LEGAL NOTICE NO ……..

CIVIL AVIATION ACT
(354)

DRAFT CIVIL AVIATION (FATIGUE RISK MANAGEMENT) REGULATIONS,2019

ARRANGEMENT OF REGULATIONS

Regulation

PART 1 – PRELIMINARY PROVISIONS

PART II: PRESCRIPTIVE FLIGHT TIME LIMITATIONS

PART III: PRESCRIPTIVE DUTY PERIODS

PART IV: REST PERIODS

PART V: FATIGUE RISK MANAGEMENT SYSTEMS

24- Approval Of Fatigue Risk Management System

SCHEDULES

FIRST SCHEDULE: TABLES

SECOND SCHEDULE: FATIGUE RISK MANAGEMENT SYSTEMS

THE CIVIL AVIATION ACT
(*NO. 354…… of 20…….*)

DRAFT CIVIL AVIATION (FATIGUE RISK MANAGEMENT) REGULATIONS, 2019

IN EXERCISE of powers conferred by section XX of the Civil Aviation Act,354 …., Minister responsible for civil aviation, there Regulations are made this.....day of.....20.....

PART I: PRELIMINARY

Title	**1.**	These Regulations may be cited as the Civil Aviation(Fatigue Risk Management System) Regulations 2019.
Application	**2.**	(a) These regulations prescribe the requirements of (State) 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. (b) These Regulations are applicable to Operators, flight and cabin crews in General aviation, aerial work and commercial air transport operations of (State)-registered aircraft
Interpretation.	**3.**	In these Regulations, unless the context otherwise requires-
		"Augmented flight crew" means 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;
		"Cabin crew member" means 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;
		"Commercial air transport" means an aircraft operation involving the transport of passengers, cargo, or mail for remuneration or hire;
		"Crew member" means a person assigned by an operator to duty on an aircraft during a flight duty period;
		"Cumulative fatigue" means fatigue that occurs after incomplete recovery from transient fatigue over a period of time;
		"Duty" means 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;
		"Duty period" means 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;
		"Fatigue" means a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness and/or physical activity that can impair a crew member's alertness and ability to safely operate an aircraft or perform safety related duties;
		"Flight crew member" means a licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period;
		"Flight duty period" means 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 or she is a crewmember;
		"**Flight time**" means- (a) **for aeroplanes** and gliders the total time from the moment an aeroplane or a glider moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight and it is synonymous with the term "block to block" or "chock to chock" time in general usage which is measured from the time an aeroplane first moves for the purpose of taking off until it finally stops at the end of the flight; (b) **for helicopter** the total time from the moment a helicopter rotor blades start turning until the moment a helicopter comes to rest at the end of the flight and the rotor blades are stopped; (c) **for airships** or free balloon the total time from the moment an airship or free balloon first becomes detached from the surface until the moment when it next becomes attached thereto or comes to rest thereon;

		"**General aviation operation**" means an aircraft operation other than a commercial air transport operation or an aerial work operation;
		"Home base" means 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;
		"Operator" means a person, organization or enterprise engaged in or offering to engage in an aircraft operation;
		"operations manual" means a manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties;
		"Positioning" means the transferring of a non operating crew member from place to place as a passenger at the behest of the operator; **"Positioning"** as here defined is synonymous with the term **"Deadheading".**
		"Reporting time" means the time at which flight and cabin crew members are required by an operator to report for duty;
		"Rest period" means 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**;**
		"Roster" means a list provided by an operator of the times when a crew member is required to undertake duties. **"Roster"** as here defined is synonymous with **"Schedule", "Line of Time", "Pattern", and "Rotation";**
		"Standby" means 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;
		"Suitable accommodation" means a furnished bedroom which provides for the opportunity of adequate rest;
		"Transient fatigue" means fatigue that is dispelled by a single sufficient period of rest or sleep;
		"Unforeseen operational circumstance" means an unplanned event, such as un forecast weather, equipment malfunction, or air traffic delay that is beyond the control of the operator;
Compliance with	**4.**	The Operator or pilot-in-command of a (state) registered

laws, regulations and procedures		aeroplane to which these Regulations apply shall; (a) comply with the laws, regulations and procedures of any other States in which operations are conducted; (b) be familiar with the laws, regulations and procedures, pertinent to the performance of his or her duties, prescribed for the areas to be traversed, the aerodromes to be used and the air navigation facilities relating thereto. (c) ensure that other members of the flight crew are familiar with such laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the aeroplane;
Knowledge or suspicion of crew fatigue	**5.**	(1) A person shall not act as a crew member of an aircraft in commercial air transport if he knows or suspects that he or she is suffering from such fatigue as may endanger the safety of the flight. (2) A person shall not 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.
Fitness for duty	**6.**	(1) Each crew member must report for flight duty period when rested and prepared to perform his or her assigned duties. (2) An operator shall not assign and a flight crew member shall not 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. (3) An operator shall not permit a crew member to continue a flight duty period if the crew member has reported himself or herself too fatigued to continue the assigned flight duty period. (4) As part of the dispatch or flight release, each flight crew member shall affirmatively state he or she is fit for duty prior to commencing flight.
Prescriptive or fatigue risk management approaches	**7.**	(1) An operator may adopt Prescriptive or Fatigue Risk Management approach as prescribed under these Regulations. (2) Where the operator adopts prescriptive or fatigue risk management approaches for part or 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. (3) 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 or fatigue management approach.
Mirroring of Flight and cabin crew schedules	**8.**	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.
Record keeping responsibilities	**9.**	(1) The operator shall maintain the required records for tracking flight times, duty times and rest periods (2) The records maintained under paragraph (a) shall be kept up to date and made available before a person begins their duty or their first flight of the day.
PART II: PRESCRIPTIVE FLIGHT TIME LIMITATIONS		
Maximum number of flight time hours and duty aloft	**10.**	(1) An operator shall not schedule any flight crew member and a flight crew member shall not 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: (a) 8 hours if the operation is conducted with a 2-pilot flight crew; (b) 13 hours if the operation is conducted with a 3-pilot flight crew; or (c) 17 hours if the operation is conducted with a 4-pilot flight crew. (2) An operator shall not schedule any flight crew member and a flight crew member shall not accept an assignment in commercial air transport as a required crew member for more than: (a) 10 flights during a 10-hour consecutive duty period; or (b) 7 flights during an 18-hour consecutive duty period. (3) An operator shall not schedule any flight crew member and a flight crew member shall not accept an assignment for flight time if that flight crew member's total flight time will exceed- (a) 34 hours in any consecutive 7-day period; (b) 100 hours in any consecutive 28-day period; or (c) 1000 hours in any consecutive 12 calendar months period.

		(4) An operator shall not schedule any flight crew member and a flight crew member shall not 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. (5) The Authority shall consider all time spent on an aircraft as an assigned flight crew member or relief flight crew member, whether resting or performing tasks, to be duty aloft. (6) The Authority shall consider a flight crew member to be on continuous duty aloft unless the flight crew member receives a rest period of 8 consecutive hours on the ground. (7) An operator shall provide adequate sleeping quarters, including a berth on the aircraft whenever a flight crew member is scheduled to be aloft for more than 12 hours during any 24 consecutive hours.
Exceeding flight time in unforeseen circumstances	**11.**	(1) 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 regulation 10 to the extent necessary to safely land the aircraft at the next destination airport or alternate airport. (2) An operator shall report to the Authority within 10 days, any flight time that exceeded the maximum flight time limits permitted by regulation 10 and Part III. (3) The report referred to in paragraph (b) shall contain a description of the extended flight time limitation and the circumstances surrounding the need for the extension.
PART III: PRESCRIPTIVE DUTY PERIODS		
Duty periods	**12.**	(1) A crew member is considered to be on duty if he or she is performing any tasks on behalf of the operator, whether scheduled, requested or self-initiated. (2) The Authority shall consider a crew member 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.
Cumulative duty hours	**13.**	(1) With respect to duty periods, an operator shall not schedule any crew member and crew member shall not accept an assignment for duty which will exceed - (a) 1800 hours in any 12 consecutive months; (b) 190 hours in any 28 consecutive days; and

		(c) 55 hours in any 7 consecutive days. (2) With regard to the cumulative duty hours, a break during a split-duty assignment will be calculated in the following manner - (a) where the break is less than 8 hours, the full period of the break is accountable; (b) where the break is 8 hours or more, 50% of the period of the break is accountable.
Flight duty period	**14.**	(1) An operator shall not schedule any crew member and a crew member shall not accept an assignment for flight duty periods that will exceed the limitations specified in Parts I and II of the Schedule. (2) A crew member is considered to be on duty when he or she is performing any tasks on behalf of the operator, whether scheduled, requested or self-initiated. (3) 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 flight duty period. (4) Where an operator 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 flight duty period, unless a flight crew member is given 10 hours of rest on the ground before being assigned to flight duty - (a) all time spent in deadhead transportation is duty time and is not rest period. (b) for purposes of determining the maximum flight duty period, deadhead transportation is not considered a flight segment. (5) an operator shall not schedule any crew member and a crew member shall not accept an assignment involving the extension of the flight duty period for cabin crew up to a maximum of 18 hours, unless - (a) not more than 2 landings are carried out within a flight duty period; (b) rest facilities are available on board for resting cabin crew members; and (c) each cabin crew member is relieved of all tasks during a part of the flight.
Split-duty assignments	**15.**	(1) An operator may increase the allowable planned flight duty period through the application of the split-duty policies specified in Part IV of the First Schedule and subject to the following conditions — (a) the flight duty period shall not consist of more than 2 periods of duty;

		(b) there shall be a single break of sufficient length; (c) the crew member is notified in advance. and (d) adequate facilities shall be provided; or (e) suitable accommodations shall be provided, where the break— (i) 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. (2) Subject to the conditions of paragraph (1), an operator shall not schedule any crew member and a crew member shall not accept an assignment involving a split-duty assignment, unless— (a) parts of the flight duty period before and after the break do not exceed 10 hours; and (b) the total flight duty period does not exceed 18 hours. (3) Where 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 one hour total is deducted from the break for the purpose of calculating the increased flight duty period. (4) Split-duty shall not be combined with the provisions for an augmented flight crew or, for cabin crew, extension of the allowable flight duty period.
Augmented flight crew assignments	**16.**	(1) An operator shall not schedule any crew member and a crew member shall not accept an assignment involving the use of an augmented flight crew to increase the length of a flight duty period for more than - (a) 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 flight duty period, or (b) 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 flight duty period (2) An operator shall not schedule any crew member and a crew member shall not accept an assignment involving the use of an augmented flight crew to increase the length of a flight duty period unless that crew scheduled to carry out no more than - (a) 2 landings within a flight duty period; or (b) 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 flight duty period is increased by 6 hours. (3) An operator shall not schedule any crew member

		and a crew member shall not accept an assignment involving the use of an augmented flight crew to increase the length of a flight duty period unless there are adequate rest facilities approved by the Authority available on board the aircraft for all resting flight crew members.
Mixed flying types of operation	**17**	(1) An operator shall not schedule any flight crew member and a crew member shall not accept an assignment for mixed flying types of operation, such as flight simulator and conversion or recurrent training flights prior to commercial air transport flights, except as prescribed by this regulation. (2) 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 flight duty period. (3) The number of landings during flight simulator and training flights need not be taken into account.
On-call duty	**18**	When using the scheduled on-call duty crew members, operators shall - (a) apply the on-call duty period limitation for flight crew members in Part V of the First Schedule; (b) provide suitable rest facilities where - (i) a member of the flight crew request for call duty at a distance base; (ii) on-call duty is to be carried out at the aerodrome. (c) 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; (ii) if being notified for the duty, 50% of the notification time is calculated if the notice period is less than 10 hours. (d) 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.
Time zone difference	**19**	The operator shall ensure that, where 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 - (a) the time difference between the place at which the flight duty period begins and ends is 6 hours or less, the next rest period shall 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 shall be at least equal to the previous duty period or 16 hours, whichever is greater.
PART IV: REST PERIODS			
Rest period	**20**		(1) With respect to rest periods, a crew member shall not — (a) perform duties unless that crew member has had at least the minimum rest period applicable to those duties as prescribed by these Regulations; or (b) accept an assignment during any required rest period. (2) The operator may exercise the option to reduce a crew member's rest period within the limitations prescribed in Part VI and VII of the First Schedule.
Local and deadhead transportation	**21**		(1) Time spent in local transportation in excess of 30 minutes shall not be considered a part of a crew member's rest period. (2) 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. (3) 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.
Minimum rest period	**22**		(1) Rest period shall not be less than - (a) 9 hours for flight crew members; or (b) 8 hours for cabin crew members. (2) Notwithstanding sub regulation (1), the operator shall ensure that, before the start of a flight duty period, a crew member has completed a rest period - (a) at least as long as the preceding duty period, or (b) 11 hours, whichever is greater. (c) the minimum rest period following a flight duty period in which split-duty credit has been used - (i) shall be at least as long as the total flight duty period, including the break; (ii) except that, if suitable accommodations were provided, the duration of the break shall not be included in the rest period calculation. (d) the operator may reduce the rest period calculated in accordance with paragraph (1) by not more than 3 hours, but not less than 11 hours, subject to the following conditions -

		(i) the previous rest period must have been completed in accordance with paragraph (1); (ii) 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 shall be deducted from the subsequent allowable flight duty period.
Minimum rest period each seven or ten Consecutive day period	**23**	The operator shall relieve the flight crew member, flight dispatcher or cabin crew member from all duties for - (a) 36 consecutive hours during any 7 consecutive day period, and (b) 60 consecutive hours during any 10 consecutive day period.
PART VI: FATIGUE RISK MANAGEMENT SYSTEMS		
Approval of fatigue risk management system	**24**	(1) The Authority may approve an operator's FRMS to take the place of any or all of the prescriptive fatigue management requirements prescribed under these Regulations. (2) The Authority shall before granting the approval in sub regulation (1) satisfy itself that, the operator's proposed FRMS provides a level of safety equivalent to, or better than, the prescriptive fatigue management requirements prescribed under these Regulations. (3) The operator's FRMS shall establish a process to ensure a level of safety equivalent to, or better than, the prescriptive fatigue management requirements. (4) As part of this process, the Authority shall - (a) require that the operator establish maximum values for flight times or flight duty periods, duty periods and minimum values for rest periods based upon scientific principles and knowledge, subject to safety assurance processes; (b) 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 (c) 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. (5) 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 Second Schedule - (a) incorporate scientific principles and knowledge within the FRMS; (b) identify fatigue-related safety hazards and the resulting risks on an ongoing basis; (c) ensure that remedial actions, necessary to effectively mitigate the risks associated with the hazards, are implemented promptly; (d) provide a system for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions; and (e) provide for performance evaluation and continuous improvement to the overall performance of the FRMS.

SCHEDULES

FIRST SCHEDULE

PART I: MAXIMUM UNINTERRUPTED FLIGHT TIME

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

Local Time of Start Maximum Uninterrupted Flight Time

0700- 1359	11 hours
1400- 1759	10 hours
1800-0459	9 hours
0500-0659	10 hours

PART II: ALLOWABLE FLIGHT DUTY PERIODS – MULTI-PILOT

The maximum allowable flight duty period 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

PART III: ALLOWABLE FLIGHT DUTY PERIOD - SINGLE PILOT

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

Reporting time	Number of landings as operating crew member		
	1-4	5	>= 6
0700-1759	0930	0830	0800
1800-2159	0830	0800	0800
2200-0459	0800	0830	0800
0500-0659	0830	0800	0800

(b) For flights operated by a single pilot and conducted wholly under VFR, allowable flight duty periods must be derived from first column (column addressing 1-4 landings) in this case however there is no limit to the number of landings.

(c) 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.

PART IV: ACCEPTABLE SPLIT-DUTY EXTENSION

Consecutive hours break	Increase in Flight duty period
0- 2hours 59minutes	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

PART V: 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

PART VI: THE ACCEPTABLE METHODS FOR REDUCING FLIGHT CREW REST PERIODS

Conditions required for flight crew member rest reduction.			
Flight Deck Duty Period (Hours)	Normal Rest Period (Hours)	Authorised Reduced Rest Period (Hours)	Next Rest Period if Reduction Taken
Less than 8	9	8	10
8 - 9	10	8	11
9 or more	11	9	12

PART VII: THE ACCEPTABLE METHODS FOR REDUCING CABIN CREW REST PERIODS

Conditions required for cabin crew member rest reduction				
Scheduled Duty Period (Hours)	Extra Cabin Crew Members Required	Normal Rest Period (Hours)	Authorised Reduced Rest Period (Hours)	Next Rest Period if Reduction Taken
14 or Less	0	9	8	10
14-16	1	12	10	14
16-18	2	12	10	14
18-20	3	12	10	14

SECOND SCHEDULE

PART I: FRMS POLICY

(1) A Fatigue Risk Management System (FRMS) established in accordance with this Part shall contain, at a minimum -

(a) FRMS policy, with all elements of the FRMS clearly identified.

(b) The policy shall require that the scope of FRMS operations be clearly defined in the operations manual.

(2) The policy shall:

(a) reflect the shared responsibility of management, flight and cabin crews, and other involved personnel;

(b) clearly state the safety objectives of the FRMS;

(c) be signed by the accountable executive of the organization;

(d) be communicated, with visible endorsement, to all the relevant areas and levels of the organization;

(e) declare management commitment to effective safety reporting;

(f) declare management commitment to the provision of adequate resources for the FRMS;

(g) declare management commitment to continuous improvement of the FRMS;

(h) require that clear lines of accountability for management, flight and cabin crews and all other involved personnel are identified; and

(i) require periodic reviews to ensure it remains relevant and appropriate.

PART II: FRMS DOCUMENTATION

An operator shall develop and keep current FRMS documentation that describes and records -

(a) FRMS policy and objectives;

(b) FRMS processes and procedures;

(c) accountabilities, responsibilities and authorities for the processes and procedures;

(d) mechanisms for ongoing involvement of management, flight and cabin crew members and all other involved personnel;

(e) FRMS training programmes, training requirements and attendance records;

(f) scheduled and actual flight times, duty periods and rest periods with significant deviations and reasons for deviations noted; and

(g) FRMS outputs including findings from collected data, recommendations, and actions taken.

PART III: FATIGUE RISK MANAGEMENT PROCESSES

Identification of Hazards

An operator shall develop and maintain three fundamental and documented processes for fatigue hazard identification.

(1) Predictive

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 and the methods of examination may include -

(a) operator or industry operational experience and data collected on similar types of operations;

(b) evidence-based scheduling practices; and

(c) bio-mathematical models.

(2) Proactive

The proactive process shall identify fatigue hazards within current flight operations and the methods of examination may include -

(a) self-reporting of fatigue risks;

(b) crew fatigue surveys;

(c) relevant flight and cabin crew performance data;

(d) available safety databases and scientific studies; and

(e) analysis of planned versus actual time worked.

(3) Reactive

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 and at a minimum, the process may be triggered by any of the following -

(a) fatigue reports;

(b) confidential reports;

(c) audit reports;

(d) incidents; and

(e) flight data analysis events.

Risk Assessment

(1) 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 mitigation.

(2) The risk assessment procedures shall review identified hazards and link them to -

(a) operational processes;

(b) their probability;

(c) possible consequences; and

(d) the effectiveness of existing safety barriers and controls.

Risk Mitigation

An operator shall develop and implement risk mitigation procedures that -

(a) select the appropriate mitigation strategies;

(b) implement the mitigation strategies; and

(c) monitor the strategies' implementation and effectiveness

PART IV: FRMS SAFETY ASSURANCE PROCESSES

The operator shall develop and maintain FRMS safety assurance processes to

(a) Provide for continuous FRMS performance monitoring, analysis of trends and measurement to validate the effectiveness of the fatigue safety risk controls.
(b) The sources of data may include -

(i) hazard reporting and investigations;

(ii) audits and surveys; and

(iii) reviews and fatigue studies;

(c) provide a formal process for the management of change which shall include -

(i) identification of changes in the operational environment that may affect FRMS;

(ii) identification of changes within the organization 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

(d) Provide for the continuous improvement of the FRMS including -

(i) the elimination or modification of risk controls that have had unintended consequences or that are no longer needed due to changes in the operational or organizational 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.

PART V: FRMS PROMOTION PROCESSES

FRMS promotion processes support the ongoing development of the FRMS, the continuous improvement of its overall performance, and attainment of optimum safety levels.

The following shall be established and implemented by the operator as part of its FRMS -

(a) 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

(b) 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.