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## GACAR PART 5 – SAFETY MANAGEMENT SYSTEMS

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### SUBPART A – GENERAL

#### § 5.1 Applicability.

This part applies to each certificate holder under-

- (a) General Authority of Civil Aviation (GACAR) Part 119 and authorized to conduct air operations in accordance with the requirements of GACAR Parts 121, 125 or 135;
- (b) GACAR Part 139 (except Heliports) and authorized to conduct aerodrome operations;
- (c) GACAR Part 141 and authorized to conduct flight training operations;
- (d) GACAR Parts 142 and 143 and authorized to conduct flight training operations with actual aircraft;
- (e) GACAR Part 145 and authorized to conduct repair station operations;
- (f) GACAR Part 151 and authorized to provide ground services; or
- (g) GACAR Part 170 and authorized to provide air navigation services in accordance with the requirements of GACAR Parts 171, 172, 173, or 175.

#### § 5.3 General Requirements.

- (a) Each certificate holder required to have a Safety Management System (SMS) under this part must establish and maintain an SMS that is appropriate to the size, nature and complexity of its organization and its operations. The SMS must include at least the following components:
- (1) Safety policy in accordance with the requirements of Subpart B of this part;
  - (2) Safety risk management in accordance with the requirements of Subpart C of this part;
  - (3) Safety assurance in accordance with the requirements of Subpart D of this part;
  - (4) Safety promotion in accordance with the requirements of Subpart E of this part; and
  - (5) Sector specific requirements prescribed in the applicable appendices of this part.

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- (b) The SMS must be maintained in accordance with the recordkeeping requirements in Subpart F of this part.
- (c) The SMS must ensure compliance with all the relevant regulatory requirements in the GACAR.
- (d) Each aviation organization required to have an SMS under this part must submit the Safety Management System documentation, as defined under GACAR § 5.101 to the President for acceptance.

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### **SUBPART B – SAFETY POLICY**

#### **§ 5.21 Safety Policy.**

- (a) The certificate holder must have a safety policy that includes at least the following:
- (1) The safety objectives of the certificate holder.
  - (2) A commitment of the certificate holder to fulfill the organization's safety objectives.
  - (3) A clear statement about the provision of the necessary resources for the implementation of the SMS.
  - (4) A safety reporting policy that defines requirements for –
    - (i) Employee reporting of safety hazards or issues; and
    - (ii) Reporting of safety data and safety issues to the President.
  - (5) A policy that defines unacceptable behavior and conditions for disciplinary action.
  - (6) An emergency response plan that provides for the orderly and efficient transition from normal to emergency operations and the return to normal operations in accordance with the requirements of GACAR § 5.27.
- (b) The safety policy must be in accordance with all applicable regulatory requirements in the GACAR and must reflect the certificate holder's commitment to safety.
- (c) The safety policy must be signed by the accountable executive described in GACAR § 5.25.
- (d) The safety policy must be documented and communicated throughout the certificate holder's organization.
- (e) The safety policy must be regularly reviewed by the accountable executive to ensure it remains relevant and appropriate to the certificate holder's organization.
- (f) For the purpose of this part, hazard identification must be focused on those conditions that could cause or contribute to unsafe operation of aircraft or aviation safety related equipment,

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product and services.

### § 5.23 Safety Accountability and Authority.

(a) The certificate holder must define accountability for safety within the organization's safety policy for the following individuals:

- (1) Accountable executive, as described in GACAR § 5.25.
- (2) All members of management in regard to developing, implementing, and maintaining SMS processes within their area of responsibility, including, but not limited to:
  - (i) Hazard identification and safety risk assessment.
  - (ii) Assuring the effectiveness of safety risk controls.
  - (iii) Promoting safety as required in subpart E of this part.
  - (iv) Advising the accountable executive on the performance of the SMS and on any need for improvement.
  - (v) Safety reporting.
- (3) Employees relative to the certificate holder's safety performance.

(b) The certificate holder must identify the levels of management with the authority to make decisions regarding safety risk tolerability.

### § 5.25 Designation and Responsibilities of Required Safety Management Personnel.

(a) *Designation of the accountable executive.* The certificate holder must identify an accountable executive who, irrespective of other functions, satisfies the following:

- (1) Is the final authority over operations authorized to be conducted under the certificate(s) or authorizations issued by the President.
- (2) Controls the financial resources required for the operations to be conducted under the certificate(s) or authorizations issued by the President.

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(3) Controls the human resources required for the operations authorized to be conducted under the certificate(s) or authorizations issued by the President.

(4) Retains ultimate responsibility for the safety performance of the operations conducted under the certificate or authorizations issued by the President.

(b) *Responsibilities of the accountable executive.* The accountable executive must accomplish the following:

(1) Ensure that the SMS is properly implemented and performing in all areas of the certificate holder's organization.

(2) Develop and sign the safety policy of the certificate holder.

(3) Communicate the safety policy throughout the certificate holder's organization.

(4) Regularly review the certificate holder's safety policy to ensure it remains relevant and appropriate to the certificate holder.

(5) Regularly review the safety performance of the certificate holder and direct actions necessary to address substandard safety performance in accordance with GACAR § 5.75.

(6) Ensure that the notification and reporting of aviation accidents, serious incidents and other aviation incidents are made as prescribed under GACAR Part 4 and other GACAR parts.

(7) Promote a reporting culture within the certificate holder's organization including the provision of voluntary reports to the President.

(c) *Designation of a management representative.* The accountable executive must designate a management representative who must be acceptable to the president and must be responsible for the following:

(1) Facilitating hazard identification and safety risk analysis.

(2) Monitoring the effectiveness of safety risk controls.

(3) Ensuring safety promotion throughout the certificate holder's organization as required in.

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(4) Regularly reporting to the accountable executive on the performance of the SMS and on any need for improvement.

### **§ 5.27 Emergency Response Planning.**

(a) Where emergency response procedures are necessary, the accountable executive and management representative must ensure the development, as part of the safety policy of the certificate holder, an emergency response plan that addresses at least the following:

- (1) Delegation of emergency authority throughout the certificate holder's organization;
- (2) Assignment of employee responsibilities during the emergency;
- (3) Coordination of the certificate holder's emergency response plans with the emergency response plans of other organizations it must interface with during the provision of its services;
- (4) Safe continuation of essential operations, while the crisis is being managed; and
- (5) Proactive identification of all possible emergency events/ scenarios and their corresponding mitigation actions.

(b) The emergency response plan must:

- (1) Be appropriate to the size, nature and complexity of the certificate holder's organization;
- (2) Be readily accessible to all relevant personnel and other organizations where applicable;
- (3) Include checklists and procedures relevant to different or specific emergency situations;
- (4) Have quick reference contact details of relevant personnel;
- (5) Be regularly tested through exercises; and
- (6) Be periodically reviewed and updated when details change.

(c) In addition to the requirements prescribed in paragraph (a) and (b) of this section, each commercial air operator certificated under GACAR Part 119 and operating under GACAR Part 121



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or Part 135 and aerodrome operators under GACAR Part 139 must:

- (1) Develop and maintain a family assistance plan as part of their emergency response plan that described how the certificate holder will, in case of an aircraft accident, provide the victims, survivors, missing persons and their families with material and spiritual help by complying with the basic principle of timeliness, sensitivity, dignity and respect. The family assistance plan must comply with the requirements of Section IV of Appendix A and Section II of Appendix C to this part and be acceptable to the President.
- (2) Execute their family assistance plan and begin to provide assistance as soon as the certificate holder learns of an aircraft accident involving one or more of its aircraft. The notification and provision of assistance must comply with the requirements of requirements of Section IV of Appendix A and Section II of Appendix C to this part.
- (3) Each Perform periodic exercising of their family assistance plans to ensure the effective implementation of the plan.

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### **SUBPART C – SAFETY RISK MANAGEMENT**

#### **§ 5.51 Applicability.**

The certificate holder must apply safety risk management to a system under any of the following conditions:

- (a) Implementation of new systems.
- (b) Revision of existing systems.
- (c) Development of operational procedures.
- (d) Identification of hazards or ineffective risk controls through the safety assurance processes in Subpart D of this part.

#### **§ 5.53 System Analysis and Hazard Identification.**

(a) When applying safety risk management, the certificate holder must have a process to describe and analyze the system for use in identifying hazards under paragraph (c) of this section, and developing and implementing risk controls related to the system under GACAR § 5.55(c).

(b) In conducting the system analysis, the following information must be considered:

- (1) Function and purpose of the system.
- (2) The system's operating environment.
- (3) An outline of the system's processes and procedures.
- (4) The personnel, equipment, and facilities necessary for operation of the system.

(c) The certificate holder must develop and maintain processes to identify hazards within the context of the system analysis.

#### **§ 5.55 Safety Risk Assessment and Control.**

(a) The certificate holder must develop and maintain processes to analyze safety risk associated with the hazards identified in GACAR § 5.53(c).

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(b) The certificate holder must define a process for conducting risk assessment that allows for the determination of acceptable safety risk. Acceptable safety risk must, at a minimum, comply with the applicable regulatory requirements set forth in the GACAR.

(c) The certificate holder must develop and maintain processes to develop safety risk controls that are necessary as a result of the safety risk assessment process under paragraph (b) of this section.

(1) The certificate holder must evaluate whether the risk will be acceptable with the proposed safety risk control applied, before the safety risk control is implemented.

(2) The safety risk controls must, at a minimum, comply with the applicable regulatory requirements set forth in the GACAR.

### **§ 5.57 Regulatory Coordination.**

Where an certificate holder undertakes a major change, or a change which will have an effect on other organizations in the aviation system, the safety assessment associated with that change must be acceptable to the President.

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### **SUBPART D – SAFETY ASSURANCE**

#### **§ 5.71 Safety Performance Monitoring and Measurement.**

(a) The certificate holder must develop and maintain processes and systems to acquire data with respect to its operations, products, and services to monitor the safety performance of the organization. These processes and systems must include, at a minimum, processes, and systems for the following:

- (1) Continuous monitoring of operational processes.
- (2) Periodic monitoring of the operational environment to detect changes.
- (3) Auditing of operational processes and systems.
- (4) Evaluations of the SMS and operational processes and systems.
- (5) Investigations of incidents and accidents.
- (6) Investigations of reports regarding potential noncompliance with regulatory standards or other safety risk controls established by the certificate holder through the safety risk management process established in Subpart B of this part.
- (7) A confidential employee reporting system in which employees can report to the certificate holder items, including, but not limited to; hazards, errors, safety concerns, actual or potential safety deficiencies, and incidents, as well as propose solutions and safety improvements.

(b) The certificate holder must develop and maintain processes that analyze the data acquired through the processes and systems identified under paragraph (a) of this section and any other relevant data with respect to its operations, products, and services.

#### **§ 5.73 Safety Performance Assessment.**

(a) The certificate holder must conduct assessments of its safety performance against its safety objectives, which include reviews by the accountable executive, in order to:

- (1) Ensure the certificate holder's compliance with the applicable regulatory requirements in the GACAR and additional safety risk controls established by the certificate holder.

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(2) Evaluate the performance of the SMS.

(3) Evaluate the effectiveness of the safety risk controls established under GACAR § 5.55(c) and identify any ineffective controls.

(4) Identify changes in the operational environment that may introduce new hazards.

(5) Identify potential new hazards or safety issues and concerns.

(b) Upon completion of the assessment, if ineffective controls, new hazards, or potential hazards are identified under paragraph (a)(2) through (a)(4) of this section, the certificate holder must use the safety risk management process described in Subpart C of this part.

(c) Safety objectives must be established with the use of high and low consequence safety performance indicators, targets and alert levels that reflect an acceptable level of safety performance for the certificate holder's operations and provide for advance warning of adverse trends. The certificate holder's safety performance indicators, targets and alert levels must be acceptable to the President.

### **§ 5.75 Continuous Improvement.**

The certificate holder must establish and implement processes to correct substandard safety performance identified in the assessments conducted under GACAR § 5.73.

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### **SUBPART E – SAFETY PROMOTION**

#### **§ 5.91 Competencies and Training.**

The certificate holder must provide training to each individual identified in GACAR § 5.23 to ensure the individuals attain and maintain the qualifications necessary to perform their duties relevant to the operation and performance of the SMS.

#### **§ 5.93 Safety Communication.**

The certificate holder must develop and maintain means for communicating safety information that, at a minimum:

- (a) Ensures that all personnel are aware of the SMS;
- (b) Conveys safety critical information;
- (c) Explains why particular safety actions are taken; and
- (d) Explains why safety procedures are introduced or changed.

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**SUBPART F – SMS DOCUMENTATION AND RECORDKEEPING**

**§ 5.101 SMS Documentation.**

The certificate holder must develop and maintain SMS documentation that describes the certificate holder's:

- (a) Safety policy.
- (b) SMS processes and procedures.

**§ 5.103 SMS Records.**

- (a) The certificate holder must maintain records of outputs of safety risk management processes as described in Subpart C of this part. Such records must be retained for as long as the control remains relevant to the operation.
- (b) The certificate holder must maintain records of outputs of safety assurance processes as described in Subpart D of this part. Such records must be retained for a minimum of 5 years.
- (c) The certificate holder must maintain a record of all training provided under GACAR § 5.91 for each individual. Such records must be retained for a minimum of 5 years after completion of the training.
- (d) The certificate holder must retain records of all communications provided under GACAR § 5.93 for a minimum of 5 years.

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### **APPENDIX A TO GACAR PART 5 – COMMERCIAL OPERATIONS UNDER GACAR PART 121 OR 135**

#### **I. Flight Data Analysis Program (FDAP).**

- (a) Each operator of an airplane of a maximum certificated takeoff mass in excess of 27000 kg must establish and maintain a flight data analysis program (FDAP) as part of its SMS. The FDAP must include a method of capturing and analyzing the data generated by each applicable aircraft when moving through the air from one point to another. The goal of the FDAP must be to improve aviation safety.
- (b) An operator may contract the operation of an FDAP to another party while retaining overall responsibility for the maintenance of such a program.
- (c) Each FDAP must be non-punitive and contain adequate safeguards to protect the source(s) of the data.

#### **II. Fatigue Risk Management Systems (FRMS).**

- (a) Each certificate holder that elects to use fatigue risk management systems to manage fatigue within their operation as permitted under GACAR § 121.1001(a)(2) or GACAR § 135.449(b) must establish and maintain an FRMS as part of its SMS.
- (b) Each FRMS must comply with the requirements prescribed for FRMS in Appendix G to this part.
- (c) Each FRMS must be approved by the President prior to implementation and the certificate holder must make any changes to the program that are required by the President.

#### **III. Flight Safety Documents System (FSDS).**

- (a) Each operator must establish and maintain a flight safety document system (FSDS) as part of its SMS.
- (b) The FSDS must include the set of interrelated documentation established by the operator, compiling and organizing information necessary for flight and ground operations, and comprising, as a minimum, the operations manual and the operator's maintenance control manual.



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(c) *Organization*. Each FSDS must be organized according to criteria which ensure easy access to information required for flight and ground operations contained in the various operational documents comprising the system and which facilitate management of the distribution and revision of operational documents. The information contained in the FSDS must be grouped according to the importance and use of the information, as follows:

- (1) Time-critical information, e.g., information that can jeopardize the safety of the operation if not immediately available;
- (2) Time-sensitive information, e.g., information that can affect the level of safety or delay the operation if not available in a short time period;
- (3) Frequently used information;
- (4) Reference information, e.g., information that is required for the operation but does not fall under (2) or (3) above; and
- (5) Information that can be grouped based on the phase of operation in which it is used.

(d) *Design*. Each certificate holder must ensure their FSDS:

- (1) Is validated before deployment, under realistic conditions;
- (2) Maintains consistency in terminology and in the use of standard terms for common items and actions;
- (3) Includes a glossary of terms, acronyms and their standard definition, updated on a regular basis to ensure access to the most recent terminology. All significant terms, acronyms and abbreviations included in the flight documents system must be defined;
- (4) Ensures standardization across document types, including writing style, terminology, use of graphics and symbols, and formatting across documents. This includes a consistent location of specific types of information, consistent use of units of measurement and consistent use of codes; and
- (5) Includes a master index to locate, in a timely manner, information included in more than one operational document.

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(e) *Deployment.* Each certificate holder must:

(1) Monitor deployment of the flight safety documents system, to ensure appropriate and realistic use of the documents, based on the characteristics of the operational environment and in a way which is both operationally relevant and beneficial to operational personnel. This monitoring must include a formal feedback system for obtaining input from operational personnel.

(f) *Amendment.* Each certificate holder must:

(1) Develop an information gathering, review, distribution and revision control system to process information and data obtained from all sources relevant to the type of operation conducted, including, but not limited to, the State of the operator, State of design, State of registry, manufacturers and equipment vendors.

(2) Develop an information gathering, review and distribution system to process information resulting from changes that originate within the operator, including:

- (i) Changes resulting from the installation of new equipment;
- (ii) Changes in response to operating experience;
- (iii) Changes in an operator's policies and procedures;
- (iv) Changes in an operator certificate; and
- (v) Changes for purposes of maintaining cross fleet standardization.

(3) Ensure the FSDS is reviewed:

- (i) On a regular basis (at least once a year);
- (ii) After major events (mergers, acquisitions, rapid growth, downsizing, etc.);
- (iii) After technology changes (introduction of new equipment); and
- (iv) After changes in safety regulations.

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(4) Develop methods of communicating new information. The specific methods must be responsive to the degree of communication urgency. The method of communicating new information must be complemented by a tracking system to ensure currency by operational personnel. The tracking system must include a procedure to verify that operational personnel have the most recent updates.

(g) The FSDS must be acceptable to the President.

### **IV. Assistance to Families of Passengers and Crew Members Involved in Aircraft Accidents.**

#### ***(a) Required Planning Documents.***

Each certificate holder must establish and maintain a family assistance plan, as part of their emergency response plan, which must include:

- (1) A telephone number which is rapidly available after an aircraft accident occurs, and a name list of the well trained persons who are capable of handling the phone calls of the families of the passengers and crew members.
- (2) The procedure for giving a timely notice to the families of the passengers and crew members.
- (3) The channel for offering to the GACA the information about the persons aboard the aircraft as well as for updating such information.
- (4) The promise to negotiate with the family of each passenger and crew member about the disposition of the remains and personal effects of the victims.
- (5) The promise to train, where necessary, its personnel and agents to as to address the needs of the families of victims, survivors and missing persons involved in the accident.
- (6) A compensation plan and procedures, and the procedures and organization for handling the funeral affairs of the victims.
- (7) The promise to commit sufficient resources to carry out this plan.

For any change to the family assistance plan, the certificate holder must report it to the President within 10 days after the change.

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### **(b) *Activation and Notification.***

(1) As soon as the certificate holder learns of an aircraft accident involving their operation, it must activate its emergency response plan immediately and must report it to the GACA as soon as possible. The accident reporting information of a certificate holder must not only comply with the requirements of GACAR Part 4 and the regulations of the Aviation Investigation Bureau (AIB), but also provide the following information:

- (i) The emergency response measures taken after the occurrence of the accident.
- (ii) The main contact information, including the name and contact information of the certificate holder's senior official for the onsite handling of the accident; the name, telephone number and location of the designated hotels for providing assistance to the families; the name and contact information of the persons who are responsible for notifying the families.
- (iii) Other information relating to the accident.

(2) The certificate holder must immediately announce the telephone number available for the inquiries of the families of the victims, survivors and missing persons.

(3) The certificate holder must, as soon as possible, make initial notification to the family members of the victims, survivors and missing persons, and must correct the information about the persons aboard the aircraft after verifying it against the boarding documents.

(4) The certificate holder must provide the accident coordinating team with a copy of the verified information about the persons aboard the aircraft, and must make reports of further verified information.

### **(c) *The Provision of Assistance.***

(1) The certificate holder must provide assistance to the families of the victims, survivors and missing persons, which include:

- (i) Providing transport support to family members to travel to and from site of the accident.
- (ii) Providing necessary logistical support to other family members such as lodging,

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place of activities, etc.

- (iii) Assigning trained personnel to provide family members with mental conciliating.
- (iv) Providing the victims, survivors and missing persons and their families with necessary medical health support.
- (v) Providing necessary funds to carry out the family assistance tasks.
- (vi) Providing other assistance relating to the aircraft accident.

The certificate holder must be responsible for the above mentioned assistance expenses.

- (2) The certificate holder must publicize the progress of contacting the families so as to further contact the families of the victims, survivors and missing persons in a timely manner.
- (3) Where any foreign passenger and crew member is involved in the aircraft accident, the certificate holder must timely report the necessary information about him to the accident coordinating team so as to enable the foreign affairs department to contact the relevant foreign embassy in a timely manner.

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### **APPENDIX B TO GACAR PART 5 - NON-COMMERCIAL OPERATIONS UNDER GACAR PART 125**

#### **I. Relief Provisions.**

(a) GACAR § 5.3(a) requires each certificate holder to establish and maintain a Safety Management System that is appropriate to the size, nature and complexity of the organization and its operations. The President recognizes that some non-commercial operators operating under GACAR Part 125 may have operations that are relatively small in terms of numbers of aircraft and staff and relatively non-complex in terms of kinds and areas of operation. In order to balance the potential safety benefits that can be achieved by an effective SMS with the resources required to implement all aspects of an SMS as prescribed in GACAR Part 5, the President is prepared to grant relief from certain aspects of subparts D, E and F provided the certificate holder can show that full compliance is not warranted given the size and complexity of their organization and operation.

(b) Each certificate holder wishing to avail themselves of these relief provisions must make application to the President in a form and manner acceptable to the President.

#### **II. Fatigue Risk Management Systems (FRMS).**

(a) Each certificate holder that elects to use fatigue risk management systems to manage fatigue within their operation as permitted under GACAR § 125.423(b) must establish and maintain an FRMS as part of its SMS.

(b) Each FRMS must comply with the requirements prescribed for FRMS in Appendix G to this part.

(c) Each FRMS must be approved by the President prior to implementation and the certificate holder must make any changes to the program that are required by the President.

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### **APPENDIX C TO GACAR PART 5 – AERODROME OPERATIONS UNDER GACAR PART 139**

#### **I. Local Runway Safety Program.**

- (a) Each certificate holder must establishment and maintain a local runway safety program as part of its SMS.
- (b) Each certificate holder must establish a local runway safety committee at each of their aerodromes as part of their local runway safety program.
- (c) The local runway safety committee must comprise of representatives from aerodrome operator, air traffic service provider, airlines or aircraft operators and any other groups with a direct involvement in runway operations. The committee must be headed by the accountable executive.
- (d) The local runway safety committee must have a terms of reference that, as a minimum, includes the following items:
- (1) Determining the number, type and, if available, the severity of runway incursions;
  - (2) Considering the outcome of investigation reports in order to establish local hot spots or problem areas at the aerodromes;
  - (3) Working as a cohesive team to better understand the operating difficulties of personnel working in other areas and recommending areas for improvement;
  - (4) Ensuring that the recommendations contained in the Manual on the Prevention of Runway Incursions (ICAO Doc 9870), and applicable on the various aspects of aerodrome operation are implemented;
  - (5) Identifying any local problem areas and suggesting improvements;
  - (6) Conducting a runway safety awareness campaign that focuses on local issues, for example, producing and distributing local hot spot maps or other guidance material as considered necessary; and
  - (7) Regularly reviewing the airfield to ensure its adequacy and compliance with regulatory requirements.

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(e) The primary role of a local runway safety committee must be:

- (1) To develop action plans for runway safety;
- (2) To identify potential runway incursion issues; and
- (3) To recommend strategies for hazard removal and mitigation of the individual risks identified.

Note: These strategies may be developed based on local occurrences or combined with information collected from other sources associated with aviation activities.

(f) The objectives of the local runway safety committee must be to improve the safety of runway operations. The local runway safety committee must establish goals to achieve the objective including:

- (1) To improve runway safety data collection, analysis and dissemination as required in the SMS;
- (2) To check that signage and markings are compliant with GACAR Part 139 and visible to pilots and drivers;
- (3) To develop initiatives for improving the standard of communications;
- (4) To identify potential new technologies that may reduce the possibility of runway incursion;
- (5) To ensure that procedures are compliant with the GACAR and other guidelines issued by the President from time to time; and
- (6) To initiate local awareness by developing and distributing runway safety education and training material to air traffic controllers, pilots, personnel driving vehicles on the air side and personnel working at aerodromes.

(g) The local runway safety committee must meet at least once in three month at aerodromes used for international air transportation and once in six month at other aerodromes. Frequency of meetings may be increased keeping in view of traffic growth due to capacity enhancement. The outcome of the meetings of the runway safety committee must be the development of a plan containing action



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items for mitigating runway safety deficiencies. The action plan must be aerodrome specific and linked to a runway safety concern, issue or problem at that aerodrome. Action items may include suggested changes to the physical features of, or facilities at the aerodrome; air traffic control procedures; air field access requirements; pilot and vehicle operator awareness; and production of hot spot maps. Each action item must have a designated person or organization which is responsible for completing the relevant tasks. There may be more than one person or organization affected by an action item; in such cases head of the safety committee, must co-ordinate with such persons or organizations for the completion of all tasks associated with the action item. A realistic time frame to accomplish the work should also be associated with each action item.

(h) The effectiveness of the implemented and/or completed action items must be assessed periodically. This can be accomplished by comparing the results of the initial analysis and the current runway incursion status.

(i) Identification of Hot Spots. Suitable strategies must be implemented to remove the hazard associated with hot spots. When this is not immediately possible, action must be initiated by adopting strategies to manage and mitigate the risk. These strategies may include:

- (1) Awareness campaigns;
- (2) Additional visual aids (signs, markings and lighting);
- (3) Use of alternative routings;
- (4) Construction of new taxiways; and
- (5) The mitigation of blind spots in the aerodrome control tower.

Aerodromes charts showing hot spots must be produced by the aerodrome operator, checked regularly for accuracy, revised as needed, distributed locally and published in the KSA Aeronautical Information Publication (AIP).

(j) Information on establishment of runway safety committee and reports of the meetings, mitigating action by the runway safety committee including runway incursion, casual factor identification reports etc. must be submitted by the certificate holder to the President with a frequency acceptable to the President.

## **II. Assistance to Families of Passengers and Crew Members Involved in Aircraft Accidents.**

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### **(a) Required Planning Documents.**

(1) Each certificate holder must establish and maintain a family assistance plan, as part of their emergency response plan, which must include:

- (i) Availability of the Family Reception Center at the aerodrome;
- (ii) Availability of the Survivor Reception Center at the aerodrome of the aeronautical accident or serious incident;
- (iii) Availability of the Media Center at the aerodrome;
- (iv) Sending and reception of survivors and families to the respective centers, if requested by the air operator, until it has conditions of assuming their operation; and
- (v) Provision of security and access control in the activated centers.

(2) The certificate holder may delegate his responsibilities in this matter to a commercial entity acceptable to the President.

### **(b) Activation and Notification.**

(1) As soon as the certificate holder learns of an aircraft accident involving their aerodrome, it must activate its emergency response plan immediately and must report it to the GACA as soon as possible. The accident reporting information of a certificate holder must not only comply with the requirements of GACAR Part 4 and the regulations of the Aviation Investigation Bureau (AIB), but also provide the following information:

- (i) The emergency response measures taken after the occurrence of the accident.
- (ii) The main contact information, including the name and contact information of the certificate holder's senior official for the onsite handling of the accident.
- (iii) Other information relating to the accident.

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**APPENDIX D TO GACAR PART 5 – FLIGHT CREW TRAINING OPERATIONS  
UNDER GACAR PARTS 141, 142 OR 143**

**I. Reserved.**

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**APPENDIX E TO GACAR PART 5 – REPAIR STATION OPERATIONS UNDER  
GACAR PART 145**

**I. Reserved.**

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### **APPENDIX F TO GACAR PART 5 – AIR TRAFFIC SERVICES OPERATIONS UNDER GACAR PART 171**

#### **I. Additional Requirements.**

(a) Each air traffic service (ATS) provider must ensure their SMS includes, inter alia, the following with respect to the provision of air traffic services:

- (1) The monitoring of overall safety levels and detection of any adverse trend;
- (2) Safety reviews of ATS units;
- (3) Safety assessments in respect of the planned implementation of airspace reorganizations, the introduction of new equipment systems or facilities, and new or changed ATS procedures; and
- (4) A mechanism for identifying the need for safety enhancing measures.

(b) Each ATS provider must ensure that any significant safety-related change to the ATS system, including the implementation of a reduced separation minimum or a new procedure, must only be effected after a safety assessment has demonstrated that an acceptable level of safety will be met and users have been consulted.

(c) If a change will have an effect on other certificate holders, the safety assessment associated with that change must be submitted to the president for acceptance.

(d) When appropriate, the ATS provider must ensure that adequate provision is made for post-implementation monitoring to verify that the defined level of safety continues to be met.

#### **II. Fatigue Risk Management Systems (FRMS).**

(a) Each certificate holder that elects to use fatigue risk management systems to manage fatigue within their operation as permitted under GACAR § 171.91(b)(2) must establish and maintain an FRMS as part of its SMS.

(b) Each FRMS must comply with the requirements prescribed for FRMS in Appendix G to this part.

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## GACAR PART 5 – SAFETY MANAGEMENT SYSTEMS

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(c) Each FRMS must be approved by the President prior to implementation and the certificate holder must make any changes to the program that are required by the President.

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### **APPENDIX G TO GACAR PART 5 – FATIGUE RISK MANAGEMENT SYSTEM (FRMS)**

Each Fatigue Risk Management System (FRMS) established to meet prescribed fatigue management requirements must contain, at a minimum, all of the items prescribed in this Appendix G.

#### **I. FRMS Policy and Documentation.**

(a) *FRMS policy.*

- (1) The certificate holder must define its FRMS policy, with all elements of the FRMS clearly identified.
- (2) The FRMS policy must require that the scope of FRMS operations be clearly defined in the operations manual.
- (3) The FRMS policy must:
  - (i) Reflect the shared responsibility of management, airmen, and other involved personnel;
  - (ii) Clearly state the safety objectives of the FRMS;
  - (iii) Be signed by the accountable executive of the organization;
  - (iv) Be communicated, with visible endorsement, to all the relevant areas and levels of the organization;
  - (v) Declare management commitment to effective safety reporting;
  - (vi) Declare management commitment to the provision of adequate resources for the FRMS;
  - (vii) Declare management commitment to continuous improvement of the FRMS;
  - (viii) Require that clear lines of accountability for management, airmen, and all other involved personnel are identified; and

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## GACAR PART 5 – SAFETY MANAGEMENT SYSTEMS

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

(b) *FRMS documentation*. The certificate holder must 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, airmen, and all other involved personnel;
- (5) FRMS training programs, 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.

### **II. Fatigue Risk Management Processes.**

(a) *Identification of hazards*.

The certificate holder must develop and maintain three fundamental and documented processes for fatigue hazard identification:

- (1) *Predictive*. The predictive process must identify fatigue hazards by examining airman 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:
  - (i) Operator or industry operational experience and data collected on similar types of operations;
  - (ii) Evidence-based scheduling practices; and



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(iii) Bio-mathematical models.

(2) *Proactive*. The proactive process must identify fatigue hazards within current operations. Methods of examination may include but are not limited to:

- (i) Self-reporting of fatigue risks;
- (ii) Airman fatigue surveys;
- (iii) Relevant airman performance data;
- (iv) Available safety databases and scientific studies; and
- (v) Analysis of planned versus actual time worked.

(3) *Reactive*. The reactive process must 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:

- (i) Fatigue reports;
- (ii) Confidential reports;
- (iii) Audit reports;
- (iv) Incidents; and
- (v) Flight data analysis events.

(b) *Risk assessment*.

(1) The certificate holder must 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 must review identified hazards and link them to:

- (i) Operational processes;

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- (ii) Their probability;
- (iii) Possible consequences; and
- (iv) The effectiveness of existing safety barriers and controls.

(c) *Risk mitigation*. The certificate holder must 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.

### **III. FRMS Safety Assurance Processes.**

The certificate holder must 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. The sources of data may include, but are not limited to:

- (1) Hazard reporting and investigations;
- (2) Audits and surveys; and
- (3) Reviews and fatigue studies;

(b) Provide a formal process for the management of change which must include but is not limited to:

- (1) Identification of changes in the operational environment that may affect FRMS;
- (2) Identification of changes within the organization that may affect FRMS; and
- (3) Consideration of available tools which could be used to maintain or improve FRMS performance prior to implementing changes; and

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(c) Provide for the continuous improvement of the FRMS. This must include but is not limited to:

- (1) 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 organizational environment;
- (2) Routine evaluations of facilities, equipment, documentation and procedures; and
- (3) The determination of the need to introduce new processes and procedures to mitigate emerging fatigue-related risks.

### **IV. FRMS Promotion Processes.**

The following promotional processes must be established and implemented by the certificate holder as part of its FRMS:

- (a) Training programs to ensure competency commensurate with the roles and responsibilities of management, airmen, and all other involved personnel under the planned FRMS; and
- (b) An effective FRMS communication plan that:
  - (1) Explains FRMS policies, procedures and responsibilities to all relevant stakeholders; and
  - (2) Describes communication channels used to gather and disseminate FRMS-related information.

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**APPENDIX H TO GACAR PART 5 – GROUND SERVICE OPERATIONS UNDER  
GACAR PARTS 151**

**I. Reserved.**