



RWANDA CIVIL AVIATION REGULATION

PART 15: FATIGUE MANAGEMENT

Consolidated to include Special Regulations issued since last amendment of Ministerial Order N°01/CAB.M/019 OF 06/02/2019 Establishing Civil Aviation Regulations.

Part 15

Fatigue Management

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SUBPART A: GENERAL**15.001 CITATION & APPLICABILITY**

- (a) These Regulations may be cited as Civil Aviation (Fatigue Management) Regulations,
- (b) This Part prescribes the requirements of Rwanda regarding the maximum duty periods, maximum flight time and minimum rest periods and acceptable variations to these prescriptive requirements based on risk management to ensure that key crew and operations personnel do not experience fatigue during their assigned aviation duties.
- (c) This Part is applicable to operators, flight and cabin crews in general aviation, aerial work and commercial air transport operations of Rwanda-registered aircraft or where Rwanda has authorised these operations.
- (d) Civil Aviation Technical Standards published by the Authority shall also be applicable to the management of fatigue for an operator's operations personnel.

15.003 SUMMARY OF AMENDMENTS AND REVISION HIGHLIGHTS

- (a) The summary of amendments and Revision Highlights to this part are contained in Appendix 1 to 15.003.

New: Internal: Special Regulation RSR/01/2020: Effective 15 November 2020

15.005 DEFINITIONS

- (a) All definitions applicable to this Part are contained in Part 1 (Appendix 1 to 1.015).

15.010 ACRONYMS & ABBREVIATIONS

- (a) The following acronyms and abbreviations are used in this Part—
 - AOC** = Air Operator Certificate
 - FDP** = Flight Duty Period
 - FE** = Flight Engineer
 - FRMS** = Fatigue Risk Management System

15.011 KNOWLEDGE OR SUSPICION OF CREW FATIGUE

- (a) No person may act as a crew member of an aircraft in commercial air transport if he knows or suspects that he is suffering from such fatigue as may endanger the safety of the flight.
- (b) No person may cause or permit a crew member to fly in commercial air transport if that person knows or suspects that the crew member is suffering from such fatigue as may endanger the safety of the flight.

15.012 FITNESS FOR DUTY

- (a) Each crew member must report for any flight duty period rested and prepared to perform his or her assigned duties.
- (b) No operator may assign and no flight crew member may accept assignment to a flight duty period if the flight crew member has reported for a flight duty period too fatigued to safely perform his or her assigned duties.
- (c) No operator may permit a crew member to continue a flight duty period if the crew member has reported him or herself too fatigued to continue the assigned flight duty period.
- (d) As part of the dispatch or flight release, as applicable, each flight crew member must affirmatively state he or she is fit for duty prior to commencing flight.

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15.015 PRESCRIPTIVE VS FATIGUE RISK MANAGEMENT

- (a) Where the operator adopts prescriptive fatigue management regulations for part of all of its operations, the Authority may approve, in exceptional circumstances, variations to these regulations on the basis of a risk assessment provided by the operator. To be eligible for that approval, the proposed variations shall provide a level of safety equivalent to, or better than that achieved through the prescriptive fatigue management regulations.
- (b) No operator may exceed any prescriptive requirement of this Part unless an operator-specific FRMS has been approved by the Authority under Section 12.365 of these regulations and meets the requirements of Subpart E of this Part.

15.017 MIRRORING OF FLIGHT & CABIN CREW SCHEDULES

- (a) An operator may elect to apply the flight crew member flight duty and rest requirements to the cabin crew members without seeking separate approval from the Authority.

15.019 RECORD KEEPING RESPONSIBILITIES

- (a) The operator shall ensure that the required records for tracking flight and duty times and rest periods are maintained in a manner so that an updated record is available before a person begins their duty day or their first flight of the day.
- (b) Every person for whom this Part establishes maximum flight and/or duty and minimum rest periods shall ensure that the required records have been updated to the day on which they begin duty.

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SUBPART B: PRESCRIPTIVE FLIGHT TIME LIMITATIONS

15.020 MAXIMUM NUMBER OF FLIGHT TIME HOURS

- (a) No person may schedule any flight crew member and no person may accept an assignment for flight time in commercial air transport, if that flight crew member's total flight time for any consecutive 24-hour period will exceed:
 - (1) 8 hours if the operation is conducted with a 2-pilot flight crew;
 - (2) 13 hours if the operation is conducted with a 3-pilot flight crew; or
 - (3) 17 hours if the operation is conducted with a 4-pilot flight crew.
- (b) No person may schedule any flight crew member and no flight crew member may accept an assignment in commercial air transport as a required crew member for more than:
 - (1) 10 flights during a 10-hour consecutive duty period; or
 - (2) 7 flights during an 18-hour consecutive duty period.
- (c) No person may schedule any flight crew member and no person may accept an assignment for flight time if that flight crew member's total flight time will exceed
 - (1) 34 hours in any consecutive 7-day period;
 - (2) 100 hours in any consecutive 28-day period; or
 - (3) 1000 hours in any consecutive 12 calendar months period.
- (d) No person may schedule any flight crew member and no flight crew member may accept an assignment for flight time in commercial air transport, if that crew member's total flight time, total flights or duty aloft in commercial flying will exceed the limitations prescribed by the Authority.

15.025 EXCEEDING FLIGHT TIME IN UNFORESEEN CIRCUMSTANCES

- (a) If unforeseen operational circumstances arise after takeoff that are beyond the operator's control, a flight crew member may exceed the maximum and cumulative flight time specified in Section 15.020 to the extent necessary to safely land the aircraft at the next destination airport or alternate, as appropriate.
- (b) Each operator must report to the Authority within 10 days any flight time that exceeded the maximum flight time limits permitted by this Subpart or Subpart C.
- (c) The report must contain a description of the extended flight time limitation and the circumstances surrounding the need for the extension.

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SUBPART C: PRESCRIPTIVE DUTY PERIODS

15.030 DUTY PERIODS

- (a) A person is considered to be on duty if they are performing any tasks on behalf of the operator, whether scheduled, requested or self-initiated.
- (b) The Authority will consider a person in compliance with prescribed duty limitations, if he or she exceeds those limitations during an emergency or adverse situations beyond the control of the operator.

15.033 CUMULATIVE DUTY HOURS

- (a) With respect to duty periods, no person may schedule any crew member and no person may accept an assignment for duty which will exceed:
 - (1) 1800 hours in any 12 consecutive months;
 - (2) 190 hours in any 28 consecutive days; and
 - (3) 55 hours in any 7 consecutive days.
- (b) With regard to the cumulative duty hours, a break during a split-duty assignment will be calculated in the following manner:
 - (1) If the break is less than 8 hours, the full period of the break is accountable.
 - (2) If the break is 8 hours or more, 50% of the period of the break is accountable.

15.035 FLIGHT DUTY PERIOD

- (a) No person may schedule any crew member and no person may accept an assignment for a FDP that will exceed the limitations approved by the Authority.

Note: See Appendix 1 to 15.035 for the allowable FDPs for multi-pilot operations.

Note: See Appendix 2 to 15.035 for the allowable FDPs for single-pilot operations.

- (b) A person is considered to be on duty if they are performing any tasks on behalf of the operator, whether scheduled, requested or self-initiated.
- (c) All time spent on an aircraft as an assigned or relief flight crew member, whether resting or performing tasks shall be included in the determination of the FDP.
- (d) If a person requires a flight crew member to engage in deadhead transportation for more than 4 hours, one half of that time shall be included in the calculation of the FDP, unless they are given 10 hours of rest on the ground before being assigned to flight duty.
 - (1) All time spent in deadhead transportation is duty and is not rest.
 - (2) For purposes of determining the maximum flight duty period, deadhead transportation is not considered a flight segment.
- (e) No person may schedule any crew member and no person may accept an assignment involving the extension of the FDP for cabin crew up to a maximum of 18 hours, unless:
 - (1) No more than 2 landings are carried out within a FDP;
 - (2) Rest facilities are available on board for resting cabin crew members; and
 - (3) Each cabin crew member is relieved of all tasks during a part of the flight.

15.037 SPLIT-DUTY ASSIGNMENTS

- (a) An operator may increase the allowable planned FDP through the application of the split-duty policies approved by the Authority subject to the following conditions—

Note: See Appendix 1 to 15.037 for the acceptable split-duty extensions.

- (1) The FDP shall not consist of more than 2 periods of duty;
 - (2) There shall be a single break of sufficient length;
 - (3) The crew member is notified in advance. and
 - (4) Adequate facilities shall be provided; or
 - (5) Suitable accommodations shall be provided, if the break—
 - (i) If the break is 6 hours or more; or
 - (ii) Covers 3 hours or more of the period 2200- 0600 local time at the place where it occurs.
- (b) Subject to the conditions of paragraph (a), no person may schedule any crew member and no person may accept an assignment involving a split-duty assignment, unless—
- (1) Parts of the FDP before. and after the break do not exceed 10 hours, and
 - (2) The total FDP does not exceed 18 hours.
- (c) If the total travelling time in both directions between the place of duty and the adequate facilities or suitable accommodation exceeds one hour, any travelling time in excess of 1-hour total is deducted from the break for the purpose of calculating the increased FDP.
- (d) Split-duty shall not be combined with the provisions for an augmented flight crew or, for cabin crew, extension of the allowable FDP.

15.040 AUGMENTED FLIGHT CREW ASSIGNMENTS

- (a) No person may schedule any crew member and no person may accept an assignment involving the use of an augmented flight crew to increase the length of a FDP for more than:
- (1) 18 hours, where every flight crew member can leave his post for at least 50% of the total flight time of all flights within the FDP, or
 - (2) 16 hours, where every flight crew member can leave his post for at least 25% of the total flight time of all flights within the FDP.
- (b) No person may schedule any crew member and no person may accept an assignment involving the use of an augmented flight crew to increase the length of a FDP unless that crew scheduled to carry out no more than:
- (1) 2 landings within an FDP; or
 - (2) 3 landings, if the following conditions are met:
 - (i) The flight time for one sector is 3 hours or less; and
 - (ii) The rest period immediately following the FDP is increased by 6 hours.
- (c) No person may schedule any crew member and no person may accept an assignment involving the use of an augmented flight crew to increase the length of a FDP unless there are adequate rest facilities approved by the Authority available on board the aircraft for all resting flight crew members.

15.041 MIXED FLYING TYPES OF OPERATION

- (a) No person may schedule any flight crew member and no person may accept an assignment for mixed flying types of operation, such as flight simulator and conversion/recurrent training flights prior to commercial air transport flights, except as prescribed by the Authority.
- (b) Where a flight crew member carries out either flight simulator or training flights prior to a commercial air transport flight, the duration of flight simulator or training flights shall be doubled for the purpose of calculating the limits of that FDP.

Note: The number of landings during flight simulator and training flights need not be taken into account.

15.045 ON-CALL DUTY

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- (a) When using the scheduled on-call duty crew members, operators must:
 - (1) Apply the on-call duty period limitation for flight crew members in Appendix 1 to 15.045;
 - (2) To ensure to provide suitable rest facilities if:
 - (i) Member of the flight crew requested for call duty at a distance base; and
 - (ii) On-call duty to be carried out at the aerodrome.
 - (3) Make sure the following items are included in the total duty time prescribed in this Part:
 - (i) 50% of the on-call duty time (excluding the first 4 hours of on-call duty done at home); and
 - (ii) If being notified for the duty, 50% of the notification time is calculated if the notice period is less than 10 hours.
 - (4) Ensure that a flight crew member has completed on-duty call time without doing the duty, this crew member will have rest period of at least 10 hours before commencing duty or the next on-call duty.

15.047 TIME ZONE DIFFERENCE

- (a) The operator must ensure that, when there is a time zone difference between the start and end of a duty time period of 4 hours or more, the following conditions are applied if:
 - (1) The time difference between the place at which the flight duty period begins and ends is 6 hours or less, the next rest period must be at least equal to the period of the previous duty or 14 hours, whichever is greater; or
- (b) The time difference between the place at which the flight duty period begins and ends is more than six hours, the next rest period must be at least equal to the previous duty period or 16 hours, whichever is greater.

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SUBPART D: REST PERIODS**15.050 REST PERIOD**

- (a) With respect to rest periods, no person may—
 - (1) Perform duties for an aviation operator unless that person has had at least the minimum rest period applicable to those duties as prescribed by the Authority; or
 - (2) Accept an assignment to any duty with the operator during any required rest period.
- (b) The operator may exercise the option to reduce a crew member's rest period within the limitations prescribed by the Authority.

See Appendix 1 to 15.050 for the acceptable methods for reducing rest periods

15.055 LOCAL & DEADHEAD TRANSPORTATION NOT REST

- (a) Time spent in local transportation in excess of 30 minutes will not be considered a part of a crew member's rest period.
- (b) Time spent in transportation, not local in character, that is required by the operator to position crew members to or from flights is not considered part of a rest period.
- (c) Time spent in transportation on aircraft (at the insistence of the operator) to or from a crew member's home station is not considered part of a rest period.

15.060 MINIMUM REST PERIOD

- (a) No rest period will be less than:
 - (1) 9 hours for flight crew members; or
 - (2) 8 hours for cabin crew members.
- (b) The operator shall ensure that, before the start of a FDP, a crew member has completed a rest period:
 - (1) At least as long as the preceding duty period, or
 - (2) 11 hours, whichever is the greater.
- (c) The minimum rest period following a FDP in which split-duty credit has been used:
 - (1) Shall be at least as long as the total FDP, including the break;
 - (2) Except that, if suitable accommodations were provided, the duration of the break need not be included in the rest period calculation.
- (d) The operator may reduce the rest period calculated in accordance with paragraph (a) by not more than 3 hours, but not less than 11 hours, subject to the following conditions:
 - (1) The previous rest period must have been completed in accordance with paragraph (a);
 - (2) The amount by which the rest period is reduced must be added to the next rest period, which cannot be reduced; and
 - (3) The amount of time by which the rest period is reduced must be deducted from the subsequent allowable FDP.

15.065 MINIMUM REST PERIOD EACH SEVEN OR TEN CONSECUTIVE DAY PERIOD

- (a) The operator shall relieve the flight crew member, flight dispatcher or cabin crew member from all duties for:
 - (1) 36 consecutive hours during any 7 consecutive day period, and
 - (2) 60 consecutive hours during any 10 consecutive day period.

SUBPART E: FATIGUE RISK MANAGEMENT SYSTEMS

15.070 APPLICABILITY

- (a) This Subpart is applicable to those operators that have approved FRMS systems in lieu of, or in concert with, the prescriptive requirements of this Part.

15.075 APPROVAL OF FATIGUE RISK MANAGEMENT SYSTEM

- (a) The Authority may approve an operator's FRMS to take the place of any or all of the prescriptive fatigue management regulations. To be eligible for that approval, the operator's proposed FRMS shall provide a level of safety equivalent to, or better than, the prescriptive fatigue management regulations.
- (b) The operator's FRMS shall establish a process to ensure that an FRMS provides a level of safety equivalent to, or better than, the prescriptive fatigue management regulations. As part of this process, the Authority shall:
 - (1) Require that the operator establish maximum values for flight times and/or flight duty period(s) and duty period(s), and minimum values for rest periods. These values shall be based upon scientific principles and knowledge, subject to safety assurance processes, and acceptable to the Authority;
 - (2) Mandate a decrease in maximum values and an increase in minimum values in the event that the operator's data indicates these values are too high or too low, respectively; and
 - (3) Approve any increase in maximum values or decrease in minimum values only after evaluating the operator's justification for such changes, based on accumulated FRMS experience and fatigue-related data.
- (c) To be eligible for approval by the Authority, the operator's FRMS to manage fatigue-related safety risks shall, as a minimum, meet the following general process requirements and the implementing requirements outlined in the Appendices 1 through 5 to 15.075:
 - (1) Incorporate scientific principles and knowledge within the FRMS;
 - (2) Identify fatigue-related safety hazards and the resulting risks on an ongoing basis;
 - (3) Ensure that remedial actions, necessary to effectively mitigate the risks associated with the hazards, are implemented promptly;
 - (4) Provide a system for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions; and
 - (5) Provide for performance evaluation and continuous improvement to the overall performance of the FRMS.

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APPENDICES**APPENDIX 1 TO 15.003: SUMMARY OF AMENDMENTS AND REVISION HIGHLIGHTS**

This Appendix contains a summary of all amendments and revision highlights to this Part since the issuance of the original regulation.

Amended Regulation	Source of Amendment	Revision	Description of Revision
15.003	Internal	Special Regulation RSR/01/2020 Effective 15 November 2020	Inserted a new summary of Amendments and Highlight of revisions.
Appendix 1 to 15.003	Internal	Special Regulation RSR/01/2020 Effective 15 November 2020	Added a new Appendix providing details to the summary of Amendments and Highlight of Revisions.

New: Internal: Special Regulation RSR/01/2020: Effective 15 November 2020

Each operator, scheduling official, and crew member shall use the following tables to consolidate all scheduling and actual event requirements with respect to flight crew member flight time, duty and rest periods for commercial air transport operations.

APPENDIX 1 TO 15.020: MAXIMUM UNINTERRUPTED FLIGHT TIME

(a) The maximum uninterrupted flight time for a crew of 1 or 2 shall be:

Local Time of	Maximum Uninterrupted Flight
0700- 1359	11 hours
1400- 1759	10 hours
1800-0459	9 hours
0500-0659	10 hours

APPENDIX 1 TO 15.035: ALLOWABLE FLIGHT DUTY PERIODS – MULTI-PILOT

(a) The maximum allowable FDP may be extended during multi-pilot operations as provided in the following table:

Reporting time	Number of landings as operating crew member				
	1-2	3	4	5	>= 6
0700-1759	1300	1230	1200	1100	1030
1800-2159	1230	1200	1130	1030	1000
2200-0459	1200	1130	1100	0930	0900
0500-0659	1230	1200	1130	1030	1000

APPENDIX 2 TO 15.035: ALLOWABLE FLIGHT DUTY PERIOD - SINGLE PILOT

(a) The maximum allowable FDP may be extended for single-pilot operations as provided in the following table:

Reporting time	Number of landings as operating flight crew member		
	1 - 4	5	>=6

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0700 - 1759	0930	0830	0800
1800- 2159	0830	0800	0800
2200 – 0459	0800	0800	0800
0500 – 0659	0830	0800	0800

- (b) For flights operated by a single pilot and conducted wholly under VFR, allowable FDPs must be derived from first column (column addressing 1-4 landings).
- (1) This, although, in this case, there is no limit to the number of landings.
 - (2) Where the number of landings exceeds an average of 4 per hour, a break of at least 30 minutes must be taken within any period of 3 consecutive hours.

APPENDIX 1 TO 15.037: ACCEPTABLE SPLIT-DUTY EXTENSION

- (a) The following table outlines the acceptable use of a split-duty assignment to increase an FDP, subject to the conditions of §15.037:

Consecutive hours break	Increase in Flight Duty Period
0- 2hours 59 minutes	NIL
3 - 6 hours 59 minutes	1/2 length of break
7 - 10 hours 59 minutes	2/3 length of break or 1 1/2 length of break if at least 8 hours of the break fall between 2000-0800 local time where the break occurs

APPENDIX 1 TO 15.045: ON-CALL DUTY LIMITATION

Notification Time	Maximum On-Call Duty Period
0 - 5 hours 59 minutes	12 Hours
From 6 hours and more	18 Hours

APPENDIX 1 TO 15.075: FRMS POLICY

- (a) A Fatigue Risk Management System (FRMS) established in accordance with this Part shall contain, at a minimum:
- (1) The operator shall define its FRMS policy, with all elements of the FRMS clearly identified.
 - (2) The policy shall require that the scope of FRMS operations be clearly defined in the operations manual.
- (b) The policy shall:
- (1) Reflect the shared responsibility of management, flight and cabin crews, and other involved personnel;
 - (2) Clearly state the safety objectives of the FRMS;
 - (3) Be signed by the accountable executive of the organization;
 - (4) Be communicated, with visible endorsement, to all the relevant areas and levels of the organization;
 - (5) Declare management commitment to effective safety reporting;
 - (6) Declare management commitment to the provision of adequate resources for the FRMS;
 - (7) Declare management commitment to continuous improvement of the FRMS;
 - (8) Require that clear lines of accountability for management, flight and cabin crews, and all other involved personnel are identified; and

- (9) Require periodic reviews to ensure it remains relevant and appropriate.

APPENDIX 2 TO 15.075: FRMS DOCUMENTATION

- (a) An operator shall develop and keep current FRMS documentation that describes and records:
- (1) FRMS policy and objectives;
 - (2) FRMS processes and procedures;
 - (3) Accountabilities, responsibilities and authorities for these processes and procedures;
 - (4) Mechanisms for ongoing involvement of management, flight and cabin crew members, and all other involved personnel;
 - (5) FRMS training programmes, training requirements and attendance records;
 - (6) Scheduled and actual flight times, duty periods and rest periods with significant deviations and reasons for deviations noted; and
 - (7) FRMS outputs including findings from collected data, recommendations, and actions taken.

APPENDIX 3 TO 15.075: FATIGUE RISK MANAGEMENT PROCESSES

Identification of Hazards

- (a) An operator shall develop and maintain three fundamental and documented processes for fatigue hazard identification:

Predictive

- (a) The predictive process shall identify fatigue hazards by examining crew scheduling and taking into account factors known to affect sleep and fatigue and their effects on performance. Methods of examination may include but are not limited to:
- (1) Operator or industry operational experience and data collected on similar types of operations;
 - (2) Evidence-based scheduling practices; and
 - (3) Bio-mathematical models.

Proactive

- (a) The proactive process shall identify fatigue hazards within current flight operations. Methods of examination may include but are not limited to:
- (1) Self-reporting of fatigue risks;
 - (2) Crew fatigue surveys;
 - (3) Relevant flight and cabin crew performance data;
 - (4) Available safety databases and scientific studies; and
 - (5) Analysis of planned versus actual time worked.

Reactive

- (a) The reactive process shall identify the contribution of fatigue hazards to reports and events associated with potential negative safety consequences in order to determine how the impact of fatigue could have been minimized. At a minimum, the process may be triggered by any of the following:
- (1) Fatigue reports;
 - (2) Confidential reports;
 - (3) Audit reports;
 - (4) Incidents; and
 - (5) Flight data analysis events.

Risk Assessment

- (a) An operator shall develop and implement risk assessment procedures that determine the probability and potential severity of fatigue-related events and identify when the associated risks require

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mitigation.

- (b) The risk assessment procedures shall review identified hazards and link them to:
- (1) Operational processes;
 - (2) Their probability;
 - (3) Possible consequences; and
 - (4) The effectiveness of existing safety barriers and controls.

Risk Mitigation

- (a) An operator shall develop and implement risk mitigation procedures that:
- (1) Select the appropriate mitigation strategies;
 - (2) Implement the mitigation strategies; and
 - (3) Monitor the strategies' implementation and effectiveness

APPENDIX 4 TO 15.075: FRMS SAFETY ASSURANCE PROCESSES

- (a) The operator shall develop and maintain FRMS safety assurance processes to:
- (1) Provide for continuous FRMS performance monitoring, analysis of trends, and measurement to validate the effectiveness of the fatigue safety risk controls. The sources of data may include, but are not limited to:
 - (i) Hazard reporting and investigations;
 - (ii) Audits and surveys; and
 - (iii) Reviews and fatigue studies;
 - (2) Provide a formal process for the management of change which shall include but is not limited to:
 - (i) Identification of changes in the operational environment that may affect FRMS;
 - (ii) Identification of changes within the organisation that may affect FRMS; and
 - (iii) Consideration of available tools which could be used to maintain or improve FRMS performance prior to implementing changes; and
 - (3) Provide for the continuous improvement of the FRMS. This shall include but is not limited to:
 - (i) The elimination and/or modification of risk controls that have had unintended consequences or that are no longer needed due to changes in the operational or organisational environment;
 - (ii) Routine evaluations of facilities, equipment, documentation and procedures; and
 - (iii) The determination of the need to introduce new processes and procedures to mitigate emerging fatigue-related risks.

APPENDIX 5 TO 15.075: FRMS PROMOTION PROCESSES

- (a) FRMS promotion processes support the ongoing development of the FRMS, the continuous improvement of its overall performance, and attainment of optimum safety levels.
- (b) The following shall be established and implemented by the operator as part of its FRMS:
- (1) Training programs to ensure competency commensurate with the roles and responsibilities of management, flight and cabin crew, and all other involved personnel under the planned FRMS; and
 - (2) An effective FRMS communication plan that:
 - (i) Explains FRMS policies, procedures and responsibilities to all relevant stakeholders; and
 - (ii) Describes communication channels used to gather and disseminate FRMS-related information.

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