule 133A of the Aircraft Rules, 1937, the following Flight Duty Time and Flight Time Limitations for Cabin Crew are issued for information, guidance, and compliance by all concerned.
- 1.4 This CAR supersedes all previous communications, letters and instructions issued by the DGCA regarding Cabin Crew FDTL.

**2. APPLICABILITY**

This CAR prescribes the Maximum Limits of Flight Time, Flight Duty Period, Duty Period and Minimum Rest Period applicable to all cabin crew of Scheduled, Non-Scheduled and Scheduled Commuter Air Transport Services.

### 3. DEFINITIONS

#### 3.1 ACCLIMATISED

It means a state in which a crew member's circadian biological clock is synchronised to the time zone where the crew member is. A crew member is considered to be acclimatised to a 3-hour wide time zone surrounding the local time at the point of departure. When the local time at the place where a flight duty commences differs by more than 3 hours from the local time at the place where the next duty starts, the crew member, for the calculation of the maximum daily flight duty period, is considered to be acclimatised.

#### 3.2 ACCOMMODATION

Means, for the purpose of standby and split duty, a quiet and comfortable place not open to the public with the ability to control light and temperature, equipped with adequate furniture that provides a crew member with the possibility to sleep, with enough capacity to accommodate all crew members present at the same time and with access to food and drink.

#### 3.2.1 SUITABLE ACCOMODATION

Means, for the purpose of standby, split duty and rest, a facility separate room for each for crew member located in a quiet environment and equipped with a bed, which is sufficiently ventilated, has a device for regulating temperature and light intensity, and access to food and drink.

#### 3.3 DUTY

Any task that cabin crew members are required by the operator to perform, including, for example, flight duty, administrative work, training, positioning and standby when it is likely to induce fatigue.

#### 3.4 DUTY PERIOD

A period which starts when a cabin crew member is required by an operator to report for, or to commence a duty and ends when that person is free from all duties.

Note 1: Standard allowance shall be added at the end of flight time to allow for completion of checks.

- a) 15 minutes for Non-Scheduled Operator and Schedule Commuter Air Transport Services.
- b) 30 minutes for Scheduled Air Transport Services.
- c) 60 minutes in case of International Operations where the cabin crew are required to undertake post flight medical examination if the same has not been carried out on board the aircraft after arrival.

Note 2: Duty Period includes Flight Duty Period.

### **3.4.1 FLIGHT DUTY PERIOD**

A period, which is intended to cover continuous period of duty that always includes a flight or series of flight for a cabin crew member. It commences when a cabin crew member is required to report for duty and finishes at engine off at the end of the last flight on which he/she is a cabin crew member.

### **3.4.2 FLIGHT TIME**

The total time from the moment an aeroplane first moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight.

Note: “Flight time” is defined as synonymous with the term “block-to-block” time or “chocks-to-chocks” time in general usage, which is measured from the time an aeroplane first moves for the purpose of take-off until it finally stops at the end of the flight.

### **3.5 Mixed Duty**

When a crew member is required to report for a duty in advance of the stipulated reporting time for a scheduled flight or series of flight to carry out a duty at the behest of Operator, the time spent on that duty shall be part of the subsequent FDP. Provision of Mixed Duty is to be utilized and limited to provisions as in Sub Para 6.1.1 to 6.1.6.

### **3.6 FATIGUE**

A physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair a crew member’s alertness and ability to safely operate an aircraft or perform safety related duties.

### **3.7 HOME BASE**

The location nominated by the operator, having high degree of permanence from which the crew member normally starts and ends a flight duty or a series of flight duty periods.

#### **3.7.1 TEMPORARY HOME BASE**

The place of posting by the operator where the crew operates and starts a series of Duty Cycles, up to 28 days.

### **3.8 LOCAL DAY**

Means a 24-hour period commencing at 00:00 local time.

### **3.9 LOCAL NIGHT**

A period of eight hours falling between 2200 hours and 0800 hours’ local time.

Note: The operators shall define eight hours of local night to cater for seasonal schedules.

### 3.10 LONG RANGE (LR)

Continuous non-stop flights involving any sector having a continuous flight time of over 12 hrs and up to 14 hrs and Flight duty periods upto 18 hrs.

### 3.11 NIGHT DUTY

Means a flight duty period encroaching any portion of the period between 0000 hrs and 0500 hrs in the time zone to which the crew is acclimatized.

### 3.12 OPERATING CREW MEMBER

Means a crew member carrying out duties in an aircraft during a sector.

### 3.13 POSITIONING

The transferring of a non-operating cabin crew member from place to place at the behest of the operator.

**Note:** "Positioning" as here defined is synonymous with the term "Dead heading".

### 3.14 REPORTING TIME

The time at which cabin crew member is required by an operator to report for duty.

**Note 1:** Each operator must take into account the available airport facilities such that the operating crew gets sufficient time to complete pre-flight activities and have adequate Cabin preparation time. The operator shall include in the 'Scheme' the optimum time of pre-flight dispatch activities after taking into account various factors.

**Note 2:** Operator shall define reporting time based on different requirements of flights to Domestic and International sectors by taking Customs & Immigration formalities, etc. into account.

### 3.15 REST PERIOD

A continuous, uninterrupted and defined period of time, subsequent tour prior to duty, during which a cabin crew member is free from all duties, standby and reserve.

### 3.16 REST FACILITY

Means a bunk or seat with leg and foot support suitable for crew members' sleeping on board an aircraft;

### 3.17 RESERVE

A period of time during which a cabin crew member is required by the operator to be available to receive assignment for Flight Duty Period, Positioning or other Duty notified at least 10 hours in advance.

### 3.18 ROSTER

A list provided by an operator of the times when a cabin crew member is required to undertake duties.

Note: “Roster” as here defined is synonymous with “Schedule”, “Line of Time”, “Pattern”, and “Rotation”.

### 3.19 SPLIT DUTY (BREAK)

A period free of all duties, which counts as duty, being less than a rest period.

#### 3.19.1 BREAK

Means a period of time within a flight duty period, shorter than a rest period, counting as duty and during which a crew member is free of all tasks.

### 3.20 STANDBY

It is a defined period of time during which a cabin crew member is required by the operator to be available to receive an assignment for a specific duty without an intervening rest period.

### 3.21 SECTOR

Means the segment of an FDP between an aircraft first moving for the purpose of taking off until it comes to rest after landing on the designated parking position.

### 3.22 Time Zone

Means a defined region of the earth with a uniform local time which differs by one hour, or by part of one hour from the uniform local time of an adjoining region of the earth, irrespective of season.

### 3.23 UNFORESEEN OPERATIONAL CIRCUMSTANCE

An unplanned event, such as unforeseen weather, natural calamity, medical emergency, national requirement for relief and rescue operations (mission oriented), equipment malfunction, runway closure, passenger, aircraft security, aircraft recovery, etc., that is beyond the control of the operator

### 3.24 ULTRA LONG RANGE (ULR) OPERATIONS

Continuous non-stop flights between a specific city pair involving any sector having a flight time of over 14 hrs and duty periods upto 22 hrs. at any time during a calendar year taking into account the mean and seasonal wind changes.

The ULR operations apply to both sectors of a city pair.

#### 3.24.1 DUTY CABIN CREW

Means those members of the cabin crew who are on duty in the cabin.

#### 3.24.2 IN-FLIGHT REST PERIOD

Means a period of time within a flying duty time, which is to give a crew member an opportunity to rest before commencing or recommencing duty as a duty cabin crew.

### 3.25 WINDOW OF CIRCADIAN LOW (WOCL)

WOCL is best estimated by the hours between 02:00 and 05:59 for individuals adapted to a usual day-wake/night sleep schedule. This estimate of the window is calculated from scientific data on the circadian low of performance, alertness, subject report (i.e. peak fatigue) and body temperature.

- i) For flight duty periods that cross 3 or fewer time zones, the window of circadian low is estimated to be 02:00 to 05:59 home-base/ domicile time.
- ii) For flight duty periods beyond 3 or more time zones, the window of circadian low is estimated to be 02:00 to 05:59 home-base/ domicile time for the first 48 hours only.
- iii) For a cabin crew member remaining more than 48 hours away from home-base/ domicile time, the window of circadian low is estimated to be 02:00 to 05:59 referred to local time at the point of departure.

Note 1: When the FDP starts in the WOCL, the maximum FDP stated in the Tables contained in Para 6.1 of this CAR shall be reduced by 100% of its encroachment upto a maximum of 2 hours. When the FDP ends in or fully encompasses the WOCL, the maximum FDP stated in the table 6.1 shall be reduced by 50% of its encroachment.

Note 2: The reference time for "48 hours away from home-base" is to be considered from commencement to end of Flight Duty Period.

## 4 OPERATOR'S RESPONSIBILITY

- 4.1 Every operator shall establish a scheme for complying with the limitations for flight time, flight duty periods, duty periods and rest periods specified in this CAR in respect of cabin crew members.
- 4.2 The FDTL scheme shall be submitted to DGCA for approval. The approved scheme shall form part of the Operator's Operations Manual.
- 4.3 The operator shall not require a cabin crew member to perform cabin crew duties on a flight if it is known or suspected that the cabin crew member is fatigued to the extent that the safety of flight may be adversely affected.
- 4.4 No operator may schedule any cabin crew member and no cabin crew member may accept an assignment, which shall exceed the prescribed limitation as mentioned in this CAR.

## 5 RESPONSIBILITY OF CABIN CREW MEMBER

- 5.1 Cabin crew members shall make best use of facilities and opportunities that are available or provided for rest and for the consumption of meals, and shall plan and use rest periods to ensure that they are fully rested.
- 5.2 A cabin crew member shall not perform cabin crew duties on a flight if it is known or suspected that the cabin crew member is fatigued to the extent that the safety of flight may be adversely affected.

## 6 MAXIMUM CUMULATIVE FLIGHT TIME LIMITATIONS, LANDING DURING ANY 24 HOURS

6.1 The maximum flight time and maximum flight duty period are indicated in the following Table.

Sub Para	Maximum Flight Time	Maximum Flight Duty Period (in Hours)	No. of Landings	Day/Night
<b>Applicability for Non Scheduled and Scheduled Commuter Operations is from 6.1.1 to 6.1.9</b>				
6.1.1	Upto 8 hrs	10:30	8	Day
6.1.2	Upto 8 hrs	11:00	7	Day (only one landing by Night)
<b>Applicability for Scheduled Operations is from 6.1.3 to 6.1.10</b>				
6.1.3	Upto 8 hrs	11:30	6	Day/Night
6.1.4	Upto 8 hrs	12:00	5	
6.1.5	Upto 8 hrs	12:30	4	
6.1.6	Upto 8 hrs	13:00	3	
6.1.7	Above 8 and upto 11 hrs	15:00	2	
6.1.8	Above 8 and upto 11 hrs	15:30	1	
6.1.9	Above 11 and upto 14 hrs	18:00	1	
6.1.10	(ULR)* Above 14 hrs	22:00	1	
(*) For ULR operations approvals to be sought from DGCA on case-to-case basis for specific city pairs and the departure windows of the flights.				

## 6.2 MAXIMUM CUMULATIVE FLIGHT TIME LIMITATIONS

Sub Para	Maximum Cumulative Flight time limitations	Maximum Flight Time Limitation (in Hours)
6.2.1	In 7 consecutive days	40
6.2.2	In 14 consecutive days	75
6.2.3	In 28 consecutive days	115
6.2.4	In 90 consecutive day	300
6.2.5	In 365 consecutive days	1000

### 6.3 MAXIMUM CUMULATIVE DUTY PERIOD

No operator shall assign and no cabin crew member shall accept any duty to exceed:

- a) 210 duty hours in any 28 consecutive days, spread as evenly as practicable throughout this duty period;
- b) 65 duty hours in any 7 consecutive days.

### 6.4 SPLIT DUTY

Split duty shall be as follows:

No.	Consecutive hours of break	Maximum Extension of the Flight Duty Time
1.	Less than 3 hours	Nil
2.	Between 3 hours and 12 hours <b>(Applicability for Non Scheduled and Scheduled Commuter Operations)</b>	A period equal to half the consecutive hours break taken
3.	Between 3 hours and 10 hours <b>(Applicability for Scheduled Operations)</b>	A period equal to half the consecutive hours break taken
4.	>12 hours <b>(Applicability for Non Scheduled and Scheduled Commuter Operations)</b>	No extension permitted
4.	>10 hours <b>(Applicability for Scheduled Operations)</b>	No extension permitted

- a) Post-flight and Pre-flight duties will not be counted as part of rest.
- b) If the break is more than 6 consecutive hours or fully encroach on the WOCL, then operator will provide suitable accommodation.
- c) Parts of the Flight Duty Period before and after the break shall not exceed 10 hours.
- d) Split duty shall only be applicable for Para 6, Sub para 6.1.1 to 6.1.6.

## 7 MINIMUM REST PERIODS

### 7.1 REST PERIOD (BEFORE THE FLIGHT)

The minimum rest, which must be provided before undertaking a flight duty period, shall be:

- a) At least as long as the preceding duty period,

OR

- b)
  - i) 12 hours
  - ii) 14 hours for crossing 3 time zones up to 7 time zone
  - iii) 36 hours for crossing 7 time zones up to 10 time zone
  - iv) 48 hours for crossing 10 time zone

Whichever is greater.

Note 1a: For Scheduled Operations, the above hours as in (b) may be reduced by 15% once in a period of any consecutive 28 days in such case additional rest will be double the amount reduced, which is to be provided after the subject Duty Period.

Note 1b: For Non Scheduled Operations and Scheduled commuters Operations above hours as in (b) any reduced by 15% twice in a period of 168 hours in such a case additional rest will be doubled the amount reduced which is to be provided after the subject duty period

Note 1c: In case of the conditions laid down in Note 1b, the flight time is limited to 4 hrs and landing are limited to 4.

Note 2: For a Cabin Crew operating between 3 to 7 Time Zones, and proceeding to farther Time Zones, the crew shall be provided a minimum rest as per para 7, before proceeding beyond on the next Flight Duty Period. The Time Zone difference for subsequent flight will be calculated from the place of new departure to destination.

**7.2** For all other duties, apart from Flight Duty/ Mixed Duty, a minimum rest period of 10 hours shall be given. Operators to define the same in their FDTL Scheme.

**7.3** If the preceding duty period, which includes any time spent on positioning, exceeds 18 hours, then the ensuing rest period shall include a local night

**7.4** Period of transportation to and from an airport shall neither be counted towards duty time nor rest period. The operator shall include in the 'Scheme' the optimum time of transportation after taking into account various factors and on ensuring that the rest period does not get reduced below the minimum rest requirements.

### **7.5 WEEKLY REST**

An operator shall ensure that the minimum weekly rest of continuous 36 hours including two local night is provided such that there shall never be more than 168 hours between the end of one weekly rest period and the start of the next.

Note 1: The operator shall provide weekly rest at home base /Temporary Base.

Note 2: If the same is not possible due to unforeseen circumstances (as indicated in Para 3.23 of this CAR), the cabin crew member shall be given 12 hours' additional rest for every 24 consecutive hours on return to home base on the first available opportunity.

### **7.6 REST AFTER RETURN TO HOME BASE**

Operator shall ensure that effects on cabin crew members of time zone differences will be compensated by additional rest as specified below.

Minimum rest including local nights shall be given, according to the Table given below, to any cabin crew member when coming back to home base, who has been away from the home base on flight duty in such a way that the WOCL had to be encroached.

Sub Para	Time Zone difference	Rest (in Hours)	Local Nights	WOCL Encroachment
7.6.1.	More than 3 to 7	24	1	Upto 50%
7.6.2	More than 3 to 7	36	2	More Than 50%
7.6.3	More than 7 to 10	48	2	Up to 50%
7.6.4	More than 10	72	3	Up to 50%

**Note 1:** For flight crew who have availed a rest period of 36 hours including two (2) Local Nights or more at layover station, then a rest period of only 24 hours including one local night shall be provided on return to Home Base. This provision is applicable to 7.6.1 & 7.6.2.

**Note 2:** Cabin crew covered by Para 7.6, whose weekly rest is due after completion of flight duty, will be given 50% of rest in hours only (as indicated in Table above) over and above the admissible weekly rest as in 7.4 when concurrently due.

**Note 3:** For cabin crew operating flights crossing 7 Time Zones and under 7.6.3 and 7.6.4, additional rest of 12 including one local night shall be added to the Note 2.

**Note 4:** WOCL encroachment as in Table 7.6 is for only the last return to Home Base/Domicile.

## 7.7 AUGMENTATION OF CABIN CREW AND INFLIGHT REST

7.7.1 For continuous flight time beyond 11 hrs, as indicated in Table contained in Para 6.1.9 & 6.1.10, the operator shall ensure that a Senior Cabin Crew is always on duty during the in-flight rest of the other Senior Cabin Crew.

7.7.2 For flights with flight time greater than 11 hours or flight duty period greater than 15 hours, cabin crew shall be augmented by 50% of the minimum crew requirement as mentioned in sub-rule 2 of Rule 38B of the Aircraft Rules, 1937.

7.7.3 The minimum in-flight rest shall be not less than Flight Time minus 11 hrs.

7.7.4 The conditions of rest should be such that a cabin crew member can obtain recuperative rest in a comfortable horizontal seat, or in a bunk, separated and screened from the passengers, and reasonably free from disturbance.

**Note:** Augmentation of cabin crew is not applicable for unforeseen circumstances if the flight is planned under provision of 6.1.1 upto 6.1.8

## 8. STANDBY

### 8.1 GENERAL

8.1.1 Operators shall include 'Standby' as part of their regular rosters and concerned cabin crew shall be kept notified.

8.1.2 In case of exigencies when 'Standby' duty may go beyond the roster; Operator shall ensure that concerned cabin crew is notified in advance.

## **8.2 STANDBY PERIOD**

**8.2.1** Standby period shall not extend beyond 12 hours. However, a maximum standby at airport (with or without sleeping quarters) shall not exceed 8 hours.

**8.2.2** If the standby period is at the airport and

- a) Standby culminates into a flight duty then the total period (i.e. 100%) shall be counted towards the flight duty period and also towards cumulative duty period.
- b) Standby does not culminate into a flight duty then the total period (i.e. 100%) shall be counted towards cumulative duty period.

**8.2.3** If the standby period is at home or in a hotel and culminates into duty

- a) Within first 6 hours then no part of standby shall be considered as part of flight duty period or cumulative duty period.
- b) At 6 hours or later then flight duty period shall be reduced by 50% of the standby time.

**8.2.4** If standby period is at home or in a hotel does not culminate into a duty then, 25% of its time shall be considered under cumulative duty.

## **8.2.5 REST PERIOD AFTER STANDBY**

When any period of standby finishes, which does not culminate into flight duty, the rest for home standby shall be 8 hrs and for airport standby shall be 12 hrs.

## **9. POSITIONING**

9.1 All the time spent on positioning on the behest of the operator shall be counted as duty.

9.2 Positioning time should be a part of a flight duty period when it immediately precedes (i.e. without an intervening rest period) a flight duty period in which that person participates as a cabin crew member.

9.3 Positioning after operating a flight duty period without an intervening rest period shall be counted as duty period for determining the rest period.

9.4 Positioning should not count as an operating sector when planning or calculating a flight duty period.

## **10. CONSECUTIVE NIGHT OPERATION**

**10.1** Cabin crew shall neither be detailed nor undertake any flight duty between periods embracing 0000 to 0500 hrs local time for two consecutive nights except once within a period of 168 hours.

**10.2** For a cabin crew member remaining less than 48 hours away from home-base/ domicile time, two consecutive nights is estimated to be referred to local time at the point of first departure of flight schedule.

**10.3** Cabin crew shall also not be detailed or undertake any duty between the hours of 0000 to 0500 prior to utilizing the provisions of 10.1 above.

## 11. UNFORSEEN OPERATIONAL CIRCUMSTANCES

11.1 Flight Time', 'Flight Duty Period', landing may be extended due to unforeseen operational circumstances as follows:

- a) Flight Time by maximum of 1½ hours.
- b) FDP by maximum of 4 hrs
- c) Only one extra landing may be carried out in the event of a diversion to complete the flight.
- d) One additional Flight Duty between 0000 to 0500 hrs in continuation to provision of Para 10 (Consecutive Night Operations) may be carried out subject to the limitations of Para 11.1 (a) or 11.1 (b) or 11.1 (c) or any combination thereof.
  - i. The above is subject to a cumulative limit of maximum of 0430 hours (Flight Time), maximum of 14 hrs (FDP) and 02 landings during any period of 28 consecutive days for Scheduled Operations
  - ii. The above is subject to a cumulative limit of maximum of 0430 hours (Flight Time), maximum of 18 hrs (FDP) and 02 landings during any period of 28 consecutive days for Non Scheduled Operations and Scheduled Commuter Services.
- e) Whenever the Flight duty period or flight time gets extended, the rest period shall be pro-rata increased by twice the amount of extended time of Flight duty period.
- f) Extension of the maximum basic FDP shall not be combined with split duty in the same duty period.
- g) In case of not utilizing any flight time after commencement of FDP (Reporting) the crew can be utilized after a minimum of twice the time period spent after reporting subject to a minimum limit of 8 hours of rest.

Note 1: Provisions of only para 6.2.1 to 6.2.4 can be extended by the limits specified in 11.1 (a) and 11.1 (b).

Note 2: The Senior Cabin crew in consultation with all the cabin crew members will convey their willingness (or consent) to the PIC for operating the flight.

## 12. RESERVE

If an operator assigns cabin crew members to reserve, the following requirements shall apply in accordance with the certification specifications applicable to the type of operation:

- a) Reserve shall be published in the planned roster.
- b) Shall neither be counted towards duty time nor rest period.
- c) FDTL schemes shall specify the following elements:
  - i) Maximum duration of any single reserve period.
  - ii) Number of consecutive reserve days that may be assigned to a cabin crew member.

### **13. MAINTENANCE OF RECORDS AND MONITORING SYSTEM**

#### **13.1 RECORDS**

Records shall be kept for 18 months of the duties performed and the rest periods provided so as to facilitate inspection by the operator's authorized personnel and surveillance/audit by DGCA officers. The records may be made available to cabin crew on request.

**13.2** The Operator should ensure that these records include for each cabin crew member, at least:

- i) Start, duration and end of each flight duty period.
- ii) Start, duration and end of each duty period.
- iii) Rest periods.
- iv) Flight time.
- v) Cumulative flight time as per Para 6.2 of this CAR.

**13.3** The operator shall also keep records of occasions when flight time and duty were extended as per Para 11 of this CAR.

**13.4** If discretion was used for similar reasons on more than 20% of occasions when a particular route or a route pattern is flown, for the seasonal schedule or minimum of 28 Flight Duty Periods, then the operator shall review and change the schedule or the crew scheduling arrangements so as to reduce the frequency at which such events occur.

**13.5** In addition, DGCA may require submission of copies and analysis of records in the manner deemed fit.

**13.6** Above may be achieved through a fool proof transparent computerized system. The operator shall evolve a system so that only designated officers of the operator have access to the system. Further, the system shall have a provision of audit trail so that any change made in the data may be tracked down to its source.

**13.7** The operator through the computerized system shall ensure that the cabin crew member is well within the flight time, flight duty period, duty period and rest period requirements before permitting him to operate a flight.

### **14. FATIGUE RISK MANAGEMENT SYSTEM (FRMS)**

**14.1** When FRM is required by DGCA, the operator shall establish, implement and maintain a FRM as an integral part of its management system. The FRM shall ensure compliance with the following essential requirements:

**14.2** The FRM established, implemented and maintained shall provide for continuous improvement to the overall performance of the FRM and shall include:

**14.2.1** A description of the philosophy and principles of the operator with regard to FRM, referred to as the FRM policy;

**14.2.2** Documentation of the FRM processes, including a process for making personnel aware of their responsibilities and the procedure for amending this documentation;

**14.2.3** Scientific principles and knowledge.

**14.2.4** A hazard identification and risk assessment process that allows managing the operational risk(s) of the operator arising from crew member fatigue on a continuous basis.

**14.2.5** A risk mitigation process that provides for remedial actions to be implemented promptly, which are necessary to effectively mitigate the operator's risk(s) arising from crew member fatigue and for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions;

**14.2.6** FRM safety assurance processes.

**14.2.7** FRM promotion processes.

**14.3** The FRM shall correspond to the flight time specification scheme, the size of the operator and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in those activities and the applicable flight time specification scheme.

**14.4** The operator shall take mitigating actions when the FRM safety assurance process shows that the required safety performance is not maintained.

## **15. NIGHT DUTIES – APPROPRIATE FATIGUE RISK MANAGEMENT**

**15.1** When rostering night duties of more than 10 hours (referred to below as 'long night duties'), it is critical for the crew member to obtain sufficient sleep before such duties when he/she is adapted to being awake during day time hours at the local time where he/she is acclimatized. To optimize alertness on long night duties, the likelihood of obtaining sleep as close as possible to the start of the FDP should be considered, when rostering rest periods before long night duties, by providing sufficient time to the crew member to adapt to being awake during the night. Rostering practices leading to extended wakefulness before reporting for such duties should be avoided. Fatigue risk management principles that could be applied to the rostering of long night duties may include:

- a) Avoiding long night duties after extended recovery rest periods;
- b) Progressively delaying the rostered ending time of the FDPs preceding long night duties;
- c) Starting a block of night duties with a shorter FDP; and
- d) Avoiding the sequence of early starts and long night duties.

**15.2** Fatigue risk management principles may be applied to the rostering of long night duties by means of:

- a) Considering operator or industry operational experience and data collected on similar operations;
- b) Evidence-based scheduling practices; and
- c) Bio-mathematical models.

**(BS Bhullar)**  
**Director General of Civil Aviation**