



GHANA
CIVIL AVIATION AUTHORITY

ADVISORY CIRCULAR

AC 09-017

APPLICATION & PROCESS: CREW FLIGHT DUTY TIME SCHEME

SECTION 1 GENERAL

1.1 PURPOSE

This advisory circular (AC) provides guidance for the development of an operator's flight duty time scheme to comply with Part 09 of the Ghana Civil Aviation Directives.

1.2 STATUS OF THIS ADVISORY CIRCULAR

This AC is an original issuance.

1.3 BACKGROUND

- A. The objective of any prescriptive limitations for fatigue management regulations is to ensure that flight and cabin crew members remain sufficiently alert so that they can operate to a satisfactory level of performance and safety under all circumstances.
- B. The fundamental principle is for every flight and cabin crew member to be adequately rested when he/she begins a flight duty period and, while flying, be sufficiently alert to operate to a satisfactory level of performance and safety in all normal and abnormal situations

1.4 APPLICABILITY

- A. The guidance in this advisory circular is applicable to—
 - 1) All commercial air transport operations
 - 2) All operations of turbojet aircraft and aircraft with a gross take-off weight of more than 5700kg.
- B. This guidance does not apply to a flight made for the purpose of instruction in flying, given by or on behalf of a flying club or a flying school, or an organization which is not an air transport undertaking.

1.5 RELATED REGULATIONS

The following regulations are directly applicable to the guidance contained in this advisory circular—

- GCADs Part 09, AOC Certification and Administration
- GCADs Part 09, Flight, Duty and Rest Period Requirements

- Advisory Circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.
- Where a regulation contains the words "prescribed by the Authority," the AC may consider to "prescribe" a viable method of compliance, but status of that "prescription" is always "guidance" (never a regulation).

- GCADs Part 09, General Aviation: Large & Turbojet Aircraft

1.6 RELATED READING MATERIAL

For further information on this topic, organizations are advised to review the following publications and regulatory requirements—

- 1) Ghana Civil Aviation Authority (GCAA)
 - ◆ AC 09-002, Acceptable Flight Crew Sleeping Quarters & Rest Facilities
- 2) International Civil Aviation Organization (ICAO)
 - ◆ Annex 6, Part I: Attachment A.

This advisory circular and copies of these regulations may be obtained from the GCAA.

Copies may be obtained from Document Sales Unit, ICAO, 999 University Street, Montreal, Quebec, Canada H3C 5H7.

SECTION 2 DEFINITIONS

A. For purposes of this advisory circular, these terms are defined as follows—

- 1) **Augmented flight crew.** A flight crew that comprises more than the minimum number required to operate the aeroplane and in which each flight crew member can leave his or her assigned post and be replaced by another appropriately qualified flight crew member for the purpose of in-flight rest.
- 2) **Cabin crew member.** A crew member who performs, in the interest of the safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.
- 3) **Crew member.** A person assigned by an operator to duty on an aircraft during a flight duty period.
- 4) **Cumulative fatigue.** Fatigue that occurs after incomplete recovery from transient fatigue over a period of time.
- 5) **Duty.** Any task that flight or 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.
- 6) **Duty period.** A period which starts when a flight or 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.
- 7) **Flight crew member.** A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.
- 8) **Flight duty period.** A period which commences when a crew member is required to report for duty that includes a flight or a series of flights and which finishes when the aeroplane finally comes to rest at the end of the last flight on which he/she is a crew member.
- 9) **Flight time – aeroplanes.** 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.
- 10) **Home base.** The location nominated by the operator to the crew member from where the crew member normally starts and ends a duty period or a series of duty periods.
- 11) **Operator.** A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

- 12) **Positioning.** The transferring of a non-operating crew member from place to place as a passenger at the behest of the operator.
- 13) **Reporting time.** The time at which flight and cabin crew members are required by an operator to report for duty.
- 14) **Rest period.** A continuous and defined period of time, subsequent to and/or prior to duty, during which flight or cabin crew members are free of all duties.
- 15) **Roster.** A list provided by an operator of the times when a crew member is required to undertake duties.
- 16) **Standby.** A defined period of time during which a flight or cabin crew member is required by the operator to be available to receive an assignment for a specific duty without an intervening rest period.
- 17) **Suitable accommodation.** A furnished bedroom which provides for the opportunity of adequate rest.
- 18) **Transient fatigue.** Fatigue that is dispelled by a single sufficient period of rest or sleep.
- 19) **Unforeseen operational circumstance.** An unplanned event, such as unforecast weather, equipment malfunction, or air traffic delay that is beyond the control of the operator.
- B. The following acronyms and abbreviations are used in this advisory circular—
- 1) **AC** – Advisory Circular
 - 2) **ARP** – Aerospace Recommended Practise
 - 3) **GCAA** – Ghana Civil Aviation Authority
 - 4) **GCADs** – Ghana Civil Aviation Directives
 - 5) **FDT** – Flight Duty Time
 - 6) **PIC** – Pilot in Command

"Positioning" as here defined is synonymous with the term "Deadheading".

"Roster" as here defined is synonymous with "Schedule", "Line of Time", "Pattern", and "Rotation".

SECTION 3 GENERAL CONCEPTS & POLICIES

3.1 TYPES OF FATIGUE

- A. Flight time, flight duty period, duty period limitations and rest requirements are established for the sole purpose of ensuring that the flight crew and the cabin crew members are performing at an adequate level of alertness for safe flight operations.
- B. In order to accomplish this, two types of fatigue should be taken into account—
- 1) Transient fatigue; and
 - 2) Cumulative fatigue.

The definitions of these types of fatigue are provided earlier in this AC.

3.2 SAFEGUARDS AGAINST FATIGUE

The GCAD duty, flight time and rest period regulations provide safeguards against both kinds of fatigue because they recognize—

Refer to GCAD Part 15 for specific requirements.

- 1) The necessity to limit flight duty periods with the aim of preventing both kinds of fatigue;
- 2) The necessity to limit the duty period where additional tasks are performed immediately prior to a flight or at intermediate points during a series of flights in such a way as to prevent transient fatigue;
- 3) The necessity to limit total flight time and duty periods over specified time spans, in order to prevent cumulative fatigue;
- 4) The necessity to provide crew members with adequate rest opportunity to recover from fatigue before commencement of the next flight duty period; and
- 5) The necessity of taking into account other related tasks the crew member may be required to perform in order to guard particularly against cumulative fatigue.

Any operator-proposed special flight scheme, exemption or deviation must also address these general safeguards.

3.3 RESPONSIBILITIES

3.3.1 OPERATOR RESPONSIBILITIES

- A. The operator is prohibited by GCADs from assigning flight crew member to operate an aeroplane if it is known or suspected that the flight crew member is fatigued to the extent that the safety of flight may be adversely affected.
- B. The additional operator responsibilities include—
 - 1) Providing a documented process of policy, procedures and tracking methodology;
 - 2) Providing training to ensure that the crew members understand the process and their responsibilities;
 - 3) Providing crew assignment rosters;
 - 4) Providing a records system that captures all required information and is properly retained;
 - 5) Tracking the actual duty, flight and rest times;
 - 6) Considering crew feedback and any exception reports for possible revisions to the roster or the process; and
 - 7) Auditing the process to ensure that it continues to meet requirements and adapts to prevent undue fatigue.

3.3.2 CREW RESPONSIBILITIES

- A. The pilot in command is prohibited by GCAD from accepting an assignment to operate an aeroplane if it is known or suspected that any required flight crew member is fatigued to the extent that the safety of flight may be adversely affected.
- B. The additional crew responsibilities include—
 - 1) Reviewing the roster to determine that their assignments comply with the requirements and limitations of the operations manual and GCAD Part 15.
 - 2) Notification of the operator when it becomes apparent that the assignment or the actual flight time will exceed the maximum specified by regulation.

The GCAD Part 15 specifically prohibit the crew member from accepting further flight duty when suffering from fatigue of such a nature as to adversely affect the safety of flight.

- 3) Completing any required records that capture the times of the actual duty, flight and rest periods;
- 4) Ensuring that adequate rest is gained during their assigned rest periods; and
- 5) Providing feedback through established channels of situations where undue fatigue is occurring.

The PIC shall complete an exception report for all situations where the

- Duty or flight time exceeded the limitations; or
- Rest period was less than the required minimum.

3.4 RESPONSIBILITY FOR COMPANY DECISIONS

- A. Responsibility within an operator's organization for issuing instructions and making decisions on questions of flight duty and rest periods and for processing discretion reports should be clearly defined and assigned to a member of the management personnel.
- B. The name of the person concerned, or the title of the office that he holds, must be included in the Operations Manual.

SECTION 4 GCAA APPROVAL PROCESS

- A. For initial certification of an operator, the approval of the submitted policies and procedures associated with duty, flight and rest for crew members and other critical technical specialities will be accomplished during the document conformance phase.
 - The pertinent manuals will be evaluated and accepted (or rejected) as a "whole."
 - But the duty, flight and rest process will be separately approved.
- B. Subsequent proposals regarding these policies and procedures, including the request for special FDT schemes, will be evaluated based on the proposed textual revisions only.
 - A process that is completely in compliance with the GCAD Part 15 will receive final approval during the document conformance phase.
 - No validation flights will be required.
 - Again, this revised duty, flight and rest process as expressed in the documentation will be approved (or rejected) separately from the volumes of the operations manuals.
- C. For an acceptable duty, flight and rest process that incorporates exemptions or deviations or is a "special" FDT schemes, the GCAA will issue an interim approval pending the completion of validation flights.
 - During the validation flights, the GCAA inspectors will accompany the crews for the implementation of the process to determine the extent of fatigue experienced by the crew members.

SECTION 5 REQUIRED OPERATOR SUBMISSIONS

5.1 IMPLEMENTATION OF PART 09 REQUIREMENTS

If the operator intends to comply with the GCADs Part 09 requirements without exception, they should provide, with their formal application, the following documents—

- 1) A cover letter, if submitting a revision for previously approved documents;
- 2) A GCADs Part 09 Conformance Checklist;
 - ◆ The completed checklists should provide manual references and operator comments outlining how the operator will comply with the requirements of Part 09.

A cover letter is not required if these documents are submitted with the original AOC application.

- 3) Operations manual(s) [or appropriate revisions to the manual(s)];
- ◆ These documents should contain the full description of the process by which the employees will comply with the requirements of Part 15 including all policy, procedures, instructions and forms.
- 4) Flight Operations Training Manual, or [appropriate revisions to the manual];
- ◆ This document should contain training elements (usually found in the Company Procedures Indoctrination curriculum segment) that indicate that the operations personnel are to receive training on their role, policies and procedures for compliance with the duty, flight and duty limitations.
- 5) Copies of actual forms proposed for planning, recording and tracking of the flight, duty and rest requirements.
- 6) Software user instruction manual(s)
- ◆ This manual will be required if the operator intends to use computer software to comply with the requirements for planning, recording and tracking duty, flight and rest.

Typically, this system will be described in more than one volume of the operations manual, such as—

- Flight Operations Manual (for flight crew)
- Cabin Crew Members Manual (for cabin crew)
- Crew Scheduling Manual (for crew schedulers)

Copies of these forms and their completion instructions will be found in appropriate volume of the operations manual.

5.2 EXEMPTION OR DEVIATION

- A. In addition to the normal submission documents, the operator must submit a request for exemption or deviation if there is intent not to comply with all requirements of GCAD Part 15.
- B. Operators should consider that the GCAD Part 15 requirements were developed to ensure that the crews do not experience fatigue that would cause them to make operational errors in the performance of their duties.
- C. Typically, the GCAA will expect that the operators requesting exemptions or deviations to propose alternate requirements that provide an equivalent level of safety.
- For example, where the operator might request to be able to have more sectors per flight duty period, the GCAA will expect that the operator will reduce the total duty hours.
 - The GCAA will also consider exemptions where the operator can show that his exemption request would conform to requirements of an internationally-recognized mature CAA.

Refer to AC 01-003 for guidance on requesting an exemption or deviating.

5.3 SPECIAL FDT SCHEMES

- A. GCAD Part 15 does provide for the operator to submit a “special FDT scheme.”
- B. The special FDT scheme is normally proposed by the operators for operations and requirements that are not addressed in Part 15, such as the—
- 1) Number and direction of time zones crossed;
 - 2) Time at which a flight duty period is scheduled to begin;
 - 3) Number of planned and/or actual sectors within the flight duty period;

The GCAA may require a special FDT scheme where relevant factors are not specifically addressed by GCAD Part 15

- 4) Pattern of working and sleeping relative to the circadian rhythm or 24-hour physiological cycle of the flight or cabin crew;
 - 5) Scheduling of rest periods off;
 - 6) Sequence of early reporting times and late releases from duty; mixing early/late/ night duties; and
 - 7) Flight operation characteristics, such as multiple short flight sectors or special aerodrome operations.
- C. An approval of such an FDT scheme will be considered a “waiver” because the provision for the special scheme is included in Part 09.
- D. Such a submission will be expected to be an integral part of the overall process described in the operations manual(s) during the original submission.
- E. A cover letter should be included with the submission outlining—
- 1) Why a special FDT scheme is being requested; and
 - 2) Why this particular FDT scheme will provide an equivalent level of public safety by ensuring the crew fatigue will not impair the performance of their duties.



But the GCAA review and approval process will be approached from the same perspective as consideration of an exemption.

Otherwise, the document submission requirements must conform to those outlined in paragraph 4.1 of this circular.

SECTION 6 REQUIRED RECORDS

6.1 GENERAL REQUIREMENTS

- A. Operators are required to maintain and provide readily interpreted records for each crew member. It follows that there must be suitable arrangements for collecting the information necessary to compile the records. Accurate records are essential to persons responsible for the rostering of crew member.
- B. The operator must ensure that the records generated to support the process are—
- 1) Kept updated as necessary to ensure that all assignments will meet the applicable requirements;
 - 2) Retained for a minimum of 90 days;
 - 3) Retained at a location that is accessible to the GCAA at all times during the operations of aircraft; and
 - 4) Secured by a person that has been identified to the GCAA.
- C. Flight crew members should be required by the operator to maintain a personal record of their daily flight time.
- D. The methodology for the use of computer software for planning, tracking and retaining of these records requires a separate approval of the GCAA.

The GCAA may require that copies of pertinent records should be delivered to their offices for further review.

Refer to AC 00-006 for specific guidance for acceptable computer record keeping methods.

6.2 CONTENTS OF PLANNING & TRACKING RECORDS

The operator shall ensure that the crew duty and flight time records for each flight and cabin crew member contains at least the following information—

Refer to Appendix A of this AC for an example of a hard-copy record for a small operator.

- 1) The AOC holder's company name;
- 2) The crew members full name and employee identification number, if applicable;
- 3) A running summary of number of hours flown in the past—
 - (a) 12 months;
 - (b) 30 days;
 - (c) 7 days;
 - (d) 24 hours; and
- 4) A running summary of the landings in the past 24 hours.
- 5) If the flight time is scheduled more than 24 hours in advance, a daily record by date, of the assigned duty times, flight times and projected rest periods;
- 6) A daily record by date, with an hourly display of the actual time spent showing the beginning and the end of each period of—
 - (a) Duty, including duty aloft;
 - (b) Flight time in commercial air transport, aerial work activities; and any other activity that required the application of the crew member's commercial or airline transport pilot privileges.
 - (c) Required rest.
- 7) A provision for the certification of at least each 30 calendar days of records by the crew member and the person making the assignments and entries.

6.3 EXCEPTION REPORTS

- A. The operator must provide, with their proposed FDT scheme, exception reports that are to be used by the PIC to report situations where the maximum duty or flight time has been exceeded or the minimum time for a rest period was not met.
- B. This report will provide for the collection of the—
 - 1) Crew members affected;
 - 2) Their scheduled time period;
 - 3) Actual time period experienced;
 - 4) Reason for the exception;
 - 5) Relevant factors;
 - 6) PIC recommendation for future roster adaptation to avoid these situations; and
 - 7) Operator's decision regarding the need for adaptation of the roster to preclude re-occurrence.
- C. Exception reports must be retained for 180 calendar days.

The operator must review each exception report as soon as possible after the situation to determine if an adaptation to the roster is necessary.

SECTION 7 SCHEDULING OF CREW MEMBERS

7.1 SCHEDULING CREW MEMBERS

7.1.1 PREPARE & PUBLISH A DUTY ROSTER

- A. Duty rosters should be prepared and published sufficiently in advance to provide flight and cabin crew members the opportunity to plan adequate rest.
- B. Consideration should be given to the cumulative effects of undertaking long duty hours interspersed with minimum rest, and of avoiding rosters that result in the serious disruption of an established pattern of working and sleeping.

- For scheduled airlines, rosters should cover a period of at least 30 days.
- The roster for other operators should contain at least the known flight operations.

In order to avoid any detriment to a flight or cabin crew member's performance, opportunities to consume a meal must be arranged when the flight duty period exceeds 4 hours.

7.1.2 LOGICAL & PRACTICAL PLAN

- A. Flights should be planned to be completed within the allowable flight duty period taking into account the time necessary for the—
- 1) Pre-flight duties;
 - 2) Flight;
 - 3) Turn-around times;
 - 4) Post-flight duties; and the nature of the operation.
- B. Minimum rest periods needed to provide adequate rest should be planned considering the minimum regulation requirements and the arrangements for surface transportation and lodging.

7.1.3 CONSIDERATION OF ON-GOING EXPERIENCE

- A. The rostering of crew members will consider both practical and on-going experience with the flight operations of the operator.
- The scheduling decision must be practical from the standpoint of known operational and servicing factors and ATC routing.
 - It must also be adapted when the operator's on-going experience demonstrates that additional time is necessary to ensure that regulatory requirements are met and no undue fatigue is occurring
- B. The operator shall also consider the exception reports filed for each exceedance situation and revised the rosters as necessary to ensure that they are practical.



A mandatory revision of the roster is required when the number of exceedance situations reach 10% of the flights conducted on that route.

7.2 ESTABLISHMENT OF A HOME BASE

- A. A critical element in the scheduling of the crew members' duty, flight and rest periods is the establishment of a "home base."
- B. The operator's policy/procedure manual will require the assignment of each crew member to a home base.
- C. A crew member will normally start and end a duty period or a series of duty periods from that home base.
- D. The crew member's home base should be assigned with a degree of permanence.

7.3 GENERAL CONSIDERATIONS DURING SCHEDULING

- A. Operators are expected to continually monitor and adapt their rostering to eliminate situations where it is apparent that undue fatigue may be occurring.
- B. There are some general considerations that will impact fatigue that may necessitate that the operator's scheduling provides additional time for rest, such as the—
- 1) Number of sectors planned;
 - 2) Local time at which duty begins;
 - 3) Pattern of resting and sleeping relative to the crew member's circadian rhythm;
 - 4) Organization of the working time; and
 - 5) Augmentation of the flight crew.
- C. In the case of helicopters and light aircraft, the number of landings and take offs, weather, landing sites, let down aids, air traffic control are factors which particularly affect workload concentration resulting in increased fatigue and degradation in performance levels.

- The GCAA will periodically validate any questionable assignments to ensure that undue fatigue is occurring.
- The operator may be required to have a special scheme if the GCAA determines it to be

7.4 DISRUPTION OF CIRCADIAN RHYTHM

- A. Special consideration should be given to the need to take due account of the circadian pattern of expected wakefulness during the day and sleep at night, when scheduling periods of duty and rest.
- B. Flight duty periods occurring during the night will have a higher potential for reduced performance and alertness than those occurring during daytime.
- The window of circadian low is estimated to occur between 0200 and 0600 for individuals adapted to a usual day-wake/night-sleep pattern.
 - For flight duty periods that cross 4 or more time zones, the window of circadian low continues to be referenced to 0200 to 0600 home-base time for the first 48 hours.
 - If the crew member remains more than 48 hours away from home base, the window of circadian low is estimated to become 0200 to 0600 local time at the point of departure.
 - Thus, the longer a crew member is away from home-base time zone over 4 hours, the more recovery time is needed for re-adjustment back to home-base time;



Disruption of the circadian system can lead to acute sleep deficits and cumulative sleep loss resulting in decrease in performance and alert-ness.

SECTION 8 FLIGHT DUTY PERIODS

8.1 GENERAL REQUIREMENTS

- A. The definition of flight duty period is intended to cover a continuous period of duty that always includes a flight or series of flights for a flight or cabin crew member.
- It is meant to include all duties a crew member may be required to carry out from the moment he or she reports for duty until he or she completes the flight or series of flights and the aeroplane finally comes to rest and the engines are shut down.
 - It is considered necessary that a flight duty period should be subject to limitations because a crew member's activities over extended periods would eventually induce fatigue (transient or cumulative) which could adversely affect the safety of a flight.

- B. A flight duty period does not include the period of time traveling the crew member's residence (or lodging) to the point of reporting for duty.

It is the responsibility of the flight or cabin crew member to report for duty in an adequately rested condition.

8.2 PRE- AND POST-FLIGHT DUTIES

- A. Crew report times must realistically reflect the time required to complete pre-flight duties, both safety- and service-related (if appropriate), and post-flight duties to allow for the completion of checks and records.
- B. For record purposes, the pre-flight report time should count both as duty and as flight duty, and the post-flight allowance should count as duty.
- C. The maximum flight duty period for cabin crew may be longer than that applicable to the flight crew by the difference in reporting time between flight crew and cabin crew.

Unless otherwise validated by the operator the standard allowance for these times shall be—

- 45 minutes for pre-flight duties; and
- 30 minutes for post-flight duties.

8.3 EXCEEDING FDT LIMITATIONS

- A. The regulations provide for exceeding flight times due to unforeseen circumstances
- B. The authority to extend a flight duty period or reduce a rest period within the limitations established is vested in the pilot-in-command and requires coordination with the operator, where possible.
- C. To take account of unexpected delays once a flight duty period that has been planned within the allowable limitations has commenced, provision should be made for minimizing the extent to which exceeding the limits may be permitted.
- D. The extent to which a PIC is authorized in abnormal circumstances to exceed the operator's limitations on flight duty periods as described in his approved FDT scheme, must be clearly defined in the Operations Manual.
- E. Instructions on this point should be clear and concise, so that a pilot in command can readily determine the extent of his discretionary powers.

SECTION 9 OTHER DUTY PERIODS

All time spent on duty can induce fatigue in flight and cabin crew members and should therefore be taken into account when arranging rest periods for recovery.

9.1 TELEPHONE AVAILABILITY

- A. When flight and cabin crew members are required to be available for contact over a brief period of time to receive instructions concerning a possible change of roster, that requirement should not prevent that crew member from having a rest period before reporting for duty.
- B. The operator's policy regarding telephone availability must be included in the operations manual(s).

The time spent being available should not be counted as duty.

9.2 STANDBY PERIOD

- A.. Standby must be included as duty if it is likely to induce fatigue.

- B. The operator's policy for a "standby" period must be included in the operations manual(s) and should include the—
- 1) Definition of standby period.
 - 2) Policy for the start and end times of standby;
 - 3) Policy for notification of the crew member at least 8 hours in advance; and
 - 4) Policy that any standby period should not exceed a maximum length of 10 hours;
 - 5) The additional requirements related to an operator requirement for the crew member to standby at an airport.
- C. When flight and cabin crew members are required to be on standby at an accommodation arranged by the operator, then adequate rest facilities should be provided.



Airport standby should be considered as part of a duty period and should be taken into account to calculate the minimum rest preceding a subsequent flight duty period.

9.3 POSITIONING ["DEADHEADING"]

9.3.1 POSITIONING ASSIGNED BY OPERATOR

- A. Time spent positioning in accordance with the operator's scheduling is part of a flight duty period when this time immediately precedes (i.e., without an intervening rest period) a flight duty period in which that person participates as a crew member.
- B. All time spent positioning counts as duty, and positioning followed by operating without an intervening rest period also counts as flight duty.
- C. However, positioning should not count as an operating sector when planning or calculating a flight duty period.

- Any positioning required for the crew member to commute from their personal residence to the assigned home base is not duty.
- It is the responsibility of the flight or cabin crew member to report for duty in an adequately rested condition.

9.3.2 PERSONAL POSITIONING BY CREW MEMBERS

- A. All crew members located outside a 30 to 45 minute commuting range from their residence to the reporting location at their home base will be required to advise the operator of this status.
- B. Any positioning by the crew member to commute from their personal residence to the assigned home base is not duty.
- C. It is the responsibility of the crew member to receive adequate rest in the 8 hours prior to reporting for duty.



- Operators must periodically review the crew member's commuting range and arrangements for rest.
- Crew members must make adequate arrangements to report in a rested condition.

9.4 COMMUTING TIME PRIOR TO START OF DUTY

- A. Time spent in transit between the operator assigned place of rest and the place of reporting for duty is not normally counted as duty, even though it is a factor contributing to fatigue.
- B. Excessive travelling time undertaken immediately before commencing a flight duty period could therefore detract from a crew member's ability to counter fatigue arising while on duty.

- The GCAA considers that more than 45 minutes of time in transit is excessive
- All time above 45 minutes in transit must be considered as a part of the subsequent duty period.

9.5 AUGMENTED CREWS

- A. In formulating a special FDT scheme, the crew complement and the extent to which the various tasks to be performed can be divided among the flight or cabin crew members should be taken into account.
- B. In the case where additional flight or cabin crew members are carried and facilities in the aeroplane are such that a flight or cabin crew member can obtain recuperative rest in a comfortable reclining seat, or in a bunk planned flight duty periods could be extended.
- C. The composition and number of flight crew members carried to provide in-flight relief, and the quality of rest facilities provided, should determine the amount by which the basic flight duty period limitations may be extended. A sensible balance should be kept between the division of in-flight duty and rest.
- D. The number of the cabin crew should be determined taking into account the rest facilities provided and other parameters linked to the operation of the flight.
- E. The operator should ensure that flight and cabin crew members are notified prior to commencement of the rest period preceding the flight of the role they are required to undertake (i.e., main or relief crew), so that they can plan their pre-flight rest accordingly.

- Rest locations must be separated and screened from the flight deck and passengers
- These locations should also be reasonably free from disturbance,
- Refer to AC 15-002 for more specific guidance on acceptable crew sleeping arrangements.

SECTION 10 REST PERIODS

10.1 GENERAL REST PERIOD CONSIDERATIONS

- A. The definition of rest period requires that flight or cabin crew members be relieved of all duties for the purpose of recovering from fatigue.
- B. The way in which this recovery is achieved is the responsibility of the flight or cabin crew member. Extended rest periods should be given on a regular basis.
- C. Rest periods should not include standby if the conditions of the standby would not enable flight and cabin crew members to recover from fatigue.
- D. Suitable accommodation on the ground is required at places where rest periods are taken in order to allow effective recovery.

10.2 MINIMUM REST PERIOD CONSIDERATIONS

10.2.1 24 CONSECUTIVE HOUR PERIOD

- A. The need to ensure that crew are afforded the opportunity to obtain at least 8 consecutive hours of sleep in 24 hours in order to maintain alertness and performance and reduce the onset of fatigue and subsequent awake performance.
- B. It is emphasized that the minimum rest period scheduled prior to a period of duty must take account of—
- Travel time to and from the rest facility;
 - Hotel check in/out time; and
 - Time for personal hygiene and meals;
 - Allowing 8 consecutive hours of sleep opportunity in suitable accommodation.
- C. Typically, this translates into a minimum scheduled rest period of 10 hours.

- However, to allow recovery from the fatigue associated with an extended flight duty period, the minimum rest period following a period of extended flight duty should be at least as long as the preceding duty period;

10.2.2 SEVEN-DAY (WEEKLY) PERIODS

- A. Longer rest periods should be granted on a regular basis to preclude cumulative fatigue.
- B. In this respect, weekly recovery periods are more effective than monthly recovery periods.
- Studies have shown that 2 nights of an individual's usual sleep requirement would typically restore acceptable levels of alertness and performance;

Recovery is important to reduce cumulative effects and to return an individual to usual levels of performance and alertness.

10.3 COMMUTING TIME PRIOR TO START OF REST

- A. Time spent in transit to a place of rest following completion of the post-flight duties is normally counted as a part of the rest period.
- B. Excessive commuting time will delay the start of the rest period.

- The GCAA considers situations to excessive where the commuting time is more than 30 minutes of time in transit is excessive
- All time of more than 30 minutes in transit must be added to the prior duty period to compute the actual start time for the rest period.

10.4 REDUCING A REST PERIOD

- A. Each applicable volume of the operations manual should contain policy and procedure specifically addressing the extent to which any reduction of rest below that ordinarily required may be allowed in cases where flexibility to recover a delayed schedule is sought.
- B. Minimum rest periods may be reduced in unforeseen operational circumstances by no more than 1 hour only in accordance with the guidance in the operations manual.

An exception report must be filed by the PIC when a minimum rest period is reduced.

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