



GOVERNMENT OF INDIA
OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
TECHNICAL CENTRE, OPP. SAFDARJUNG AIRPORT, NEW DELHI-03

CIVIL AVIATION REQUIREMENT
SECTION 5 – AIR SAFETY
SERIES ‘F’ PART I
28th JUNE 1996

EFFECTIVE: FORTHWITH

**SUB: FLIGHT SAFETY AWARENESS AND ACCIDENT/INCIDENT
PREVENTION PROGRAMME.**

1. OBJECTIVE

Investigations of accidents in the past have identified most of the common causes of accidents and the obvious corrective measures to rectify the deficiencies, which led to the accidents. Investigations will continue to yield information leading to safety improvements but major gains from this activity are unlikely. It is, therefore, now time for the aviation industry to shift its focus from reactive to pro-active system, anticipating safety issues rather than making corrections after an event has occurred. To enhance the safety of aircraft operations, it is essential for every operator to have a Flight Safety Awareness and Accident/ Incident Prevention Programme. The programme should enable review of the entire system and identify the hazards and system deficiencies before these may result in an accident. The programme should also educate all concerned personnel engaged in air transport industry about the measures, which help in promoting safety in aviation. With a view to achieving these objectives, the requirements contained in this CAR are issued under the provisions of Rule 133A of the Aircraft Rules, 1937 and Section 5A of the Aircraft Act, 1934.

2. APPLICABILITY

All operators engaged in scheduled air transport services / Cargo Services shall prepare a Flight Safety Manual, laying down their safety policies, flight safety awareness and accident/incident prevention programme. The operator shall get this manual approved from the Director, Air Safety, DGCA Headquarters. Operators engaged in non-scheduled air transport services **shall also** develop **similar** programmes to promote safety in aviation.

3. SAFETY AWARENESS

Imparting safety awareness amongst the personnel of an organisation is an important step for enhancing safety in aviation. Sustained education of these personnel will go a long way in achieving this objective. Without prejudice to the generality of this measure, the Safety Awareness Programme of an operator should have the following minimum features:

- a) The operator should lay down clearly the Company's safety policies and awareness programme in their Flight Safety Manual. **The guidance material for preparation of flight safety manual is given at ANNEXURE 'A' to this CAR.**
- b) All air operators should establish effective flight safety document system for use and guidance of operational personnel. **–The guidance for preparing flight flight safety document system is given in Annexure 'B'. The procedure for preparing flight safety documentation system and monitoring its adherence is to be incorporated in the Flight Safety Manual.**
- c) All flight crew, maintenance engineers, cabin crew and other key personnel should be given periodical refresher courses to update their knowledge.
- d) The operator should organise periodic safety seminars for the benefit of their personnel. Specialists in the field of safety may be invited to give presentations so that lessons could be learnt from the experience of others. Pilots, engineers and safety managers of the operators should participate in the safety seminars organised by the DGCA and other agencies in the country and abroad.
- e) Appropriate safety posters should be developed and displayed at different work places.

- f) Safety bulletins highlighting case studies and safety lessons from serious occurrences in aviation industry in India and abroad should be prepared and circulated to the concerned personnel.
- g) The operators should bring out their own periodical safety journal.

4. ACCIDENT/INCIDENT PREVENTION PROGRAMME

4.1 Reactive Programme

Investigation of accidents/incidents bring out the deficiencies which have contributed to the occurrences. Appropriate safety measures could prevent similar occurrences. Thorough investigation of the accidents/incidents is very essential not only to determine what happened but also to find out why it happened. Organisational deficiencies and weakness in the systems and policies should also be investigated. The operator should have a Permanent Investigation Board to promptly investigate the occurrences to determine the cause of the occurrence and weaknesses, if any, in the above areas which are contributory factors to the occurrences. The operator should ensure quick implementation of the safety recommendations made by the Courts of Inquiry, Committees of Inquiry, Inspector of Accident, Safety Audit, Spot Checks, Permanent Investigation Boards etc. The Flight Safety Department of the operator should periodically review the implementation of the recommendations. The operator should issue Safety Bulletins on important safety aspects highlighted in an accident/incident involving an Indian or foreign aircraft.

4.2 Proactive Programme

The proactive programme is aimed to detect the weak areas in the system through various measures as mentioned below which should be taken on regular basis. To recognise weaknesses in a system and organisation and implement corrective measures are the key factors to ensure safety in aviation. This way the potential hazards and problem areas shall be detected and nipped in the earlier stages itself. Necessary records shall be maintained by the operators of all the checks. While the operators shall evolve their own detailed accident/incident prevention programme keeping in view the nature and scope of their operations, the following salient measures shall form part of their programme :

- a) The operators should take steps for building safety culture in the organisation and declare their firm commitment to safety.

- b) The operators shall carry out periodically their internal safety audit of different divisions like operations, maintenance, commercial, security, ground support, etc. This shall be carried out by a dedicated group comprising of at least a senior pilot and an engineer.
- c) The value of data retrieved from the Cockpit Voice Recorders (CVR) and Digital Flight Data Recorders (DFDR) has been proven. Periodic monitoring of CVR and DFDR must be carried out by all operators. As the DFDR systems are enhanced with greater recorder capacity, they will become even more valuable tools not only for accident investigation but also accident prevention. The recorded data can be analysed for the purpose of checking deviations in flight parameters beyond acceptable limits which are critical to flight safety. The operator should develop suitable computer software to determine the deviations of different flight parameters beyond acceptable limits.
- d) The cockpit procedures must be standardised and the Examiners/ Instructors/ Check Pilots of the airlines, while flying with other pilots, should ensure strict adherence to the laid down procedures and cockpit discipline. The Flight Inspectors of DGCA should also monitor this aspect.
- e) Frequency of flight checks shall be increased during bad weather conditions like monsoon, fog, etc. Under such conditions crew should not hesitate to initiate a missed approach whenever the visual reference to the runway is lost. They should abandon the approach in weather conditions below the applicable minima and divert, if necessary.
- f) A system should be introduced for detection and prevention of weather minima violations. A regular check is required to be carried out for the flights especially during bad weather i.e. during monsoon and foggy season.
- g) The crew shall be given assurance that their safety related decisions (e.g. go around, diversion, etc.) shall be supported by the management. If the crew fears action against him for diversion, then the operator is inviting a big safety problem.
- h) Pilot recruitment is an important aspect from safety point of view. Operators should assess pilots not only for their flying skills but also for their attitude and compatibility. Careful recruitment is the best investment of an airline for safety.
- i) The critical operational areas shall be monitored closely so that these do not result in any serious safety hazard. Such areas are initial

induction of new airline pilots, transition to a totally new type of aircraft like glass cockpit aircraft, operations to and from marginal runways, operations during monsoon, loading of aircraft under high ambient temperature and elevation conditions, operations to airfields located in mountainous terrain, airworthiness and operational control of leased aircraft, etc.

- j) Flight and Duty Time Limitations must be laid down for the operating crew to ensure that the crew are not fatigued which may affect safety of operations. Check that rostering of the crew is being done keeping in view the flight and duty time limitation requirements. Also check that crew pairing is being done carefully for better crew coordination.
- k) In order to ensure that maintenance of aircraft is upto the mark, only the firms approved by DGCA shall carry out maintenance of aircraft. The firms shall have approved quality control set up, trained engineers and requisite shop facilities. Periodic spot checks/inspections shall be carried out to ensure that the firms maintain the desired level of infrastructure and competence and follow the laid down procedures.
- l) Check that the Quality Control Cell is adequately manned and functioning properly. The Cell shall monitor the various schedules, procedure sheets, defects reported and take necessary corrective actions. It shall also ensure compliance of the mandatory modifications and Service Bulletins, proper maintenance of the component history cards and computerisation of the system.
- m) Monitor compliance of MEL requirements and ensure that proper documentation is maintained.
- n) Regular checks shall be carried out by the operator to ensure that standard weights of crew and passengers are being used and loading of aircraft is within the limits as per RTOLW charts with proper centre of gravity. Load and trim sheets shall also be checked periodically to ensure their accuracy and their proper filling up for any irregularity. Check whether loading of the aircraft is being supervised.
- o) Periodic inspection shall be carried out to ensure adherence to apron discipline and procedures by ground support personnel, serviceability of ground support equipments and other facilities at various airports which could effect the safety of operations and handling of aircraft.

- p) Regular statistical analysis of the accident and incident data shall be carried out to determine whether there has been an improvement or decline in level of safety. This analysis shall provide a useful hazard alerting technique.

5. SAFETY AUDIT

A detailed checklist shall be prepared for conducting internal safety audit. These audits shall review and analyse all matters having bearing on safety of operations. The salient ones are given below:

(a) Management Practices Relating to Safety Aspects

Check whether management policy has been clearly defined for the commitment and priority to safety of aircraft operations. Confirm whether management has issued guidelines to this effect and also whether management has taken action for violations of safety requirements by their employees.

(b) Operational Policies and Procedures

Check whether Operations Manual and other circulars issued from time to time clearly define the operational policies and procedures for all types of aircraft in operation. For example, check whether:

- i. The pilots are filling the flight reports properly giving complete details of the snags.
- ii. Operational control is being exercised and the concerned officials are posted at the airports for discharging the duties.
- iii. Detailed study/trial has been carried out before starting operation to a new airport.
- iv. Procedures and precautions have been laid down for operations at critical/marginal airfields and for operations during the monsoon period.
- v. Proper alternate aerodromes have been selected for a given flight keeping in view the ATC watch hours and aircraft handling facilities etc.

(c) Flight Operations

Flight operations offices at the main base and sub-bases shall be adequately manned and equipped with communication and other assisting equipments. The operator should have sub-bases at stations where there are night halts. The flight despatchers shall be approved by DGCA. Company doctors and proper medical equipments shall be available at the main base and at sub-bases for carrying out pre-flight medical check. The flight operations offices shall maintain the records of FDTL, validity of licence/IR, medical check, proficiency check, refresher and flight safety courses which shall be updated regularly.

(d) Safety Promotion Meetings

As a part of accident/incident prevention programme, the operator shall organise frequent meetings of the pilots and engineers to discuss important safety issues.

(e) Training

Check whether regular refresher courses are being conducted for the flight crew, AMEs, cabin crew and other key personnel and whether the commercial staff engaged in loading of aircraft is being given regular training/ refresher regarding proper filling up of load and trim sheets.

(f) Maintenance Standards and Procedures

Check whether the DGCA approval for maintenance firm is current and the operator has adequate number of AMEs and the infrastructure to cope up with maintenance of aircraft fleet. It must be ensured that only type rated AMEs carry out rectification of snags. Check availability of trained technicians for engine start, marshallers, etc. Check whether the operator has necessary tools and equipment required for maintenance of aircraft and whether their shops have required maintenance facilities.

(g) Quality Control

Check that the Quality Control Manager or Dy. Quality Control Manager are having licence on the type of aircraft being operated. The quality control manual shall cover all types of maintenance/shop activities

carried by them and these be updated regularly. Defect/ snag, delay and incident investigation records shall be maintained and updated.

(h) Manuals, Documentation and Other Records

Check whether the operator is in possession of various manuals and is on the mailing list of the manufacturer for relevant literature, and whether all the documents related to aircraft operations and maintenance, log books, etc. are maintained properly and regularly updated.

(i) Buildings and Other Facilities

Whether the operator has sufficient and proper space for maintenance/shops and is being maintained properly. Whether sufficient space is available for office work, for proper keeping of records, stores etc. Check for proper environment control.

(j) Support Equipment

Check whether the operator has proper ground support equipment like baggage trolleys, step ladders, motorised vehicles, etc. and whether they are maintained in serviceable condition. Check that the personnel engaged in handling ground support equipment are trained and regular refresher is given to them.

(k) Security

Check whether the operator has a Security Programme approved by BCAS, maintains a set of necessary instructions/ circulars on civil aviation security, has trained personnel to oversee security and whether these personnel are aware of their role in case of bomb threat, hijacking, accident etc.

6. IMPLEMENTATION OF THE PROGRAMME

6.1 The operator shall have dedicated flight safety cell having adequate number of competent personnel for implementation of the flight safety awareness and accident/incident prevention programme appropriate to the size and scope of operations, that addresses the broad range of risk

involved in commercial aviation to include, but not limited to, flight, maintenance and ground safety . The guidance material for flight safety organization set up is given in Annexure 'C'. The flight safety organization shall obtain approval of DGCA. *A person, either flight crew member holding civil licence with endorsement preferably of type of aircraft operated by the company or Aeronautical Engineer having experience in aircraft accident investigation, Safety audits, accident prevention work etc and approved by acceptable to the DGCA shall be appointed as the 'Chief of flight safety'. For existing post holder, the organisation shall put up for their approval within three months of the date of revision of the CAR. The personnel other than Chief of Flight Safety shall be competent and appropriately qualified in civil aviation activities such as operations, maintenance etc. to handle the assigned duties. The Flight Safety division **shall** report directly to the top management to ensure its effectiveness and to accord high priority to safety. The flight safety cell shall prepare monitoring checklist to enable the safety officers to carry out the checks thoroughly. Flight Safety Cell shall maintain a record of the checks carried out by them and of any deficiencies observed. They shall take prompt action to have the deficiencies attended to. Periodic returns for compliance of this CAR shall be sent by the operator to the concerned Regional Air Safety Office with a copy to the Director of Air Safety, DGCA Headquarters.

- 6.2 While the Director of Air Safety, DGCA Headquarters shall monitor the overall implementation of the programme, the Regional Air Safety and Airworthiness Offices, Flight Inspection Directorate, Audit Teams, accident/incident investigators and other officers authorised by DGCA, shall also check implementation of the provisions of this CAR during the course of their day-to-day work. The programme may be reviewed to assess its effectiveness and amended, if necessary, in the light of the experience gained and the developments in the civil aviation sector.

(A.K. Chopra)
Jt. Director General of Civil Aviation

* These requirements shall take precedence over any other similar requirement prescribed in any other CAR.

ANNEXURE 'A'

**GUIDANCE MATERIAL FOR PREPARATION OF FLIGHT
SAFETY MANUAL:**

The Flight Safety Manual shall contain at least following chapters:

1. Table of contents
2. Record of revision
3. List of effective pages
4. Distribution list of the manual

CHAPTER 1: INTRODUCTION

1. Statement of the Accountable Manger/Chief Executive regarding Safety Policy.
2. The Rules/Regulations in compliance of which the Manual has to be prepared.
3. Brief description of the company in terms of scope and extent of operation, fleet size, type of Aircrafts to be operated by the company, main bases, layover stations etc.
4. Procedure for issuing amendments and person competent to issue amendment

**CHAPTER 2: MANAGEMENT AND STRUCTURE OF FLIGHT
SAFETY ORGANIZATION.**

1. Aim of the Flight Safety Organisation.
2. The organizational setup and organizational chart.
3. Qualification Requirements and training requirement of the officials' flight safety organization.
4. Duties and responsibilities of officials of flight safety organization.

CHAPTER 3: AIRCRAFT ACCIDENTS/INCIDENT – REPORTING.

1. Accident and Incident Reporting Procedure.
2. Definition of Serious Incident, Incident, Accident and other relevant definitions as given in CAR section-5, Series 'C' Part I.
3. List of reportable occurrences.

4. Format for submitting initial report.

**CHAPTER 4: AIRCRAFT ACCIDENTS/INCIDENT
INVESTIGATION**

A. Incident PIB Investigation

1. Composition of PIB members (Main & Alternative), Convenor – Flight Safety Advisor, Members Ops: Must be Sr. Pilot (Instructor/Examiner Preferred), Engg- QCM/Dy. QCM/Approved DDI.
2. Procedure for investigation of incident by PIB.
3. Action taken on the recommendations made in the PIB report and their communication to Regional Office/DAS Hqrs.
4. Format for final Investigation Report.

B. Investigation of Serious Incident and Accident

1. Authority issuing order for the Investigation of accident and serious incidents.
2. Role/Duty of operator in assisting the investigation by Inquiry Officer/Inspector of Accidents/Committee of Inquiry/Court of Inquiry.
3. Family Assistance Programme (Crew & Pax).

CHAPTER 5: ACCIDENT PREVENTION PROGRAMME

1. Inspection of load and trim sheet.
2. Apron Inspection.
3. Oversight of Engineering Activities (Stores, MEL Release Line Maintenance, Base Maintenance)
4. Inspection of pre-flight medical.
5. Inspection of Dispatch operation Office.
6. FDTL monitoring.
7. Ramp Inspection.
8. Inspection of ground equipment and Apron discipline.
9. Inspection of the training set up. In flight inspection by Inspector (checklist, programme manager, counseling of the crew, analysis of the data).
10. Implementation of Recommendation of Inspector of Accident/Committee of Inquiry/ Court of Inquiry.

11. Flight Safety documentation system

CHAPTER 6: FLIGHT OPERATION QUALITY ASSURANCE

A. 100% Monitoring of DFDR

1. Procedure for monitoring Exceedence Trend Monitoring.
2. Utilisation of Exceedence Monitoring Data.
3. Exceedence limits for each type of aircraft in the organization.
4. Analysis of Exceedence data especially the Red Alert.

B. CVR Monitoring

1. Set up for CVR Monitoring.
2. Check List for CVR Monitoring.
3. Action on the deficiency observed during CVR Monitoring.
4. Correlation of CVR & DFDR

CHAPTER 7: INTERNAL/REGULATORY SAFETY AUDIT PROGRAMME.

A. Internal Audit

1. Team Composition.
2. Qualification and experience of the member.
3. Procedure for Internal Audit.
4. Format for Internal Audit.
5. Procedure for action taken on the recommendation of the Internal Audit Report.
6. Review of action taken for their adequacy and submission of the Internal Audit Report along with Action Taken Report to DGCA (DAS Hqrs.).

B. DGCA Audit.

1. Role of the company in the DGCA Audit.
2. Procedure for taking action and submit report to DGCA.
3. Format for submitting Action Taken Report.

CHAPTER 8: CONTROLLED FLIGHT INTO TERRAIN (CFIT).

1. Monitoring of CFIT prevention Programme.
2. CFIT Risk Assessment.

CHAPTER 9: DANGEROUS GOODS.

1. Description of dangerous goods.
2. Monitoring action by flight safety organization.
3. Checklist for monitoring.

CHAPTER 10: ADVERSE WEATHER OPERATION

1. Action by different departments of the airlines.
2. Monitoring adverse weather operation by Flight Safety Department.

CHAPTER 11: RAMP SAFETY

1. Definition and related terminologies.
2. Responsibility and Procedure to Report and investigate the Ground incident.

CHAPTER 12: EMERGENCY RESPONSE PROCEDURE

1. Emergency response plan in the event of Incident/Accident
2. Disabled aircraft removal plan

ANNEXURES – List of annexure may contain formats/checklists etc e.g. FSR Format, Form 101, Format for Reporting ATC Incident, RA Incidents, Bird hit Incident Hazard Reporting Form, Ramp Inspection format. Reporting Form, Audit report format, Ramp Inspection Format, CVR C/L, In flight Inspection C/L, Cabin in flight inspection checklist, Audit compliance format.

ANNEXURE 'B'

FLIGHT SAFETY DOCUMENTATION SYSTEM

1. INTRODUCTION

a. Development of a flight safety documents system is a complete process, and that changes to each document comprising the system may affect the entire system. Guidelines applicable to the development of operational documents have been produced by DGCA based on the recommendations of ICAO, current best industry practices and analysis of previous accident with emphasis on high degree of operational relevance.

. Nevertheless, it may be difficult for operators to make the best use of these guidelines, since they are distributed across a number of publications. Air operators who have yet to establish a flight safety documents system should utilize the information contained in this Attachment in establishing such a system. Air operators who have established such a system should verify that the functionality of their system is in compliance with the concepts outlined in this Attachment. DGCA inspectors will conduct a review of the flight safety documents system to ensure that it is effective in providing vital safety information to flight crew in a timely manner.

b. Furthermore, guidelines applicable to operational documents' development tend to focus on a single aspect of documents design, for example, formatting and typography. Guidelines rarely cover the entire process of operational documents development.

c. It is important for operational documents to be consistent with each other, and consistent with regulations, manufacturer requirements and Human Factors principles. It is also necessary to ensure consistency across departments as well as consistency in application. Hence the emphasis should be placed on an integrated approach, based on the notion of the operational documents as a complete system.

2. ORGANIZATION

- a. A flight safety documents system should 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.
- b. Information contained in a flight safety documents system should be grouped according to the importance and use of the information, as follows:
- (i) Time critical information, e.g., information that can jeopardize the safety of the operation if not immediately available;
 - (ii) 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;
 - (iii) Frequently used information;
 - (iv) Reference information, e.g., information that is required for the operation but does not fall under (2) or (3) above; and
 - (v) Information that can be grouped based on the phase of operation in which it is used.
- c. Time critical information should be placed early and prominently in the flight safety documents system.
- d. Time critical information, time sensitive information, and frequently used information should be placed in cards and quick-reference guides.
- e. The flight safety documents system should be validated before deployment, under realistic conditions. Validation should involve the critical aspects of the information use, in order to verify its effectiveness. Interactions among all groups that can occur during operations should also be included in the validation process.

- f. A flight safety documents system should maintain consistency in terminology and in the use of standard terms for common items and actions.
- g. Operational documents should include 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 should be defined.
- h. A flight safety documents system should ensure 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.
- i. A flight safety document system needs to include a verification mechanism to ensure that, whenever a section of a document is amended, all other documents likely to be affected are identified and that consequential amendments are duly coordinated and agreed to by the responsible departments before the amendment is processed.

3. DEPLOYMENT

Operators should 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 should include a formal feedback system for obtaining input from operational personnel.

4. AMENDMENT

4.1 Operators should 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 Operator, State of design, State of Registry, manufacturers and equipment vendors.

Note.- Manufacturers provide information for the operation of specific aircraft that emphasizes the aircraft systems and procedures under conditions that may not fully match the requirements of operators. Operators should ensure that such information meets their specific needs and those of the local authority.

4.2 Operators should develop an information gathering, review and distribution system to process information resulting from changes that originate within the operator, including:

- a) Changes resulting from the installation of new equipment;
- b) Changes in response to operating experience;
- c) Changes in an operator's policies and procedures;
- d) Changes in an operator certificate; and
- e) Changes for purposes of maintaining cross fleet standardization.

Note.- Operators should ensure that crew coordination philosophy, policies and procedures are specific to their operation.

4.3 A flight safety documents system should be reviewed:

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

4.4 Operators should develop methods of communicating new information. The specific methods should be responsive to the degree of communication urgency.

Note.- As frequent changes diminish the importance of new or modified procedures, it is desirable to minimize changes to the flight safety documents system.

4.5 New information should be reviewed and validated considering its effects on the entire flight safety documents system.

4.6 The method of communicating new information should be complemented by a tracking system to ensure currency by operational personnel. The tracking system should include a procedure to verify that operational personnel have the most recent updates.

ANNEXURE 'C'

FLIGHT SAFETY SET UP

1. INTRODUCTION

- a. Air carriers should have a safety department that addresses the broad range of risks involved in commercial aviation to include, but not limited to, flight, maintenance, and ground safety. Since operators vary in both size and scope of operations, it is appropriate to consider such criteria as the kind of operations involved, the number and type of airplanes used, and the areas of operations when determining the size and complexity of a safety department.
- b. Any safety program should be designed to prevent personal injury and property losses resulting from accidents and incidents. The primary objectives of a safety program should be to motivate safe actions through establishment of a dynamic corporate safety culture; identify hazards to safe operations; work with other company departments to develop and implement safety interventions; monitor intervention strategies to validate effectiveness; and communicate the results throughout the air carrier.
- c. As a matter of policy, DGCA encourages certificate holders to identify, correct, and disclose instances of non compliance with company procedures and DGCA regulations. DGCA has developed guidance material that encourages certificate holders to develop Internal Safety Audits as a tool for continuously monitoring and evaluating practices and procedures. DGCA believes that the development and implementation of a comprehensive and effective safety department that employs Safety and Internal Audits Programs will benefit both the certificate holder and the flying public.

d. To ensure an effective flight safety programme it is essential that each certificate holder has a Director of Flight Safety (DOS)/Chief of Flight Safety. This person would be responsible for keeping the highest management officials of the certificate holder fully informed about the safety status of the certificate holder's entire operation. The DOS shall hold independent, full time position . However, the DGCA recognizes that in smaller operations, the Director of Flight Safety/Chief of Flight Safety function might be an additional function of a current manager. CARs provides flexibility in the requirements for positions and the number of positions for management personnel, including the Director of Flight Safety.

2. DIRECTOR OF FLIGHT SAFETY/CHIEF OF FLIGHT SAFETY

a. Functions.

I. To enable the Director of Flight Safety is to implement and control the company flight safety programme. The post-holder must have access to all departments at all levels. The primary responsibility is to provide information and advice on flight safety matters to the CEO.

II. The Director of Flight Safety/Chief of Flight safety is responsible to the DGCA/ CEO for:

- Ensuring that a Flight Safety Handbook / Manual is prepared which describes the airline's safety policy & procedures, and that all employees are familiarized with this Manual and comply with the same.
- Establishing a reporting system which provides for a timely and free flow of safety-related information.
- Maintaining the air safety occurrence reporting database.
- Monitoring corrective actions and flight safety trends.
- Co-ordinating the DGCA Mandatory Occurrence Reporting requirements.
- Soliciting and processing safety improvement suggestions.
- Developing and maintaining a safety awareness programme.
- Liaising with the heads of all departments company-wide on flight safety matters.

- Acting as Chairman of the Company Flight Safety Committee, arranging its meetings and keeping records of such meetings.
- Disseminating flight safety-related information company-wide.
- Maintaining an open liaison with manufacturers' customer flight safety departments, government regulatory bodies and other flight safety organisations world-wide.
- Assisting with the investigation of accidents; and conducting and co-ordinating investigations into incidents.
- Carrying out safety audits and inspections.
- Maintaining familiarity with all aspects of the Company's activities and its personnel.
- Reviewing and evaluating adequacy of the emergency response plan.
- Planning and controlling the Flight Safety budget.
- Managing or have oversight of the Flight Data Analysis / Flight Data Monitoring Programme.
- Publishing the periodic Company flight safety magazine.
- Participation in corporate strategic planning.

III. The Director of Flight Safety /Chief of flight Safety position in large airline should be established as a full time position responsible for keeping the highest management officials of the certificate holder fully informed about flight, maintenance, and ground safety practices, procedures, and programs of the certificate holder's entire operation.

IV For small operators, it may not be mandatory to establish a full fledged flight safety setup however, they are encouraged to designate a company management official or manager to monitor and evaluate flight, maintenance, and ground safety practices, procedures, and programs. Set up requirement for such organization will be decided on case to case basis.

b. Qualifications.

(1) The suggested minimum attributes and qualifications required for a DOS are:

- i. A broad aviation/technical education.

- ii. A sound knowledge of commercial operations, in particular flight operations procedures and activities.
- iii. Experience as a flight crew member or engineer.
- iv. The ability for clear expression in writing.
- v. Good presentation and interpersonal skills.
- vi. Computer literacy.
- vii. The ability to communicate at all levels, both inside and outside the Company.
- viii. Organisational ability.
- ix. To be capable of working alone (at times under pressure).
- x. Good analytical skills.
- xi. To exhibit leadership and an authoritative approach.
- xii. Be worthy of commanding respect among peers and management officials.

(2) Training

- i. The DOS /Chief of flight safety would be expected to become familiar with all aspects of the Company's organisation, its activities and personnel. This will be achieved in part by in-house induction training but such knowledge is best acquired by self-education and research.
- ii. In-company training in basic computer skills such as word-processing, database management and spreadsheets should be undertaken. A DOS if appointed from an engineering background should be given a condensed ground school and full-flight simulator course which teaches the basics of aircraft handling, navigation and the use of aeronautical charts.
- iii. External training at the very least should cover the management of flight safety programme and basic accident investigation and crisis management.
- iv. Minimum training should consist of courses of instruction in basic air safety management and air accident investigation.

(3). COMPONENTS OF FLIGHT SAFETY ORGANISATION

A flight safety organisation depending upon size and scope of operation shall have following components:

- i. Flight operation quality assurance cell for monitoring of CVR, DFDR and carrying out inflight inspections.
- ii. Accident/Incident investigation cell (Permanent Investigation Board) to conduct investigation and assist in investigations by DGCA. This cells shall have pilots (Senior Pilot/Instructor/Examiner) on type and Aircraft Maintenance Engineer with sufficient background in quality assurance and investigations
- iii. Accident Prevention Cell

~~ANNEX 'A'~~

~~Guidance Material for preparation of Flight Safety Manual:~~

~~The Flight Safety Manual shall contain following chapters:~~

- ~~1. Table of contents~~
- ~~2. Record of revision~~
- ~~3. List of effective pages~~
- ~~4. Distribution list of the manual~~

~~CHAPTER 1: INTRODUCTION~~

- ~~1. Statement of the Accountable Manger/Chief Executive regarding Safety Policy.~~
- ~~2. The Rules/Regulations in compliance of which the Manual has to be prepared.~~
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- ~~4. Procedure for issuing amendments and person competent to issue amendment~~

~~CHAPTER 2: MANAGEMENT AND STRUCTURE OF FLIGHT SAFETY ORGANIZATION.~~

- ~~1. Aim of the Flight Safety Organisation.~~
- ~~2. The organizational setup and organizational chart.~~
- ~~3. Qualification Requirements and training requirement of the officials' flight safety organization.~~
- ~~4. Duties and responsibilities of officials of flight safety organization.~~

~~CHAPTER 3: AIRCRAFT ACCIDENTS/INCIDENT – REPORTING.~~

- ~~1. Accident and Incident Reporting Procedure.~~
- ~~2. Definition of Serious Incident, Incident, Accident and other relevant definitions in CAR section 5, C-I.~~
- ~~3. List of reportable occurrences.~~

~~4.Format for submitting initial report.~~

~~CHAPTER 4: AIRCRAFT ACCIDENTS/INCIDENT INVESTIGATION~~

~~—————A.———— Incident PIB Investigation~~

- ~~1.Composition of PIB members (Main & Alternative), Convenor—Flight Safety Advisor, Members Ops:— Must be Sr. Pilot (Instructor/Examiner Preferred), Engg—QCM/Dy. QCM/Approved DDI.~~
- ~~2.Procedure for investigation of incident by PIB.~~
- ~~3.Action taken on the recommendations made in the PIB report and their communication to Regional Office/DAS Hqrs.~~
- ~~4.Format for final Investigation Report.~~

~~B.———— Investigation of Serious Incident and Accident~~

- ~~1.Authority issuing order for the Investigation of serious accident and incident.~~
- ~~2.Role/Duty of operator in assisting in the investigation by Inquiry Officer/Inspector of Accidents/Committee of Inquiry/Court of Inquiry.~~
- ~~3.Family Assistance Programme (Crew & Pax).~~
- ~~4.Emergency Action Plan (for accident).~~
- ~~5.Disabled aircraft removal plan.~~

~~CHAPTER 5: ACCIDENT PREVENTION PROGRAMME~~

- ~~1.Inspection of load and trim sheet.~~
- ~~2.Apron Inspection.~~
- ~~3.Oversight of Engineering Activities (Stores, MEL Release ——— Line ——— Maintenance, Base Maintenance)~~
- ~~4.Inspection of pre-flight medical.~~
- ~~5.Inspection of Dispatch operation Office.~~
- ~~6.FDTL monitoring.~~
- ~~7.Ramp Inspection.~~
- ~~8.Inspection of ground equipment and Apron discipline.~~
- ~~9.Inspection of the training set up. In flight inspection by Inspector (checklist, programme manager who will counsel the crew, investigation of the ——— data).~~
- ~~10.Implementation of Recommendation of Inspector of Accident/Committee of Inquiry/ Court of Inquiry.~~

~~CHAPTER 6: FLIGHT OPERATION QUALITY ASSURANCE~~

~~—————A. 100% Monitoring of DFDR~~

- ~~1.Procedure for monitoring Exceedence Trend Monitoring.~~
- ~~2.Utilisation of Exceedence Monitoring Data.~~
- ~~3.Exceedence limits for each type of aircraft in the —organization.~~
- ~~4.Analysis of Exceedence data especially the Red Alert.~~

~~B.———— CVR Monitoring~~

- ~~1. Who will do CVR Monitoring.~~
- ~~2. C/L for CVR Monitoring.~~
- ~~3. Action of the deficiency in the CVR Monitoring.~~
- ~~4. Correlation of CVR & DFDR~~

~~CHAPTER 7: INTERNAL/REGULATORY SAFETY AUDIT PROGRAMME:~~

~~A. — Internal Audit~~

- ~~1. Team Composition.~~
- ~~2. Qualification and experience of the member.~~
- ~~3. Procedure for Internal Audit.~~
- ~~4. Format for Internal Audit.~~
- ~~5. Procedure for action taken on the recommendation of the Internal Audit Report.~~
- ~~6. Review of action taken for their adequacy and submission of the Internal Audit Report along with Action Taken Report to DGCA (DAS Hqrs.).~~

~~B. — DGCA Audit.~~

- ~~1. Role of the company in the DGCA Audit.~~
- ~~2. Procedure for taking action and submit report to DGCA.~~
- ~~3. Format for submitting Action Taken Report.~~

~~CHAPTER 8: CONTROLLED FLIGHT INTO TERRAIN (CFIT).~~

- ~~1. Monitoring of CFIT prevention Programme.~~
- ~~2. CFIT Risk Assessment.~~

~~CHAPTER 9: DANGEROUS GOODS.~~

- ~~1. Description of dangerous goods.~~
- ~~2. Monitoring action by flight safety organization.~~
- ~~3. Checklist for monitoring.~~

~~CHAPTER 10: ADVERSE WEATHER OPERATION~~

- ~~1. Action by different departments of the airlines.~~
- ~~2. Monitoring adverse weather operation by flights.~~

~~CHAPTER 11: RAMP SAFETY~~

- ~~1. Definition and related terminologies.~~
- ~~2. Responsibility and Procedure to Report and investigate the Ground incident.~~

~~CHAPTER 12: EMERGENCY RESPONSE PROCEDURE~~

- ~~1. Emergency response plan in the event of Incident/Accident~~
- ~~2. Disabled aircraft removal plan~~

~~ANNEXURES—List of annexure may contain formats/checklists etc e.g. FSR Format, Form 101, Format for Reporting ATC Incident, RA Incidents, Bird hit Incident Hazard Reporting Form, Ramp Inspection format. Reporting Form, Audit report format, Ramp Inspection Format, CVR C/L, In flight Inspection C/L, Cabin in flight inspection checklist, Audit compliance format.~~

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