

**CAP 8200**




# **Flight Operations Inspector Manual**

**Approved by the Director General of Civil Aviation**

**Sixth Edition – 2018**

**Directorate General of Civil Aviation, India**


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## **FLIGHT OPERATIONS INSPECTORS MANUAL**

### **AIR OPERATOR CERTIFICATION, ADMINISTRATION AND SURVEILLANCE, TRAINING AND QUALIFICATION**

**Sixth Edition – 2018**

**(Issued May 2018)**

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## FOREWORD

The following responsibilities of the State of an air operator are explicit within Annex 6, Parts 1 & 3, to the Convention on International Civil Aviation:


- Issue an Air Operator Permit/Certificate (AOP/AOC) or equivalent document which shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training program, and maintenance arrangements consistent with the nature and extent of the operation specified (Para. 4.2.1.3);
- Ensure that the operator continues to maintain the requirements which resulted in the issuance of the AOP/ AOC or equivalent document (Para. 4.2.1.4);

In discharge of its responsibilities for regulating air transportation and ensuring safety of aircraft operations, DGCA has laid down detailed rules, regulations and procedures under the provisions of Aircraft Act, 1934 and the Aircraft Rules, 1937. The main responsibility for the safe conduct of the operations and for compliance with the laws, rules, regulations and directions issued from time to time is that of the operator. These laws and regulations cannot in themselves provide the operator with comprehensive and detailed instructions on which to base his operations. The operator should, therefore, develop his own detailed operating procedures necessary for safety, regularity and efficiency of operations within the frame work of the laws, rules, regulations, and directions issued by DGCA from time to time. Accordingly, permits for operating the following types of air transport services are presently issued by DGCA to applicants who meet the laid down requirements for the specific type of air transport service:

1. Scheduled Air Transport Service (Passenger)
2. Scheduled Air Transport Service (Cargo)
3. Non- Scheduled Air Transport Service (Passenger)
4. Non- Scheduled Air Transport Service (Cargo)

These permits are equivalent to the Air Operator's Certificate required to be granted by ICAO member States in accordance with the provisions of Annex 6. Permits for any other special type of operation can be granted subject to the applicant showing satisfactory capability to undertake the type of operations. Certification and continuing surveillance go hand in hand. The same government infrastructure that ensures a valid certification process leading to the issuance of an AOC/ AOP will provide for an adequate surveillance program and for competent day-to-day operator administration and oversight.

This manual is intended to provide detailed instructions for Flight Operations Inspectors of Directorate General of Civil Aviation, India, to carry out its flight operations certification and inspection responsibilities. It is divided into four volumes: Volume 1 contains the procedures to be followed by the DGCA and operators for the issuance of an AOP/AOC or equivalent document and is referenced to CAP 3100/ 3300/ 3400 Air Operators Certification Manual.


 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Volume 2 contains selected practices related to operators and pilot certification and administration; Volume 3 contains requirements for continuing inspection (surveillance) of certificated operators; and Volume 4 contains training and qualification requirements of Flight Operations Inspectors. Many of the types of inspections which are part of a surveillance programme of certificated operators are practically identical to those required for issuance of and AOP AOC or equivalent document. Thus, when appropriate, Volume 1 (reference CAP 3100/3300/3400) makes reference to procedures to be followed, which are contained in Volume 3.

BS Bhullar  
Director General of Civil Aviation  
India


Original Issue: 20th February 2009  
Sixth Edition: May 2018  
Revision 1: 9th July 2018  
Revision 2: 16th October 2018

File No AV 22029/32/2013-FSD

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 1</b>	<b>July 2018</b>


## RECORD OF AMENDMENTS

Edition	Revision Number	Page(s) affected	Date Entered	Entered by
3 <sup>rd</sup>	3	All Pages	31 Aug 2013	FSD
4 <sup>th</sup>	0	All Pages	25 Nov 2013	FSD
4 <sup>th</sup>	1	Vol 2, Chap 2 Pages 21-22 Vol 4, Chap 1 All Pages	11 Aug 2014	FSD
4 <sup>th</sup>	2	Vol 2, Chap 2, 3, 11, 12 and 13 – All pages	14 Oct 2014	CFOI
5 <sup>th</sup>	0	All Volumes	31 Jul 2017	CFOI
5 <sup>th</sup>	1	Vol 4, Chap 3, Chap 4	31 Oct 2017	CFOI
6 <sup>th</sup>	0	All Volumes	31 May 2018	CFOI
6 <sup>th</sup>	1	Vol 3, Chap 5 Pages 117 & 120 Vol 4, Chap 2 Pages 134-135 and addition of Pages 151-153	10 Jul 2018	CFOI
6 <sup>th</sup>	2	Vol 2 Chapter 11,12 and 13 – All pages	16 Oct 2018	CFOI


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 1</b>	<b>July 2018</b>

## TABLE OF CONTENTS

<b>Foreword</b>	<b>ii-iii</b>
<b>Record of Amendments</b>	<b>iv</b>
<b>Table of Contents</b>	<b>v-xi</b>
<b>Volume 1 – Certification of Air Operators</b>	<b>1</b>
<b>Volume 2 - Air Operator Administration</b>	<b>2</b>
Chapter 1- Certificate Management	3
1.1 Background	3
1.2 Changes to Documents	3
1.3 Operations Specifications	4
1.4 Traceability, Tracking, Review of Checklist	5
Chapter 2 – Approval of Special Operations/ Authorisations	6
2.1 General	6
2.2 PBN Approval	7
2.3 Low Visibility Operations	7
2.4 RVSM Operations	8
2.5 NAT (HLA) Operations	8
2.6 Extended Diversion Time Operations (EDTO)	9
2.7 Electronic Flight Bag (EFB) Operational Approval	10
2.8 Data Link and ADS-C Operations	12
2.9 Automatic Dependent Surveillance-Broadcast (ADS-B)	16
2.10 Heads Up Display (HUD), Enhanced Vision Systems (EVS)	21
Chapter 3 – Approval of Crew Member and Dispatcher Training Programs	22
3.1 Background and Objectives	22


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>

3.2 Definitions	22
3.3 General	24
3.4 Types of Training	25
3.5 Training Approval Process	26
3.6 Revisions to Training Curriculums	33
Chapter 4 - Authorization of Instructors, SFIs, LTCs, Check Pilots	36
4.1 Background and Objectives	36
4.2 Eligibility Requirements for Instructors, LTCs and Check Pilots	36
4.3 Types of Instructors	36
4.4 Instructors (TRI) Authorization Process	36
4.5 LTC/ Check Pilot Authorization Process	37
4.6 SFI Authorization Process	37
4.7 Exercise of Privileges	37
4.8 Conduct of Instructor Evaluation	38
4.9 Validity and Renewal of Instructors	39
4.10 Withdrawal of Instructor Privileges	39
4.11 Validity, Renewal and Standards of LTC/ Check Pilot	41
4.12 Ground Instructors	41
Chapter 5 – Appointment of DEs/ Examiners	43
5.1 Background and Objectives	43
5.2 Eligibility Requirements for Examiners	43
5.3 Examiner Appointment Process	43
5.4 Conduct of an Examiner Evaluation	43
5.5 Validity and Renewal of Examiners	44
5.6 Withdrawal of Examiner’s Privileges	44
5.7 Oversight of Examiners	46


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Chapter 6 – Approval of Training Organisations	47
6.1 Introduction	47
6.2 Oversight	47
Chapter 7 – Airline Type Rating Programme (ATRP)	48
7.1 General	48
7.2 Pre-requisites for ATRP	48
7.3 General Requirements	48
7.4 Scope of ATRP	48
7.5 Approval of ATRP	49
7.6 Records	49
7.7 Oversight	49
Chapter 8 - Approval of Flight Training Devices and Full Flight Simulators Operators	50
8.1 Purpose	50
8.2 Objective	50
8.3 Specific Instructions	50
Chapter 9 – Lease and Interchange Agreements between States	51
9.1 Introduction	51
9.2 CAP 3200	51
Chapter 10 –Safety Risk Assessment Guidance Material	52
10.1 <u>Introduction</u>	52
Chapter 11- Process for Evaluating a Safety Risk Analysis submitted by an Operator or Individual	66
Chapter 12- Aerodrome Data and Airplane Performance	68
Chapter 13- Validation of Metreological Data Provided by an Air Operator/Service Provider towards Operation and Flight Planning- Guidance Material	78
<b>Volume 3 - Surveillance</b>	<b>89</b>
Chapter 1 - Surveillance of Air Operators: General Information, Policy and Procedures	90




 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>


1.1 Objective	90
1.2 Background	90
1.3 Flight Standards Directorate	91
1.4 Objectives of DGCA Surveillance Programme	92
1.5 Planning and Executing the Surveillance Programmes	92
1.6 Specific Inspection Practices	94
Chapter 2 – Air Operator Base Inspections	95
2.1 General	95
2.2 Operational Control Inspections	97
2.3 Operations Manual Inspections	106
2.4 Operations and Flight (TRIP) Records Inspections	107
2.5 Flight and Duty Time Records Inspections	111
2.6 Training Program Inspections	112
2.7 Training and Qualification Records Inspection	119
Chapter 3 - En Route Cockpit Inspections	121
3.1 Background and Objectives	121
3.2 Cockpit En Route Inspection Areas	122
3.3 General Cockpit En Route Inspection Practices and Procedures	123
3.4 Specific Cockpit En Route Inspection Practices and Procedures	125
Chapter 4 – Transit Station Facilities Inspections	133
4.1 Background and Objectives	133
4.2 Management of Station Facilities Inspections	134
4.3 Inspection Practices and Procedures	134
4.4 Specific Inspection Areas	135
4.5 Security	139

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 0</b>	<b>May 2018</b>


4.6 Aerodrome	39
4.7 Station Facilities Inspection Report	139
Chapter 5. - Flight Crew Proficiency and Competency Checks	140
5.1 Background and Objectives	140
5.2 General Inspection Practices and Procedures	140

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 1</b>	<b>July 2018</b>


5.3 Proficiency/ Competency Check Inspection Areas	142
<b>Volume 4- Training and Qualification</b>	<b>144</b>
Chapter 1 – The Flight Standards Directorate	145
1.1 Introduction	145
1.2 Statutory Authority	145
1.3 Staffing Requirements	145
1.4 Authorized Strength of Flight Operations Inspectors	146
1.5 Recruitment Policy of Flight Operations Inspectors and Qualification Requirements	146
Appendix A – Inspector Workforce Evaluation Methodology	150
Chapter 2 – DGCA Training Program	153
2.1 General	153
2.2 Policy on Inspector Training	153
2.3 Individual Training Plans	153
2.4 Initial Training	153
2.5 On-The-Job Training	154
2.6 Recurrent Training	155
2.7 Specialized Training	155
2.8 External Training	57
2.9 Training Guidelines for Training of Trainers	156
2.10 Selection of DGCA Trainers	1
2.11 Aircraft Type Training for Certification	157
2.12 Review of Training Program	158
2.13 Training Files and Records	158
Appendix A Structured OJT	160
Appendix B Employee’s On-The-Job Training Record	171
Appendix C Training Evaluation Form	172

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 1</b>	<b>July 2018</b>

Appendix D	Guidance For Industry Type Rated Experts (ITREs)	174
Chapter 3	Flight Operations Inspectors' Training	177
3.1	Initial Training	177
3.2	Type Allocation for Technical Duties	177
3.3	Type Specific Training	177
3.4	OJT Training	178
3.5	Recurrent Training	178
3.5	Specialised Training	178
3.6	Training Files and Records	178
3.7	Training Files and Records	178
Appendix A	DGCA Flight Operations Inspectors' Orientation Course: Syllabus	181
Appendix B	Flight Operations Inspector's Course	184
Appendix C	Recurrent Training Requirements and Flight Operations Inspectors	195
Chapter 4	Inspector Duties, Responsibilities, Administration and Conduct	199
4.1	General Responsibilities	199
4.2	Duties and Responsibilities of Flight Operations Inspectors	199
4.3	Duties and Responsibilities of Principal Operations Inspectors	201
4.4	Additional Functions of Flight Operations Inspectors	202
4.5	Guidelines on preparing Questions Papers and conduct of Orals	203
4.6	Qualifications Required For Inspector Activities	204
4.7	Movements by an FOI on Inspection or Other Duty	204
4.8	Admission to the Flight Deck	205
Appendix	Duties, And Responsibilities of Officers in the Flight Standards Directorate	207
Chapter 5	Personal Ethics and Conduct	211
5.1	Purpose	211

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 0</b>	
		<b>Revision 1</b>	<b>July 2018</b>


5.2 On-The-Job Ethics and Conduct	211
5.3 Rules of Conduct	212
5.4 On-The-Job Ethics and Conduct	213
5.5 Dress	214
Chapter 6 – Flight Operations Inspector (FOI) Credentials	215
6.1 General	215
6.2 Types of Credentials	215
6.3 Eligibility Requirements	215
6.4 Application Procedures	215
6.5 Use of Credentials	216
6.6 Lost or Stolen Credentials	216

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**VOLUME 1**  
**CERTIFICATION OF AIR OPERATORS**


Refer to

**CAP 3100/ 3300/ 3400 – AIR OPERATOR CERTIFICATION MANUALS**

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## **VOLUME 2**

### **AIR OPERATOR ADMINISTRATION**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 1. CERTIFICATE MANAGEMENT

### 1.1. BACKGROUND

1.1.1 Within the air transportation industry there is a need to establish and administer safety standards to accommodate many variables, including: a wide variety of aircraft; a wide range of operator capabilities; the various situations requiring different types of air transportation; and the continual, rapid changes in aviation technology. It is impractical to address these variables through the promulgation of safety regulations for each and every type of air transport situation and the varying degrees of operator capabilities. Also, it is impractical to address the rapidly changing aviation technology and environment through the regulatory process. Safety regulations would be extremely complex and unwieldy if all possible variations and situations were addressed by regulation. Instead, the safety standards established by regulation should usually have a broad application which allows varying acceptable methods of compliance.

1.1.2 The continued management of an Air Operator Permit/ Certificate shall be carried out by the dedicated Certificate Management team assigned to the Air Operator.

1.1.3 The Certificate Management team shall comprise of Flight operations, Airworthiness, cabin safety, and Dangerous Goods Inspectors (and other personnel as appropriate). Amongst the assigned flight operations inspectors and airworthiness Inspectors, one each shall be nominated as Principal Flight Operations Inspector (POI) and Principal Airworthiness Inspector (PAWI).


1.1.4 The structure of the Certificate Management team shall be same as the Certification team except that there shall be no Project Manager.

1.1.5 The functions of the Certificate Management team shall include continuous management of the Air Operator Permit/ Certificate and would consist of amendments to operator's documents based on changes in regulations or on specific request of the operator. It would also include confirmation of inspection and surveillance of assigned certificated air operators (airworthiness and operations aspects) to ensure continual compliance with regulations and safe operating practices.

### 1.2. CHANGES TO DOCUMENTS

1.2.1 Application Procedure. Application for amendments to existing approvals/ additional approvals shall be submitted to the Regional/ Sub-Regional offices along with para wise compliance of the CAR related to the approval sought. The supporting documents fulfilling requirements of the relevant CAR and the specified Checklist shall also be submitted by the operator. The checklist should comprise the compliance and its location in the notes section. Verification remarks column of the checklist will be used by DGCA inspector for reviewing the request for approval.



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.2.2 Amendments to the Ops Manual/ Checklists shall be submitted by the operators to the POI. POI shall vet the same and get the amendments approved in accordance with the applicable procedure for initial approval of the document.

1.2.3 Approval/ Amendments to the MEL shall be submitted by the operator to the Regional Airworthiness Office (RAO). The RAO shall scrutinize the MEL as per the APM checklist on the basis of the MMEL. RAO shall forward the MEL to the POI along with the copy of the latest MMEL. A link for the MMEL approved by the EASA and FAA has also been provided on the DGCA's website (<http://dgca.nic.in>). FOIs may obtain updated/latest copies of the MMEL from the site. It needs to be ensured that the MEL is not less restrictive than the MMEL. On successful review from operations angle and completion of checklist the MEL will be returned to Regional office for approval.

1.2.4 Whenever an additional aircraft is added by an operator to their fleet that already has such approvals, the approval may be granted by the AOCMB after scrutiny of operator's request from Airworthiness aspects and Operational aspects. The checklists for Airworthiness aspects will be completed and documents forwarded to POI/ type rated FOI by Regional Airworthiness Office. The POI will review the operations aspects and assess the applicant's capability to absorb the new aircraft(s) in terms of availability of trained crews, maintenance arrangements, parking slots etc. POI will complete the checklist before returning to Regional Airworthiness Office. Approval letter shall be issued by the regional office under intimation to the Air Transport Directorate for endorsement in the AOC.


### 1.3. OPERATIONS SPECIFICATIONS

1.3.1 Operations Specifications provide an effective method for establishing safety standards that address a wide range of variables. In addition, Operations Specifications can be adapted to a specific operator's class and size of aircraft and type and kind of operation. Operations Specifications can be tailored to suit an individual operator's needs. Only those authorizations, limitations, standards, and procedures that are applicable to an operator need to be included.

1.3.2 Operations Specifications are issued along with the AOP/AOC and amended as necessary to reflect the current fleet and operating environment of the air operator. Amendments to the Operating Specifications serve as variances to the AOP/ AOC.

1.3.3 The operator must make the content of his Operations Specifications available to all company personnel. To that end, they should be included in appropriate sections of his Operations and Maintenance manuals.

1.3.4 The Operations Specifications shall be issued in the format given in CAP 3100/ 3300/ 3400. Air Operator Certification Manual Appendix E which contains the items like Area of Operations, Special authorizations e.g. Carriage of Dangerous Goods, ILS Cat II /III/ and LVTO, RNP-AR approaches, RVSM, EDTO, NAT(HLA), etc. These authorizations are endorsed in the permit by Directorate of Air Transport only after receipt of the operational approval from the Flight Standards Directorate which is issued by FSD only after airworthiness approval for the special authorization has been received from the Directorate of Airworthiness in duly filled checklist.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>


1.3.5 In the case of applications for amendments to Op Specs, Regional Airworthiness Office shall scrutinise the application from airworthiness aspects and following satisfactory CAR compliance, the application along with a copy of completed checklist shall be forwarded to the Airworthiness Directorate at DGCA HQ. The application in respect of the operator based in a sub-regional office, after scrutiny from airworthiness angle, shall be forwarded to Regional Airworthiness Office for further action. After satisfactory evaluation and completion of checklist, Airworthiness Directorate shall forward the proposal to FSD at DGCA, HQ for scrutiny of Operational aspects. POI/ Type Rated FOI/ Industry expert under supervision of FOI (in the event of non availability if type rated FOI) will evaluate the document(s) and complete the job aid(s) and forward the same to CFOI for issue of approval letter for the Special operations. Approval copy for Special Ops will be forwarded to DAT for necessary action for inclusion into Ops Specs.

#### 1.4. TRACEABILITY, TRACKING, REVIEW OF CHECKLIST

1.4.1 To gain a comprehensive traceability over the observations, FOIs shall notify the operator, in writing, of the deficiencies found in the contents of the documents submitted by the operator, also preferably time period for taking remedial action should be intimated to them in form of review checklist, which are to be appended, pertaining to UNSATISFACTORY items of respective checklist.

##### 1.4.2 Inspectors Role:

- (a) It is important that the date of receipt of document and submission of observations to operator are to be recorded by the FOI.
- (b) As regards to technical evaluation, FOIs are expected to assess their methodology and content items to ensure adequate compliance and standards before submitting the final checklist and consistency shall be maintained by FOIs.
- (c) All identified deficiencies of document should be addressed and corrected before presenting of an approval checklist.
- (d) Nodal personnel as identified by the operator shall be responsible for resolution and corrective action in a timely manner. Any delay, in the time lines, thus caused should be notified to PM.
- (e) Deficiencies are communicated to operator responsible for taking corrective action and to senior management as appropriate.
- (f) The FOI shall make recommendations and quote relevant Rule position to correct identified deficiencies. Operator shall be responsible for correcting deficiencies in a timely and effective manner. Correcting these deficiencies should be a priority during the document phase of evaluation. FOIs shall track and record all corrective actions and the resolution of the deficiencies.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(g) The FOI should take appropriate action, when the nodal refuses to correct a misstatement of fact or Rule position. In this case, top management of the operator must be intimated to initiate prompt actions to correct deficiencies and verify the corrective actions are implemented effectively. The same shall be brought to the notice of the PM, without delay.

(h) Adequacy and timing of corrective action, same shall be recorded by FOI.

(i) Convey your findings to the operator and obtain proposed corrective action and deadlines for remedying significant deficiencies.

(j) The FOI shall review and verify the actions taken by the operator pertaining to the findings.


#### 1.4.3 Operators Role:

(a) The Operator shall determine what actions to take when corrective action is required to address deficiencies.

(b) Operator shall ensure necessary corrective actions are taken to eliminate detected nonconformities.

(c) The Operator shall implement the corrective action plan in a timely manner.

(d) The operator/Nodal shall initiate corrective actions to meet the revised time lines. In case the same cannot be met, then FOI and PM shall be informed to reach amicably acceptable revised time lines.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2. APPROVAL OF SPECIAL OPERATIONS/ AUTHORISATIONS


### 2.1. GENERAL

2.1.1 During the certification process for initial certification or amendment of operations specifications, the Flight Operations Inspector would be required to make an assessment of the applicant's capability of carrying out special operations as proposed in the draft operations specifications. This would involve an assessment of airworthiness and operations aspects. Generally, the airworthiness elements of the application would be assessed prior to operational evaluation, however, these may be done concurrently. Operations specifications shall be endorsed after operational approval which is only after airworthiness approval has been done.

2.1.2 The process for approval of special operations such as EDTO, PBN, NAT/HLA, RVSM, Cat II/III, LVTO, EFB, CPDLC, ADS-C/B, HUD, EVS etc., involves the operator following a five phase process as per CAP 3100/ 3300/ 3400 and submitting an application with the Regional Office of DCGA where the Airworthiness aspects are evaluated as per airworthiness procedure manual guidelines. Thereafter the application is forwarded to FSD through Dte of Airworthiness (HQ) for further scrutiny of operational aspects. The FOI at FSD will evaluate operational aspects and if found satisfactory recommend operational approval. Operational approval will be granted by CFOI/Dy.CFOI /PM after ensuring that both airworthiness and operational aspects have been evaluated and found satisfactory. This will form the basis of Ops Specs endorsement on the AOP/ AOC of the applicant. Once initial approval has been granted for a special operation, addition of an aircraft of the same type requiring ops specs endorsement will need the operator to apply at the regional office of DGCA which will issue the approval on the basis of the initial approval, as long there is no change in the aeroplane engine/equipment related to the special approval. Referral to HQ DGCA is not required in this case. In order to process operational approval, the FOI will make use of job aids and checklists where developed or use the detailed requirements as listed in the applicable CAR both for cases of initial approval and addition of a similar type of aircraft requiring amendment of ops specs.

2.1.3 Special Operations approvals follow the same general five phase certification process for initial approval as below;

- (a) Phase One: Pre-Application.
- (b) Phase Two: Formal Application.
- (c) Phase Three: Review of Documentation.
- (d) Phase Four: Inspection and Demonstration.
- (e) Phase Five: Approval.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2.2. PBN APPROVAL

2.2.1 PBN operational approval is to be processed as per the job aids given in CAR Section 8 Series S Part IV, applicable Operations Circulars (OCs) and CAP 8300 FOI PBN Operational Handbook making use of the job aids in CAP 8200 Annexures

## 2.3. LOW VISIBILITY OPERATIONS

2.3.1 Cat II/III and LVTO operational approval is to be processed as per requirements laid down in CAR Section 8 Series C Part I, CAR Section 8 Series B Part I making use of the job aids in CAP 8200 Annexure.

2.3.2 The approval process encompasses the airworthiness and the operational approval. Although the two have different requirements, they must be considered within the same process.

2.3.3 This process constitutes an orderly method used by DGCA to ensure that applicants meet the established requirements.

2.3.4 In phase one, pre-application, the DGCA meets with the operator (pre- application meeting), who is advised of all the requirements it must meet during the approval process.

2.3.5 In phase two, formal application, the operator submits the formal application, accompanied by all the relevant documentation, in accordance with formal application documentation paragraph below.

2.3.6 In phase three, review of documentation, the DGCA evaluates the documentation to determine their admissibility. As a result of this review and evaluation, the DGCA may accept or reject the formal application together with the documentation.

2.3.7 In phase four, inspection and demonstration, once the DGCA has accepted or approved the amendments to the manuals, programs and documents submitted, the operator will:

(a) provide the respective training to its personnel; and

(b) Implement the operational demonstration.


2.3.8 In Phase five, approval, once all the aforementioned steps have been completed satisfactorily, the DGCA will issue the operations specifications (Ops Specs). For CAT III the authorization will specify the lowest DH, or no DH, and lowest RVR for the operator.

2.3.9 Formal Application Documentation.

(a) Airworthiness approval: aircraft must meet the corresponding airworthiness requirements as established in CAR Section 2 Series O Part XIV.

(b) Application: the operator will submit the following documentation to the DGCA:

(i) The application to obtain the CAT II or CAT III authorization;

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (ii) Aircraft qualification documentation: documentation showing that the proposed aircraft meets the airworthiness requirements;
- (iii) Type of aircraft and description of the aircraft equipment to be used;
- (iv) Operating procedures;
- (v) Training program and crew qualification;
- (vi) Operations manual and checklists: operators will submit the operations manuals and checklists containing information and guidance on CAT II or CAT III operations;
- (vii) Aerodrome operating minima for each aerodrome intended to be used and method used to establish such minima;
- (viii) Maintenance procedures containing airworthiness and maintenance instructions concerning the systems and equipment to be used in the operation (maintenance manuals);
- (ix) Any revision to the MEL needed to conduct CAT II or CAT III operations;
- (x) Airfield equipment for CAT II or CAT III operations;
- (xi) Operational demonstration plan;
- (xii) Statement of compliance.

## 2.4. RVSM OPERATIONS

2.4.1 RVSM operational approval is to be processed as per requirements laid down in CAR Section 8 Series S Part II. The job aid in CAP 8200 Annexure 2 will be used.


## 2.5. NAT(HLA) OPERATIONS

2.5.1 NAT (HLA) operational approval is to be processed as per requirements laid down in CAR Section 8 Series S Part IV. The job aid in CAP 8200 Annexure 3 will be used.

## 2.6. EXTENDED DIVERSION TIME OPERATIONS (EDTO)

2.6.1 General. EDTO operational approval is to be processed as per requirements laid down in CAR Section 8 Series S Part I and job aids in CAP 8200 Annexure 4.

Note: EDTO is interchangeable with Extended Twin-Engine Operations (ETOPS).

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2.6.2 The approval process encompasses airworthiness and the operational approval. Although the two have different requirements, they must be considered within the same process. Airworthiness and operations elements can be assessed concurrently, however operational approval shall only be issued after airworthiness requirements have been met.

2.6.3 This process constitutes an orderly method used by DGCA to ensure that applicants meet the established requirements. The EDTO operational approval job aid should be used by the FOI to process the EDTO application in a standardized manner.

2.6.4 In phase one, pre-application, the DGCA meets with the operator (pre-application meeting), who is advised of all the requirements it must meet during the approval process.

2.6.5 In phase two, formal application, the operator submits the formal application, accompanied by all the relevant documentation

2.6.6 In phase three, review of documentation, the DGCA evaluates the documentation to determine their admissibility. As a result of this review and evaluation, the DGCA may accept or reject the formal application together with the documentation. The EDTO operational approval job aid is completed by the FOI in this phase.

2.6.7 In phase four, inspection and demonstration, once the DGCA has accepted or approved the amendments to the manuals, programs and documents submitted, the operator will provide the respective training to its personnel. The EDTO demonstration checklist is completed by the FOI in this phase. Demonstration for EDTO more than 60/ 90 minutes (for scheduled/ NSOP operators respectively) approval shall involve a 3 step process culminating in proving flights;

(a) EDTO readiness check (table-top exercise)

(b) Simulator validation.

(c) Additionally for EDTO approvals more than 60/ 90 minutes EDTO, EDTO (more than 90 minutes) approvals for new aircraft/ engine combination will require two (2) EDTO sectors on non-revenue flights. Further, EDTO time extension beyond this will require two (2) EDTO sectors on revenue/non-revenue flights.


2.6.8 In Phase five, approval, once all the aforementioned steps have been completed satisfactorily, the DGCA will issue the operations specifications (Ops Specs).

## 2.7. ELECTRONIC FLIGHT BAG (EFB) OPERATIONAL APPROVAL

2.7.1 The introduction and use of EFBs in the Cockpit and Cabin require authorization from FSD, DGCA. This requirement includes DGCA evaluation of all operating procedures, pertinent training modules, checklists, operations manuals, training manuals, maintenance programs, minimum equipment lists (MEL), other pertinent documents, and reporting procedures.

2.7.2 Operations Circular 5 of 2014 contains the means to obtain Airworthiness and Operational approval for EFBs and will be used by the Inspector. Job aids in CAP 8200 Annexure 5 will be used for the operational approval process.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 2.7.3 Phase One: Request Authorization:

- (a) Phase one of the process begins when the operator requests authorization from a regulator to use the EFB. It should be noted that use of the EFB prior to operational approval does not imply any deviation from the operator's present procedures. It simply defines a training phase which will eventually lead to paperless trials.
- (b) During this phase, the regulator and the operator reach a common understanding of when paperless trials should begin, how they must be conducted and documented, the role of the regulator, and what documents and actions the operator is responsible for during each phase of the authorization process. Phase one is typically applicable when the operator transition from paper to a paperless flight deck; and may not be required by the DGCA.


### 2.7.4 Phase Two: Application

- (a) Phase Two begins when the operator submits a formal compliance plan to FSD, DGCA for evaluation. The plan is reviewed for completeness and FSD, DGCA may coordinate with other inspectors and regulatory offices as necessary. Once the plan is accepted, the operator follows that plan to produce a complete EFB program. The operator must clarify the intent of the operation (with or without paper back-up or a combination of paperless and paper). The applicant user should submit the following information in the application package:
- (i) EFB hardware and application specification EFB operator procedures/manual revisions, EFB cockpit procedures checklists,
  - (ii) EFB training program,
  - (iii) EFB RD test data (when required), Complete non-interference test results,
  - (iv) Airworthiness documents for installed resources, EFB evaluation report,
  - (v) Operational risk analysis

### 2.7.5 Phase Three: Review

- (a) DGCA should conduct a review of the application submitted by an operator. All assigned regulatory specialties should participate in the review of an operator's EFB program. DGCA should participate in the simulator evaluation or flight evaluation of an EFB when an operator is requesting initial EFB authorization. Additional simulator or flight evaluations are not required for adding a new EFB to an existing authorization unless there is a substantial change in EFB intended functions. When a new aircraft is added to a certificate with existing EFB authorization, the suitability of the EFB for that aircraft must be addressed as part of the aircraft conformity and configuration control process. DGCA should examine the technical content and quality of the proposed EFB program and other supporting documents and procedures. The



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

operator's program for EFB management is critical to EFB reliability. The EFB program must address all EFB issues and be well documented.

#### 2.7.6 Phase Four: Interim Authorization to Use EFB

- (a) An interim EFB authorization may be granted to allow the operator to proceed with EFB validation testing.
- (b) For operator transitioning from paper to EFB, during this validation phase, the operator must maintain paper back-up for all electronic information. The validation phase begins when the operator formally begins use of the EFB combined with paper backup for an established period of time.
- (c) For operators starting EFB operations without paperback-up, they must have in place adequate mitigations means to access the information in case of EFB failures, that are accepted by the DGCA.
- (d) Final considerations by DGCA:
  - (i) Unacceptable Validation Results. If the DGCA finds the proposed EFB reliability and/or function to be unacceptable, the DGCA should contact the operator for corrective action. EFB deficiencies should be corrected and the EFB function revalidated prior to paperless authorization being issued.
  - (ii) Acceptable Validation Results. If the DGCA finds the proposed EFB reliability and/or function to be acceptable based on validation data then paperless authorization may be issued.


#### 2.7.7 Phase Five: Authorization to Use EFB

- (a) A formal letter is issued by the regulatory authority granting use of the EFB to the operator. Additionally, the approval of a "paperless flight deck" should be added to the authorization, if it was included as a part of the Ops Evaluation. The initial authorization should define criteria for changes to the EFB system which may require consideration of an amended authorization

### 2.8. DATA LINK AND ADS-C OPERATIONS

2.8.1 The use Datalink and ADS-C equipment requires authorization from DGCA. This requirement includes DGCA evaluation of all operating procedures, pertinent training modules, checklists, Operations Manuals, training manuals, maintenance programs, Minimum Equipment Lists (MEL), other pertinent documents, and reporting procedures.


2.8.2 This Section provides guidance to inspectors on the process for operators to obtain Operational Data Link authorization (e.g., Operational Specification (Ops Spec) or other acceptable approval as applicable) for operation in Oceanic and Remote Airspace. CAR Section 8 Series S Part VI, OC 16 of 2014 on Data Link and ADS-C as well as Job Aids in CAP 8200 annexure 17 will be used for the approval process.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 2.8.3 Basic Events in Data Link Authorization Process

	Operator Actions	DGCA Inspector Actions
1	Establish need to obtain Data Link authority.	
2	Reviews Airplane Flight Manual (AFM), AFM Supplement or Type Certificate Data Sheet or other appropriate documents (e.g., Service Bulletins, Service Letters) to determine aircraft eligibility for Data Link. <b>Operator contacts airplane or avionics manufacturer, if necessary, to confirm airplane eligibility for Data Link.</b>	
3	Contacts the DGCA authority to arrange a <b>pre-application meeting</b> to discuss requirements for operational approval.	
4		Establishes, during pre-application meeting: <ul style="list-style-type: none"> <li>• Form and content of operator application (exhibits/documents) supporting Data Link authorization.</li> <li>• Date prior to start of operations when operator application should be submitted for evaluation.</li> </ul>
5	Submits operator application (exhibits/documents) to the DGCA with sufficient time prior to the planned start of Data Link operations for evaluation. (DGCA will specify time prior to planned start).	
6		Reviews operator application (submissions).
7	Provides revised material when requested.	
8		Issues operational authorization in the form acceptable by the applicable authority, as appropriate, when airworthiness and operational requirements are fulfilled.

### 2.8.4 Inspector and Operator Actions

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

	Lead	Action
1	Inspector	Reviews the “Basic Events in the Data Link Approval Process” in Para 11.7.2 with the operator in the pre-application meeting to provide an overview of approval process events.
2	Inspector	Reviews the requirements for approval with the operator to establish the form and content of the operator application for Data Link authority.
3	Operator	Uses the Job Aid as a guide to assemble documents/exhibits for its application for Data Link.
4	Operator	Annotates Job Aid to show location of Data Link program elements in the operator exhibits/documents.
5	Operator	Submits Job Aid and Data Link operator application (exhibits/documents) to inspector.
6	Inspector	Annotates Job Aid to show task or document “complete/ satisfactory” or “open/ further operator action required”.
7	Inspector	Informs the operator as soon as possible, when further operator action is required.
8	Operator	Provides inspector, when requested, with revised material.
9	Inspector	Issues authorization in the form acceptable (e.g., Operations Specifications (Op Specs) or GA Letter of Authorization (LOA)) to operator when required tasks and documents are completed.

## 2.8.5 Communications Systems and Operating Environments

This table lists the systems and their operating environment including the applicable criteria with references.

Aircraft Data Link System	Operating Environment			Applicable Standard
	Type of Airspace	ATS Unit System	Capabilities and Uses	
FANS 1/A+ Or FANS 1/A	Oceanic  And remote	FANS-1/A	Normal means of ATC communication uses AFN and CPDLC applications for direct controller - pilot communications (DCPC).  Eligible for:  Required Communication Performance (RCP) 240 Operations via VHF, SATCOM Iridium and	a. DO-306/ED-122, Oceanic SPR Standard.  b. DO-258A/ED - 100A (or earlier versions) FANS 1/A INTEROP Standard.



# Flight Operations Inspector Manual


**CAP 8200**

**Volume 2**

**Revision 0**

**May 2018**

Aircraft Data Link System	Operating Environment			Applicable Standard
	Type of Airspace	ATS Unit System	Capabilities and Uses	
			<p>SATCOM Inmarsat subnetworks.</p> <p>RCP 400 operations via HF data link subnetwork.</p> <p>No RCP operations.</p> <p>Note: Aircraft capability that supports multiple RCP type operations needs to include appropriate indications and/ or alerts to enable the flight crew to notify ATC when aircraft equipment failures result in the aircraft's ability to no longer meet its criteria for any of the RCP types, per DO-306/ED-122, paragraph 5.2.6.a) and 5.2.6.b).</p> <p>Uses ADS-C application for automatic position reporting.</p>	
FANS 1/A+ or FANS 1/A	Oceanic and Remote	CADS	<p>No CPDLC application.</p> <p>Uses ADS-C application for automatic position reporting.</p>	<p>a. DO-306/ ED-122 Oceanic SPR Standard.</p> <p>b. DO-258A/ED-100A (or earlier version), FANS 1/A INTEROP Standard (Applies only to aircraft)</p> <p>c. Centralized ADS (CADS) Common Specification, Version 2.0, approved ICAO NAT FIG/10, Paris, March 29– April 2, 2004 (Applies only to ATS unit)</p>
Flight management system waypoint position	Oceanic and Remote	CFRS		DO-306/ED- 122, Oceanic SPR Standard ARINC 702A, Advanced Flight Management Computer System (Applies only to aircraft) Central Flight

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>


Aircraft Data Link System	Operating Environment			Applicable Standard
	Type of Airspace	ATS Unit System	Capabilities and Uses	
reporting (FMS WPR)				Management Computer Waypoint Reporting System (CFRS) Common Specification, Version 2.0, approved International Civil Aviation Organization (ICAO) North Atlantic (NAT) FIG/10, Paris, March 29–April 2, 2004 (Applies only to ATS unit when ATS unit is CADS)
FANS 1/A ADS-C	Oceanic and Remote	FANS-1/A or CADS		a. DO-306/ED- 122 Oceanic SPR Standard b. DO-258A-ED-100A (or earlier version) FANS 1/A INTEROP Standard (If ATS unit is CADS, applies only to aircraft) c. CADS Common Specification, Version 2.0, approved ICAO NAT FIG/ 10, Paris, Mar 29–Apr 2

## 2.9. AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST (ADS-B)

2.9.1 Automatic Dependent Surveillance-Broadcast (ADS-B) is a new system for air traffic surveillance within those areas where the ground infrastructure (ADS-B ground station and air traffic communications network) is in place and available. ADS-B is expected to play an increasing role in air traffic as its capabilities evolve, and is expected to be a key element in improving the use of airspace, improving airport surface surveillance, and enhancing safety. ADS-B Out is the capability to send a formatted message that includes elements such as position, altitude, velocity, direction, etc., for use by air traffic in providing air traffic separation services. ADS-B approval considerations are covered in CAR Section 8 Series S Part V, OC 17 of 2014 on ADS-B and job aid in CAP 8200 Annexure 18 will be used.

2.9.2 General Guidance.

2.9.3 ADS-B System Description. ADS-B is:

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) Automatic and periodically transmits position, velocity, and other information with no pilot or controller action required for the information to be transmitted;
- (b) Dependent on the aircraft position source (e.g., Global Navigation Satellite System (GNSS)/Global Positioning System (GPS));
- (c) Used for surveillance services, much like traditional radar; and
- (d) Used to broadcast aircraft position and other data to any aircraft or ground station equipped to receive ADS-B.

#### 2.9.4 The ADS-B system consists of three elements:


- (a) Avionics. Installed aircraft avionics gather, format, and transmit the message elements from the aircraft via a discrete frequency. ADS-B messages include at least the following elements:
  - (i) Aircraft horizontal position (latitude/longitude).
  - (ii) Aircraft barometric altitude.
  - (iii) Aircraft identification: the assigned, unique International Civil Aviation Organization (ICAO) 24-bit address.
  - (iv) Flight ID.
  - (v) Special Position Indicator (SPI).
  - (vi) Emergency status.

Note: Flight ID, SPI, and the emergency status are the only message elements that can be modified by the flight crew.

- (b) Navigation Source. Position data is typically derived from GNSS/GPS to determine an aircraft's position.
- (c) Ground Stations. The ground infrastructure must be in place to receive and process the message elements from aircraft and to provide the air traffic automation system with the necessary information for air traffic control (ATC) surveillance and separation services.

#### 2.9.5 Application Process.

- (a) ADS-B is required for many areas of operations currently flown by Indian AOP holders. The Indian AOP/AOC holder request to conduct ADS-B operations shall make application to the DGCA.

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (b) The DGCA will conduct a review of the applicant's submitted proposal using applicable guidance. When compliance with all applicable requirements has been demonstrated, the DGCA will forward approval of this phase of certification to the Indian AOP holder.
- (c) Once all requirements are completed DGCA shall issue the ADS-B authorization in the Operations Specifications.


#### 2.9.6 ADS-B Out Operations

- (a) ADS-B provides ATC with an alternate means of surveillance in regions where a radar-based system would be impractical (e.g., Gulf of Mexico (GOMEX), mountainous terrain, etc.) or economically viable. ADS-B allows application of reduced separation standards in these areas and improves the efficiency and safety of operations within the airspace. Currently, ADS-B provides surveillance coverage in several regions outside of U.S.-designated airspace, including portions of Australia, Canada, and in the Asia-Pacific region. Additional ICAO regions and Member States are expected to implement ADS-B in the future.
- (b) Canada-Specific Requirements. All Indian operators wishing to operate in ADS-B-designated airspace within Canada must be in compliance with the following requirements (current editions):
- (i) EASA AMC 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter;
  - (ii) Transport Canada AC 700-009, Automatic Dependent Surveillance- Broadcast (ADS-B), paragraph 6.2, Foreign Air Operators; and
  - (iii) NAV CANADA Aeronautical Information Circular (AIC) 21/09, Air Traffic Flow Management in the Vicinity of Hudson Bay as a Result of Automatic Dependent Surveillance Broadcast Out Implementation, for information related to ATC services supported by ADS-B.

Note1 : The certificate holder/operator must provide the appropriate Transport Canada Civil Aviation (TCCA) office or representative with a copy of the FAA-issued authorization (Op Spec/M Spec/LOA A353), as appropriate. The certificate holder/operator must also submit the unique ICAO 24-bit aircraft address to NAV CANADA for each aircraft approved for use in ADS-B-designated airspace within Canada.

Note2 : NAV CANADA may accept formats other than octal (i.e., hexadecimal or binary) for the aircraft ICAO 24-bit address. The certificate holder/operator should coordinate with NAV CANADA for acceptable ICAO 24-bit address formats.



 मह्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Note 3 : NAV CANADA maintains an aircraft eligibility list of all aircraft approved for ADS-B services in Canada. Only aircraft with an authorized registration and/or ICAO 24-bit address will be provided ADS-B services.

(c) Australia-Specific Requirements. All Indian operators wishing to operate in designated ADS-B airspace within Australia must be in compliance with the following requirements (current editions):

- (i) EASA AMC 20-24, Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHZ Extended Squitter; and
- (ii) For General Aviation (GA) operators, Civil Aviation Safety Authority (CASA) Civil Aviation Order (CAO) 20.18, Aircraft Equipment—Basic Operational Requirements; or for certificated operators, CASA CAO 82.5, Condition on Air Operators' Certificates Authorising Regular Public Transport Operations in High Capacity Aircraft.

(d) Asia-Pacific-Specific Requirements. All Indian operators wishing to operate in ADS-B-designated airspace within the Asia-Pacific (outside areas specifically identified previously) must be in compliance with the following requirements (current editions):


- (i) Singapore: EASA AMC 20-24, Certification Considerations for the Enhanced ATS in ADS-B-NRA Application via 1090ES; and
- (ii) Singapore: AIC 14/10, Introduction to Automatic Dependent Surveillance Broadcast (ADS-B) Out Service within parts of the Singapore FIR.

Note: The Civil Aviation Authority of Singapore (CAAS) plans to implement ADS-B operations after 2013 within the Singapore flight information region (FIR). See AIC 14/10 for specific airways that will require ADS-B.

(e) General ADS-B Requirements.

- (i) Aircraft Flight Manual (AFM) Requirements. The AFM, Aircraft Flight Manual Supplement (AFMS), Airplane Operations Manual (AOM), and/or pilot's operating handbook (POH), as applicable to the specific operator, must be carried in the airplane at all times when ADS-B Out equipment is installed in accordance with a type certificate (TC) or Supplemental Type Certificate (STC). The AFM/AFMS/AOM//POH, as applicable, of each aircraft type must contain a statement that the ADS-B system complies with EASA AMC 20-24 and if deviations are applicable. Deviations, as stated in AMC 20-24, may be included or referenced. If the installed ADS-B system is compliant with FAA AC 20-165, as adopted, the appropriate manuals should indicate that the installation meets the equipment requirements of FAA AC 20-165.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>


(ii) Flight Operations Manual (FOM) or Equivalent Requirements. The certificate holder/operator (as applicable) must submit an FOM bulletin or equivalent to the flight crews describing ADS-B to include:

- a) ADS-B system description,
- b) Cockpit setup,
- c) En route irregular/emergency procedures,
- d) Communications,
- e) Aircraft statement of compliance to EASA AMC 20-24, and
- f) Authorization (see subparagraph D1)).

(iii) Required Flight crew/Dispatch/Flight Follower Training Before being authorized to use the ADS-B Out equipment, each member of the flight crew operators and the dispatcher/flight follower shall have completed an approved training program that includes:

- a) Use of ADS-B Out equipment,
- b) Specific regional operating practices,
- c) Normal procedures,
- d) Flight planning,
- e) Surveillance phraseology,
- f) Emergency procedures,
- g) Dispatch considerations (as applicable),
- h) Minimum equipment list (MEL) considerations,
- i) Human factors,
- j) Safety considerations,
- k) Equipment limitations, and
- l) Contingency planning.

(iv) Training Verification. The POI must verify that the certificate holder's/operator's training is accomplished and that the AFM or supplements indicate compliance with EASA AMC 20-24 or FAA AC 20-165, as adopted. The POI must attend


 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

at least one full training session for both the flight crew and flight operations inspectors.

- (v) Designation of Aircraft requires specific designation of the aircraft approved for operations outside of Indian-designated airspace. Aircraft make, model, and series (M/M/S), aircraft registration number, and aircraft serial number will be automatically populated to reflect the ADS-B authorization.
  - (vi) ICAO Regions of Operation. ADS-B Out operations conducted by certificate holders are not authorized beyond the areas specified in the Operation Specifications.
- (f) Certification Basis of the Aircraft Avionics.
- (i) The POI must determine that the certificate holder/operator understands and complies with all limitations and conditions associated with applicable STC requirements, parts Manufacturer Approvals (PMA), and appropriate AFMSs.
  - (ii) The PAWI and PAI will ensure that the ADS-B system is installed in compliance with the applicable STC or other appropriate aircraft certification requirements and that the certificate holder's/operator's maintenance program includes continuing airworthiness and maintenance personnel training requirements.
  - (iii) The POI will review the certificate holder/operator procedures for deferral of inoperative equipment and will coordinate with the PAWI and avionics AWI during the evaluation and approval of the certificate holder/operator MEL. The POI will also provide the operator with guidance for revising the existing airplane MEL. ADS-B equipment may not be listed as "Administrative Control Items" in the MEL.
  - (iv) The POI must verify that the certificate holder/operator is able to conduct the proposed operations, and validate that the appropriate training manuals, operations manuals, checklists, and operating procedures address ADS-B operations.
  - (v) The certificate holder/operator must provide a listing of the aircraft make and model, registration number, serial number, and the make and model of the approved ADS-B equipment.
  - (vi) After the POI has examined and determined satisfactory all technical details of the application the authorization for the addition of ADS-B to the Operations Specifications shall be made by DGCA

## 2.10. HEADS UP DISPLAY (HUD), ENHANCED VISION SYSTEMS (EVS)

2.10.1 HUD and EVS approval will be done as a five phase approval process using OC 18 of 2014 on HUD and EVS approval with job aid in CAP 8200 Annexure 20.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3. APPROVAL OF CREW MEMBER AND DISPATCHER TRAINING PROGRAMS

#### 3.1. BACKGROUND AND OBJECTIVES

3.1.1 This chapter contains direction and guidance to be used by DGCA personnel responsible for the evaluation, approval, and surveillance of commercial operator crewmember training programs.

3.1.2 An applicant for an Air Operator Permit (AOP)/ AOC is required to develop a training program for crewmembers and dispatchers. An existing operator may need to revise its training program when purchasing new equipment, operating in a new environment, obtaining new authorizations, or when new DGCA requirements are specified. Each operator must obtain DGCA approval of curriculums used for training crewmembers, instructors, check airmen, and aircraft dispatchers. The operator is responsible for ensuring that its training program is complete, current, and in compliance with DGCA guidance. (Unless otherwise specified in this chapter, the term “operator” applies equally to an applicant for a permit and an existing permit holder).


3.1.3 A “modular” approach to training is emphasized in this chapter, and categories of training are defined which are based upon the circumstances for which training is required. Operations inspectors are responsible for ensuring that regulatory requirements are met and that the operator’s crewmembers and dispatchers can competently perform their assigned duties before they are authorized to enter revenue service. Operators should be encouraged to modify existing training programs to conform to this modular approach and to submit new programs in conformance with this format. However, it is the policy of the DGCA to encourage operators to be innovative and creative when developing training curriculums, methods and techniques. Other formats may be acceptable as long as all training requirements are met.

#### 3.2. DEFINITIONS

The following terms are used throughout this chapter and are defined as follows:

3.2.1 Training Programme: A system of instruction which includes curriculums, facilities instructors, check pilots and examiners, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training programme requirements of the DGCA and ensure that each crewmember and dispatcher remains adequately trained for each aircraft, duty position, and kind of operation in which the person serves.

3.2.2 Modular Training: The concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and modified as individual units. Curriculum segments and modules may be used in multiple curriculums. The modular approach allows great flexibility in program development and reduces the administrative workload on both operators and instructors in the development and approval of these programs.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**3.2.3 Categories of Training:** The classification of instructional programs by the requirement the training fulfils. Categories of training consist of one or more curriculums. The categories of training are initial new-hire, initial equipment, transition, upgrade, recurrent (periodic), and requalification.

**3.2.4 Curriculum:** A complete training agenda specific to an aircraft type, a crewmember or dispatcher duty position, and a category of training. An example is an “initial new-hire, Boeing 737 first inspector curriculum.” Each curriculum consists of several curriculum segments.

**3.2.5 Curriculum Segment:** The largest subdivision of a curriculum containing broadly related training subjects and activities based on regulatory requirements. Curriculum segments are logical subdivisions of a curriculum which can be separately evaluated and individually approved. Examples are a “ground training” segment and a “flight training” segment. Each curriculum segment consists of one or more training modules.

**3.2.6 Training Module:** A subpart of a curriculum segment which constitutes a logical, self-contained unit. A module contains elements or events which relate to a specific subject. For example, a ground training curriculum segment could logically be divided into modules pertaining to aircraft systems (such as hydraulic, pneumatic, and electrical). As another example, a flight training curriculum segment is normally divided into flight periods, each of which is a separate module. A training module includes the outline, appropriate courseware, and the instructional delivery methods. It is usually, but not necessarily, completed in a single training session.


**3.2.7 Element:** An integral part of a training, checking, or qualification module that is subject oriented and not task-oriented. For example, an “electrical power” ground training module may include such elements as a DC power system, an AC power system, and circuit protection.

**3.2.8 Event:** An integral part of a training, checking, or qualification module which is task-oriented and requires the use of a specific procedure or procedures. A training event provides a student an opportunity for instruction, demonstration, and/or practice using specific procedures. A checking or qualification event provides an evaluator the opportunity to evaluate a student’s ability to correctly accomplish a specific task without instruction or supervision.

**3.2.9 Checking and Qualification Module:** An integral part of a qualification curriculum segment which contains checking and qualification requirements. For example, a qualification curriculum segment may contain a proficiency check module, a LOFT module and an operating experience (qualification) module.

**3.2.10 Courseware:** Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audio-visual programs workbooks, aircraft operating manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.

**3.2.11 Instructional Delivery Methods:** Methodology for conveying information to a student. For example, this may include lectures, demonstrations, and audio-visual presentations, programmed and directed self-study workshops, and drills. Training devices, simulators, aircraft, and computer work stations are also considered instructional delivery methods.

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**3.2.12 Testing and Checking:** Methods for evaluating students as they demonstrate a required level of knowledge in a subject, and when appropriate apply the knowledge and skills learned in instructional situations to practical situations.

**3.2.13 Training Hours:** The total amount of time necessary to complete the training required by a curriculum segment. This must provide an opportunity for instruction, demonstration, practice, and testing, as appropriate. This time must be specified in hours on the curriculum segment outline. A training hour includes time for normal breaks, usually 10 minutes each hour. Lunch breaks are not included.

**3.2.14 Programmed Hours:** The hours specified for certain categories of training (initial new-hire, initial equipment, and recurrent). Programmed hours are specified in curriculum segment outlines in terms of training hours.

**3.2.15 Duty Position:** The functional or operating position of a crewmember or aircraft dispatcher. Common duty positions are pilot-in-command (PIC), co-pilot, cabin crew, and flight dispatcher.

**3.2.16 Initial Approval:** A DGCA letter which conditionally authorizes an operator to begin instruction to qualify personnel under a specific curriculum or curriculum segment pending an evaluation of training effectiveness. An initial approval letter must specify an expiration date for the conditional authorization.

**3.2.17 Final Approval:** A DGCA letter, without an expiration date, which authorizes an operator to continue training in accordance with a specific curriculum or curriculum segment.

### 3.3. GENERAL


**3.3.1** Requirements for training for performing various types of crew member/ dispatch duties are given in CARs in Section 7 and 8. These requirements need to be identified in relation to the specific operations of the operator. The requirements would vary based on the type of operations (commercial/ general); area of operations (international/ domestic); type of aircraft etc. The operator is required to draft specific training programs based on these regulatory requirements and include the same in the Ops Manual Part D. The training programs would need to include both the flight and ground training requirements.

**3.3.2** In the case of operators who intend to outsource all or a portion of the training requirements, the training program should specify not only the curriculum but also the training facilities (ATOs/GTOs) intended to be utilised for the training.

**3.3.3** Trainee to instructor ratio. The trainee to instructor ratio shall be limited to 25:1.

**3.3.4** All training programmes will be documented in Operations Manual Part D and approved by FSD, DGCA and shall comprise of the following curriculum. The maximum training hours per day shall be 8 hours. The various types of training required to be undertaken are: -

- (a) Initial training
  - (i) Basic Knowledge

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(ii) Applied Practical training

(b) Type training

(c) Transition training

(d) Recurrent training

(e) Refresher training

(f) Differences training

3.3.5 Each training curriculum shall include practical demonstration as applicable.

3.3.6 Each training curriculum shall cover the differences between aircraft of the same type operated by the airline/ operator to ensure that the trainees are adequately trained to perform their assigned duties on different aircraft being operated.

### 3.4. TYPES OF TRAINING

#### 3.4.1 Initial Training

Initial training shall consist of basic knowledge training and applied practical training. Initial training is required for the persons who have not carried out crew member/ dispatch duties during the preceding 3 years. The goal of initial training is to ensure that each trainee acquires the competencies, knowledge and skills required to perform the allocated duties and responsibilities.

#### 3.4.2 Type training

Type training is required to gain qualification on the aircraft model and its variants that the flight crew/ dispatcher will be assigned on and will be part of initial training.


#### 3.4.3 Transition training

Training for flight crew/ dispatchers who are qualified on the aircraft type, but from a different operator. This will consist of operator indoctrination covering the operations manual. Additionally, applicable recurrent training shall be carried out prior to application for approval with the new operator.

#### 3.4.4 Recurrent training

Recurrent training is conducted annually to ensure the maintenance of competencies, knowledge and skills through a series of theoretical training, hands-on exercises, simulated exercises, written exam, etc. relevant to each crew role. Recurrent training validity is 12 months. If carried out in 3 months preceding the expiry, the subsequent validity will be 12 months from the original expiry.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3.4.5 Re-qualification Training.

This category of training is for an employee who has been trained and qualified by the operator, but has become unqualified to serve in a particular duty position and/or aircraft due to not having received recurrent training and/or a required flight or competency check within the appropriate eligibility period.

### 3.4.6 Refresher training.

An operator shall ensure that each crew member/ dispatcher who has not carried out any flight dispatch duties for more than 3 months but still remains within the period of validity of the previous Initial/ Type/ Recurrent Training completes refresher training.


### 3.4.7 Differences training.

The duration of differences training shall depend upon degree of differences between the different variants of aircraft of the same type used by the operator. Differences training for variants of a particular type of aircraft may be included in initial, transition, and recurrent training for the aircraft.

## 3.5. TRAINING APPROVAL PROCESS

### 3.5.1 Requests for Initial Approval

- (a) The approval process begins when the operator submits its training proposal in writing, for initial approval, to the DGCA. The operator is required to submit to the DGCA an outline of each curriculum or curriculum segment and any additional relevant supporting information requested by the DGCA. These outlines, any additional supporting information, and a letter must be submitted to the DGCA. This letter should request DGCA approval of the training curriculum. Two copies of each curriculum or curriculum segment outline should be forwarded along with the letter of request to the DGCA.
- (b) Each operator must submit its own specific curriculum segment outlines appropriate for its type of aircraft and kinds of operations. These outlines may differ from one operator to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum should be easy to revise and should contain a method for controlling revisions, such as a revision numbering system. Curriculums for different duty positions may be combined in one document provided the positions are specifically identified and any differences in instruction are specified for each duty position. Each curriculum and curriculum segment outline must include the following information:
  - (i) Operator's name
  - (ii) Type of aircraft


 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (iii) Duty position
  - (iv) Title of curriculum and/or curriculum segment including the category of training
  - (v) Consecutive page numbers
  - (vi) Page revision control dates and revision numbers
- (c) Each curriculum and curriculum segment must also include the following items, as appropriate:
- (i) Prerequisites prescribed by the Indian Aircraft Rules and Regulations or required by the operator for enrolment in the curriculum
  - (ii) Statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment
  - (iii) A list of each training device, mock-up, system trainer, procedures trainer, simulator, and other training aids which require DGCA approval (The curriculum may contain references to other documents in which the approved devices, simulators, and aids, are listed.)
  - (iv) Descriptions or pictorial displays of normal, abnormal, and emergency manoeuvres and procedures which are intended for use in the curriculum, when appropriate (These descriptions or pictorial displays, when grouped together, are commonly referred to as the flight manoeuvres and procedures document. The operator may choose to present detailed descriptions and pictorial displays of flight manoeuvres and procedures in other manuals. For example, the flight manoeuvres and procedures document may be described in an aircraft operating manual. However, as a required part of the training curriculum, it must either be submitted as part of the curriculum or be appropriately referenced in the curriculum.)
  - (v) An outline of each training module within each curriculum segment (Each module should contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.)
  - (vi) Training hours which will be applied to each curriculum segment and to the total curriculum.
  - (vii) The checking and qualification modules of the qualification curriculum segment used to determine successful course completion.

### 3.6. INITIAL REVIEW OF REQUESTS FOR APPROVAL

The assigned inspector must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

examination of the documents is not required at this time. If after initial review, the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the inspector may begin the in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the inspector must immediately return the documents with an explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the DGCA is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.

### **3.7. TRAINING CURRICULUMS SUBMITTED WITH AIR OPERATOR PERMIT APPLICATIONS.**


An applicant for a permit in the early stages of certification may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily mean that the training curriculum attachment must be returned. There should be an understanding between the applicant and the inspector that such portions are missing. The inspector may initiate the in-depth review without this type of information. Initial approval, however, of a curriculum segment must be withheld until all portions pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a ground training curriculum segment even though the simulator has not yet been evaluated and approved for flight training.

### **3.8. IN-DEPTH REVIEW OF SUBMITTED CURRICULUMS**

(d) This phase is initiated when the DGCA begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose of this phase is to determine the acceptability of training curriculums for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum.


(e) Before granting initial approval for a specific curriculum or curriculum segment, the Inspector must ensure that the following evaluations are accomplished.

- (i) A side-by-side examination of the curriculum outline with the appropriate regulations and with the direction provided in this manual must be performed. This examination is to ensure that training will be given in at least the required subjects and in-flight training manoeuvres. It should also ensure that appropriate training will be given on safe operating practices.
- (ii) An examination of the courseware developed or being developed by the operator must be performed. This review should include a sampling of available courseware such as lesson plans, audio-visual programs, flight manoeuvres

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

and procedures documents, and student handouts. The courseware must be consistent with each curriculum and curriculum segment outline. From this review, the inspector should be able to determine whether the operator is capable of developing and producing effective training courseware.

- (iii) An inspection of training facilities, training devices, and instructional aids (which will be used to support the training) must be performed if the Inspector is not familiar with the operator's training programme capabilities.
- (iv) The training hours specified in each curriculum segment outline must be evaluated. An inspector should not attempt to measure the quality or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress, or by examination of surveillance and investigation reports. The specified training hours must be realistic, however, in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector should note the times allotted by the operator for each training module. These times should be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:
  - a) The aircraft family in which the specific aircraft belongs
  - b) Complexity of the specific aircraft
  - c) Complexity of the type of operation
  - d) Amount of detail that needs to be covered
  - e) The experience and knowledge level of the students
  - f) Efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, course ware, and the operator's experience with the aircraft)
- (f) If after completing these evaluations, the inspector determines that the curriculum or curriculum segment is satisfactory and adequately supported, and that the training hours are realistic, initial approval should be granted. Sometimes a portion of the submittal may appear to be satisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory portion, initial approval must be withheld. For example, PIC B-737-400 initial equipment, flight training curriculum segment is satisfactory but related training modules within the initial equipment ground training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant initial approval to the initial equipment flight training curriculum segment until the ground training curriculum segment is determined to be satisfactory.

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3.9. EXPIRATION DATES FOR INITIAL APPROVALS.

When the Inspector determines that a training curriculum or curriculum segment should be initially approved, the Inspector must also determine an appropriate expiration date for the initial approval. The expiration date provides an incentive to the operator for refining all aspects of the program to assure that this regulatory requirement is met. The expiration date also provides the DGCA with a time frame with which to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval. The expiration date of initial approval may be reduced by the DGCA if it is apparent that a 24-month time frame will unnecessarily delay final approval. The inspector should be aware that shortening the initial approval expiration date will commit him to completing the final approval phase within the shorter time period. The inspector may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an extension to the initial approval expiration date should not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially- approved curriculum segment.


### 3.10. METHOD OF GRANTING INITIAL APPROVAL.

(a) Initial approval is granted by letter. The initial approval letter must include at least the following information:

- (i) Specific identification of the curriculums and/or curriculum segments initially approved, including page numbers and revision control dates
- (ii) A statement that initial approval is granted, including the effective and expiration dates
- (iii) Any specific conditions affecting the initial approval, if applicable

(b) An initial approval letter serves as the primary record of curriculum or curriculum segment pages that are currently approved and effective may agree to use the method to account for revisions to training documents. If this method is used, the stamp must clearly indicate initial approval and the expiration date. Other acceptable methods include a list of effective curriculum or curriculum segment pages, or pages with a pre-printed signature and date blocks.

(c) The original pages of the curriculum or curriculum segment shall be returned to the operator with the transmittal letter. These documents should be retained by the operator as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file at the DGCA, along with all additional, relevant supporting information.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3.11. METHOD OF DENYING INITIAL APPROVAL.


If the Inspector determines that initial approval of a proposed training curriculum or curriculum segment must be denied, the operator shall be notified in writing of the reasons for denial. This letter must contain an identification of the deficient areas of the training curriculum and a statement that initial approval is denied. It is not necessary that each minor deficiency which resulted in the denial be identified; however the major deficiencies should be outlined in the letter. It is the operator's responsibility to redevelop or correct the deficient area before resubmission to the DGCA. A copy of the denial letter and a copy of the proposed training curriculum or curriculum segment shall be kept on file in the DGCA.

### 3.12. EVALUATING INITIALLY-APPROVED TRAINING CURRICULUMS.


The final portion of the approval process begins when the operator starts training under the initially-approved curriculum. This phase should provide the operator with adequate time to test the program and the flexibility to adjust the program during DGCA evaluation. The inspector must require an operator to provide ongoing schedules of all training and checking to be accomplished under an initially-approved training curriculum. Whenever possible, the first session of training conducted under initial approval should be monitored by a qualified operations inspector. DGCA inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation. Inspectors qualified in the type aircraft, and other individuals knowledgeable of the curriculum subject matter, should assist in evaluating the training. During training under initial approval, the operator is expected to evaluate and appropriately adjust training methods as needed. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially- approved curriculum. Conversely, it may be necessary for the operator to substantially change the curriculum which may require another initial approval action by the DGCA before the changes can be put into effect. Sometimes proposed revisions may be transmitted to the DGCA just before the initial approval expiration date. If the change is significant, the DGCA may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.

### 3.13. ELEMENTS AVAILABLE FOR EVALUATING TRAINING.

The Inspector must develop a plan for systematically evaluating training given under the initially-approved training curriculum. This plan should remain in effect throughout the initial approval period. There are five elements which can be evaluated when assessing the overall effectiveness of training programs. These five elements are: curriculum segment outlines, courseware, instructional delivery methods and training environment, testing and checking, and surveillance and investigation of operator activities. These elements are interrelated; however, each can be separately evaluated. See Figure A at the end of this chapter for a summary of these five elements.

	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) Before evaluating a training program, an inspector must become familiar with the contents of the curriculums or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an operator has developed an effective course of instruction from its initially-approved training curriculum.
- (b) Direct examination of courseware includes reviewing materials such as lesson plans, workbooks, or flight instructor guides. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organized to facilitate effective instructional delivery. Courseware is usually the training program element which is most adaptable to revision or refinement. Inspectors must review at least sampling of the courseware.
- (c) Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer-based instruction presentations, and in-flight instruction. Effective learning can only occur when an instructor is organized, prepared, and properly uses the courseware and various training aids. The inspector must determine that the instructional delivery is consistent with the courseware. For example, the inspector should not whether the instructor teaches the topics specified in the lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by students and should identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noises, poor lighting, cramped classrooms or work spaces, are deficiencies because they interfere with learning.
- (d) Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests or flight checks, provides a quantifiable method for measuring training effectiveness. The Inspector must examine and determine the causal factors of significant failure trends.
- (e) Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, the Inspector will have to rely more on his evaluation of other sources of information such as reports of surveillance and investigations. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the operator's performance should be reviewed by the Inspector for indications of training effectiveness. The Inspector must establish methods to evaluate these sources of information for trends which may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies such as excessive taxi speed, navigation deviations, incomplete briefings, or incorrect use of the checklists, may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training modules.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3.14. METHOD FOR GRANTING FINAL APPROVAL.

(a) This phase involves the granting of final approval of an operator's training curriculum. Based on the results of the evaluation, the DGCA must determine whether to grant or deny final approval of a training curriculum. This determination must be made before the expiration date of the initial approval. If the DGCA decides that final approval should be granted, the following procedures apply:

- (i) The original and a copy of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the Dy CFOI.
- (ii) The original stamped curriculum or curriculum segment must be transmitted to the operator with an approval letter signed by the DGCA. This letter must specifically identify the curriculum or curriculum segment; contain a statement that final approval is granted; and provide the effective date of approval. This letter must also state that final approval shall remain in effect until otherwise notified by the DGCA that a revision is necessary provided the operator continues to train in accordance with the approved curriculum. Figure C at the end of this chapter is an example of a letter of final approval.


### 3.15. REVISIONS TO TRAINING CURRICULUMS

3.15.1 To incorporate significant revisions into a training curriculum with final approval usually requires the full training approval process. Revisions to initially- approved training curriculums will normally be processed as described in paragraphs in the paragraphs 3.5.1 to 3.5.10. Final approval, however, may be directly granted to a proposed revision, if the revision involves any of the following situations:

- (a) Correction to administrative errors such as typographical or printing errors
- (b) A reorganization of training or any changes in the sequence of training that does not affect the quality or quantity of training
- (c) An improvement to the quality, or an increase in the quantity, of training

3.15.2 Other proposed revisions, including any proposal to reduce the approved number of training hours, are subject to the training program approval process. Although each step in the process must be completed, the process may be abbreviated in proportion to the complexity and extent of the proposal. There are many factors that could require revisions to training curriculums. Such factors include the following:

- (a) The effects and interrelationships of changes in the kind of operations
- (b) The size and complexity of an operation
- (c) The type of aircraft being used


	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(d) Any special authorizations through operations specifications

(e) A revised MEL

(f) Any exemptions or deviations




 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**Figure A**

**ELEMENTS FOR TRAINING EVALUATION**

<b>ELEMENTS AVAILABLE FOR EVALUATING TRAINING</b>	
CURRICULUM SEGMENT OUTLINES	Curriculum segment outlines contain the specific training modules and the amount of time allocated for the curriculum segment. The modules must be consistent with regulatory requirements and safe operating practices. This element requires direct examination.
COURSEWARE	Courseware converts curriculum outline information into usable instructional material. Courseware must be consistent with the curriculum outline and be organized to permit effective instructional delivery. It is readily adaptable to adjustments and refinement by the operator. This element usually requires direct examination.
INSTRUCTIONAL DELIVERY METHODS AND TRAINING ENVIRONMENT	Instructional delivery methods are used to convey information to the student. Effective learning is maximized if the instructional delivery adheres to and properly uses the courseware. The training environment should be conducive to effective learning. This element requires direct observation.
TESTING AND CHECKING	Testing and checking is a method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and instructional delivery. This element requires direct observation. It can be supplemented by examining operator records of test and checks.
SURVEILLANCE AND INVESTIGATION OF OPERATOR ACTIVITIES	Surveillance and investigations produce information about an operator's overall performance. A high rate of satisfactory performance usually indicates a strong, effective training program. Repeated unsatisfactory performances can often be traced to deficiencies in a training program. This element requires the examination and analysis of surveillance and investigative reports.



	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

#### 4. AUTHORIZATION OF INSTRUCTORS, SFIs, LINE TRAINING CAPTAINS (LTCs), CHECK PILOTS

##### 4.1. BACKGROUND AND OBJECTIVES.

4.1.1 Operators are required to provide enough Instructors to carry out the flight training and assessments as specified in their approved training programmes. To assist Instructors in line training duties, the Operator is empowered to authorize Line Training Captains (LTCs)/ Check Pilots. The DGCA must specifically authorize operator personnel who are to serve as Instructors after a thorough review of the candidate's background, experience, training, and competency.

##### 4.2. ELIGIBILITY REQUIREMENTS FOR INSTRUCTORS, LTCS AND CHECK PILOTS

4.2.1 Operator personnel who are to serve as trainers (Instructors, TRIs, SFIs, LTCs and Check Pilots) must meet the requirements as laid down in CAR Section 7 Series I Part II, Part III, Part IV or Part IX, as applicable.

##### 4.3. TYPES OF INSTRUCTORS

4.3.1 Type Rating Instructor – Simulator (TRI-S). For conduct of simulator and aeroplane training and checking (other than base training).

4.3.2 Type Rating Instructor - Aeroplane (TRI-A). For conduct of simulator and aeroplane training and checking.

4.3.3 Synthetic Flight Instructors (SFI). For conduct of simulator training by pilots not holding current and valid commercial pilot licenses.

4.3.4 Type Rating Instructor – Helicopter (TRI). For conduct of simulator training by pilots not holding current and valid commercial pilot licenses.

##### 4.4. INSTRUCTORS (TRI) AUTHORIZATION PROCESS.

4.4.1 The following sequence of events will be followed for DGCA authorization of Instructors:

- (a) Operator's Post-holder Training shall forward the names of pilots proposed as Instructors to FSD, DGCA. Operators, before recommending the names of the pilots, shall subject the pilots to a process of selection and suitability tests as stipulated in the relevant CAR.
- (b) After completion of training the completed records shall be submitted to FSD, DGCA for authorization as Instructor.
- (c) The pilot under consideration for approval as instructor shall be checked for proficiency by type-trained DGCA Flight Inspector or Examiner appointed by DGCA

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

with FOI on board in case there is no type trained FOI available for undertaking the check.

- (d) The applicant pilot who fails in this test shall not be recommended for such approval for a minimum period as applicable.

#### 4.5. **LTC/ CHECK PILOT AUTHORIZATION PROCESS**

4.5.1 LTCs shall be authorized by the Post-Holder Training of the operator and function under the operator's oversight. The pilots trained as LTCs shall be checked for proficiency by the Scheduled Operator. In case of NSOP/GA on completion of the specified training, the applicant shall undergo a competency test for Check Pilot on an approved Simulator / Aircraft by a DGCA Flight Operations Inspector or an Examiner nominated by DGCA with FOI on board if there is no type trained FOI available for undertaking the check. The pilot who fails in this test shall not be recommended for such approval for a minimum period as applicable.

#### 4.6. **SFI AUTHORIZATION PROCESS**

4.6.1 SFIs approved for one Operator/ATO may be cross-utilized by another Operator/ATO with the same type of aeroplane provided an indoctrination course of the respective Operations Manual/Training and Procedures Manual with minimum duration 8 hours is conducted followed by a standardization check by the Post-holder Training or his nominated TRI. Training and duty records will be maintained by both operator/ATO involved in the cross-utilization. No separate authorization is required by DGCA.


#### 4.7. **EXERCISE OF PRIVILEGES**

##### 4.7.1 Scheduled Operators (TRIs/LTCs).

- (a) An Instructor/ LTC shall exercise his privileges on an aeroplane only when he has a minimum of 10 hours flying experience as PIC on the type during the preceding 90 days. In case an Instructor does not meet this requirement, he shall exercise privileges limited to that of an SFI till he has this recent experience; and
- (b) An Instructor/ LTC shall continue to exercise his privileges when he has exercised the privileges of Instructor/LTC as applicable on the type during the preceding 6 months except when a pilot is newly authorized on the type. In case an Instructor is not meeting this recent experience, he shall first exercise his privileges under the supervision of a functional Instructor. He shall start functioning independently again, only if his proficiency is found satisfactory.

##### 4.7.2 NSOP/GA (Check Pilots)

- (a) In case any TRI/ Check Pilot is not meeting the recency requirements as in para 4.7.1(a) above, he can exercise his privileges after undergoing a familiarisation flight on the type, provided he was regularly flying the group / class of similar aeroplane. Details of such flight shall be entered in the Examiner's / Check Pilot's log book.


 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

#### 4.8. CONDUCT OF INSTRUCTOR EVALUATION

4.8.1 The purpose of the Instructor evaluation is to ensure that the candidate has achieved the required skills for briefing, evaluating, and debriefing a pilot being checked. An Instructor evaluation does not entail an evaluation of the candidate's proficiency in the basic pilot crew position. An operator should not request authorization of an individual as an Instructor when there is any question about the pilot's skills in the basic pilot crew position. Should the DGCA inspector/DE have reason to question the pilot basic crew qualifications, the Instructor evaluation shall not be conducted until the candidate's qualifications are definitely and thoroughly verified and accepted. An acceptable means of establishing the pilot basic crew qualifications is for an inspector to conduct a proficiency, competency or line check of the Instructor candidate on a separate occasion before the Instructor evaluation. Such checks, however, are not routinely required.

4.8.2 The following general guidance applies to all Instructor evaluations:

- (a) Flight Inspectors/DE assigned to conduct Instructor evaluations must become thoroughly familiar with the operator's methods and procedures. Inspectors should also become familiar with the regulatory requirements for the privileges to be exercised by the Instructor candidate. This familiarity is necessary if the inspector is to make a determination as to whether or not the Instructor has the ability to conduct training or assessments consistent with the operator's approved procedures and regulatory requirements.
- (b) An inspector/ DE conducting an Instructor evaluation must arrange to meet with the Instructor candidate in sufficient time for a pre-evaluation briefing. The inspector shall inform the candidate of the purpose of the evaluation. During the briefing, the inspector should also ask questions of the candidate to determine if the candidate has a thorough knowledge and understanding of applicable DGCA regulations, operator policies, methods and procedures, and of the actions to be taken when acceptable standards are not met.
- (c) While the proficiency check is in progress, the inspector/ DE must observe, but should not interrupt or interfere with the techniques and actions taken by the Instructor candidate. The inspector must determine if all required events were accomplished and if each event was properly conducted. The candidate's evaluation of the pilot's performance must be accurate. The candidate's debriefing of the pilot must be accurate, complete, and constructive.
- (d) If the inspector determines that an Instructor candidate does qualify for the requested authorization the inspector shall inform the candidate that a recommendation of approval will be reported to the DGCA.
- (e) In case of failure of an Instructor candidate, the DGCA may allow a re- evaluation. In such a case, the operator must conduct sufficient additional training, recertify the candidate's proficiency and then arrange to have another evaluation conducted by a DGCA inspector.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

#### 4.9. VALIDITY AND RENEWAL OF INSTRUCTORS

(Refer CAR Section 7 Series I Part II, III & IV)

4.9.1 Unless revoked or suspended, the authorization of the Instructor shall remain valid for a period of five years from the date of issue of authorization so long as the pilots continue to meet the applicable requirements as per the relevant CAR in Section 7 Series I and remain in the employment of the operator who has obtained the authorization.

4.9.2 The DGCA authorized Instructors shall be required to undergo assessment of their continued proficiency in carrying out their privileges as Instructors. Such assessment shall be carried out in the simulator/ aircraft as a "Instructor Standardization Check" once in two years by a Designated Examiner of the operator, record of which will be forwarded to FSD.

4.9.3 Renewal of authorization of Instructor shall be accorded after submitting the following documents by the operators at least three months in advance.

- (a) Record of training done in last 24 months.
- (b) Copy of license and medical certificate.
- (c) Record of standardization checks.

4.9.4 The request will be examined at FSD, and if found satisfactory, a DGCA FOI or nominated Examiner will assess the proficiency as in Para 4.4(c) above following which the authorization may be extended for another 5 years.


4.9.5 In case a pilot changes over to a new operator, the new operator may seek renewal of TRI privileges of a pilot. The privileges can be renewed for the new operator after following the requirements in Para 4.9.2 above.

4.9.6 A pilot in the scheduled airlines may hold independent yet concurrent appointment as DE and authorization as Instructor under provisions of CAR Sec 7 Ser I Part I and SEC7 Series I Part II. Due to limited scope and applicability concurrent approvals are currently only being given for scheduled operators trainers. The requirements for such appointment or authorization will be met separately with distinct approval, standardization processes and validity periods. However, the same is not applicable for other pilots.

#### 4.10. WITHDRAWAL OF INSTRUCTOR PRIVILEGES

(Refer CARs Section 7 Series I Parts II, III and IV and Ops Circular 2 OF 2013)


4.10.1 Policy. Privileges granted to a pilot as an Instructor may be withdrawn by the DGCA if the pilot is found lacking in any of the requirements. Post Holder Training of the Operator/ ATO may also recommend to the DGCA, withdrawal of privileges as Instructor in respect giving adequate justification.

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.10.2 Instructor privileges may be withdrawn by the DGCA, in part or in whole, for due cause. In these cases, the DGCA Flight Standards Directorate will issue a written notification of withdrawal of privileges to the Instructor concerned, and also inform the applicable Operator/ATO. Where there is an immediate threat to safety, this privilege will be withdrawn immediately. The DGCA may withdraw an Instructor's authority if evidence shows that an Instructor has:

- (a) At any time, acts in a manner which is in contravention of the guidelines contained in the relevant CAR in Section 7 Series I;
- (b) Failed to follow the applicable instructions to maintain the required standards, or to follow proper procedures;
- (c) Tested alcohol positive in a pre/post flight medical check;
- (d) Fraudulently misused Instructor authority, or acted in any other way that would discredit the DGCA
- (e) Breached the DGCA Civil Aviation Rules and Regulations; or
- (f) During the course of a Proficiency Check, Skill Test or Standardization Check failed to meet the required DGCA Standards. The Instructor will be informed verbally, immediately upon completion of the Proficiency Check or Skill Test, or the Inspector may stop the check at the time an overall failure is awarded.
- (g) The DGCA may withdraw an Instructor/ Check Pilot's approval for if evidence shows that a Instructor/ Check Pilot has:
  - (h) Placed a personal interest, or the interest of the company, ahead of the interest of the DGCA and the travelling public;
  - (i) Fraudulently misused Instructor/ Check Pilot authority, or acted in any other way that would discredit the DGCA;
  - (j) Breached the DGCA Civil Aviation Rules and Regulations;
  - (k) Failed to represent DGCA in a manner acceptable to the Director General.

4.10.3 Except where there is an immediate threat to safety, the DGCA, prior to making a final decision in the matter of withdrawal of an Instructor's authority, shall ensure the matter has been investigated thoroughly; and the Instructor and, where applicable, the concerned Operator, have been given a formal opportunity to respond to the allegations, either verbally or in writing.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.10.4 Procedure for Withdrawal of Instructor’s Privileges. The following steps shall be followed when withdrawing the approval of an Instructor:-


- (a) Except in the case of an immediate threat to safety, upon receipt of evidence demonstrating grounds for withdrawal of approval the CFOI shall notify the Instructor and the Operator/ ATO, if applicable, in writing of the pending investigation and the alleged grounds for withdrawal. The Instructor and the Operator/ ATO shall be provided an opportunity to respond to the evidence. The CFOI shall conduct the formal investigation and consider the facts provided by the Instructor and the Operator(s).
- (b) In the case of an immediate threat to safety, the DGCA may immediately withdraw approval and conduct a formal investigation after the withdrawal.
- (c) At the completion of the formal investigation, the CFOI will make a determination whether to recommend withdrawal of approval. If the CFOI determines that withdrawal is warranted, the CFOI will make a recommendation for withdrawal to the JDG. If the CFOI determines that withdrawal is not warranted, the CFOI shall notify the Instructor in writing of the determination.
- (d) After considering the recommendation for withdrawal, the JDG or DG will approve or reject the CFOI’s recommendation. Upon receiving the decision from the JDG or DG, the CFOI will issue written notification of results of the investigation and the withdrawal of approval, if applicable.

#### 4.11. VALIDITY, RENEWAL AND STANDARDS OF LTC/CHECK PILOT

4.11.1 The validity and renewal of LTC authorization and standards required to be maintained by the LTC are the responsibility of the operator. Refer applicable part of CAR Section 7 Series I.


#### 4.12. GROUND INSTRUCTORS

4.12.1 A Ground Instructor is a person employed by an Operator or training centre for the purpose of training flight crewmembers in an operator's approved training curriculum. These instructors provide the required training for flight crewmembers to ensure that the acceptable standards of knowledge and the necessary skills to complete a particular curriculum segment are met. When designated by the employer, an instructor is responsible for certifying to the knowledge and proficiency of each crewmember upon completion of a training curriculum or curriculum segment. Instructors must be knowledgeable in the applicable DGCA requirements and in the operator's required policies and procedures applicable to each designated area of expertise. An instructor must possess effective communicative skills. An instructor's manner should reflect honesty and professionalism, and the instructor must exhibit a positive attitude toward safe aviation practices.

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.12.2 Criteria for approval of ground instructors are given in CAR Section 7 Series I Part VII. Through periodic inspections of operator training programmes as described in Volume 3 of this Manual, the DGCA Operator will ensure ground instructor competency, uniform methods of presentation, and compliance with approved Training Syllabi.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 5. APPOINTMENT OF DEs/ EXAMINERs

### 5.1. BACKGROUND AND OBJECTIVES

5.1.1 Operators are required to provide enough DEs/ Examiners to carry out the checks as specified in their approved Training Programmes. The DGCA specifically appoints operator personnel who are to serve as Designated Examiners (DEs)/ Examiners after a thorough review of the candidate's background, experience, training, and competency. DEs are appointed under provisions of CAR Section 7 Series I Part I whilst Examiners are appointed under provisions of CAR Section 7 Series I Parts III and IV for aeroplanes and helicopters respectively.

5.1.2 The details for appointment and functioning of DEs is covered in the DE Manual (CAP 7200). This Chapter deals with the policies and procedures for Examiners for non-scheduled, GA and helicopter operators.

### 5.2. ELIGIBILITY REQUIREMENTS FOR EXAMINERS

5.2.1 Operator personnel who are to serve as Examiners must meet the requirements as laid down in CAR Section 7 Series I Part III, IV for Non-Scheduled, GA and Helicopter Operators.

### 5.3. EXAMINER APPOINTMENT PROCESS

5.3.1 CAR Section 7 Series I Part I and CAP 7200 DE Manual will be applicable for DEs. For other examiners, respective CARs as in Para 5.1.1 above will apply.


### 5.4. CONDUCT OF AN EXAMINER EVALUATION

5.4.1 The purpose of the Examiner evaluation is to ensure that the candidate has achieved the required skills for briefing, evaluating, and debriefing a pilot being checked. An Examiner evaluation does not entail an evaluation of the candidate's proficiency in the basic pilot crew position. An operator should not request appointment of an individual as an Examiner when there is any question about the pilot's skills in the basic pilot crew position. Should the DGCA inspector have reason to question the pilot basic crew qualifications, the Examiner evaluation shall not be conducted until the candidate's qualifications are definitely and thoroughly verified and accepted. An acceptable means of establishing the pilot basic crew qualifications is for an inspector to conduct a proficiency, competency, or line check of the Examiner candidate on a separate occasion before the Examiner evaluation. Such checks, however, are not routinely required.

5.4.2 The following general guidance applies to all Examiner evaluations:

- (a) Flight Inspectors assigned to conduct Examiner evaluations must become thoroughly familiar with the operator's methods and procedures.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (b) Inspectors should also become familiar with the regulatory requirements for the functions to be exercised Instructor candidate. This familiarity is necessary if the inspector is to make a determination as to whether or not the Examiner has the ability to conduct checks consistent with the operator's approved procedures and regulatory requirements.
- (c) An inspector conducting an Examiner evaluation must arrange to meet with the Examiner candidate in sufficient time for a pre-evaluation briefing. The inspector shall inform the candidate of the purpose of the evaluation. During the briefing, the inspector should also ask questions of the candidate to determine if the candidate has a thorough knowledge and understanding of applicable DGCA regulations, operator policies, methods and procedures, and of the actions to be taken when acceptable standards are not met.
- (d) While the standardization check is in progress, the inspector must observe, but should not interrupt or interfere with the techniques and actions taken by the Examiner candidate. The inspector must determine if all required events were accomplished and if each event was properly conducted. The candidate's evaluation of the pilot's performance must be accurate. The candidate's debriefing of the pilot must be accurate, complete, and constructive.
- (e) If the inspector determines that an Examiner candidate does qualify for the requested appointment the inspector shall inform the candidate that a recommendation of approval will be reported to the DGCA.
- (f) In case of failure of an Examiner candidate, the DGCA may allow a re- evaluation. In such a case, the operator must conduct sufficient additional training, recertify the candidate's proficiency, and then arrange to have another evaluation conducted by a DGCA inspector


## 5.5. VALIDITY AND RENEWAL OF EXAMINERS

5.5.1 Refer to CAR Section 7 Series I Part III/ IV as applicable.

## 5.6. WITHDRAWAL OF EXAMINER'S PRIVILEGES

5.6.1 Policy. The appointment of a Examiner may be withdrawn by the DGCA if the pilot is found lacking in any of the requirements. Besides, a Board consisting of the Chief of Operations and Chief of Training of the operator may also recommend to the DGCA, withdrawal of appointment as Examiner in respect of any pilot giving adequate justification.


5.6.2 Examiner appointment may be withdrawn by the DGCA, in part or in whole, for due cause. In these cases, the DGCA Flight Standards Directorate will issue a written notification of withdrawal of appointment to the Examiner concerned, and also inform the applicable Operator(s). Where there is an immediate threat to safety, this appointment will be withdrawn immediately. The DGCA may withdraw an Examiner's appointment if evidence shows that an Examiner has:

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) At any time, acts in a manner which is in contravention of the guidelines contained in this CAR;
- (b) Placed a personal interest, or the interest of the company, ahead of the interest of the DGCA and the travelling public;
- (c) Failed to attend the requisite DE refresher training;
- (d) Failed to follow the applicable instructions to maintain the required standards, or to follow proper procedures;
- (e) Fraudulently misused Examiner authority, or acted in any other way that would discredit the DGCA;
- (f) Tested alcohol positive in a pre/post flight medical check.
- (g) Breached the DGCA Civil Aviation Rules and Regulations;
- (h) During the course of a Proficiency Check, or DE Standardization Check, failed to meet the required DGCA Standards.
- (i) Exercised poor judgment in assessing a candidate's performance, in relation to the standards contained herein; or
- (j) Failed to represent DGCA in a manner acceptable to the Director General
- (k) Except where there is an immediate threat to safety, the DGCA, prior to making a final decision in the matter of withdrawal of an Examiner's appointment, shall ensure the matter has been investigated thoroughly; and the Examiner and, where applicable, the concerned Operator, have been given a formal opportunity to respond to the allegations, either verbally or in writing.

5.6.3 Procedure. The following steps shall be followed when withdrawing the appointment of an Examiner;

- (a) Except in the case of an immediate threat to safety, upon receipt of evidence demonstrating grounds for withdrawal of appointment the CFOI shall notify the Examiner and the Operator(s), if applicable, in writing of the pending investigation and the alleged grounds for withdrawal. The Examiner and the Operator(s) shall be provided an opportunity to respond to the evidence. The CFOI shall conduct the formal investigation and consider the facts provided by the Examiner and the Operator(s). In the case of an immediate threat to safety, the DGCA may immediately withdraw appointment and conduct a formal investigation after the withdrawal.
- (b) At the completion of the formal investigation, the CFOI will make a determination whether to recommend withdrawal of appointment. If the CFOI determines that withdrawal is warranted, the CFOI will make a recommendation for withdrawal to the

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>


JDG. If the CFOI determines that withdrawal is not warranted, the CFOI shall notify the Examiner in writing of the determination.

- (c) After considering the recommendation for withdrawal, the JDG or DG will approve or reject the CFOI's recommendation. Upon receiving the decision from the JDG or DG, the CFOI will issue written notification Examiner concerned, and also inform the applicable Operator(s), of the results of the investigation and the withdrawal of appointment, if applicable.

## 5.7. OVERSIGHT OF EXAMINERS

5.7.1 The DGCA shall monitor the standards of all Examiners by:

- (a) Monitoring each Examiner while he conducts a Skill Test or Proficiency Check every 12 months - this check shall be referred to as the DE Standardization Check.;
- (i) Reviewing the Operator's utilization of Examiners on a regular basis;
  - (ii) Monitoring the activities of each Designated Examiner to ensure:
    - his reports are complete, accurate and meaningful;
    - his Checks cover the required sequences;
    - his conduct of Checks is fair and in conformance with the standards and procedures described in this manual;
    - he is acting within the limits of his authority; and
    - Completion of the Examiner Standardization Report, retaining of records, and updating the Operator's Examiner file.
- (b) Standardization checks will be done as per two year cycles under which the approvals were issued for individual trainers. For Examiners, the standardization will be done as a proficiency check in the simulator. Case by case basis approval may be given by DGCA to conduct this check in an aeroplane when a type simulator is not available.
- (c) Withdrawal of Examiners will be subject to the policy and procedure as per Para 5.6 above.

 मह्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 6. APPROVAL OF TRAINING ORGANISATIONS

### 6.1. INTRODUCTION

6.1.1 Approval of training organisations will be done in accordance with CAR Section 7 Series D Part. IV and CAP 7100.

6.1.2 Apart from the approval and inspection process, surveillance of ATOs/ATRP will be carried out on an annual basis to ensure that these organisations continue to comply with the standards based on which approval was given. The checklist for surveillance is included in CAP 8200 Annexure 19.

6.1.3 If any ATO/ATRP does not meet these requirements, then FSD, DGCA will issue a letter suspending the approval immediately. Re-approval of the TO will be in accordance with CAR Section 7 Series D Part IV, Part V and CAP 7100.


### 6.2. OVERSIGHT

6.2.1 DGCA shall maintain an effective oversight programme of the ATO to ensure continuing compliance with the approval requirements. The oversight programme may be integrated with the operator's training programme annual inspection.

6.2.2 The oversight programme should also check the ground instructor approval process, quality of the questions in the question bank of the operator and the number of revisions to question bank, based on changes in the manufacturer documents.

6.2.3 Policy on conflict of interest should be checked.

6.2.4 Policy on qualification and approval of personnel for setting and vetting the question bank used for evaluating students in ground subjects. Guidelines to personnel for setting and vetting the question bank should also be checked.

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 7. AIRLINE TYPE RATING PROGRAMME (ATRP)

### 7.1. GENERAL

7.1.1 Approval of Airline Type Rating Programme (ATRP) will be done in accordance with CAR Section 7 Series D Part V. Apart from the approval and inspection process, surveillance of ATRP will be carried out on an annual basis to ensure that these organisations continue to comply with the standards based on which approval was given.

### 7.2. PRE-REQUISITES FOR ATRP

7.2.1 The operator shall have a minimum fleet of five aeroplanes for the type proposed to be included in the ATRP. For operators with an approved ATRP on one type of aeroplane, the requirement of a minimum fleet of 5 aeroplanes for another type may be met by an order of the additional type without the aeroplanes being held on strength at time of inclusion of the additional type in the ATRP.

7.2.2 The operator shall have completed minimum 1 year of operations with at least one training audit cycle completed by DGCA.

7.2.3 The operator shall have a minimum of 4 approved ground instructors for each aeroplane type proposed to be included in the ATRP of which a minimum of 2 performance and 2 technical instructors each, minimum of 4 approved instructors/designated examiners of which 2 shall be SFI/TRIs and 2 shall be DEs for the aeroplane type proposed to be included in the ATRP.

### 7.3. GENERAL REQUIREMENTS


7.3.1 A scheduled operator may carry out type rating for pilots employed by it through an ATRP or an ATO. The Operator's Conversion Course (OCC) required by CAR Section 8 Series F Part II may be integrated with the ATRP without the need to conduct this separately as in the case when the type rating is carried out in an ATO.

### 7.4. SCOPE OF ATRP

7.4.1 The ATRP will include the following:

- (a) Ground training and examination by the operator's approved ground instructors.
- (b) Flying/ Simulator training by DGCA authorized SFI/TRIs and ATO.
- (c) Skill tests by Designated Examiners.

Note: Training and checking under the ATRP shall be in accordance with the type rating syllabus approved by FSD, DGCA.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 7.5. APPROVAL OF ATRP

7.5.1 DGCA shall inspect and approve the ATRP of an operator prior to the implementation of such training. The approval shall be documented as part of the Operations Manual Part D approval.

7.5.2 The issuance of an ATRP approval for an operator and the continued validity of the approval shall depend upon the operator being in compliance with the requirements of the CAR.

## 7.6. RECORDS

7.6.1 The operator shall retain detailed student records to show that all requirements of the training course have been met as approved by the DGCA.

7.6.2 The operator shall maintain a system for recording the qualifications and training of instructional and examining staff, where appropriate.

7.6.3 The records required by Para 7.6.1 shall be kept for a minimum period of three years after completion of the training. The records required by Para 7.6.2 shall be retained for a minimum period of three years after the instructor or examiner ceases to perform a function for the operator.

## 7.7. OVERSIGHT


7.7.1 DGCA shall maintain an effective oversight programme of the ATRP to ensure continuing compliance with the approval requirements. The oversight programme may be integrated with the operator's training programme annual inspection.

7.7.2 If any ATRP does not meet these requirements, then FSD, DGCA will issue a letter suspending the approval immediately.

7.7.3 The oversight programme should also check the ground instructor approval process, quality of the questions in the question bank of the operator and the number of revisions to question bank, based on changes in the manufacturer documents.

7.7.4 Policy on conflict of interest should be checked.

7.7.5 Policy on qualification and approval of personnel for setting and vetting the question bank used for evaluating students in ground subjects. Guidelines to personnel for setting and vetting the question bank should also be checked.

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 8. APPROVAL OF FLIGHT TRAINING DEVICES (FTD) AND FULL FLIGHT SIMULATORS (FFS) FOR AIR OPERATORS

### 8.1. PURPOSE

8.1.1 The purpose of this Chapter is to provide guidance to operations inspector to approve the use of Flight Training Devices (FTDs) and Full Flight Simulators (FFSs) for use in air operator training operations. This process ensures the Flight Simulation Training Device (FSTD) operator's manual includes policies, procedures, instructions and information necessary to ensure that aeroplane simulators, training devices and training aids meet the requirements of its DGCA Approved Training Programme.


### 8.2. OBJECTIVE

8.2.1 To determine if the FTD or FFS meets the minimum standards to be used at Level 4, 5, or 6 for FTDs or A, B, C or D for FFSs.

8.2.2 To identify any shortfalls in the FTD or FFS in terms of required functionality, capability and operating environment.

### 8.3. SPECIFIC INSTRUCTIONS

8.3.1 To properly complete this FSTD Use Approval Job Aid in CAP 8200 annexure, the Inspector should have a basic understanding of the FTD and FFS approval process, which is described in detail in OC 15 of 2014 Flight Training Device (FTD) And Full Flight Simulator (FFS) Qualification CAR Sec 7 Series D Part VI. This job aid, which should be utilized for each FTD and FFS intended for use in air operator training operations, is placed at Annex 21.

 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 9. LEASE AND INTERCHANGE AGREEMENTS BETWEEN STATES

### 9.1. INTRODUCTION


9.1.1 ICAO specifies that the fundamental responsibility for the operation of an aircraft lies with the State of Registry. However, special conditions may arise as a result of aircraft leasing or interchange agreements between an operator and an operator or leasing company in another State. Unless suitable arrangements are made, complex legal, safety, and enforcement problems may be created for both the State of Registry and State of the Operator. It is therefore, essential that agreement is reached on two key issues:

- (a) Which State's regulations are to be applied and which State is responsible for the safe operation and airworthiness of the aircraft.
- (b) Which operator (lessor or lessee) is responsible for the day to day operational control of the leased aircraft

### 9.2. CAP 3200

9.2.1 Lease and interchange is covered in CAP 3200 Aircraft Leasing Manual and the FOI shall refer to this manual for guidance on procedures for lease and interchange.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<h2>CAP 8200</h2>	
		<h3>Volume 2</h3>	
		<b>Revision 0</b>	<b>May 2018</b>

## 10. SAFETY RISK ASSESMENT GUIDANCE MATERIAL

### 10.1. INTRODUCTION

Compliance with CARs is not optional. Occasionally, however, there may be situations where it may not be possible to comply with the directions given in the CARs /CAPs because of exceptional circumstances, physical constraints, non- availability of specified equipment etc. which may warrant exemptions from the CARs./ CAPs However such deviation would be an exception and not the norm. To cater to such circumstances, sub-rule (4) of Rule 133A of the Aircraft Rules, 1937 provides Director-General of Civil Aviation (DGCA) the power to exempt any aircraft or class of aircraft or any person or class of persons from the direction(s) given in CARs, either wholly or partially,

PROCEDURE FOR SEEKING EXEMPTIONS is laid down in CAR Section 1 Series B Part III, Under which a person/ organization seeking exemption shall submit separate application for exemption(s) to a CAR in the prescribed proforma to DGCA (Appendix).The application for exemption shall clearly state the reasons with full justification for seeking exemption and be supported with the reasons for non-compliance, safety assessment reports, along with means of mitigation and clear indication as to when compliance can be expected with full documentation.

In all cases, before granting exemption, it shall be ascertained that an equivalent level of safety shall be maintained.

DGCA may refuse requests for exemptions which do not have adequate justification for non-compliance.

Action plan for rectification, including the safety assessment and mitigation measures adopted for ensuring the safety, mitigation measures, including the safety assessment proposed to be adopted to ensure safety of aircraft operation is of vital importance.


**Note: This tool kit is prepared by keeping all the essential requirements which deem to be of utmost important before such exemption is granted.**

#### **What is safety risk Assessment?**

The safety risk assessment is a Process to identify actual and potential safety hazards and assess the associated risks; Safety risk management: the identification, analysis and elimination (and/or mitigation to an acceptable or tolerable level) of the hazards, as well as the subsequent risks, that threaten the viability of an organization. (ICAO Doc. 9859)

Safety risk Assessment is a careful examination of what, in your work, could cause harm, so that you can weigh up whether you have taken enough precautions, or should do more to prevent harm. Safety risk Assessment (SRA) is a key component of an SMS and involves two fundamental safety-related activities:

1. Identifying safety hazards


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2. Assessing the risks and mitigating them (reducing the potential of those risks to cause harm).


## GUIDANCE TO INSPECTORS

	Aspects to be analyzed or question to be answered	Answer	Status of implementation
<b>Component 1 – SAFETY RISK ASSESSMENT AND OBJECTIVES</b>			
Element 1.1 – Management commitment and responsibility			
1	Is there a safety risk assessment in place?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
2	The Safety risk assessment is appropriate to the size, nature and complexity of the organisation.	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
3	Is the safety risk assessment signed by the Accountable Executive and prepared /endorsed by Chief of Flight Safety.	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
4	Is the safety risk assessment has inbuilt periodic review to ensure it remains relevant and appropriate to the organisation?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
Element 1.2 – REASONS FOR CARRYING OUT THE SRA.			
1	Has the operator being justified of having made request for the necessary dispensation with in frame work of relevant rules.	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	

NOTE: IF THE ANSWER TO ANY OF ABOVE ITEMS IS NO: THAN INVOLVE YOUR COLLEAUGE FOI.

 सत्यमेव जयते	<h2>Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Element 1.3 – Appointment of personnel preparing SRA			
1	Has the organization appointed a qualified person to prepare and review the SRA?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
2	Does the qualified person have direct access or reporting to the Accountable Executive concerning the implementation of the outcome of SRA ?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
3	The person responsible for administering the outcome does not hold other responsibility that may conflict or impair his role.	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
<b>Component 2 –SAFETY RISK MANAGEMENT</b>			
Element 2.1 – Hazard identification process-for data collection			
1	There is a process for voluntary hazards/ threats reporting by all employees.	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
2	Is the voluntary hazard/ threats reporting simple and available to all personnel involved in safety-related duties and commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
3	Does the [organization's] have procedures for incident/ accident reporting by operational or other personnel?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
4	Is incident/ accident reporting simple, accessible to all personnel involved in safety-related duties and commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
5	Does the [organization] have procedures for investigation of all reported incident/ accidents?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	
6	Are there procedures to ensure that hazards/ threats identified or uncovered during incident/ accident investigation processes are appropriately accounted for and integrated into the organization's hazard collection and risk mitigation procedure?	<input type="checkbox"/> Yes <input type="checkbox"/> Partial <input type="checkbox"/> No	

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Inspector involved and participants need to brainstorm the types of safety hazards they think may threaten the safety of passengers, employees or contractors. The group should also consider those hazards which could damage equipment, or harm the environment. For example, for flight crew, fuel exhaustion would be a hazard that could result in the loss of both an aircraft and its passengers. For maintenance engineers, fatigue might be a hazard during night shift operations.

There may also be systemic hazards – organizational factors that could result in safety related issues. These hazards include: insufficient training; lack of policies or procedures; and people not following these policies or procedures.

### **Step 2: Rank and assess the severity of the safety hazards**

Assess the hazards critically. Factors to consider are the likelihood (how often the hazard might result in a safety occurrence), and the severity (how bad the outcome would be) of any consequences. For example, a serious in-flight fire might be an unlikely occurrence, but it would be catastrophic if it were to occur. It would rank above a bird strike which, although much more likely to occur, tends to be less severe. Keep the process simple and get global views about how significant an issue the hazard really is, in the context of all the hazards identified.

### **Step 3: Identify the controls/defences in place to manage the hazards**

Once you list the hazards and rank their order of risk, you should identify possible defences (hazard controls) against them. One defence against an in-flight fire is a fire extinguisher; a defence against aircraft fuel contamination is correct fuel filtration procedures and regular fuel testing. This step should provide a list of current controls/defences against each hazard: some controls will defend against multiple hazards.

### **Step 4: Assess the effectiveness of the current controls/defences**


How effective is each hazard control/defense? Would the control prevent the occurrence (i.e. does it remove the hazard?), or just minimize the likelihood or the consequence? You can determine how effective a hazard control is by asking, for example: 'Does the crew know how to use the fire extinguishers, and are the extinguishers correctly maintained?' You will then have a list of effective controls, as well as a list of which controls need improvement.

### **Step 5: Identify further controls/ defenses required**

Examine each hazard and its control/s to determine whether the risk is adequately managed or controlled. If it is, the operation can continue. If not, consider how to improve the hazard control, or to remove or avoid the hazard entirely. For example, you could provide recurrent training for crew in the correct use of fire extinguishers.

You should manage the risk to a point of ALARP—as low as reasonably practicable.

In some instances, there could be a range of solutions to manage a risk. Typically, some are engineering solutions (e.g. redesign), which, although probably the most effective, may also be expensive. Others involve control (e.g. operating procedures) and personnel (e.g. training) and might be less costly. The solution need not be costly to be effective.

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**Step 6: Record all this information in a hazard register**

After completing these steps, you should have the following:

- »» A list of safety hazards identified by employees, ranked in order of importance
- »» A list of current controls/defenses in place to manage these hazards
- »» A list of further controls/defenses required to improve safety across the operation
- »» Staff involvement in identifying safety deficiencies and priority areas for improved risk management
- »» Who is going to do it.

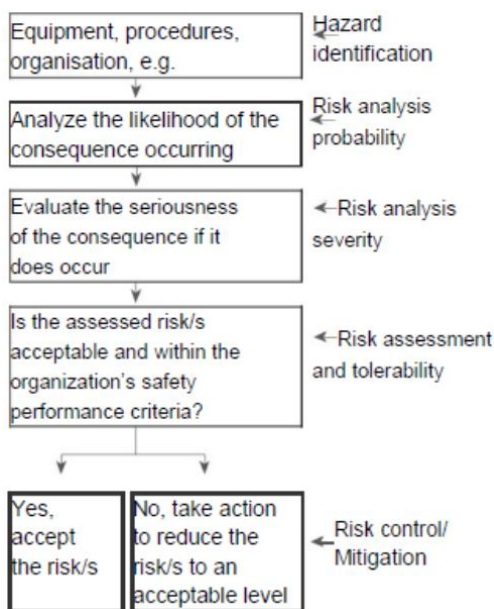
**Risk assessment and mitigation**


The term *risk* refers to the chance that somebody could be harmed by various hazards, together with an indication of how serious the harm could be.

Risk management is an integral component of safety management and involves five essential steps:

You can ask an advisor to help you. If you are not confident, ask someone competent for advice. In all cases, you should make sure that you involve your colleagues. They will have useful information about how the work is done that will make your risk assessments more thorough and effective.

**Safety risk management**



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## Step 1: Identify the hazards

Work out how safe operations could be harmed. The hazard identification methods already mentioned are a good start.

»» Involve your colleagues they may have noticed things that are not immediately obvious to you.

»» Review accident records—they can often help to identify less-obvious hazards.

»» Review previous safety occurrences and maintenance errors. These will help in understanding risks and their potential Likelihood and consequences.

**Don't overcomplicate the process.** You should already have a good idea of the risks and of any control measures that you can easily apply. **Example:** One of the safety concerns for air transport operators is incorrect loading of passengers or freight on the aircraft, which can lead to accidents.

## Step 2: Decide what might be harmed and how the harm might be caused

For each hazard you need to be clear about what might cause harm. This will then help you identify the best way to manage the risk. That doesn't mean listing everyone by name, but rather identifying groups of people (e.g. flight crew, cabin crew and passengers).

In each case, you should identify what might occur. You will also need to identify the possible reasons (root causes) of the hazard.

### Identification of the severity/consequence of the event

Take into account any current mitigation measures and assess the severity in terms of the worst possible realistic scenario.

Level	Severity/ Consequence	Descriptor
5	Severe	Catastrophic (at least one fatality, huge financial loss)
4	Major	Major (extensive injuries to one or more people, major financial loss)
3	Moderate	Moderate (medical treatment required, high financial loss)
2	Minor	Minor (first aid treatment at the workplace, medium financial loss)
1	Negligible	Insignificant (no injuries, low financial loss)

### Likelihood of occurrence

Take into account any current mitigation measures and assess the likelihood/probability of the risk occurring.

Level	Likelihood	Descriptor
5	Almost certain	Imminent—is expected to occur in most circumstances
4	Likely	Once in the next month, will probably occur in most circumstances
3	Possible	Once in the next 12 months, might occur at some time
2	Unlikely	Once in the next 1–5 years, could occur at some time
1	Rare	Once in the next 10 years—may occur only in exceptional Circumstances

The Inspector will re-enter the results into the safety report and hazard log.

Use the risk tolerability matrix to assess how tolerable the risk is using the results obtained from the assessment of the consequences and likelihood.


		Consequence				
		1	2	3	4	5
Likelihood	5 Almost certain	6	7	8	9	10
	4 Likely	5	6	7	8	9
	3 Possible	4	5	6	7	8
	2 Unlikely	3	4	5	6	7
	1 Rare	2	3	4	5	6

> 7	<b>Extreme risk</b>	Detailed treatment plan Required
6 to 7	<b>High risk</b>	Needs senior management attention and treatment plan as Appropriate
4 to 5	<b>Medium risk</b>	Manager-level attention and monitoring as Appropriate
< 4	<b>Low risk</b>	Manage by local-level Procedures

The FOI will enter the results into the hazard register: REFER SSP CIRCULAR 1 OF 2012.

**Step 3: Evaluate the risks**



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<h2 style="margin: 0;">CAP 8200</h2>	
		<h3 style="margin: 0;">Volume 2</h3>	
		<b>Revision 0</b>	<b>May 2018</b>

Having analyzed the identified the hazards, you then have to decide what to do about them. You must 'do everything reasonably practicable' to analyze the mitigation measures of the risks of identified . Examine what you are already doing. Think about what controls are in place and how the work is organised. Then compare this with good practice and see if there is more needs to be done to bring it up to standard. Ask yourself:

»» Can the hazards be eliminated altogether?

If not, how controls are placed so that harm is unlikely?

»» Is there a less risky option? Prevent access to the hazard? Reduce exposure to the hazard?

Improving safety need not cost an enormous amount. For instance, placing a mirror on a dangerous blind corner of the airport apron to help prevent vehicle accidents is a low-cost precaution, considering the risks. Failure to take simple precautions can be much more costly if an accident does happen.

**Evaluate risk level** – An important task in analysing risk is to determine the risk level based on its *likelihood* and *consequence*.

Likelihood consists of two parts:

»» The likelihood of a single event occurring

»» The likelihood of the event occurring based on exposure and repetition (how often the task is performed, such as cycles of aircraft maintenance, base training of the pilots etc.)

A simple way to determine the *likelihood* is to rank the hazard based on its potential frequency of occurrence. This can be done on a simple five-point scale, from 'rare' to 'almost certain'.

*Consequence* is the potential impact or outcome that may result from the hazard. This can range from insignificant to catastrophic.

**Decide on precautions** – Once you determine the risk levels, assess the safety defences or controls in place to work out how effective they are against the hazard or hazardous event.


#### **Step 4: Record your findings and implement them**

Having assessed the risk and the defences in place, decide how to implement your risk management plans. You may avoid the risk, accept the risk in order to pursue an opportunity, remove the risk, or share the risk with another party.

Putting the results of your risk assessment into practice will make a difference when looking after people and your judgment..

Record the results of your risk assessment and share them with your colleagues. It is important to document what you have done so that you can review it at a later date if anything changes.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

A risk assessment does not have to be perfect, but it must be suitable and sufficient. You need to be able to show that:

- »» you made a proper check
- »» you asked who might be affected
- »» you dealt with all the significant hazards, taking into account the number of people who could be involved
- »» your precautions are reasonable and any residual risk is low
- »» you involved your staff, or their representatives, in the process.

If, as in many organizations, you find that there are a number of improvements to be made, both large and small, do not try to do everything at once. Make a plan of action to deal with the most significant risks first. Inspectors acknowledge the efforts of aviation organizations that are clearly trying to make improvements.

However, you cannot continue operations if a risk is assessed as 'intolerable', until that risk is mitigated to acceptable level.

A good plan of action often includes a mixture of different things. There may be a few cost-effective or easy improvements you can do quickly, perhaps as a temporary solution until more reliable controls are in place. Remember to priorities and tackle the most important things first. As you complete each action, tick it off your plan.

While the majority of safety defences/controls in place were assessed as effective, additional measures are required, which are detailed in a risk management plan outlining short-and longer-term measures:

### **Short-term**

- »» Extra nets and straps to be made available to secure cargo correctly
- »» Standard load sheet to be held in the cockpit at all times.


### **Long-term**

- »» Standard training for all people involved in organization.

### **Step 5: Monitor the effectiveness of your implementation**

Monitor your agreed implementation solutions to make sure they are working, and if they are not, reassess.

### **Step 6: Review your assessment and update if necessary**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Review your risk assessment. Have there been any changes? Make sure your risk assessment stays up to date.

**Set a review date for this risk assessment. Write it down and note it in your diary as an annual event, or enter it in your calendar.**

During the year, if there is a significant change, don't wait. Check your risk assessment and, where necessary, amend it. If possible, think about the risk assessment when you are planning the change – that way you can be more flexible and proactive.

### **ALARP\***

Where risk is concerned, there is no such thing as absolute safety. Risk management is often based on the concept of ALARP or 'as low as reasonably practicable'. There is wide acceptance that not all risk can be eliminated. There are practical limits to how far the industry and the community will go in paying to reduce adverse risks.

The concept of ALARP will be replaced by ALoS (acceptable level of safety) in the very near future.

### **The ALARP principle and cost-benefit analysis**

»» All efforts should be made to reduce risks to the lowest level possible until a point is reached at which the cost of introducing further safety measures significantly outweighs the safety benefit.


»» A risk should be tolerated only if it can be demonstrated that there is a clear benefit in doing so (i.e. there is a compelling operational need in the organization).

The ALARP principle identifies three categories of risk:

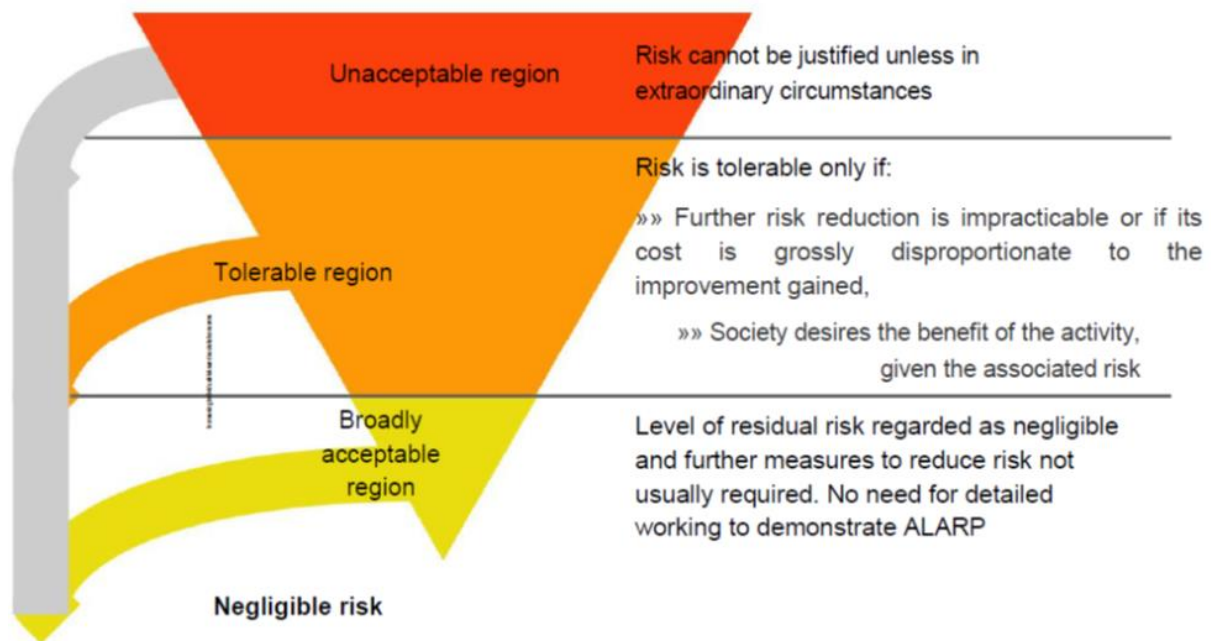
**Unacceptable** Risks are classified as unacceptable regardless of the benefits associated with the activity. An unacceptable risk must be eliminated or reduced so that it falls into one of the other two categories, or there must be exceptional reasons for the activity or practice to continue.

**Tolerable** Risks that people are generally prepared to tolerate to secure their benefits. Tolerable risks must be properly assessed and controlled to keep the residual risk ALARP, and must be reviewed periodically to ensure they remain that way (e.g. the potential risk of pedestrians, walking between the terminal and the aircraft, being struck by a moving vehicle is only tolerated IF appropriate barricading, security escort and lighting are in place).

\* **The concept of ALARP can be replaced by ALoS (acceptable level of safety).**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## The ALARP approach




**Broadly acceptable** Risks are considered sufficiently low and well controlled. Further risk reduction is required only if reasonably practicable measures are available. Broadly acceptable risks are those that people would regard as insignificant or trivial in their daily lives, or which exist, but have no practicable mitigator (e.g. most organizations accept that staff could be injured on their way to work, but have little control over what happens on public roads).

To determine whether a risk is tolerable (in the ALARP approach), you need to consider a number of criteria:

- »» **Legal requirements**
- »» **Expert judgement**
- »» **Cost-benefit analysis**
- »» **Industry good practice**

**If the proposed control represents current, relevant, established good practice, that is sufficient evidence to conclude that it is reasonably practicable. For example, it:**

- **complies with aviation industry standards, rules or procedures**
- **is a practice of other operators that are similar in scale and operation**
- **is established and widely implemented in another industry sector**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 0</b>	<b>May 2018</b>

-- matches other countries' legislated enforcement of the practice

-- is proven to have demonstrably improved safety, or can be implemented without significant modification or cost.

ALARP application

Identification of hazard

Decide who should be involved in the assessment process

Evaluate the risks and decide on precautions

Record your findings and implement them.

Review your assessment and update if necessary

## Risk assessment

### The ALARP principle

The concept of 'As Low as Reasonably Practicable' or ALARP is commonly referred to for risks with significant safety or environmental consequences and is shown in the diagram below. The concept is also applicable for other risks.

The approach is to divide risks into three bands, which align with the risk ratings from the risk matrix at Annex A, as follows:

1. An upper band (risk rating > 7) where adverse risks are intolerable whatever the benefits the activity may bring and the risk reduction measures are essential whatever the cost.
2. A middle band (risk rating of 6 or 7) where costs and benefits are taken into account and opportunities balanced against potential adverse consequences.
3. A lower band (risk rating < 6) where positive or negative risks are negligible, or so small that no further risk treatment measures are needed.

Where risk is close to the intolerable level it is expected that the risk will be reduced unless the cost of reducing the risk is grossly disproportionate to the benefits gained.

Where risks are close to the negligible level then action should only be taken to reduce the risk where benefits exceed the costs of reduction.



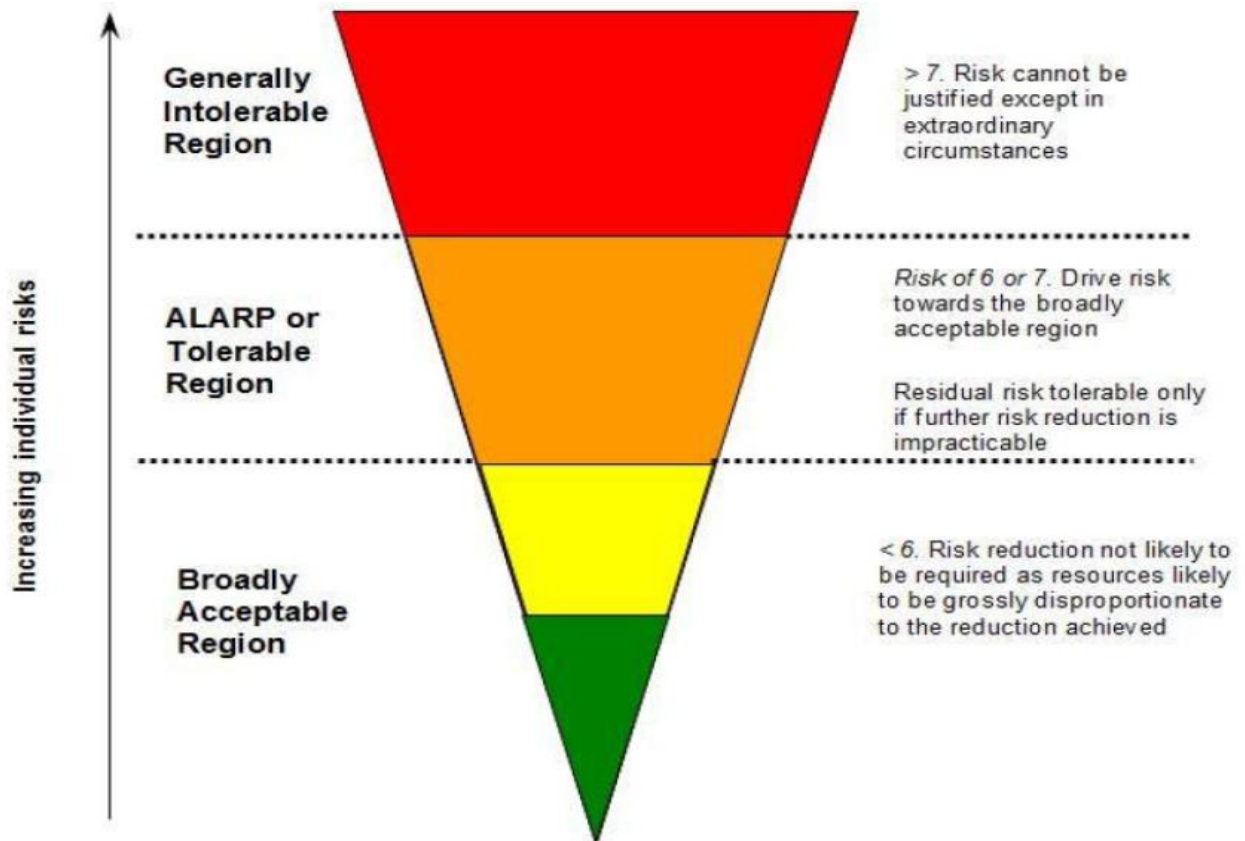
# Flight Operations Inspector Manual

**CAP 8200**

**Volume 2**

**Revision 0**

**May 2018**



## Risk Assessment Matrix – Level of Risk

### Consequence descriptors

	Consequences					
	Insignificant 0	Minor 1	Moderate 2	Major 3	Severe 4	Catastrophic 5
<b>People</b>	Injuries or ailments not requiring medical treatment.	Minor injury or first aid treatment case.	Serious injury causing hospitalisation or multiple medical treatment cases.	Life threatening injury or multiple serious injuries causing hospitalisation.	Multiple life threatening injuries. Aircraft occupant fatality.	Multiple fatalities. Including third party fatalities.
<b>Operational impact on aviation activities</b>	Operational disruption within normal operating parameters.	Operational disruption within normal operating parameters.	Notable but manageable disruption to operations or service delivery with impact to multiple and diverse areas of the business.	Significant degradation of operations or service delivery with impact to multiple and diverse areas of the business.	Severe degradation of operations or service delivery with impact to multiple and diverse areas.	Complete cessation of operations.
<b>Regulatory breach</b>						
<b>Reputation/Public confidence</b>	Minor incident but no media exposure.	Several articles in the local media.	Extended negative coverage in local/state media.	Short term nationwide negative media coverage.	Extended nationwide negative media coverage.	Extended international negative media coverage and material change in public perception of company.
<b>Effect on safety of aircraft operations</b>	Nuisance.	Operational limitation imposed. Emergency procedures used.	Significant reduction in safety margins. Reduced capability of aircraft/crew to cope with conditions. High workload/stress on crew. Critical incident stress on crew. Injury to some occupants requiring medical treatment.	Large reduction in safety margins. Crew workload increased to point of performance decrement. Serious injury to small number of occupants causing hospitalisation. Intense critical incident stress.	Severe reduction in safety margins. Significant performance decrement for crew. Serious or fatal injury to small number of occupants. Intense critical incident stress. Large margin of chance preventing catastrophe.	Conditions preventing continued safe flight and landing. Multiple deaths with loss of aircraft.



# Flight Operations Inspector Manual

**CAP 8200**

**Volume 2**

**Revision 0**

**May 2018**

**>7: Extreme risk**

– detailed treatment plan required

**6.7: High risk**

– needs senior management attention and treatment plan as appropriate


**4.6: Medium risk**

– manager level attention and monitoring as appropriate

**<4: Low risk**

				Insignificant	Minor	Moderate	Major	Severe	Catastrophic
		Numerical	Historical	0	1	2	3	4	5
Probability ↑	>1 in 10	Is expected to occur in most circumstances	<b>Almost Certain (5)</b>	5	6	7	8	9	10
	1 in 10 – 100	Will probably occur	<b>Likely (4)</b>	4	5	6	7	8	9
	1 in 100 – 1000	Might occur at some time in the future	<b>Possible (3)</b>	3	4	5	6	7	8
	1 in 1000 – 10000	Could occur but considered unlikely or doubtful	<b>Unlikely (2)</b>	2	3	4	5	6	7
	1 in 10000 – 100000	May occur in exceptional circumstances	<b>Rare (1)</b>	1	2	3	4	5	6
	< 1 in 100000	Could only occur under specific conditions and extraordinary circumstances	<b>Extremely Rare (0)</b>	0	1	2	3	4	5



 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

### 11. Process for Evaluating a Safety Risk Analysis submitted by an Operator or Individual


When an operator requests a deviation or exemption from a regulation/ requirement, they are required to complete and submit a safety risk analysis as part of the application as given in CAR Section 1 Series B Part III. The POI/ FOI assigned, shall use the following guidance, in conjunction with the guidance provided in Section 10 of this manual, to evaluate the safety risk analysis submitted by the operator or individual.

In evaluating the safety risk of an operator or individual, the FOI should ensure that all stakeholders within the DGCA whose area of responsibility/expertise may be affected by the request are included in the evaluation of the application and the safety risk analysis. The lead FOI must document the evaluation utilizing Job Aid 38 of annexures to CAP 8200 and ensure that it is included in the permanent record along with the application for a deviation/exemption.

The safety risk analysis should identify and evaluate all possible hazards, assign appropriate risk levels, and identify any mitigations along with plans for their implementation to reduce the risk to level As Low As Reasonably Practical (ALARP). As appropriate, the risk analysis should account for the following:

1. Capabilities of the operator;
2. Overall capability of the aircraft and its systems;
3. Applicable ground-based technologies, capabilities and infrastructure;
4. Quality and reliability of flight planning and operational information;
5. Identification of hazards and safety risks associated with aerodrome variation;
6. Experience of the flight, cabin-safety, dispatcher and maintenance staff as applicable;
7. Experience of the individual or operator's management team;
8. Training programs;
9. Maturity of operational and maintenance policies, processes and procedures;
10. Previous compliance history;
11. All other conditions relevant to the requested deviation or exemption; and
12. Specific mitigation measures.


The review team must verify that all potential hazards have been identified by the operator or individual and that the appropriate risk level has been assigned based on the probability and severity of its occurrence. For each hazard resulting in a risk that has not been reduced to ALARP, the review team must ensure that mitigation has been identified and evaluated to be effective and implementable in reducing the risk to ALARP. The team should ensure that mitigations action may not potentially introduce other risks that individually or in combination with other risks would be unacceptable. Once all mitigations have been applied, the highest risk level for all identified hazards must not exceed the acceptable level.

 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

Even after risks have been reduced to ALARP and found to be acceptable, the responsible management team member for the operator or individual who has been identified as having the authority to accept the residual risk should sign and accept the residual risk, if any, entailed in the proposal.

Once the DGCA review team is satisfied that the risk analysis submitted by the applicant is satisfactory and has completed Job Aid 38 of annexures to CAP 8200, the DGCA review team will conduct an internal risk analysis in accordance with Chapter 10 above in order to evaluate the hazards and risk associated while granting the approval to operator or individual's request.



	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

## 12. AERODROME DATA AND AIRPLANE PERFORMANCE

### 1. Introduction.

1.1 Aeronautical data is data used for aeronautical applications such as performance calculations, navigation, flight planning, flight simulators, terrain awareness, and other purposes (e.g., navigation data, terrain and obstacle data, and Aerodrome mapping data). This data is usually published as maps and charts in physical or electronic formats. Detailed guidance on the publication of aeronautical maps and charts in accordance with ICAO's standards and recommended practices is given in CAR Section 9 Series G Part I.


1.2 Authenticated Aerodrome data especially pertaining to runway/ taxiway availability and obstacles is essential for correct airplane performance calculations in order to meet the operational safety requirements. Flight Operations Inspectors are required to review and approve the performance data sections of Operations Manuals (OMs) at the time of certification in order to ensure safe conduct of operations. Accordingly, they must also ensure that data is obtained from an approved source.

1.3 This section contains specific information, direction, and guidance to inspectors for the review and approval of Aerodrome data acquisition procedures of operators. i.e. it contains guidance for accepting or approving an operator's system for acquiring Aerodrome data. It also contains guidance for reviewing and approving the performance data in Company Operations Manuals.

2. Most of the data required for flight operations can be obtained by a subscription to a standard government or commercial aeronautical navigation charting service, such as the AAI's AIP service or the Jeppesen/Sanderson Company. Operators of large transport category airplanes and commuter category airplanes require obstacle information for takeoff performance analysis which is more detailed than information provided by standard navigational charting services.

3. **Approval or Acceptance.** Approval or acceptance of the operator's system of obtaining aeronautical data by the DGCA shall be through the CAP 8100 approval. All operators should list one or more standard charting services in their OM Part C. For operators requiring obstacle data and maintaining a department to collect and process that data, a statement that the operator shall maintain the Aerodrome data acquisition system in accordance with a specified document should be entered. For operators who contract from another party for obstacle data, both the contracting party and the contract containing the specific responsibilities of both the operator and contractor shall be identified in the OM. Preferably, the document itself should be a part of the OM Part C. An example of such a Formal Arrangement is placed at Appendix to this chapter.

4. **Obstacle Data Sources.** There are several data sources that an operator or contractor may use to acquire obstacle data. Principal operations inspectors (POI) should be aware that no one source of data is sufficient and a combination of the following sources is required.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

4.1 Aerodrome Obstacle Charts – Type A and Type B (AOC). AOCs are produced by the AAI for licensed aerodromes. An Aerodrome analysis must be based on an AOC if one has been published for the Aerodrome being analyzed. AOCs must be augmented with other information sources, however, for the following reasons:

4.1.1 AOCs are primarily produced for Aerodromes with precision instrument approaches.

4.1.2 Terrain surrounding the Aerodrome, which can have a significant impact on allowable takeoff weight, may not be shown on an AOC.

4.1.3 Chart revision is usually conducted every 2-4 years depending on the aerodrome operator. For many Aerodromes, however, the most recent chart revisions are considerably older.

4.2 Terrain Charts. Terrain charts are produced by the Geological Survey of India for aviation usage as well as various other uses. Terrain charts are primarily used for Aerodromes located at high altitudes where the obstacles consist of terrain rather than man-made objects.


4.3 Local Layout Plans. Local layout plans may be used when AOCs are not available. Since local layout plans must be prepared as a pre-condition of Aerodrome approval, the layout plans are available for many of the Aerodromes that do not have an AOC. Local layout plans contain depictions of obstructions and terrain. The layout plans may be as much as 3 to 5 years old so local surveys must be made. Local layout plans may be obtained from Aerodrome owners or organized by the operator from authorized surveyors.

4.4 An Aerodrome Master Record, is available with the Directorate of Aerodrome Standards for all public use Aerodromes. This master record contains comprehensive data on Aerodromes, including obstacles. The master record is updated regularly for those Aerodromes where scheduled operations are conducted. For other Aerodromes this data may not be updated for long periods.

4.5 Aerodrome Terrain and Obstacle Chart — Electronic. The electronic chart shall portray the terrain and obstacle data in combination with aeronautical data, as appropriate and approved by DGCA.

4.6 Notices to Airmen (NOTAM). Temporary and immediate changes to Aerodrome information are published as NOTAMs.

4.7 Indian Air Force/ Defence sources provide the requisite aeronautical data for defence airfields. Defence Airfields are not permitted for survey by civil agencies and for operations to such airfields, the data provided by the defence authorities needs to be relied upon.

	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

4.8 Foreign Government Publications. Runway and obstacle data, similar to AAI publications, is available for most foreign Aerodromes. Access to this information must be obtained through the appropriate agency.

4.9 International Civil Aviation Organization (ICAO) Aeronautical Information Publications. ICAO publishes several forms of aeronautical data in forms similar to AAI publications in format, purpose, and coverage. This information is available by subscription and the operators can be asked to obtain the same.

4.10 Station Managers. Most domestic and international operators give station managers the tasks of maintaining surveillance of Aerodromes, gathering obstruction data, and reporting any actual or potential changes. Managers do this through personal observation, liaison with the Aerodrome management, and participation in groups, such as a snow removal committee. Before such information may be used, it must be verified by an official source. For example, one operator performs this verification by sending the Aerodrome manager a copy of the AOC and requesting that the Aerodrome manager plot the new obstacle and then sign and date the chart.

4.11 Customer Interaction. Large commercial services selling Aerodrome data are rapidly alerted to changes in obstacles by their customers. The commercial service then verifies the data from an official source and publishes the change.

**5. Approval of Data Acquisition Systems.** POIs may approve data acquisition systems using the following information and guidance.

5.1 Characteristics of Approvable Systems. Acceptable system for the acquisition of obstruction data must have the following characteristics:

5.1.1 The system must include all Aerodromes and runways on which operations are conducted. The original data should be based on AOCs or the ICAO equivalent. Data must be updated by active surveillance. When an operator serves Aerodromes where AOCs are not available, other systems based on other data sources may be approved. The operator must show that the data is complete and accurate. To ensure accuracy, the data must be maintained. In individual cases, the POI may approve the use of data from an operator-conducted survey.

5.1.2 The operator must demonstrate the capability of maintaining continuous surveillance on the Aerodromes and runways served. Subscribing to a government publication is not sufficient surveillance because of the stated limitations of the data in these publications. Updated data must be validated and documented. The operator must have an active and timely revision process with sufficient personnel and physical resources to collect, process, and revise the data.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

5.2 Contractors and Commercial Sources. POIs may approve or accept data systems that are operated by a contractor for the operator and that meet the laid down criteria as follows: -

5.2.1 The primary issue in approving a contractor-operated system is the contractor's ability to maintain the required Aerodrome surveillance. The contractor may do this by demonstrating that its client base adequately performs this function. A contractor who cannot demonstrate adequate surveillance capabilities cannot be approved.

5.2.2 POIs need not require that operators provide extensive documentation of the contractor's capabilities if the contractor is well established, has a wide client base, and provides a standardized service. When the POI has concerns about the contractor's capabilities, or when the operator proposes that the contractor provide a unique service, the POI shall require that the operator conduct a full analysis of the contractor's competence and then submit the analysis to the POI. When the POI is unsure of which course of action to take, the POI should seek guidance from DGCA Headquarters.

**6. Performance Data Computation Systems.** A performance data computation system is defined as the system the operator uses to produce the data required to operate an airplane within the performance limitations specified in the Airplane Flight Manual (AFM). The performance data computation system consists of at least the following components:


6.1 An airport data acquisition, maintenance, and dissemination system.

6.2 Performance data for each variant aircraft the operator operates in a format readily usable by the flight crew. (This data may be obtained from the AFM directly or purchased in a digital format suitable for computer processing.)

6.3 Manual computation procedures or a computer algorithm for converting aircraft performance data from the AFM format to the format used by the flight crew. (The system must make all necessary computations for determining the maximum allowable weight for takeoff and for determining the V speeds to be used at the selected weight.)

**7. Current Industry Practices.** There are a wide range of methods for: collecting airport and obstacle data; preparing airport analyses; and preparing, publishing, and distributing the performance data sections of OMs. To implement each or all of these functions, operators may either establish a department within the company or contract the work out. Operators may contract for the collection of airport and obstacle data but produce the airport analysis in-house. Other operators may supply airport data to aircraft manufacturers or other contractors who prepare the airport analysis. Generally, major airlines do more of this process in-house, while smaller operators may contract for these services.

**8. Manual Computation System from AFM Data.** Operators may choose to have flight crew members, dispatchers, or flight followers conduct manual data computations from the AFM performance section for each takeoff. This system is flexible because it can be used for any

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

runway for which the required input parameters can be obtained. The disadvantage of such a system is that computations can be difficult, complex, time-consuming, and error-prone. Flight crew members, flight followers, and dispatchers must be carefully and thoroughly trained in such a system. Flight crews must be supplied with the location of the controlling obstacle for each runway used. While this system is widely used for small airplanes, it is impractical for the routine operations of large airplanes because of the complexity of the required computations and the high probability of human error. The system is, however, available to the operator for backup in the case of computer failure and for special one-time requirements.


**9. Tabulated Data Method.** AFM data may be combined with airport and runway data and published in tabular format. The product of this tabulated data method is usually termed an airport analysis. Typically, the flight crew is provided with a table for each runway and flap setting. The flight crew member enters the temperature on the table to determine maximum allowable takeoff weight and then enters the actual weight to determine the V speeds. Additional corrections are required for factors such as wet or contaminated runways and winds.

**9.1 Tabulated Data.** Tabulated data is easier to use, less error prone, and requires less training than is required for AFM data. A properly designed OM system retains most of the operating flexibility of the AFM system. A tabulated data system reduces, but does not eliminate, human error. Disadvantage of the tabulated data system is that crewmembers must maintain an up-to-date chart for each runway from which operations are authorized. A means must be available to transmit current charts to the flight crew before they are needed. Provisions must be made for temporarily shortened runways.

**9.2 Generating Performance Data Tables.** The operator must be capable of generating performance data tables which retain the degree of accuracy inherent in the AFM data. Generally, this must be done manually, by carefully picking data points from a graph, entering the data into a computer, and carefully verifying the generated points. The amount of work required to prepare tabulated data from an AFM often precludes operators from generating their own data packages. Most often the operator will be required to buy a digital data package from the manufacturer from which to generate the required tables. POIs may approve other sources, however, when the operator can adequately establish the accuracy of the data.

**9.3 Performance.** The operator's system must be capable of performing all of the required computations for each takeoff situation, including the selection of the correct controlling obstacle for each flap setting.

**10. Simplified Data Method.** A simplified data system is based on a specified set of assumptions about the conditions under which the aircraft will be operated. For example, takeoffs might be limited to runways longer than 5,000 feet and less than 4,000 feet elevation. In this system, the crew is supplied with a simple chart or set of cards which gives the V speeds at specified weight increments. This chart is used on all runways. The operator performs an airport analysis for each airport served and demonstrates that when the aircraft is operated in accordance with the specified set of assumptions, it will perform either equal to, or better than,

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

the performance required in the applicable regulations on all runways the crew is authorized to use.

10.1 **Advantages.** Some of the system's advantages are: its relative simplicity, the lack of crew error, the ease of crew training, and the speed with which the crew can determine V speeds.

10.2 **Disadvantages.** Some of the system's disadvantages are: it often imposes severe performance penalties on operators, it is inflexible, and operations must either be terminated or an alternate system used when the simplifying assumptions cannot be met (for such conditions as construction, part of runway closed, ice, rain, or shortened runways).

10.3 The system is best suited for operators who serve a limited number of locations regularly and who operate either at large airports, near sea level, or at moderate temperatures.

11. **Real-time Method.** A real time data system is one in which the required computations are made immediately before takeoff for every flight. Usually the data is relayed to the flight crew by radio or through Aircraft Communications Addressing and Reporting System (ACARS). The advantages of such a system are that it is extremely flexible, up-to-date, and efficient. Changes in obstacles due to construction, weight, temperature, and runway can be handled immediately. Also, the operator can take maximum advantage of the performance capabilities of the airplane. Some disadvantages of the system are that it is expensive, it requires extensive equipment and highly trained personnel to operate, and that adequate backup must be available should the main computer go offline. The operator must be able to collect all of the required data, process it, and transmit it to the crew quickly.

12. **Evaluation of an Operator's System.** Generally, POIs do not have the capability to verify each data point when approving the performance data section of a OM. The validity and reliability of the computation system itself, however, can be evaluated.

12.1 **Provide Analysis.** POIs shall require the operator to provide an analysis, with documentation, of the following:

12.1.1 Source of the computer program;


12.1.2 Assumptions on which the computer program is based (for example, they must determine if the correct factors are used for each type of aircraft);

12.1.3 Source and accuracy of the databases used;

12.1.4 Operator's capability for handling data; and

12.1.5 Results of parallel manual calculations made with AFM data to confirm results.



 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

**12.2 Coordinate.** The POI should coordinate with the principal maintenance inspector (PMI) to ensure that the operator's airplanes meet the specifications of the certification regulations. For example, a small airplane may have been modified to install more than the original nine seats. Unless all of the required modifications have been completed, the airplane may not qualify for the proposed operation.

**12.3 Responsible.** When the operator contracts for data or computation, the operator is responsible for the validity of the results. POI may find that the contractor has been previously evaluated and approved for another operator. The POI may approve reputable sources for these services that have been previously evaluated.

**12.4 Procurement.** Operators should procure computer programs from a reliable source. The computer programmers should be qualified in both education and experience. The validity of the computer program should be validated by aeronautical engineers and computer specialists.

**12.5 Performance.** All of the calculations required in the regulations for the type of airplane involved must be performed, including en route and destination calculations.

**12.6 Obtaining Data.** For real-time systems, the operator's method of obtaining data for a specific flight and for transmitting that data to and from the individual performing the calculations must be shown to be accurate and timely.


**12.7 Review.** The POI or a designated inspector should review the verification process conducted by the operator. Several runways at different airports should be selected for verification with the AFM data. Short runways with obstacles should be checked by manual calculation, particularly at airports with higher temperatures and elevations. The operator should be able to identify all of the obstacles evaluated by the computer and the one selected as the limiting obstacle in each case. The POI must be aware that under different temperature and weight conditions, a different flap setting may be required, and different obstacles may be controlling. The inspector should ensure that the operator has verified the limiting obstacle under various conditions and flap settings.

**13. Approval Criteria.** POIs may approve any method of performance data computation and presentation that meets the following criteria:

**13.1** The system must make all of the computations required in the AFM and in the pertinent operating rules.

**13.2** Provisions must be made in the system for all makes, models, and variations of aircraft used by the operator.

**13.3** The system must account for all pertinent variables such as temperature, weight, thrust, runway condition, and obstacles.

 महत्त्वं जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

13.4 The system must be appropriate to the operator's requirements. Large, highly complex airplanes usually require very different systems from those required for small, simple airplanes.

13.5 The system must be reliable in that identical answers must be generated each time the process is entered with identical parameters.


13.6 The system must be accurate in that it generates performance data that agrees with AFM data within the degree of accuracy inherent in the original AFM data. For example, when the AFM data is accurate to +2 percent, the operator's system must produce results that do not deviate from the AFM data by more than +2 percent.

13.7 The system should be relatively simple, easy to use, and not error-prone.

13.8 When simplifying assumptions are made, those assumptions must be clearly and completely stated in the operator's Operations Manual (OM) as operator-imposed limitations (for example, a maximum field elevation of 4,000 feet and minimum runway length of 5,000 feet). When the assumptions cannot be met, the actions to be taken by the flight crew, flight followers, and dispatchers must be clearly specified. In such cases, operations must be prohibited or alternate procedures specified.

13.9 The flight crew procedures for generating, obtaining, and verifying data must be thoroughly described in the OM.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

### Example of Formal Arrangement

#### Scope

This Formal Arrangement (FA) documents the agreed provision of services for the supply of Aeronautical Information or Data by **[organisation name]** (The Data Originator/Authorised Source) to **[organisation name]** (The requesting Authorised Source/AISP), and the agreed standards to which said information or data shall be provided.

#### Signatories to the Agreement

The following signatories have reviewed and approved this FA.

**[Insert Data recipient's details here] [Insert Data Originator details here]**

#### Term

The term of this FA shall be as follows-

**Start Date: [Insert start date here]**

**End Date: [Insert end date here]**

or

**Duration: [Insert duration here]**

Once agreed specified parties cannot withdraw from this FA within the above dates without the consent of the other signatories.

#### Service Description

The Data Originator/Provider will provide the Aeronautical Information/Data to the signatory identified above.

**[List here a description of the aeronautical information/ data being provided/ received]**

#### Exclusions


**[Detail any exclusions to the Service Description]**

#### Limitations

**[Detail any limitations on the use of the aeronautical information/data being provided/received]**

#### Entities Involved

**[Detail any other entities involved in the FA here]**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

### Service Levels – Data Originator/Provider

All data shall be provided in accordance with the following criteria:

- A declaration by each party mentioned in the FA that the legislation requirements of the ADQIR have been met.
- The signatories to this FA shall meet the regulatory requirements of applicable DGCA CAR Section 9 Series G and Series I.
- The data shall include its effective date.
- The data shall include its period of validity
- The data shall be provided at least **[insert timeliness requirement]** days prior to the effective date
- The data shall be provided by **[insert delivery requirement]**

### Service Levels – AISP (only)


- The AISP shall process the data upon receipt.
- The AISP shall publish the data within the requested publication unless otherwise agreed, in writing, with the data originator.

### Reporting

Any signatory to this FA shall report to the other signatory any failure to uphold the requirements detailed in this FA.

### Changes to this FA

Any changes to this FA shall be agreed by all signatories beforehand and be subject to DGCA approval/ acceptance.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

## CHAPTER 13 - VALIDATION OF METREOLOGICAL DATA PROVIDED BY AN AIR OPERATOR/SERVICE PROVIDER TOWARDS OPERATION AND FLIGHT PLANNING-GUIDANCE MATERIAL

### 1. INTRODUCTION

From the early days of aviation, it was realized that meteorological information was vital for the planning and a constant factor for the safe conduct of flights; pilots need to be informed about meteorological conditions along the routes to be flown and at their destination aerodromes. The high operating cost of modern aircraft means that optimum use must be made of available meteorological information and that forecasting accuracy must continue to be improved. The increasing use of flight management computers and the establishment on-board aircraft of reliable data links between aircraft and ground make it possible to monitor flight progress and update flight plans on the basis of new weather conditions.


This chapter provides guidance to the inspectors for the certification, evaluation for the validation of meteorological data, meteorological information that shall be used by operators and flight crew members for:

- a) Pre-flight planning by operators;
- b) In-flight re planning by operators using centralized operational control of flight operations;
- c) Use by flight crew members before departure; and
- d) Aircraft in flight.

1.1 Meteorological information supplied to operators and flight crew members shall cover the flight in respect of time, altitude and geographical extent. Accordingly, the information shall relate to appropriate fixed times, or periods of time, and shall extend to the aerodrome of intended landing, also covering the meteorological conditions expected between the aerodrome of intended landing and alternate aerodromes designated by the operator.

1.1.1 Meteorological information supplied to operators and flight crew members shall be up to date and include the following information, as agreed between the meteorological authority/ service provider and the operators concerned:

- a) Forecasts of:
  - 1) Upper wind and upper-air temperature;
  - 2) upper-air humidity;
  - 3) Geo-potential altitude of flight levels;
  - 4) Flight level and temperature of tropopause;

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

- 5) Direction, speed and flight level of maximum wind;
- 6) SIGWX phenomena; and
- 7) Cumulonimbus clouds, icing and turbulence;

Note 1. — Forecasts of upper-air humidity and geopotential altitude of flight levels are used only in automatic flight planning and need not be displayed.

Note 2. — Forecasts of cumulonimbus clouds, icing and turbulence are intended to be processed and, if necessary, visualized according to the specific thresholds relevant to user operations.

b) METAR or SPECI (including trend forecasts as issued in accordance with regional air navigation agreement) for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;

c) TAF or amended TAF for the aerodromes of departure and intended landing, and for take-off, en-route and destination alternate aerodromes;

d) Forecasts for take-off;

e) SIGMET information and appropriate special air-reports relevant to the whole route;

Note. — Appropriate special air-reports will be those not already used in the preparation of SIGMET.

f) Volcanic ash and tropical cyclone advisory information relevant to the whole route;

g) as determined by regional air navigation agreement, GAMET area forecasts and/or area forecasts for low-level flights in chart form prepared in support of the issuance of AIRMET information, and AIRMET information for low-level flights relevant to the whole route;

h) Aerodrome warnings for the local aerodrome;


i) Meteorological satellite images; and

j) ground-based weather radar information.

1.1.2 Forecasts listed under shall be generated from the digital forecasts provided by the WAFCs whenever these forecasts cover the intended flight path in respect of time, altitude and geographical extent, unless otherwise agreed between the meteorological authority and the operator concerned.

When forecasts are identified as being originated by the WAFCs, no modifications shall be made to their meteorological content.

1.1.3 Charts generated from the digital forecasts provided by the WAFCs shall be made available, as required by operators, for fixed areas of coverage.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

1.1.4 When forecasts of upper wind and upper-air temperature listed under 1.1.1 a) 1) are supplied in chart form, they shall be fixed time prognostic charts for flight levels as specified a). When forecasts of SIGWX phenomena listed under 1.1.1 a) 6) are supplied in chart form, they shall be fixed time prognostic charts for an atmospheric layer limited by flight levels as specified.

1.1.5 The forecasts of upper wind and upper-air temperature and of SIGWX phenomena above flight level 100 requested for pre-flight planning and in-flight replanning by the operator shall be supplied as soon as they become available, but not later than 3 hours before departure. Other meteorological information requested for pre-flight planning and in-flight replanning by the operator shall be supplied as soon as is practicable.

1.1.6 When necessary, the meteorological authority of the State providing service for operators and flight crew members shall initiate coordinating action with the meteorological authorities of other States with a view to obtaining from them the reports and/or forecasts required.


1.1.7 Meteorological information supplied to operators and flight crew members at the location to be determined by the meteorological authority, after consultation with the operators concerned and at the time agreed between the aerodrome meteorological office and the operator concerned. The service for pre-flight planning shall be confined to flights originating within the territory of the State concerned (with in India or foreign station).

NOTE: At an aerodrome without an aerodrome meteorological office at the aerodrome, arrangements for the supply of meteorological information shall be as approved by DGCA in the Operations Manual, agreed between the meteorological authority and the operator concerned (by means of subscription or alternate means as mentioned in OM and approved by DGCA).

Meteorological information shall be supplied to operators and flight crew members by one or more of the following, as agreed between the service provider and the operator concerned, and with the order shown below not implying priorities:

- a) Written or printed material, including specified charts and forms;
- b) Data in digital form;
- c) Briefing;
- d) Consultation;
- e) Display; or
- f) in lieu of a) to e), by means of an automated pre-flight information system providing self-briefing and flight documentation facilities while retaining access by operators and aircrew members to consultation, as necessary, with the aerodrome meteorological office,.

1.2 The Service provider, in consultation with the operator, shall determine:

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

- a) The type and format of meteorological information to be supplied; and
- b) Methods and means of supplying that information.

Recommendation — On request by the operator, the meteorological information supplied for flight planning should include data for the determination of the lowest usable flight level.

## 2. SPECIFICATIONS RELATED TO METREOLOGICAL INFORMATION FOR PRE-FLIGHT PLANNING AND IN-FLIGHT REPLANNING

- 2.1 Format of upper-air gridded information
- 2.2 Format of information on significant weather
- 2.3 Specific needs in case of helicopter operations

## 3. SPECIFICATIONS RELATED TO BRIEFING AND CONSULTATION

- 3.1 Information required to be displayed

Recommendation. — The material displayed should be readily accessible to the flight crew members or other flight operations personnel concerned.

## 4. SPECIFICATIONS RELATED TO FLIGHT DOCUMENTATION

- 4.1 Presentation of information

4.1.1 The flight documentation related to forecasts of upper wind and upper-air temperature and SIGWX phenomena shall be presented in the form of charts. For low-level flights, alternatively, GAMET area forecasts shall be used.


4.1.2 Recommendation. — The flight documentation related to concatenated route-specific upper wind and upper-air temperature forecasts should be provided as agreed between the meteorological authority and the operator concerned.

4.1.3 METAR and SPECI (including trend forecasts as issued in accordance with regional air navigation agreement), TAF, GAMET, SIGMET, AIRMET and volcanic ash and tropical cyclone advisory information shall be presented.

4.1.4 Recommendation. — The location indicators and the abbreviations used should be explained in the flight documentation.

4.1.5 Recommendation.—. Where appropriate, approved abbreviations are used the same should be elaborative with units of measurements.

- 4.2 Charts in flight documentation

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

#### 4.2.1 Characteristics of charts


4.2.1.1 Recommendation. — Charts included in flight documentation should have a high standard of clarity and legibility and should have the following physical characteristics:

- a) For convenience, the largest size of charts should be about 42 × 30 cm (standard size A3) and the smallest size should be about 21 × 30 cm (standard size A4). The choice between these sizes should depend on the route lengths and the amount of detail that needs to be given in the charts as agreed between the meteorological authorities and the users concerned;
- b) Major geographical features, such as coastlines, major rivers and lakes should be depicted in a way that makes them easily recognizable;
- c) For charts prepared by computer, meteorological data should take preference over basic chart information, the former cancelling the latter wherever they overlap;
- d) major aerodromes should be shown as a dot and identified by the first letter of the name of the city the aerodrome serves as given in Table AOP of the relevant regional air navigation plan;
- e) A geographical grid should be shown with meridians and parallels represented by dotted lines at each 10° latitude and longitude; dots should be spaced one degree apart;
- f) Latitude and longitude values should be indicated at various points throughout the charts (i.e. not only at the edges); and
- g) labels on the charts for flight documentation should be clear and simple and should present the name of the world area forecast center or, for non-world area forecast system (WAFS) products, the originating center, the type of chart, date and valid time and, if necessary, the types of units used in an unambiguous way.

4.2.1.2 Meteorological information included in flight documentation shall be represented as follows:

- a) Winds on charts shall be depicted by arrows with feathers and shaded pennants on a sufficiently dense grid;
- b) Temperatures shall be depicted by figures on a sufficiently dense grid;
- c) wind and temperature data selected from the data sets received from a world area forecast center shall be depicted in a sufficiently dense latitude/longitude grid; and
- d) Wind arrows shall take precedence over temperatures and either shall take precedence over chart background.

#### 4.2.2 Set of charts to be provided

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

4.2.2.1 The minimum number of charts for flights between flight level 250 and flight level 630 shall include a high-level SIGWX chart (flight level 250 to flight level 630) and a forecast 250 hPa wind and temperature chart. The actual charts provided for pre-flight and in-flight planning and for flight documentation shall be as agreed between meteorological authorities and users concerned.

4.2.2.2 Charts to be provided shall be generated from the digital forecasts provided by the WAFCs whenever these forecasts cover the intended flight path in respect of time, altitude and geographical extent, unless otherwise agreed between the meteorological authority and the operator concerned.

#### 4.2.3 Height indications

a) all references to en-route meteorological conditions, such as height indications of upper winds, turbulence or bases and tops of clouds, shall preferably be expressed in flight levels; they may also be expressed in pressure, altitude or, for low-level flights, height above ground level; and

b) All references to aerodrome meteorological conditions, such as height indications of the bases of clouds, shall be expressed in height above the aerodrome elevation.

#### 4.3 Specifications related to low-level flights

##### 4.3.1 In chart form

Recommendation.— Where the forecasts are supplied in chart form, flight documentation for low-level flights, including those in accordance with the visual flight rules, operating up to flight level 100 (or up to flight level 150 in mountainous areas or higher, where necessary), should contain the following as appropriate to the flight:

a) Information from relevant SIGMET and AIRMET messages;

b) Upper wind and upper-air temperature charts.

c) Significant weather charts.


### 5. SPECIFICATIONS RELATED TO AUTOMATED PRE-FLIGHT INFORMATION SYSTEMS FOR BRIEFING, CONSULTATION, FLIGHT PLANNING AND FLIGHT DOCUMENTATION

#### 5.1 Access to the systems

Automated pre-flight information systems providing self-briefing facilities shall provide for access by operators and flight crew members to consultation, as necessary, with an aerodrome meteorological office by telephone or other suitable telecommunications means.

#### 5.2 Detailed specifications of the systems



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

Recommendation. — Automated pre-flight information systems for the supply of meteorological information for self-briefing, pre-flight planning and flight documentation should:

- a) Provide for the continuous and timely updating of the system database and monitoring of the validity and integrity of the meteorological information stored;
- b) Permit access to the system by operators and flight crew members and also by other aeronautical users concerned through suitable telecommunications means;
- c) use access and interrogation procedures based on abbreviated plain language and, as appropriate, ICAO location indicators, and aeronautical meteorological code data-type designators prescribed by WMO, or based on a menu driven user interface, or other appropriate mechanisms as agreed between the meteorological authority and the operators concerned; and
- d) Provide for rapid response to a user request for information.

## 6. SPECIFICATIONS RELATED TO INFORMATION FOR AIRCRAFT IN FLIGHT

### 6.1 Supply of information requested by an aircraft in flight


### 6.2 Information for in-flight planning by the operator

Recommendation. — Meteorological information for planning by the operator for aircraft in flight should be supplied during the period of the flight and should normally consist of any or all of the following:

- a) METAR and SPECI (including trend forecasts as issued in accordance with regional air navigation agreement);
- b) TAF and amended TAF;
- c) SIGMET and AIRMET information and special air-reports relevant to the flight, unless the latter have been the subject of a SIGMET message;
- d) Upper wind and upper-air temperature information;
- e) Volcanic ash and tropical cyclone advisory information relevant to the flight; and
- f) Other meteorological information in alphanumeric or graphical form as agreed between the meteorological authority and the operator concerned.

Note. — Guidance on the display of graphical information in the cockpit is provided in Doc 8896.

Examples of approved sources for meteorological information for aircraft operations are:

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

- The IMD, INDIAN MET DEPARTMENT for Indian operators and those operating outside India.
- Members of the World Meteorological Organization (WMO) ([http://www.wmo.int/pages/index\\_en.html](http://www.wmo.int/pages/index_en.html)).
- Active meteorological offices operated by a foreign state that subscribes to the standards and practices of the International Civil Aviation Organization (ICAO) conventions. (These meteorological offices are normally listed in the meteorology information (MET) tables located in ICAO Regional Air Navigation Plans (ANP). The Aeronautical Information Publication (AIP) of individual states also lists active meteorological offices for that state.)
- ICAO Member State authorized meteorological station or automated observation.
- Weather products produced by an Enhanced Weather Information System (EWINS).
- Pilot Weather Reports (PIREP) provided by aircraft of similar speed and performance.
- Aircraft Reports (AIREP) provided by aircraft of similar speed and performance.

The Meteorological Services for civil aviation in India are provided by the India Meteorological Department, Ministry of Earth Sciences (MoES), Government of India.  
Website: [www.imd.gov.in](http://www.imd.gov.in)

Type of services provided by IMD		
1	Area Forecast	Content
	1a	Under the World Area Forecast system, WAFC London is responsible for the forecast of upper winds, upper-air temperatures, direction, speed and height of maximum winds and tropopause heights and temperatures. The products are valid for 6, 12, 18, 24, 30 and 36 hours after the time of synoptic data (0000, 0600, 1200 and 1800 UTC) on which the forecasts are based. The grid point data for upper wind and temperature are available for flight levels 50 (850hPa), 100 (700hPa), 140 (600hPa), 180 (500hPa), 240 (400hPa), 300 (300hPa), 340 (250hPa), 390 (200hPa) and 450 (150hPa).
	1b	Forecast of significant weather phenomena are also prepared by WAFC London, four times a day for fixed valid times of 0000, 0600, 1200 and 1800 UTC. Significant weather charts for FL250-FL630 is being used in India for the documentation of international flights as well as national long-haul flights.
	1c	These charts are received by a Satellite Distribution System (SADIS) receive only antenna installed at IMD-Delhi and disseminated through IMD's communication channel to forecasting offices.
	1d	In addition, national SIGWX charts and prognostic charts are also being prepared by the four Extended Analysis and




# Flight Operations Inspector Manual

**CAP 8200**

**Volume 2**

**Revision 2 October 2018**


<b>2</b>	<b>Route Aerodrome Forecasts</b>	<b>and</b>	<b>Content</b>
	2a		<p>Prognosis Center (EAPC) functioning at Chennai, Delhi, Kolkata and Mumbai for the documentation of national short-haul flights.</p> <p>Route Forecast, aerodrome forecast, local forecasts and trend forecasts are issued by Aerodrome Meteorological Office (Offices having forecasting facilities). During the closed hours of watch of the offices with restricted forecasting hours, the necessary forecasts are issued by the meteorological offices at state/regional centers. These forecasts for the Aeronautical Meteorological Stations (offices not having forecasting facilities) are issued by associated AMOs.</p>
<b>3</b>	<b>Aerodrome Warning/Wind Shear Warnings</b>		<b>Content</b>
	3a		<p>Aerodrome warnings are issued by Aerodrome Meteorological Offices functioning during the hours of forecasting watch and give concise information of meteorological condition, which could adversely affect aircraft on the ground, including parked aircraft and the aerodrome facilities and services. In cases of aerodromes with Aeronautical Meteorological Stations, the associated Aerodrome Meteorological Office, at the state centers or regional centers, issue these warnings, if there is prior requisition.</p>
	3b		<p>These warnings are supplied to ATS units of Airports Authority of India for further dissemination over the aerodrome to operators and other agencies.</p>
	3c		<p>Aerodrome warnings are issued for strong surface winds, tropical cyclones, thunderstorms, squall, dust storm/sand storm, hail, frost, snow, freezing precipitation etc.</p>
	3d		<p>In addition, warnings for gliders and light aircraft and helicopters are issued and appended to the Local forecast when the wind speed is expected to reach 17 knot or more.</p>

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>


## 2. Annexure 13-A

### APPROVAL METHOD OF OBTAINING WEATHER DATA

Name of Operator:					
<i>In accordance with CAR Section 8 Series O Part II and IV, the following contents of the OM are approved</i>					
SI No	Provision	OM Reference (Chapter)	EVALUATION		
			SAT (S)	UNSAT (U)	N/A
1.	Enough weather reporting facilities are available along each route to ensure weather reports and forecasts necessary for operations.				
2.	Weather reports and forecast used by Operators are from approved Meteorological Offices.				
3.	The operator is utilizing an approved system for obtaining forecasts and reports which are pertinent to the nature and scope of Operations to meet all requirements.				
4.	The operator only used meteorological offices listed in the MET tables located in the ICAO Regional Air Navigation Plans				
5.	The operator has weather reports for the point of origin, any intermediate stops and destination airports for at least two hours before and two hours after planned operations.				
6.	The dispatcher and flight crew are thoroughly familiar with the reported weather conditions on the route before releasing the flight				
7.	The flight crew is thoroughly familiar with the reported weather conditions on the route before commencement of the flight, in case of self-dispatch.				
8.	Before the flight the dispatcher provides the flight crew will all available information regarding the flight including clear air turbulence and low altitude wind shear				
9.	Before EDTO flights that the weather at selected alternate airports were at or above the increased minimum for EDTO flights.				


 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 2</b>	
		<b>Revision 2</b>	<b>October 2018</b>

10.	The dispatcher can relay to the flight crew any change in weather conditions that affect the alternate diversion airports for EDTO flight while the aircraft is airborne				
11.	The dispatcher can obtain and send to the flight crew updated weather reports and forecast when a change to the EDTO alternates are required.				
12.	The Operator has adopted and put into use an approved system for obtaining forecasts and reports on adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear that may affect safety of flight on each route to be flown and at each airport to be used.				
<b>Name of Operator:</b>					
<b>Remarks:</b>					
<b>Signature of Approving Authority:</b>					
<b>Name of Approving Authority:</b>					
<b>Designation:</b>					

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## **VOLUME 3**

## **SURVEILLANCE**

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 1. SURVEILLANCE OF AIR OPERATORS: GENERAL INFORMATION, POLICY AND PROCEDURES

### 1.1. OBJECTIVE


1.1.1 The purpose of this chapter is to clearly define the responsibilities, goals and methods for surveillance of flight operations by the Directorate General of Civil Aviation (Flight Standards Directorate).

### 1.2. BACKGROUND

1.2.1 Section 4.2.1 of Part I to Annex 6 of ICAO Recommended Standards and Practices require that member states issue air operator certificates or equivalent documents to air operators. The issuance of an air operator certificate shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations. The continued validity of that certificate shall be dependent upon the operator's continuing maintenance of the standards which it demonstrated upon original issuance of the certificate. Member states must therefore perform surveillance of operators in order to ensure that operators continue to meet certification requirements. Chapter 8 of the ICAO Manual of Procedures for Operations Certification and Inspection contains information concerning States, responsibilities for continuing supervision of certified operators.

1.2.2 Surveillance of leased operations is also under the purview of DGCA. Whereas safety oversight of aircraft leased into India for supplementing 'Indian' carriers' operations (i.e. foreign registered aircraft) will be addressed in the lease agreement, the primary responsibility is that of the lessor. DGCA, however, will be carrying out inspections on a random basis. The operator leasing the aircraft will be required to maintain, preserve and provide all records for DGCA audit. Surveillance and safety oversight of Indian registered aircraft, although being the responsibility of the carrier leasing the aircraft, will be under the oversight plan of DGCA. The FOI will refer to CAP 3200 Aircraft Leasing Manual for further guidance.

1.2.3 It is important to make a clear distinction between surveillance and certification activities. Both are important aspects of an inspector's duties and one should not take precedence over the other. Certification activities are required by specific Civil Aviation Regulations to license, (certificate) certify or otherwise qualify an aircrew or an operator to operate in a prescribed manner. Surveillance on the other hand, is aimed at ensuring that the aircrew of operators continue to adhere to the standards to which they were certified or approved through regular inspections of various aspects of an operators operations.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.2.4 This distinction is particularly important in the case of aircrew surveillance. For aircrew, a type rating, skill test, route check or proficiency check is a certification activity whereas the observation of a cockpit crew from the observer's seat during scheduled operations and when no other type of check or requalification is intended is a surveillance activity. For aircrew, certification activities may be thought of as more "person oriented" where the personal performance of the aircrew is being evaluated for purposes of licensing, qualification, - or requalification. Aircrew Surveillance may be viewed of as more "system oriented" where individual performance may be considered in the context of the operator's total system for training, qualifying and ensuring the continued proficiency of aircrew. Systematic causes for less than satisfactory performance during certification checks cannot be ignored, particularly where trends exist; and the personal performance of an individual during a surveillance activity must be taken into account. Perhaps the clearest distinction to be made between the two activities is that aircrew certification is an active process whereas Aircrew Surveillance Activities are intended to be more passive in nature. During surveillance, the inspector is present primarily to observe and evaluate. His role is to remain as passive and unobtrusive as possible and let the events he is observing unfold of their own accord. This is why surveillance of flight operations in the cockpit is best accomplished from the observer's seat.


1.2.5 Aside from aircrew surveillance, many other types of activities, recommended by ICAO and enumerated in this Manual, must be undertaken on a regular basis to ensure that an operator maintains adequate standards and follows approved procedures. For example, when an operator introduces a new aeroplane type, the DGCA should approve all elements of the training programme(s) for all pilots and cabin attendants. Whenever possible, the DGCA should approve all course content in advance, and then provide inspectors to monitor ground, simulator and flight training prior to final approval of the course of instruction. Thereafter, the FOI must regularly monitor various aspects of the operator's approved training to ensure that training is being conducted in accordance with previously approved programmes.

### 1.3. FLIGHT STANDARDS DIRECTORATE

1.3.1 The Directorate of Flight Inspection was established in 1985 to carry out certification and surveillance functions on behalf of DGCA. Directive O. Adv ((Av)/FI/1/91-FID expands upon the provisions of AIC 10 of 1991. This directive also requires FOIs to carry out inspections. The Directorate of Flight Inspection, was later renamed as Flight Standards Directorate. Flight Standards Directorate, hereinafter being referred to as FSD, is tasked to carry out the inspection and surveillance functions covered in the following paragraphs.

- (a) Conduct a percentage of proficiency skill and standardization check of pilots and monitor their skill levels on the aircraft and on simulators on a random basis.
- (b) Ensure continuous surveillance of various operational aspects of the airlines and other operators.
- (c) Check that the Aircraft Rules and Regulations on Air Safety complied with.
- (d) Conduct any other flying checks specifically ordered by the DGCA.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.3.2 Clearly, both certification and surveillance responsibilities were envisioned for the FSD and is particularly important because it requires that the FSD provide continuous surveillance of various operational aspects of the Operators. This implies, in accordance with ICAO practices, that surveillance activities encompass operational aspects of the entire airline and of the air transport system, and not just the-aircrew alone.

#### 1.4. OBJECTIVES OF DGCA SURVEILLANCE PROGRAMME

1.4.1 The primary objective of surveillance is to provide the DGCA, by means of risk based oversight surveillance programme, with an accurate, real-time and comprehensive evaluation of the safety status of the air transportation system. As part of the Annual Surveillance Programme, Regulatory Audits are planned in which FOIs are part of the DGCA team (for procedures on these audits, FOIs shall refer to Manual of Regulatory Audits). This surveillance programme objective is accomplished by DGCA inspectors performing the following:


- (a) Determining each airline/ operator's compliance with regulatory requirements and safe operating practices.
- (b) Detecting changes as they occur in the operational environment.
- (c) Detecting the need for regulatory, managerial and operational changes.
- (d) Measuring the effectiveness of previous corrective actions

#### 1.5. PLANNING AND EXECUTING THE SURVEILLANCE PROGRAMMES

1.5.1 Surveillance is an important duty and responsibility of inspectors assigned to the DGCA. Surveillance programs provide a method for the continued evaluation of operator compliance with government regulations and safe operating devices. Information generated from surveillance programs permits the DGCA to act upon deficiencies which affect or have a potential effect on aviation safety, surveillance programs to be effective, they must be carefully planned and executed. Inspections are specific work activities within a surveillance programme which should exhibit the following characteristics:

- (a) A specific work activity title.
- (b) A definite beginning and a definite end.
- (c) Defined procedures.
- (d) Specific objectives
- (e) A requirement for a report of findings (either positive, negative or both)

1.5.2 Planning and executing any type of surveillance program may reasonably be broken down into four phases


 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) Phase One - Developing a risk based oversight surveillance plan by determining the types of inspections necessary and the frequency of those inspections.
- (b) Phase Two - Accomplishing the surveillance plan by conducting the inspections.
- (c) Phase Three - Analysing surveillance data gathered from inspection reports and related information from other sources.
- (d) Phase Four - Determining appropriate course of action.

1.5.3 Phase One: Developing a Surveillance Plan. Responsibility for the development of the annual surveillance program rests with the Directorate. The risk based oversight surveillance programme should recognize the need to conduct routine and ongoing surveillance and should anticipate the possibility of special emphasis Surveillance as a result of certain events such as accidents, incidents, repeated violations of CARs and evidence of financial problems. When planning a surveillance program, the CFOI/ DDG should identify the program objectives, evaluate the resources available and determine the specific types and number(s) of inspections to be conducted in support of that programme. Numbers of inspections should be established taking into consideration the current operating environment which the FOI oversees (such as number of aero planes and variety of aero plane types, number of crew members, routes, number and geographic location of transit stations and the volume of training being conducted). Previous inspection reports, accident/incident information, compliance and enforcement information and public complaints should also be used to determine both the types and frequency of inspections to be accomplished during a given time frame. History of compliance with regulations and cooperation with the inspectorate may also be considered when developing a surveillance program for a specific operator. The safety oversight of operators is to be conducted on a continuous basis, whether or not the AOC has a specific duration with an expiration date. It should be based on periodic random inspections of all aspects of the operation.

- (a) Pilot Proficiency Check Inspections: A sufficient number of inspections may be conducted so that Training Captains are observed in the performance of their duties for the purpose of standardization of training.
- (b) It must be emphasized that the preceding are the minimum numbers which must be accomplished to fulfil the FSD's surveillance responsibilities. Whenever possible, taking into account inspector resources and the demand for certifications activities, the CFOI will schedule a significantly larger number of inspections of cockpit crews, cabin crews, check pilot and training events.

1.5.4 Phase Two: Conducting Surveillance Plan Inspections: During the conduct of the surveillance plan inspections, accurate and qualitative inspection reporting is essential. High quality inspection reporting is necessary for the effective accomplishment of the third and fourth phases of a surveillance program. The quality and standardization of inspection reporting will be enhanced through the use of the inspection checklists and report forms contained in this handbook.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>


1.5.5 Phase Three: Analysing Surveillance Data: After the Inspection data has been reported, an evaluation of the information obtained from inspection reports and related sources must be conducted. Evaluation of inspection results is a key phase of any surveillance program. The primary purpose of evaluating surveillance data is to identify both negative and positive trend. This evaluation of inspection results is also important in terms of redefining and implementing subsequent surveillance objectives and inspection activity. The CFOI/ DDG and responsible Inspectors must adopt systematic methods that permit accurate and effective evaluation of inspection results. Additionally, other related information from incidents, accidents, enforcement actions and other sources may provide valuable trend information which may relate to the operator's safety and compliance status. For example, if in a series of ramp inspection reports a trend of deficiencies in the use of the MEL is identified, but the cause of these deficiencies cannot be identified, the CFOI/ DDG may need to adjust the emphasis on the types of inspections conducted. In this case, additional training program inspections, manual inspections or flight control inspections (flight release procedures) may be more effective in determining the cause of these deficiencies. The purpose of this evaluation is thus summarised as the following:

- (a) Noncompliance with regulations or safe operation practices.
- (b) Both positive and negative trends.
- (c) Isolated deficiencies or incidents.
- (d) Causes of non-compliance, trends or isolated Deficiencies.

1.5.6 Phase Four: Determining Appropriate Course of Action. The CFOI/ DDG and Inspectors must use good judgment when determining the most effective course of action to be taken as a result of unsatisfactory inspection findings. The appropriate course of action often depends on many factors, many of which may be quite subjective. Various options which may be considered are: informal discussion with the operator and/or aircrew; formal written request for corrective action; withdrawal of DGCA approval for a program, manual or document; and initiation of an investigation leading to formal enforcement/disciplinary action. Corrective action which an operator or aircrew takes independently of the DGCA should be taken into account. The DGCA must also decide whether or not the results of a specific inspection should result in a modification or their current surveillance program. As previously mentioned, the DGCA may elect to conduct further inspections to determine if the unsatisfactory finding was an isolated incident or part of a trend.

## 1.6. SPECIFIC INSPECTION PRACTICES.

The remainder of this volume is devoted to the conduct and reporting of the various types of surveillance inspections required. A surveillance program which includes all the types of inspections which appear in the following chapters will ensure that the DGCA is adhering to the surveillance guidelines provided in Chapter 9 of the ICAO manual of Procedures for Operations Certification and Inspection. Checklists to aid inspectors in various kinds of inspections have been placed at Annexure to this Manual.

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>


## 2. AIR OPERATOR BASE INSPECTIONS

### 2.1. GENERAL

**2.1.1 Background and Objectives.** Paragraph 9.6.2 of the ICAO Doc 8335 Manual of Procedures for Operations Certification and Inspection states that Base Inspections should be performed at the operator's principal base of operations, sub-bases, and separate maintenance facilities; and the purpose of the inspection is to assess the suitability of the operator's organization, management, facilities, equipment, manuals, personnel and training records. The operations portion of Base Inspections essentially consists of seven segments as follows:

- (a) Operational Control
- (b) Operations Manual
- (c) Flight Deck Management
- (d) Flight and Duty Time Records
- (e) Operations and Flight (trip) Records
- (f) Training Program.
- (g) Training and Qualification Records.

**2.1.2 Checklist.** A Main Base Inspection Checklist is incorporated in Annexures to CAP 8200 which will be used for all Main Base inspections.


 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**2.1.3 General Inspection Guidelines:** Inspectors should ensure that they have reviewed the previous findings and Action Taken Reports (ATR) submitted by the operator whose audit is to be conducted. The Inspector(s) rostered for the audit will confirm the same to CFOI through mail. Inspectors should inform the operator at least 7 working days prior to inspection to make appropriate arrangements for inspecting elements of the Base Inspection. Unlike many types of operations inspections which are most effective when conducted on short notice (such as Ramp inspections and En Route Inspections), elements of the Base operation inspection are not subject to repeated adjustments on the part of the operator in anticipation of the inspection and the inspections are most productive following adequate notice and coordination. During the initial contact, the operator should be briefed in detail regarding the specific intent of the inspection, areas to be covered and the approximate duration of the inspection. Arrangements should be made to ensure that key company personnel will be present during the course of the inspections to provide information and answer questions. The required company presence will vary according to the type of inspection. For example, when evaluating operational control procedures and operations, the inspector will require almost constant contact with personnel who are responsible for each functional area. Conversely, the inspection of Flight and Duty Time records requires very little company involvement except to make records available and answer any initial questions the inspector may have about the operator's record keeping system.

**2.1.4** Before commencing each inspection of the areas listed in paragraph 1 above, inspectors should familiarize themselves to the maximum extent possible with the Operator's Manuals, policies and instructions regarding the area to be inspected. In developing an annual work program, it therefore should be a practice to schedule an Operations Manual Inspection in advance of the other types of inspections contained in this chapter. This will provide the inspector with an overview of the operator's instructions and policies prior to evaluating their effectiveness in day to day practice. Before performing the individual Inspections contained in the sections of this chapter which follow, inspectors should review for a second time and in greater depth those portions of the operator's manual which pertain to the specific area to be evaluated. In that sense, all inspections which are conducted by the Operations Inspectors become an extension of the formal evaluation of the Operator's Manual, because unsatisfactory performance in operational areas can often be traced to inadequate planning, guidance and training.

**2.1.5** Upon arriving at the site where the inspection is to be conducted, inspectors should introduce themselves and present their identification to the operator's representatives, if not personally known to them. The inspector should review with the operator the scope of the inspection to be conducted, and assemble key company personnel who are to be evaluated to answer questions during the course of inspection. The inspector should advise the operator that a time and place will be scheduled at the conclusion of the inspection to review its findings.

**2.1.6 Specific Inspection Procedures and Practices:** Detailed guidance regarding the six areas which should be evaluated at an Operator's Main Base are contained in the sections below.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2.2. OPERATIONAL CONTROL INSPECTIONS

2.2.1 Background and Objectives. CAR Section 8 - Series `O' Part II and Indian Aircraft Rules requires operators to demonstrate a method of control and supervision of flight operations. Section 5.4.4 of the ICAO Manual of Procedures for Operations Certification and Inspection contains general information regarding operations control organizations and sets forth specific areas to be inspected before an operator is certified. Annex 6 sets forth standards and recommended practices regarding Flight Operations Officers/ Dispatchers.


2.2.2 An operational control inspection has two primary objectives. The first objective is to ensure that the operator is in compliance with the minimum requirements of the Indian Aircraft Act and Rules and CARs which conform to ICAO standards and recommended practices. The second objective is to ensure that the operator's system of control provides positive assurance of public safety. The Operator must meet both objectives to obtain and retain an operating certificate or equivalent document. To make this determination, the inspector must evaluate the operator to ensure the following:

- (a) Responsibility for Operational Control is clearly defined.
- (b) An adequate number of operational control personnel are provided.
- (c) Applicable manuals contain adequate policy and guidance to allow operational control personnel and flight crews to carry out their duties efficiently, effectively, and with a high degree of safety.
- (d) Operational Control Personnel are adequately trained, knowledgeable, and competent in the performance of their duties.
- (e) Flight Control personnel and flight crews have been provided with the necessary information for the safe planning, control, and conduct of all flights.
- (f) The Operator provides adequate facilities for operational control functions.
- (g) The Operator performs all operational control functions required by the regulations.
- (h) The Operator performs all functions necessary to provide adequate operational control in the environment in which operations are conducted.
- (i) Adequate Emergency Procedures and Contingency Plans have been formulated and displayed at key positions.

2.2.3 General Inspection Practices and Procedures. Inspectors will conduct operational control inspections through systematic manual reviews, records inspections, observations, and interviews.

- (a) Inspector Preparation and Manual Review. Before starting an operational control inspection, the inspector must become familiar with the Operational Control provisions of the operator's manuals. The manual review is both the first step in the



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

inspection process and preparation for subsequent steps. Such a review would be in addition to or in conjunction with the general evaluation of the operator's documents/ manuals, and its purpose is to examine operations control policy and guidance in depth. Additionally, Inspectors will review all findings/ deficiencies of previous Audit/Inspection in order to ensure identify areas of concern or requiring special focus during the inspection.

(b) Observations, Interviews, and Records Checks. The inspector should establish with the operator a mutually convenient time for conducting the interviews and records checks, and for observing flight control functions.


- (i) Inspectors should conduct interviews with both Management and Working-Level personnel to meet inspection objectives. Inspectors should plan these interviews so that the required information can be obtained without unduly distracting Personnel from their Duties and Responsibilities.
- (ii) Inspectors should observe actual flight-release operations. Before beginning the observation of actual flight-release operations, an inspector should request a tour of the operator's facility for general orientation. During this time, he may observe an Operations Control personnel performing a variety of job functions. If possible, these observations should be made during periods of peak activity, adverse weather, or during non-routine operations. Inspectors should ask pertinent questions of personnel regarding their Individual duties and responsibilities and relationship to the overall operations control effort.
- (iii) Inspectors should observe competency checks being conducted to evaluate the knowledge level of flight dispatchers and the performance of the supervisor. Inspector may also simulate situations to access the competency of flight dispatchers.
- (iv) Detailed guidance concerning Flight Operations (Trip) records and Flight and Duty Time records is contained in Section 4 and 5 of this chapter respectively. Each area has its own checklist and report form. These areas may be examined separately or in conjunction with the remainder of the Operational Control inspection areas.

#### 2.2.4 Policies and Procedures.

(a) Authorized Operations.

- (i) The type of Operations that may and may not be conducted should be clearly specified in manuals and other instructions (VFR, IFR, extended range, CAT II/III, Offshore etc)
- (ii) Operator's policies applicable to each type of operation should be clearly stated.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(iii) Geographic areas and destinations to which extended overwater flights or EDTO operations may be conducted should be clearly specified.

(b) Manuals.

(i) A section of the Operations Manual should be devoted to the policy and guidance for Operational Control.

(ii) If the operator conducts extended overwater or extended range operations EDTO, a separate section of the operations manual should contain key considerations regarding these types of operations.

(c) The applicable section(s) of the Operations Manual should be readily available to Dispatchers and Flight Crew while they perform their duties.

(d) Pre-Departure Functions. The responsibility and procedures for accomplishing the following functions should be clearly defined and properly executed:

(i) Crew assignment.

(ii) Load planning

(iii) Aircraft routing.

(iv) Flight planning.

(v) Release of the aircraft from maintenance.

(vi) Control of MEL and CDL limitations. Required instruments and equipment should be installed and operational.

(vii) Compliance with flight operations limitations.


(viii) Weight and balance.

(ix) Performance Planning, including consideration of mass, elevation, temperature, wind, obstacles, etc.


(x) Adequate procedures for supervising and verifying these activities should be established.

(xi) The operator should have a means for the PIC and dispatcher to ensure that each of these functions has been satisfactorily accomplished before the aircraft departs.


(e) Original Release.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) The conditions under which a flight may and may not be dispatched (type of operation, weather, crew compliment, load, etc.) should be clearly defined.
  - (ii) The conditions under which a flight must be re-routed, delayed, or cancelled should be defined.
  - (iii) A written copy of weather reports and forecasts (including PIREP's) and NOTAM's should be attached to the release and provided to the flight crew.
  - (iv) Extended overwater or extended range operations EDTO should be conducted under instrument flight rules.
  - (v) Flight should not be commenced unless it is ascertained by every reasonable means that airports to be used are adequate for the operation.
- (f) Dispatch Briefing
- (i) The operator's procedures should provide for briefing of the PIC by the dispatcher.
  - (ii) The minimum content of the briefing should be specified and adequate.
- (g) Dual Responsibility - If applicable - see Company Ops Manual for policy
- (i) The signatures of both the PIC and the Dispatcher should be required on the flight dispatch documents.
  - (ii) The PIC's obligation to operate the flight according to the release, or to obtain an amended release, should be clearly stated.
- (h) Flight-Following.
- (i) The dispatcher's Flight-Following Requirements and procedures should be clearly identified.
  - (ii) Policy and guidance should be provided to flight crews and dispatchers for monitoring fuel en route.
  - (iii) Flight crew reporting requirements and procedures should be clearly stated.
  - (iv) There should be specified procedures for Dispatchers to follow when a required report is not received.
  - (v) The Operator should maintain a record of communications between the dispatcher and the flight.
  - (vi) Procedures should be established to notify flights

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (vii) En-route concerning hazardous conditions relating to aerodromes, navigation aids, etc., and to report changes in forecast weather.
- (i) **Planned Re-release.** If the operator uses planned re-release procedures in connection with extended overwater operations, the following areas should be considered:
- (i) A separate operational analysis should be prepared for the two routes and provided to either the PIC dispatcher, or flight follower.
  - (ii) The re-release point should be common to both route.
  - (iii) Re-release messages should be transmitted, acknowledged, and recorded. The message should include all requirements including NOTAM and weather information.
  - (iv) The aircraft should meet landing performance requirements at the intermediate Destination.
- (j) **Inability to Proceed as Released.**
- (i) Policy concerning the PIC's latitude to deviate from a flight dispatch release without obtaining a revised flight plan should be stated.
  - (ii) Specific and adequate direction and guidance should be provided to PIC's and dispatchers for the actions to take when a flight cannot be completed as planned (such as destinations or alternates below minimums, runways closed or restricted).
  - (iii) Procedures to follow in case of diversion or holding should be specifically and clearly stated.
  - (iv) Procedures to be followed in case of an emergency procedure which resulted in deviation from local regulations or procedures should be clearly stated.
- (k) **Weather.**
- (i) Weather reports should be obtained from ATIS/MET.
  - (ii) Forecasts should be based on approved weather reports.
  - (iii) The operator have adequate procedures for updating weather information when the aircraft is delayed on the ground.
  - (iv) The operator should have adequate procedures for providing the latest available weather reports and forecasts to flight crews while the flight is en route.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(v) Procedures should be employed for disseminating information pertaining to turbulence, thunderstorms, and other adverse weather phenomena; and as well as the best routes for avoiding them.

(vi) The flight should not be released into known icing conditions unless equipped to cope with such conditions.

(l) Aerodrome operating Minima.

(i) If release under VFR is permissible or authorized, the forecast and actual weather reports should permit VFR flight over all portions of the route to be flown under visual flight rules.

(ii) IFR departure minimums should be consistent with CAR's and specific DGCA approvals.

(iii) Takeoff alternates should be named on the dispatch release when flights are released with the -departure airport below landing minimums, and should meet the requirements of CARs/applicable regulations on the subject.

(iv) Destination weather minimum should be clearly defined.

(v) The operator should make provisions regarding weather minima.

(vi) Destination alternates should be named on the dispatch release when required by CARs/applicable regulations on the subject

(vii) The weather at the named destination alternate airport should be equal to or better than that required by applicable regulations.

(viii) Flights should not be continued toward the aerodrome of intended landing unless the latest available information indicates that operating minima can be complied with.


(m) Minimum En Route Altitudes. The operator should establish minimum en route altitudes for routes flown, which should not be lower than those established by the DGCA.

(n) Selection of Alternates.


(i) Policy, direction, and guidance should be provided for the selection of takeoff, en route, and destination alternates.

(ii) Terrain and engine-out performance should be considered in selecting an alternate.

(o) Totalities

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>


- (i) NOTAM information should be available and utilized.
  - (ii) GPS (RAIM) NOTAMs, as applicable, should be provided to appropriate extended overwater operations.
  - (iii) The operator should make adequate provisions for supplying airport and navigation information to pilots and dispatchers.
  - (iv) The operator should have an adequate method for providing data to dispatchers on take-off and landing minima at each airport. Dispatchers should have immediate access to such data.
- (p) Fuel and Oil Supplies.
- (i) All increments of fuel required by the CARs (start & taxi, take-off to arrival at destination, approach and landing, missed approach, alternate fuel, holding, and contingency) should be provided. Special fuel provisions for extended range operations should be strictly adhered to.
  - (ii) Although this is not permissible, as a supplementary information for any contingency: If aircraft are dispatched without an alternate, adequate contingency fuel should be carried for un-forecast winds, terminal area delays, runway closures and contingencies.
  - (iii) Minimum fuel procedures should be specified for both dispatchers and PIC's and should be adequate for the environment in which operations are conducted.
- (q) Engine Out Performance Considerations.
- (i) The operator should take into account engine out performance rules when applicable to specific routes and types of operations.
  - (ii) Engine out performance analysis should be complete and accurate.
  - (iii) When possible, multiple ETP's should be provided for overwater flights and extended range operations.
  - (iv) Adequate guidance should be available for drift down computations and fuel dump requirements.
- (r) Emergency Procedures. Emergency action procedures and checklists should be published and readily available to operations control personnel for the following emergencies:
- (i) In-flight Emergency.
  - (ii) Crash.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (iii) Overdue or missing aircraft.
  - (iv) Bomb threat.
  - (v) Hijacking.
  - (vi) Operator should have available lists containing information on the emergency and survival equipment carried aboard its airplanes.
  - (vii) Provisions should be made to retain in safe custody the flight recorder of an airplane which becomes involved in an accident.
- (s) Changeover Procedures. During shift changes, an adequate overlap should be provided for dispatchers and other flight operations control personnel to brief their oncoming counterparts. Provisions should be made concerning the following communications and reports:
- (i) In flight meteorological observations and reports.
  - (ii) Reports of hazardous conditions other than meteorological.
  - (iii) Coordination with ATS regarding operational instructions to aircraft in flight which change an ATS flight plan.

### 2.2.5 Flight Dispatchers

- (a) Qualification.
- (i) All dispatchers should have undergone the approved course and be certified in accordance with DGCA requirements.
  - (ii) Dispatchers should have successfully completed a refresher Course/competency check within a required eligibility period.
  - (iii) Dispatchers whenever necessary should have completed route familiarization within a specified time period.
  - (iv) Dispatchers at foreign locations should hold dispatched certificates from that country or equivalent acceptable of DGCA.
- (b) Duty Time. Shifts should be of a reasonable length and adequate rest time should be provided between shifts.
- (c) Supervisors.
- (i) Qualification. Supervisors of dispatchers should themselves be qualified and current as dispatchers.

 मृतम्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (ii) Conduct of Competency Checks. Competency check/refresher course administered by supervisors should be appropriate, though, and rigorous.

(d) Facilities and Staff.


- (i) Working space should be adequate for the number of people working in the dispatch centre.
- (ii) Temperature, lighting, and noise levels should be conducive to effective performance by operations personnel.
- (iii) Access to the facilities should be controlled.
- (iv) Dispatchers should be supplied with all the information they require (such as: Flight Status, Maintenance Status, Load, Weather, Facilities).
- (v) Information should be effectively disseminated and displayed; and be quickly and accurately located.
- (vi) Real time weather displays should be available for adverse weather avoidance.
- (vii) A dispatcher should be able to establish rapid and reliable voice communications with a captain at the gate and to be able to deliver a message to a flight en route and get a response within a reasonable time interval.
- (viii) Dispatchers should be properly authorized and qualified to use all communications channels required for operational control.
- (ix) Direct voice communications should be available between the control centre and line stations to the maximum extent possible.
- (x) Backup communications links should be available in case of a failure of the primary links.
- (xi) The operations control centre should have adequate communications with appropriate ATS facilities.

(e) Management.

- (i) Overall responsibility for operations in progress should be assigned by the operator to one individual who can coordinate the activities of all the dispatchers.
- (ii) Adequate internal communications links to allow control and to high-level management officials should be firmly established.

(f) Workload.



	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) The operator should assign enough personnel to adequately handle the workload during periods of both normal and non-routine operations.
- (ii) Dispatchers should have enough time to perform both dispatch and flight-following duties in an effective manner. Dispatchers should not be used to perform other functions such as clerks, maintenance inspectors, etc., to the detriment of their primary function.
- (iii) Duty time restrictions for licensed personnel should be adhered to.

### 2.3. OPERATIONS MANUAL INSPECTIONS


2.3.1 Background and Objective. CAR Section 8 - Series 'O' Part VII and Indian Aircraft Rules states that an operator shall provide, for the use and guidance of operations personnel, an operations manual which will be amended or revised as is necessary to insure that information contained therein is kept up to date. CAP 8100 sets forth specific information which must be incorporated in the operations manual. It states that an operations manual, which may consist of one or more separate volumes, should provide the necessary policy guidance and instructions in a clear and concise manner to the applicant's personnel as to how the operation is to be carried out.

2.3.2 The following paragraphs cover guidance on manual inspections, and is supplementary to the information contained in CAP 8100 on the Preparation and Certification of Operations Manual. This document should serve as the primary resource for FOI in evaluating an operator's existing manual. The objective of an Ops Manual inspection is to substantiate that it:

- (a) Implements Indian Aircraft Rules and CARs, and does not conflict with the regulations of any other state where operations will be conducted.
- (b) Provides clear, complete, and detailed instructions, policies, and procedures so that operational staff are fully informed of what is required of them. Procedures should be effective and represent sound safety philosophy.
- (c) Presents necessary guidance and instructions to personnel in a suitable and convenient format.
- (d) Outlines standardized procedures for all crew member functions.
- (e) Is Up-dated regularly.

2.3.3 Specific Operations Manual Inspection Areas. Inspectors should review the Operations Manual to ensure that it contains updated information in sufficient detail to permit all flight operations personnel to perform their duties safely and efficiently. The following areas should be evaluated:

- (a) Type quality, illustrations, and graphics should be clear and readable. Poorly copied pages from manufacturers' data or from other manuals should not be acceptable.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (b) Validity and accuracy. Technical information contained in manuals such as performance charts, limitations, weight and balance charts, MEL etc. should accurately reflect data updated from the manufacturer or have been developed through the use of accepted and approved methods.
- (c) Currency and Conformity. Information contained in manuals should reflect current company organization, equipment, procedures, and policies; DGCA CARs and other regulations and technical data. The list of effective pages should be updated.
- (d) Distribution and Availability. The operator should have an effective system for distributing updated manuals. There should be no question as to who has responsibility for entering changes in specific manuals.
- (e) Approvals. A copy of all specific approvals mandated by the DGCA should be included in the Manual. These include, but are not limited to:


## 2.4. OPERATIONS AND FLIGHT (TRIP) RECORDS INSPECTIONS

2.4.1 Background and Objectives. CARs Section 8 - Series 'O' Part II and IV require that a flight shall not be commenced until flight preparation forms have been completed certifying that the PIC is satisfied that:

- (a) The mass of the airplane is such that the flight can be conducted safely taking flight conditions expected, and that the airplane load is properly distributed and safely secured.
- (b) Operating limitations have been complied with and that instruments and equipment for the particular type of operation to be undertaken are installed and sufficient for the flight.
- (c) Operational flight planning has been conducted.
- (d) The airplane is airworthy and a Flight release has been issued.


2.4.2 These CAR require that completed flight preparation form be kept by the operator for a specified period. Flight preparation forms meeting the above requirements and conforming to DGCA regulations commonly take the following forms: the load manifest, the dispatch or flight release, the operational and ATS flight plans, and the maintenance or airworthiness release.

2.4.3 The primary objective of operations and flight records inspections is to ensure that operators meet established operator procedures and appropriate civil aviation regulations for the proper preparation and retention of operational trip records. Inspectors can evaluate trip records to reconstruct a particular flight or a series of flights by examining flight plans, dispatch or flight releases, loading and weight documents, weather documents, and other related flight information retained by the operator. The inspector's evaluation provides the DGCA with the methods of information acquisition and dissemination used by the operator.


 महत्त्वमेव जयते	<h2>Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2.4.4 Trip Records Inspection Areas. Operations and flight (Trip) records may be broken down into five general areas as follows:

- (a) General Inspection Area. This inspection area refers to those inspection elements that are common to all trip records. Inspectors should evaluate such items as record availability, practicality, legibility, currency, continuity, and conformity as they related to regulatory record keeping requirements. Inspectors should ensure that each trip record package they examine contains all of the required information and that it pertains to the actual flight it represents. Each document should have a date, flight number or a trip number, and an aircraft registration number which clearly identifies the applicable flight.
- (b) Flight Plan transparency: This inspection area refers to the flight planning requirements which may be applied to most aircraft operations. Inspectors should evaluate flight plan content. Many operators incorporate the operational flight plan and the dispatch/ flight release into one document. This is acceptable and reduces the duplication of information that may be required by both documents.
- (c) The flight plan should contain the following information:
- (i) Aircraft registration number and type of aircraft.
  - (ii) Flight number.
  - (iii) Name of the PIC (usually found on the dispatch release).
  - (iv) Point and proposed time of departure.
  - (v) Proposed route, cruising altitude (or flight level), and true airspeed at the cruising altitude.
  - (vi) Minimum flight altitude and aerodrome operating minima.
  - (vii) Point of first-intended landing and the estimated elapsed time until over that point.
  - (viii) Amount of fuel on board (in hours).
  - (ix) An alternate airport, if required by the relevant CARs.
  - (x) Number of persons in the aircraft, except where that information is otherwise readily available to the DGCA.
  - (xi) Any other information the PIC or ATS believes is necessary for ATS purposes.
- (d) Dispatch Release Inspection Area. A dispatch is normally executed and signed by both the PIC and the dispatcher. The dispatch release should contain the following information:

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>


- (i) Aircraft identification number.
  - (ii) Flight/ Service number.
  - (iii) Departure airport, intermediate stops, destination airports, and alternate airports.
  - (iv) A statement of the type of operation (IFR or VFR).
  - (v) Minimum fuel required
  - (vi) Weather reports and forecast for the destination airport, each intermediate stop, and any alternate airport that is the latest information available at the time the dispatch is signed.
  - (vii) NOTAM'S, fuel slips, route certification requirements (if applicable), and other documents that may be issued to flight crew members before each flight
- (e) With regard to minimum fuel required, CARs Section 8 Series 'O' Part II and IV requires operators to keep fuel and oil records for the specified period. Inspectors should examine records to ensure that they include an annotation of the minimum fuel required to conduct the flight, and that this fuel load is in accordance with applicable Civil Aviation Regulations. Many operators will provide a breakdown of fuel loads such as trip fuel, alternate fuel reserve fuel, and holding fuel. When examining fuel figures, inspectors should cross-check the dispatch or flight release fuel quantity (or weight) with the load manifest fuel quantity (or weight) to ensure that the figures are the same. Additionally, inspectors must ensure that the operator's flight plan includes the amount of fuel on board (in hours), and that this figure agrees with the figures for the amount of fuel annotated on both the flight release and the load manifest. Inspectors may obtain hourly fuel burn information from the cruise control charts in the applicable Aircraft Operating Manual (AFM/ RFM).
- (f) The operator must comply with prescribed time limits for the validity of a dispatch or flight release. If flights are delayed beyond a prescribed time, they must be re-released prior to departure. To ensure the operator is rereleasing flights as required, inspectors should determine the actual departure times from company logs, ATC tower logs, or some other means, and then compare those times with the dispatch or flight release time (as applicable).
- (g) Load manifest inspection Area. Each trip records package, regardless of the type of operation, should contain aircraft weight, balance (CG), and loading information. Passenger and cargo weight information must be accurately reflected on the load manifest. Inspectors should inspect and validate the operator's loading documents to ensure their accuracy and compliance with the CARs, manufacturer's data, and the aircraft load data sheet.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(h) Operators may have systems which result in weight and balance "finals" being transmitted to the flight crew via ACARS or company radio frequencies after the aircraft has departed the gate or ramp area. This information, which normally consists of adjusted take-off gross weight and trim settings, is critical to the crew members for accurately determining the take-off data. Inspectors should ensure that the information contained on the load manifest accurately portrays the actual passenger and cargo weights. And that adequate procedures are in place in the SOP's/ Ops Manual for such crew workload requirements.

#### 2.4.5 Inspection Practices and Procedures.

- (a) Flight/ Service records inspections are normally conducted at the operator's principal base of operations. Operators should have established a system where transit stations forward all trip records information to one central location where the information is retained for the required time period. Some operators may have most of their trip records information stored in a computerized format.
- (b) Inspectors should contact the operator's personnel responsible for maintaining trip record files and advise them that an inspection shall be conducted. Upon arriving at the record keeping location, the inspectors) should properly identify himself and request records for a specific series of trips. This ensures that the operator has an effective series of trips. This ensures that the operator has an effective means of storing record information and is capable of retrieving specific trip information at the DGCA's request. Inspectors should also request space at the operator's facility to conduct the inspection. It is not recommended that inspectors to remove trip records from the operator's facility.
- (c) Before conducting the actual inspection, inspectors should familiarize themselves with the operator's trip records procedures, formats, and means of disseminating information to flight crews. If the inspector has previously completed an operational control inspection of the operator, he should already have a-working knowledge of the operator's system. Inspectors should pre-plan the inspection by deciding which specific areas should be concentrated upon, such as listing alternates, accurate fuel loads, dispatch release time versus actual blackout time, and accurate and timely weather information.
- (d) During the conduct of the actual inspection, inspectors should examine all of the available documents for each flight and cross-check the information between the trip records. For example, the fuel load on a dispatch release should agree with the fuel load on the load manifest, the flight plan, and the fuel slip (if available).

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2.5. FLIGHT AND DUTY TIME RECORDS INSPECTIONS.


2.5.1 Background and Objectives. CARs Section 8 Series `O' Part II and IV state that an operator shall formulate rules limiting the flight time and duty periods of flight crew members. Standards for flight time and duty periods for various categories of crew are currently given in CARs Section 7 Series J Part I/ II/ III as applicable. These rules also make provisions for adequate rest periods and are designed to ensure that fatigue occurring either in a flight or successive flight or accumulated over a period of time due to these and other tasks, does not endanger the safety does not endanger the safety of the flight.

2.5.2 CARs Section 7 Series J Part I/ II/ III further states that an operator shall maintain current records of flight time of all crew members. Paragraph 5.4.3.2 of the ICAO Doc 8335 Manual of Procedures for operations Certification and Inspection recommends that flight records be examined to check compliance with statutory regulations relating to flight and duty time limitations.

2.5.3 Inspection Areas. Operators must develop methods for recording and monitoring flight and duty time for flight crew the regulatory limitations are not exceeded. Such a record keeping system should have the following attributes:

- (a) Adequacy. The record keeping forms which the operator uses are adequate for recording essential information which the DGCA requires including information on time spent in office by executive pilots before immediately commencing flying duties.
- (b) Practicality. The operator's method for recording flight time for individual crew members should be easy for employees to use. Forms which are developed for this purpose should be unambiguous and easy to complete. If an operator uses ACARS or a similar system for reporting flight and duty time, personnel should be properly trained in its use.
- (c) Accessibility and Security. Data regarding flight and duty time should be readily accessible to personnel which have responsibility for monitoring compliance with various time intervals. Records should be secure from tampering by unauthorized individuals.
- (d) Currency. Data available to personnel responsible for ensuring that individual crewmembers do not exceed regulatory or contractual requirements should be updated expeditiously. The system used by the operator should- provide that schedulers and/ or flight control personnel are immediately aware when the prescribed limits may be exceeded. Flight time totals from written crew logs must be expeditiously transmitted to the scheduling or flight control office, so that totals may be promptly updated.
- (e) Accuracy. The system should faithfully track daily flight and duty time for crew members, and accurately reflect totals for longer prescribed time limitations.
- (f) Conformity. The records should reflect conformance with regulatory flight and duty time limitations.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

#### 2.5.4 Inspection Practices and Procedures.


- (a) At the commencement of the inspection, inspectors should receive a briefing from responsible employees of the operator regarding their flight and duty time record keeping system in its entirety. The inspector should then review a sufficient number of records for individual crew members to ensure that regulatory requirements are being met. Figures which are used in flight time summaries (cumulative totals) to track required time intervals should be checked against original flight logs or similar records to ensure that times for specific flights are being accurately recorded and totalled. Similarly, a flight time which appears on flight logs and summaries may be checked against maintenance or payroll records for continuity.
- (b) If individual crew members participate in more than one type of operation for which different regulatory requirements exist (e.g. domestic vs. international), the inspector should determine that the operator has devised methods to ensure that corresponding flight and duty time limitations are not exceeded.
- (c) Inspectors should indicate the scope of their records inspections in the comments section of the report form (i.e. number of individual airmen records inspected, time interval covered, cross-checks with other records).

### 2.6. TRAINING PROGRAM INSPECTIONS

#### 2.6.1 Background and Objectives.

- (a) CARs Section 8 Series O Parts II and IV require that operators establish and maintain a ground and flight training program, approved by the DGCA which ensures that all flight crew members are adequately trained to perform their assigned duties. In order to accomplish this, the operator should have adequate ground and flight training facilities and adequately trained instructors. Inspections of the many components of such a training program are an important part of an overall DGCA surveillance program. These inspections are best planned and executed over a period of time that permits a thorough and ongoing evaluation of an operator's training program.
- (b) The primary objective of a training program inspection is to ensure that the operator's overall training program continues to provide quality instruction by conducting an evaluation of training program curriculums, facilities, instructors, check Aircrew, courseware, instructional delivery methods, and testing and/or checking procedures, which were previously approved by the DGCA.
- (c) Training program inspections also provide the DGCA with the ability to require changes in an operator's training program, to rescind an initially or finally approved program (or segments of that program), and to maintain a current and accurate appraisal of the program's status and ability to train competent and capable flight crewmembers.




 मृतममैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2.6.2 Training Program Inspections Areas. Training programs vary widely in their complexity depending on the operator's size, aircraft fleet diversification, number of crewmembers, training locations, and scope of operation. Training program inspections involve much more than simply observing and evaluating training in progress. Six primary inspection areas may be identified as areas to be observed and evaluated. These six areas are the same areas that should be evaluated before granting either initial or final approval (as applicable) during the training approval process. Because these areas are broad in terms of scope and context, they are organized into inspection "modules" to provide the inspection with a flexible inspection strategy. This means the inspector has more latitude in terms of scheduling specific types of inspections, maximizing inspection resource capabilities, and in determining the sequence of the various types of inspections to be conducted. Specific guidance regarding these six areas is as follows:

(a) Training Curricula Inspection Area. Inspectors should evaluate the operator's approved training curricula. Inspectors should ensure that these training curricula are consistent with the approved syllabus for the type of operation being conducted. The inspector should evaluate the curricula and their associated outlines that are currently being used by the operator. The inspector should ensure that the curriculum outlines contain enough descriptive detail to ensure that the main features of each principal subject will be addressed during the course of instruction. The inspector should maintain a copy of each initially or finally approved training curriculum for every operator. This is usually the best source document available for inspectors to review before evaluating currently used curriculum outlines. Inspectors should evaluate each of the operator's curriculum outlines to ensure that the subject matter is current and appropriate in depth and scope, and also to gain an adequate understanding of what kinds of subject matter will be observed and evaluated during later phases of the inspection. The following is a list of basic curricula typical of both domestic and international operators. These should be reviewed for all crewmember positions and dispatchers:


- (i) Basic Indoctrination Ground Training.
- (ii) Emergency Training.
- (iii) Flight Training (flight crewmembers only).
- (iv) Differences Training (if applicable).
- (v) Recurrent/ Refresher, Training.
- (vi) Requalification Training.
- (vii) Special Curriculum.
- (viii) Qualification Curriculum.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (b) Many operators conduct training which is in addition to the regulatory training requirements. Because this additional training is part of the overall approved program, it would also be subject to inspection and evaluation by the DGCA.
- (c) Courseware Inspection Area. Inspectors should examine an operator's courseware, such as lesson plans, instructor guides, computer software or audiovisual programs, and hand-outs. The courseware should be examined to ensure that it is consistent with the curriculum outline and be organized to permit effective instructional delivery. The courseware should also be examined to ensure it is current, effective and germane to the various instructional delivery methods.
- (d) Instructional Delivery Methods Inspection Area. Inspectors should ensure that the operator's various instructional delivery methods, such as lectures, workshops, slide tape presentations, training devices, and simulators are sufficient to convey information to a student. These methods should be evaluated to ensure that they are effectively creating a transfer of learning to the student, that they are being maintained as originally approved, and that they are updated as necessary.
- (e) Testing and Checking Inspection Area. Para 1 of Annex 6, Paragraph 9.3.1 requires that a training program shall include examination to determine competence. Paragraph 9.4.4 requires that pilots receive proficiency or competency checks. Observing testing and checking is the primary method by which in inspector can determine if learning has occurred. In this inspection area the inspector can evaluate the operator's standards, reflected by pass/ fail rates, which determine whether a desired level of knowledge and skill has been acquired by the students being trained. The inspector should examine the operator's training records to ensure the operator's regulatory compliance with testing, checking, and other training program requirements. Additionally, check aircrew and instructor programs should be examined as the functional quality control element within this area.
- (f) Surveillance Information Inspection Area. During training inspections, inspectors should analyze previous inspection results for deficiencies in specific training program areas. Inspectors in charge should use previous inspection data when planning training program inspections to establish special emphasis or other unique evaluation requirements.

### 2.6.3 General Training Program Inspection Practices And Procedures.

- (a) The five primary inspection areas previously outlined should constitute the core areas of an operator's training programme that were evaluated by the DGCA before the issuance of final approval. These inspection areas apply to all operators and vary only in their complexity from operator to operator.
- (b) In certain situations, there may be a requirement for the DGCA to initiate a "special emphasis" training program inspection of one or more specific areas. This type of inspection may be initiated for several reasons such as an incident, an accident, or a series of deficiencies discovered through trend analysis of surveillance data. Special


 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

emphasis training program inspections usually focus on a limited area, such as use of checklists or wind shear training, and are relatively short in duration.

- (c) Before the inspector can inspect any particular training program area, the inspector should introduce themselves to the instructor or check aircrew conducting the training and display their DGCA credentials. The inspector should then inform them that a DGCA inspection of training in progress will be conducted. Inspectors should refrain from active participation in the training being conducted and should make every effort not to influence the training environment or the instruction in the subject matter. If an inspector has comments on any of the areas of training being conducted, the inspector should reserve the comments for the debriefing with the instructor or check aircrew after the training session.

2.6.4 Specific Training Program Inspection Modules. Key elements of the six primary inspection areas may be organized into inspection "modules" to enhance inspection scheduling, tracking, analysis of results, and to serve as the most efficient use of inspector resources. Any inspection module may be conducted as an independent inspection. The following inspection modules may be considered to be the "core" training program inspection requirements:

- (a) Training Curriculum Inspection Module. The inspector should evaluate each of the operator's approved (initial or final) training curricula, primarily for format and content. Ideally, each should contain the following:
- (i) Title. Each curriculum should be appropriately titled with a specific crewmember position (or positions, such as PIC/FO) and the relevant category of training.
  - (ii) List of Effective Pages. Each curriculum should have a list of effective pages and a means to record revisions.
  - (iii) Approvals. Each page of the curriculum (for finally approved programs) should be signed, dated, and stamped by the inspector or an appropriate designee.
  - (iv) Detail. Each curriculum should include comprehensive outlines of course material contained therein in sufficient detail to determine adequacy of coverage.
  - (v) Hours. The total number of training hours should be specified for each curriculum.
  - (vi) Objective. Each curriculum should list a training objective.
  - (vii) Currency. The information contained in each curriculum should be current and may not be contrary to the regulations or safe operating practices. Company bulletins, notices, information letters and other means of conveying new or

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

revised information to crewmembers should have been, or are in the process of being, incorporated into the appropriate curriculum.

(viii) Conformity. Scope and content of each curriculum should conform to DGCA requirements.


(b) Instructor Courseware Inspection Module. In this module, the inspector should evaluate the operator's instructor guides, lesson plans, and/or training outlines. Ideally, this courseware should have the following characteristics:

- (i) Title. Instructor courseware should be clearly titled for the appropriate curriculum.
- (ii) Detail. It should contain sufficient information to permit the instructor to conduct detailed instruction for each subject area.
- (iii) Practicality. It should contain instructional material in a logical order and sequence that is relatively easy to use.
- (iv) Consistency. It should be consistent with the curriculum outline.
- (v) References. It should have references to the applicable operator's manuals and publications.
- (vi) Validation. Instructor courseware should include some means for determining that the students are properly assimilating the instructed material (such as "responder" panels, multiple-choice questions, or in-class exercises).


(c) Student Courseware Inspection Module. In this module, the inspector should evaluate the information in all of the various "self-teaching" training mediums such as video tapes, audio-visual slide presentations, computer-based training presentations, programmed learning publications, and home-study materials, as follows:

- (i) Consistency. The information should be consistent with the curriculum outline and should be current with information in the operator's manual and other publications.
- (ii) Detail. It should have sufficient detail to ensure that students can clearly understand the applicable subject area.
- (iii) Validation. The courseware should include some means of testing student assimilation of information presented.

(d) Training Facilities/Environment Inspection Module. The inspector should evaluate the operator's training facilities in this inspection module, as follows:

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) The training facilities and the instructional environment should be conducive to learning by providing adequate seating space for students, storage areas for training materials, and facilities for instructors to prepare their lessons.
- (e) Ground Instructor inspection Module. The inspector should evaluate the quality of instruction provided by ground instructors as follows:
- (i) Training. Instructors should be adequately trained in accordance with the operator's approved program and be appropriately documented in the operator's training records.
  - (ii) The facility should be free of distractions which adversely affect instructional delivery, such as excessive temperatures, extraneous noise, poor lighting, and cramped classrooms and/or work spaces.
  - (iii) Knowledge. Instructors should be knowledgeable in the specific area of instruction and in the operator's training policies and procedures, form completion requirements.
  - (iv) Instructional Technique and Delivery. Instructors should exhibit satisfactory instructional methods and techniques. They should be able to present the material in a logical, clear, and organized manner.
  - (v) Adherence. Instructors should follow the applicable lesson plans, guides or other training aids to ensure the material is properly presented as designed.
- (f) Flight Instructor Module. During evaluations of flight training, the instructor should adhere to the events listed for the specific flight training curriculum. Instructors may deviate when necessary, however, to accommodate events from previous or subsequent flight training sessions. Every effort should be expended to alleviate artificiality from the training session and the instructor should be accorded a certain measure of flexibility to ensure the highest level of realistic training is achieved. In addition to the areas listed above, flight instructors should be evaluated in the following specific areas:
- (i) Proficiency. Flight Instructors should be highly proficient in the operation of aircraft, flight simulators and training devices, and in the performance of manoeuvres and procedures which they are teaching.
  - (ii) Briefing. Flight instructors should provide a thorough pre-flight briefing (for flight training devices, flight simulators, or the aircraft) on all manoeuvres and procedures that will be conducted.
  - (iii) Debriefing. Flight instructors should provide a thorough post flight debriefing to review each individual student's performance during a training session.
  - (iv) Evaluation. Flight instructors should properly evaluate student progress and provide or recommend additional training when necessary.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(g) Training Aids and Equipment inspection Module. The inspector should evaluate the operator's training aide and equipment such as audio-visual equipment, systems mock-up boards, panel layouts, ground training devices, instructor station equipment, student responders (if applicable), and other related items, in terms of equipment. Ideally, the following conditions will prevail:

- (i) Instructions for use. Any equipment designated to be used for "self-teaching" purposes (such as CBT platforms) should have clear operating instructions readily available for the student's use.
- (ii) Condition. All equipment used in the training program should operate and function in good working order (Replacement parts or components such as slide projector lamps, should be readily available.
- (iii) Fidelity. Systems panels, layouts, boards, or mock-ups (Such as aircraft exit mock-ups) should accurately represent the designated aircraft.


(h) Flight Simulator/Training Device Inspection Module. It is not intended for the inspector to conduct an extensive flight evaluation of the training device or simulator but rather to evaluate the following: The general condition of the equipment, any significant periods of "down time" (and the reasons for the down time), and the operator's general ability to maintain the equipment as approved. The inspector should evaluate the operator's flight simulators and/or flight training devices, as follows:

- (i) Approval. Flight simulators and flight training devices should be approved by the DGCA and periodically inspected. Inspectors should review the operator's record of simulator evaluations and approval information to ensure compliance.
- (ii) Condition. Flight simulators and flight training devices should function at the same level as when they were initially approved. Inoperative or defective equipment should be properly documented along with the training events that are affected by the inoperative or defective components.
- (iii) Publications. Published instrument approach charts, SID'S, STAR'S, en route charts, and other information (such as aircraft performance manuals and takeoff/ landing data charts) should be current and in generally good condition.

(i) Check Aircrew and Examiners Inspection module. The inspector should evaluate the following elements:

- (i) Staffing. The number of check aircrew and examiners employed by the operator should be adequate for the level of training and checking activity.
- (ii) Training and qualification. Training records should reflect that Check Aircrew and Examiners are qualified in accordance with applicable regulations and the operator's approved training program.



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (iii) Standardization. The operator should have an effective standardization program to ensure that check aircrew conduct training skill test and proficiency checks in a uniform manner.
- (iv) Level of Activity. The number of examinations that a check aircrew conducts each year should be sufficient to maintain currency proficiency in performing the performance of his duties.
- (v) Oral and Practical Tests. The inspector should evaluate the conduct the tests or checks in progress. Inspectors should observe and/or conduct a sufficient number of aircrew certification evaluations as well as proficiency, competency, or line' checks (as applicable) to determine the overall effectiveness of the operator's training, check aircrew programs, and testing and/or checking standards. Testing and checking standards should comply with regulations and safe operating practices.
- (j) Quality Control Module. In this module the inspector should evaluate the operator's quality control program to ensure that training effectiveness is continually monitored and that specific areas or items are corrected when necessary. Specific modules should be identified in the ground and flight curriculums as progress evaluations". The operator's quality control system should ensure that students do not proceed to the next level of training until satisfactory proficiency has been achieved. Additionally, training folders should be maintained by the operator while students are in a specific curriculum. Inspectors should review the information contained in these folders to identify any deficient trends. This information, coupled with the results of testing and checking, provides a quantifiable method for measuring training effectiveness.


2.6.5 Use Of Data Accumulated From Training Program Inspections. Inspectors can use previous inspection results as a source of information about an operator's overall performance. A high rate of satisfactory performance usually indicates a strong, effective training program. Repeated cases of unsatisfactory performance indicate serious deficiencies in an operator's training program. Results of inspection reports, incident or accident reports, enforcement actions, and other relevant information about the operator's performance should be reviewed by the DGCA for indications of training effectiveness. For example, repeated reports of deficiencies such as configuring too late, incomplete briefings, or incorrect use of the checklists, may be traceable to a lack of specific training or ineffective training in a particular area.

## 2.7. TRAINING AND QUALIFICATION RECORDS INSPECTION

2.7.1 Background and Objective. Paragraph 9.6.5.6 of the ICAO Manual of Procedures for operations Certification and Inspection states that inspectors should ensure that records are available for each company employee who is required to receive flight, ground, simulator, emergency, or operational control training to confirm that:

- (a) Appropriate training prescribed in the approved training program has been conducted as and when required.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(b) Such records reflect each individual's attendance, participation, aptitude, or performance.

(c) Adequate and accurate records are being maintained and retained in accordance with applicable regulations.

2.7.2 Terminology. The following terminology is used in this section:

(a) A file refers to a collection of records of training events for a specific employee which is maintained in a folder, binder or computer database.

(b) A record refers to an individual record of a training or qualification even which is completed by the instructor or examiner and placed in an employee's file.

(c) A flight operations personnel refers to pilots, flight engineers, flight operations inspectors (dispatchers), and flight attendants.

2.7.3 Essentially, the operator should develop forms and maintain records which are sufficient to establish the qualification and currency of each flight operations person for the position that he or she occupies at the time the inspection is conducted. By reviewing training records, the inspector should be able to establish a chronology of training and qualification events which render an individual fully qualified to perform the duties to which he is presently assigned, in accordance with DCGA's regulations and the operator's approved training manual. Each record of a training event in an individual's file should contain the following information as a minimum:

(a) Specific type of training or qualification conducted the terminology employed should reflect that contained in the operator's approved training program, (e.g. "A-320 pilot Recurrent Ground Training").


(b) Date(s) on which training was conducted.

(c) Employee's name.

(d) Employee's position.

(e) Results of training or qualification - complete or incomplete, satisfactory or unsatisfactory, etc.

(f) Instructor or examiner's name and signature.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3. EN ROUTE COCKPIT INSPECTIONS

#### 3.1. BACKGROUND AND OBJECTIVES


The ICAO manual for Operations Certification and Inspection recommends that en route inspections be conducted as a means of evaluating both cockpit and cabin crew members. The primary objective of Cockpit En-route Inspections is for an Inspector to observe and evaluate the in flight operations of an operator within the total operational environment of the air transportation system. En route inspections are one of the most effective methods of accomplishing air transportation surveillance objectives and responsibilities. These inspections provide the DGCA with an opportunity to assess elements of the aviation system that are both internal and external to an operator.

3.1.1 Elements of the aviation system which are internal to the operator and can be observed during Cockpit En route Inspections include:

- (a) Crewmembers.
- (b) Operator Manuals and Checklists.
- (c) Use of Minimum Equipment Lists and Configuration Deviation Lists.
- (d) Operational control functions (dispatch, flight-following, flight locating).
- (e) Use of Checklists, approved procedures, and safe operating practices.
- (f) Crew coordination/Cockpit Resource Management.
- (g) Cabin Safety.
- (h) Aircraft condition and servicing.
- (i) Training Program effectiveness.

3.1.2 Elements of the aviation system which are external to the operator and can be observed during en route inspections include:

- (a) Airport surface areas.
- (b) Ramp/ apron/ gate activities.
- (c) Airport condition and construction.
- (d) Aircraft and vehicle movements.
- (e) ATC and airway facilities. ATC and airspace procedures.
- (f) IAPs, SIDs, and STARs.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(g) Navigational aids.

(h) Communications

### 3.2. COCKPIT EN ROUTE INSPECTION AREAS

3.2.1 Inspectors should consider all inspection areas, both internal and external to the operator to be of equal importance. Four general inspection areas may be identified for observation and evaluation:

(a) Crewmember.

(b) Flight conduct.

(c) Airport.

(d) ATC/ Airspace.


3.2.2 The Cockpit En Route Inspection Job Aid is placed at Annex 23 to CAP 8200. The Checklist/ Report form is divided into the four areas listed above. The remainder of this chapter is structured around this form.

(a) The "crewmember" inspection applies primarily to flight (cockpit) crewmembers, but cabin crewmembers may also be observed in certain areas such as coordination with the cockpit. Inspectors should evaluate such items as flight crewmember knowledge, ability, and proficiency by directly observing crewmembers performing their respective duties and functions. The checklist/ report form contains a list of remainder items which should be observed in the crewmember inspection area. These items are not all-inclusive but represent the types of items which are common to several phases of flight and which inspectors should evaluate during a typical cockpit en-route inspection.

(b) The "flight conduct" inspection area is by far the largest and most complex. It relates to specific phases of flight which can be observed during an en-route inspection. The checklist/ report form contains a list of the items that should be evaluated by inspectors during these phases of flight. These items are not all-inclusive and in some cases (such as "power back") may not be applicable to the flight conducted. Inspectors are, however, encouraged to observe, evaluate, and report on as many of these items as possible.

(c) The "airport" inspection area pertains to the various elements of airports which may be observed during flights such as runways, taxiways, ramp/aprons, and aircraft ground movements. Inspectors should observe and evaluate as elements as possible.

(d) The "ATC/ Airspace" inspection area pertains to the various elements of Air Traffic Control and national or international airspace systems. These elements should be

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

observed and evaluated by inspectors during en route inspections. From an operational standpoint, these evaluations are a valuable information source which can be used not only to enhance safety with respect to air traffic control and the airspace system, but also to enhance the effectiveness of en route and terminal facilities and procedures.

3.2.3 Deficiencies in the "Crewmember" and "Flight Conduct" inspection areas may indicate weaknesses in the operator's training and checking program.


3.2.4 Although these four general inspection areas cover a wide range of items, they are not the only areas that can be observed and evaluated during cockpit en route inspections. Inspectors may have the opportunity to evaluate many other operations functions, such as transit base operations and flight control procedures. Such functions can often be observed before a flight begins, at en route stops, or at the termination of a flight. Inspectors should include any remarks regarding such areas in the comments section of the checklist.

### 3.3. GENERAL COCKPIT EN ROUTE INSPECTION PRACTICES AND PROCEDURES

3.3.1 Before conducting en route inspections, it is important that inspectors be thoroughly familiar with the operating procedures and facilities used by the operator. An inspector can obtain such information by reviewing pertinent sections of the operations manual and is encouraged to comment in the inspection report on any procedure believed to be deficient or unsafe. He should also debrief the flight crew at the conclusion of the flight regarding any deficiencies which he intends to note in the inspection report.

3.3.2 Each operator should have established procedures to be used by inspectors for scheduling the cockpit observer's seat (jump seat). Inspectors should make arrangements to be present in the cockpit far in advance as possible. However, since an inspector may experience a sudden change in his schedule and may thus not always be able to provide appropriate advance notice, operator's procedures should be flexible so as to permit use of an available jump seat on short notice.


3.3.3 A cockpit en route inspection is a routine surveillance function which is distinct from a route check required by CARs. Its purpose should be to observe and evaluate the entire cockpit crew - Captain and the First Officer, and Flight Engineer if applicable - in the performance of the full range of their duties during regularly scheduled flights. Thus, it should be accomplished from the jump seat with as little disruption to the cockpit routine as possible. En route inspections should be scheduled so as not to interfere with required check flights by company check aircrew or with orientation flights for pilots under training who occupy the observer's seat. Should an inspector arrive for a flight and find that the jump seat is occupied by pilot under training, he must determine whether or not it is essential that the cockpit en route inspection be conducted on that flight. If it is essential, the operator should be so advised and should make the jump seat available to the inspector.

	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

3.3.4 An inspector should begin a cockpit en route inspection a reasonable amount of time before the flight (approximately 1 hour) by reporting to the operations area or to the gate, according to established procedures. He should complete any necessary jump seat related paperwork for inclusion in the operator's passenger manifest and weight and balance documents. The inspector should introduce himself to the flight crew, if not already known to them, and inform the PIC of his intention to conduct an en route inspection. The inspector should then request that the flight crew present their pilot's licenses and medical endorsements to him for examination. It is desirable that the inspector review with the flight crew prior to boarding the aircraft such items as weather documents, NOTAMS, planned route of flight dispatch or flight release documents and information about the airworthiness of the aircraft.

3.3.5 Sometimes an inspector cannot meet and inform the PIC of the intention to conduct an en route inspection before boarding the aircraft. In such a case, as soon as possible after boarding the aircraft the inspector should introduce himself to the PIC, present his identification, and inform the flight crew of his intention to conduct a cockpit inspection. In this situation a flight attendant will usually be at the main cabin entrance door. One of the flight attendant's primary duties should be to ensure that only authorized persons enter the aircraft such as ticketed passengers, caterers, and authorized company personnel. Therefore, an inspector should be prepared to present his identification and any applicable jump seat paperwork to the flight attendant before entering the cockpit. When boarding the aircraft, an inspector should also avoid unnecessarily impeding passenger flow or interrupting flight attendants during the performance of their duties. Also, during this time an inspector may have ample opportunity to observe and evaluate the operator's carry-on baggage procedures and the gate agents or flight attendants actions concerning oversized items. Once inside the cockpit, the inspector should request an inspection of each flight crewmembers licences when convenient. He should review the journey logbook to determine the airworthiness of the aircraft, and request that the flight crew provide him with the trip documents (Flight plan, Load sheet, etc.) for his review when it does not interfere with their duties.

3.3.6 The inspector must wear a headset during the flight. During cockpit en route inspections; inspectors must try to avoid diverting the attention of flight crew members performing their duties during critical phases of flight such as approaches and landings. Inspectors must be alert and point out to the flight crew any apparent hazards such as conflicting traffic. If during an en route inspection, an inspector becomes aware that the flight crew is violating any regulation, company policy, or an ATC clearance, the inspector should immediately inform the PIC of the situation.

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3.4. SPECIFIC COCKPIT EN ROUTE INSPECTION PRACTICES AND PROCEDURES

3.4.1 Once situated in the cockpit, the inspector should check the jump seat oxygen and emergency equipment (if applicable) and connect the headset to the appropriate interphone system. The PIC or a designated crewmember should offer to give the inspector a safety briefing. If the PIC does not make such an offer, the inspector should request a briefing. Although the inspector may be qualified on the aircraft and well known to the PIC, this will permit him to evaluate the jump seat safety briefing which the PIC or First inspector should give to any jump seat rider. It is important that the inspector monitor all radio frequencies being used by the flight crew to properly evaluate ATC procedures, flight crew compliance, transmission clarity, and radio phraseology. The monitoring of these frequencies also ensures that the inspector does not inadvertently interfere with any flight crew communications. Inspectors should continuously monitor these frequencies to remain aware of the progress of the flight. The following major areas will be observed and evaluated:


3.4.2 Crewmembers. Inspectors will have the opportunity to evaluate crewmembers in the following areas which are common to many or all phases of flight:

(a) Licences - valid as follows:

- (i) Proper ratings and endorsements for the positions occupied.
- (ii) Medical endorsement appropriate and current.

(b) Knowledge - demonstrated knowledge in the following specific areas:

- (i) AOM - Specific aircraft limits, systems, equipment, procedures, and flight profiles.
- (ii) FOM or equivalent - General company policy and procedures related to crew conduct and type of operation.
- (iii) DGCA regulations and ICAO International standards and recommended practices - appropriate to the type of operation conducted
- (iv) Airway Manuals - Interpretation and application of approach plates, STARs, SIDs, airport and transit base information, communications, etc.
- (v) MEL/ CDL - Familiarization to the extent that specific items can be expeditiously located and information properly interpreted and applied.
- (vi) Checklists - cockpit flow and responses to challenges in normal checklists, knowledge of where to locate and an understanding of the philosophy behind abnormal and emergency procedures.
- (vii) General body of aviation knowledge commensurate with level of licence and experience: ATC, weather, aerodynamics, power plants, radar interpretation, etc.


 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (c) Proficiency - skill in applying the above knowledge to specific phases of flight and in manipulating aircraft controls and systems at the assigned crewmember position.
- (d) Situational awareness - related to proficiency but refers to apparent or demonstrated awareness (particularly in critical phases of flight) of such factors as traffic flow, weather, position and configuration of airplane, airspeed, altitude, rate or descent, etc.
- (e) Conformity - to provisions of AOM, FOM, Other company bulletins and instructions, DGCA regulations, ICAO standards and practices, ATC practices and specific instructions, MEL/ MMEL/CDL, and airway manual. Attention should be given to:
- (i) Remaining at duty stations per regulatory guidance.
  - (ii) Use of seatbelts and safety harnesses.
  - (iii) Use of oxygen.
  - (iv) Use of corrective lenses (glasses) when required by medical certificate.
- (f) Manuals/Maps/Charts - available, current, and adequate (information regarding latest changes can be obtained from the carrier prior to the inspection).
- (g) Coordination - between cockpit crewmembers (cockpit resource management) and between cockpit and cabin crewmembers.
- (h) Use of checklists - prompt and consistent use of requirement checklists during appropriate phase of flight.
- (i) Requirement equipment - flashlight, cockpit key, headset, and other such personal items which may be required by DGCA regulations or company policy.

**3.4.3 Phase of Flight.** Some of the areas that should be observed and evaluated during each specific flight phase are as follows-

- (a) Pre-flight: Inspectors should determine that the flight crew has all the necessary flight information including the appropriate weather, dispatch, or flight release information; flight plan; NOTAM'S; and weight and balance information. MEL items should be resolved in accordance with the operators MEL and appropriate maintenance procedures. Inspectors should observe the flight crew performing appropriate exterior and interior pre-flight duties in accordance with the operator's procedures.
- (b) Pre-departure: Inspectors should observe the flight crew accomplishing all pre-departure checklists, take-off performance calculations, and required ATC communications. If a Flight Management System (FMS) is installed, setup and data entry should be observed. If INS or Omega is installed, data entry and verification should be observed. Flight crew should verify fuel quantity indications against amount delivered and/or physically check tanks. The flight crew should use coordinated



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

communications (via hand signals or the aircraft interphone) with ground personnel. Crew should properly monitor engine starts. Often pushback or power back clearance must be obtained from the appropriate ATC or apron control facility.


(c) Taxi: The following areas should be observed during taxi:

- (i) Adherence to taxi clearances.
- (ii) Control of taxi speed and direction.
- (iii) Observance of taxiway signs and markings.
- (iv) Cockpit setup and checklist.
- (v) Conduct of a pre-take-off briefing in accordance with the operator's procedures.
- (vi) Awareness of other ground movement (aircraft and vehicles).
- (vii) Use of appropriate checklists.

(d) When weight and balance information is transmitted to the aircraft by company radio during the outbound taxi, the flight crew should follow the operator's procedures as to which crewmember receives the information and completes the final take-off performance calculations, and which crewmember monitors the ATC frequency.

(e) Take-off: The take-off procedure should be accomplished as outlined in the operator's manual. Inspectors should observe and evaluate the following terms or activities during the take-off phase

- (i) Aircraft centreline alignment.
- (ii) Application of power to all engines.
- (iii) Take-off power settings.
- (iv) Use of crosswind control techniques.
- (v) Flight crew standard call-outs and coordination.
- (vi) Adherence to appropriate take-off or V speeds.
- (vii) Rate and degree of initial rotation.
- (viii) Use of flight director, autopilot, and auto throttles applicable).
- (ix) Gear and flap retraction schedules and limiting airspeeds.
- (x) Use of radar and weather avoidance if applicable.


 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(f) Climb: The climb procedure should be conducted according to the operator's manual. Inspectors should observe and evaluate the following items and activities during the climb phase of flight:


- (i) Compliance with the ATC departure clearance or with the appropriate published departure.
- (ii) Adherence to proper climb profile.
- (iii) Airspeed /Mach control.
- (iv) Navigational tracking/ heading control.
- (v) Power plant control.
- (vi) Use of radar and weather avoidance, if applicable.
- (vii) Use of auto flight systems.
- (viii) Pressurization procedures- if applicable.
- (ix) Sterile cockpit procedures.
- (x) Cockpit vigilance and traffic awareness.
- (xi) After take-off checklist.

(g) Cruise: Procedures used during cruise flight should conform to the operator's procedures. Inspectors should observe and evaluate the following areas during the cruise phase of flight:


- (i) Cruise Mach/ airspeed control.
- (ii) Navigational tracking/heading control.
- (iii) Use of radar, if applicable.
- (iv) Turbulent air procedures, if applicable.
- (v) Monitoring flight plan (actual vs. planned fuel consumption and flight time).
- (vi) Awareness of Mach buffet and maximum performance ceilings.
- (vii) Coordination with cabin crew.
- (viii) Compliance with oxygen requirements, if applicable.
- (ix) Vigilance - proper visual lookout and crewmembers at stations except to attend to physiological needs.

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (x) Compliance with ATC clearances and instructions.
- (h) Descent: Procedures used during descents should conform to the operator's procedures. Inspectors should observe and evaluate the following areas before and during the descent phase of flight:
- (i) Descent planning.
  - (ii) Weather/ ATIS check.
  - (iii) Crossing restriction requirements.
  - (iv) Navigational tracking/ heading control.
  - (v) Use of radar, if applicable.
  - (vi) Awareness of Vmo/Mmo speeds and other speed restrictions.
  - (vii) Compliance with ATC clearance and instructions.
  - (viii) Use of auto flight systems including FMS is applicable.
  - (ix) Pressurization control, if applicable.
  - (x) Weather considerations.
  - (xi) Altimeter settings.
  - (xii) Briefings, as appropriate,
  - (xiii) Coordination with cabin crew.
  - (xiv) Sterile cockpit procedures.
  - (xv) Vigilance.
  - (xvi) Descent checklist.
- (i) Approach: Procedures used during the selected approach (instrument or visual) should be accomplished according to the operators manuals. Inspectors should observe and evaluate the following areas during the approach phase of flight
- (i) Approach checklists.
  - (ii) Approach briefing, as appropriate.
  - (iii) Compliance with ATC clearances and instructions.
  - (iv) Navigational tracking/heading and pitch control.

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (v) Airspeed control, V speeds.
  - (vi) Flap and gear configuration schedule.
  - (vii) Use of flight director, autopilot, auto throttles, and FMS if installed.
  - (viii) Compliance with approach procedure.
  - (ix) Stabilized approach criteria while landing.
  - (x) Rate of descent criteria.
  - (xi) Flight crew call-outs and coordination.
  - (xii) Transition to visual segment, if applicable.
- (j) Landing: Procedures used during the landing manoeuvre should conform to those outlines in the operators manoeuvres and procedures documents. Inspectors should observe and evaluate the following areas during the landing phase of flight:
- (i) Before-landing checklist.
  - (ii) Power plant control and engine spool-up considerations.
  - (iii) Threshold crossing height (TCH).
  - (iv) Aircraft centreline alignment.
  - (v) Use of crosswind control techniques.
  - (vi) Sink rates to touchdown.
  - (vii) Power plant control/engine spool-up considerations,
  - (viii) Standard call-outs.
  - (ix) Touchdown and rollout.
  - (x) Thrust reversing and speed brake procedures.
  - (xi) Use of auto brakes, if applicable.
  - (xii) Use of nose wheel steering.
  - (xiii) Braking techniques.
  - (xiv) After-landing checklist.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(k) Arrival: Taxi, pre-arrival and parking procedures should conform to the operator's procedures as outlined in the appropriate manual. Inspectors should evaluate crew use of visual parking aids and/ or aircraft signallers, taxi speed, and accomplishment of shutdown procedures, ground handling procedures and passenger deplaning procedures.

(l) Post-arrival: Inspectors should observe and evaluate the flight crew complete post flight duties such as post flight checks, aircraft logbook entries, and flight trip paper work completion and disposition.

3.4.4 Airports. Inspectors should evaluate the following items concerning the airports which the flight transits in the course of the inspection:

(a) Condition of surface areas such as apron and gate areas, runways, and taxiways (cracks, depressions, weeds, overgrowth, etc.).

(b) Lighting of runways, taxiways, ramp/apron, and other traffic areas.

(c) Taxiway signs, markers, sterile areas, and hold lines.

(d) Ramp/ Apron vehicles, equipment, movement control.

(e) Aircraft servicing, parking, and taxi operations.

(f) Obstructions, construction, and surface contaminants (such as ice, slush, snow, fuel spills, rubber deposits).

(g) FOD.

(h) Snow control for international flights, if applicable.

(i) Security and public safety.

(j) Nav Aids, approach lighting, and communications.

3.4.5 ATC. During cockpit en route inspections, inspectors have the opportunity to observe and evaluate ATC operations and airspace procedures from the vantage point of the aircraft cockpit. Inspectors may observe and evaluate the following areas from the cockpit:


(a) Radio frequency congestion, overlap, or blackout areas.

(b) Controller phraseology, clarity, and transmission rate.

(c) ATIS validity, clarity, etc.

(d) Departure and approach instructions.

(e) Clearance deliveries for responsiveness and acceptable, safe clearances.


	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(f) Aircraft separation standard.

(g) Controller situational awareness - traffic flow, conflicts, aircraft flight characteristics, priorities, etc.

3.4.6 While not specifically included on the checklist, Inspectors should note any discrepancies observed with regard to equipment, which is required to be installed on the aircraft by regulations.

3.4.7 After the flight has been terminated, the inspector should debrief the crew on the discrepancies observed and on any corrective actions that should be taken. If the inspector observed a violation of DGCA regulation or company policies during the flight or intends to make critical comments concerning the crews' performance, the inspector should inform the flight crew during the debriefing.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 4. TRANSIT STATION FACILITIES INSPECTIONS


### 4.1. BACKGROUND AND OBJECTIVES.

Section 9.6.3 of the ICAO Doc 8335 Manual of Procedures for Operations Certification and Inspection provides that Station Facilities inspections should be conducted periodically at every transit base where the operator uses facilities and services in connection with his operations. Station facility operations may be defined as those support activities required to originate, turn around, or terminate a flight. A Station Facilities inspection encompasses both the operations and the facilities required to conduct them. It needs to be appreciated that the facilities established for scheduled operations would be more elaborate as compared to transit facilities in the case of non-scheduled or charter operations e.g. Non-scheduled operators are unlikely to have personnel employed at a station and may be outsourcing the. Nevertheless, facilities essential for the safe conduct of operations need to be ensured for all operators.

4.1.1 Eleven inspection areas may be identified as areas to be observed and evaluated during a transit station facilities inspection:

- (a) Personnel. Refers to adequacy and proficiency of staff employed at a station.
- (b) Manuals. Refers to the availability, currency, and content of the written guidance required by employees in the performance of their assigned duties.
- (c) Records. Refers to those records the operator is required to maintain.
- (d) Training. Refers to the adequacy of the training given to an assigned personnel as demonstrated by their knowledge of their duties.
- (e) Facility/ Equipment Surface. Refers to the various physical elements required to support flight operations, such as ramp areas, blast fences, signs, signalling devices, lighting, passenger and cargo loading equipment, aircraft servicing, and towing equipment.
- (f) Conformance. Refers to the compliance of the operator's procedures with civil aviation regulations and the compliance of the operator's employees with the operator's direction and guidance.
- (g) Flight Control. Refers to the control and support of aircraft flight operations.
- (h) Servicing. Refers to the operator's procedures and standards required for the safe servicing and handling of the operator's aircraft.
- (i) Management. Refers to the effectiveness of the operator's management and supervisory personnel.



 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(j) Security. Refers to the procedures employed by the operator regarding passenger and cargo screening and access to restricted areas. Compliance with security instructions issued by DGCA1Bureau of Civil Aviation Security.

(k) Aerodrome. Refers to airport facilities and equipment which may be observed incidental to inspecting the operator's immediate facilities.

## 4.2. MANAGEMENT OF STATION FACILITIES INSPECTIONS.

The FSD schedules regular inspections of existing operator's transit bases. POIs must ensure that newly established bases are inspected before the operator commences service to that destination.


## 4.3. INSPECTION PRACTICES AND PROCEDURES

4.3.1 Inspectors, conducting station facilities inspections will encounter a wide range of situations and operations conditions. Types of stations may vary from a large facility with a permanently assigned station manager, numerous; employees, and various departments, to a facility consisting of one employee and a counter. A station facilities inspection may be conducted to provide for an overall view of the operator's operation or it may be focused on a specific area of interest. Whenever possible, inspections should be conducted when actual departure or arrival operations are in progress, in order to obtain an overview of the operation of the station; and the effectiveness of the equipment, services, procedures, and personnel utilized. The direction and guidance provided in this section is general in nature, not all of which may be appropriate in a given situation.

4.3.2 An inspector should carefully plan a station facilities inspection before conducting it. He should review previous inspection reports and review, any previously identified discrepancies along with any corrective actions that were taken. Inspectors should coordinate with the station manager ahead of time to establish a date and time for conducting the inspection. Station facilities inspections at small or remote locations may be conducted in conjunction with en route inspections.

4.3.3 Before beginning the inspection, the inspector should request that the station manager provide a briefing on the facility operation, including assigned personnel and operational procedures. In turn, the inspector should discuss the purpose and scope of the inspection with the manager and his staff. This discussion should include the following:

- (a) Purpose of the facility inspection.
- (b) The specific areas to be inspected.
- (c) Inspection authority (applicable CAR).
- (d) The proposed time and place of the exit briefing.

	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.3.4 The actual inspection should begin after the briefing, with a tour of the facility. The tour should provide the inspector with an overview of the operation and the location of individual sections. The inspector should introduce himself to section supervisors and other employees during the facility tour in order to become familiar with each section or unit. The tour should include those areas of the facility that are utilized by the flight and cabin crews for dispatch, briefing, and flight planning, and those areas that are utilized for passenger loading, cargo loading, weight and balance preparation, and ramp areas.

#### 4.4. SPECIFIC INSPECTION AREAS

4.4.1 Personnel. The inspector should review the staffing of the facility. During this review the inspector should attempt to determine if the station is adequately staffed and if the assigned personnel are competent in performing their duties. This may be accomplished by the inspector observing individuals as they perform their assigned job tasks. For example, the inspector may review recently completed forms for accuracy and may interview personnel regarding their job functions. Certificates should be sampled for appropriateness and currency for those personnel whose job functions require that they hold certificates. Duty time and length of shifts should be checked for reasonableness. Lengthy duty periods may indicate inadequate staffing.


4.4.2 Operational Manuals. The inspector should review the operator's manual or system of manuals for the operation of the facility to determine if the necessary manuals are on hand, current, readily available to personnel and adequate in content.

4.4.3 Availability. The inspector should determine prior to the inspection what manuals should be on hand. As with all inspections, a sound prior knowledge of the operator's organization and procedures is invaluable. During the course of the inspections, the inspector should reach a conclusion as to whether these manuals are sufficient or if station personnel require any additional information which was not available.

4.4.4 Currency. The inspector should also ensure that the operator's manuals are current and that required revisions accurately posted. An inspector should obtain information on the revision status of manuals from the supervising inspector and/or the operator before beginning the inspection.

4.4.5 Adequacy each manual or publication should be checked by the inspector to ensure that it includes that information and guidance necessary to allow personnel to perform their duties and responsibilities effectively and safely. Manuals or instructions which are kept at transit stations typically provide guidance and procedures for the following operational areas:

- (a) Re-fuelling procedures.
- (b) Aircraft towing or movement requirement/procedures.
- (c) Weight and balance procedures.
- (d) Operation of and procedures regarding ground service equipment.
- (e) Aircraft flight manual (AFM) (for types of aircraft regularly scheduled).

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>


- (f) Personnel training manual.
- (g) Current emergency telephone listing,
- (h) Accident/incident telephone listing.
- (i) Security training and procedures.
- (j) Severe weather notification procedures.
- (k) Carry-on baggage procedures.
- (l) Identification or handling of hazardous materials/procedures.
- (m) Instructions and procedures for notification of PIC when there are hazardous materials aboard.
- (n) Contract services (if applicable).
- (o) Flight records disposition.

4.4.6 Records. Records which are required to be kept at the transit base or are kept at the discretion of the operator should be inspected. These may include:

- (a) Crew and duty time records.
- (b) Trip records.
- (c) Communications (ground to aircraft) records.

4.4.7 Training. The inspector should review the training conducted for the various classifications of station personnel. Although Civil Aviation Regulations may not require specific training for support personnel, such personnel should receive both initial and recurring training in assigned job functions. This training may be either formal classroom training or on-the-job training. Specific areas of concern are:

- (a) Duties and responsibilities.
- (b) Hazardous materials.
- (c) Passenger handling and protection.
- (d) Load planning and weight and balance procedures.
- (e) Manual backup procedures in case computer or communications equipment failures.
- (f) Aircraft servicing and ramp operations.
- (g) First aid and emergency actions.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(h) Communications procedures.


4.4.8 Facility/Equipment/Surface. The operators' facilities must be adequate to provide safe operating conditions for both aircraft and personnel. The inspector should conduct an evaluation to ensure the following.

- (a) Ramp Areas. Ramp areas should be clean and clear of foreign objects. The operator should have a regular program for inspecting and cleaning ramp surfaces. In northern climates, adequate facilities must be available for snow removal.
- (b) Passenger Movement. Employees and passengers must be protected from jet or prop blast. Inspectors should evaluate passenger handling procedures and facilities and give particular attention paid to the movement of passengers across ramps. The operator should have established procedures for assisting handicapped passengers, especially when boarding ramps are not used.
- (c) Lighting. To ensure that adequate lighting is available and is being used for safe ground operations, inspectors should conduct observations during night operations, if feasible.
- (d) Hazards and Obstructions. The operators' management usually assigns to station managers or supervisors the responsibility for maintaining surveillance of the airport and for reporting airport hazards and any new obstructions. Inspectors should determine what responsibilities have been assigned and how those responsibilities are being discharged.

4.4.9 Conformance. In each area inspected, inspectors should evaluate the operators procedures for compliance with provisions of the applicable CAR' S. In addition, the operators employees must comply with the operators directives. The conformity section on the checklist is not intended to be a separate and distinct inspection function but is intended to serve as a reminder of these elements.

4.4.10 Operational Control. The inspection of a stations operational control function should be conducted at a time when actual arrival or departure operations are in progress. This allows the inspector to get an overall view of the effectiveness of the operation and assigned personnel.

- (a) When a dispatch or flight-following centre is located within the station, an operational control inspection should be conducted in conjunction with the station facilities inspection.
- (b) Flight Plans. Operators often exercise operational control from a central location and task the transit stations with related support functions, such delivering dispatch releases and flight plans to the flight crew. In this situation, inspectors should determine which functions are the responsibility of the station. Inspectors should evaluate station personnel in the performance of these functions, as well as for the effectiveness of the division of responsibility between the central flight control centre and the line station.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(c) Load and Trim sheet. Inspectors should determine responsibilities for load planning and weight and balance control. Passenger and cargo weights must be accurate and reliably obtained, collected, and transmitted. Personnel must be adequately trained. Procedures should be simple and effective. When computerized systems are used, there should be adequate back-up provisions for computer failure. If station personnel are assigned to perform manual calculations in case of computer failure, there should be a means of ensuring continued proficiency of personnel in making these calculations. Inspectors should ask these individuals to perform a manual calculation and compare the individuals' solution to the computer solution.


(d) Weather. Inspectors should determine the official source of weather for the station, and whether or not this source is adequate for the operation and is acceptable to the DGCA.

(e) NOTAM. If the station is responsible for disseminating NOTAMs to flight crews, currency of NOTAMs and the method for updating should be examined.

4.4.11 Servicing. The servicing area of a station facilities inspection covers routine loading and servicing as opposed to maintenance activities. While operations inspectors should record and report observations they believe to be maintenance discrepancies; there not assigned to inspect-the maintenance area. Inspectors should evaluate areas of concerns to operations personnel, such as the manner in which logbooks are handled and MEL provisions are complied with. The inspector should observe the operators service operations to ensure that safe practices are conducted and that adequate personnel are available for the required aircraft servicing. The operations that- the inspectors should observe may include, but are not limited to, the following:

- (a) Fuelling (ensuring that proper procedures are being followed).
- (b) Oil and hydraulic servicing (ensuring that proper procedures are being followed).
- (c) Potable water servicing (source of water, cleanliness of storage facilities, and proper handling).
- (d) De-icing (ensuring the correct ration of glycol/water is being used and that all snow and ice is removed).
- (e) Marshalling (ensuring safe operation and correct procedures).
- (f) Chocks/Mooring (ensuring chocks are in place, the parking ramp is level, and brakes are set or released).

4.4.12 Management. Managers should be thoroughly aware of their duties and responsibilities and those of the personnel they supervise. Areas that inspectors should observe and evaluate include the following:

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) Communications. Throughout the inspection, inspectors should observe managers and supervisors, and evaluate the organizational structure, particularly the effectiveness of vertical and horizontal communications.
- (b) Contract Services. If the operator contracts with other companies for station services, the station manager should have established adequate controls over their performance. The manager must assure adequate training is provided to contractor personnel.
- (c) Contingency Planning. The station management should be prepared for contingencies. Action plans should be available for use in case of such events as accidents, injury, illness, fuel spill, bomb threats, hijacking, severe weather, and hazardous material spills. Station personnel should be knowledgeable as to the location of these plans. Plans should contain emergency notification checklists and procedures for suspending or cancelling operations. Emergency telephone listings should be posted in obvious locations and be clearly legible.

#### 4.5. SECURITY


Security procedures should be observed with regard to passenger and cargo screening, integrity of sterile areas, and access to ramp and other restricted areas. Completed instructions should be verified to see whether they are up to date.

#### 4.6. AERODROME

Operations inspectors should be alert for obvious deficiencies in aerodrome facilities and condition, such as firefighting equipment, medical services, and ramp and vehicle control. other areas, such as marking, lighting, obstructions, navigation facilities, approach aids, etc. are more properly observed in the course of conducting other types of inspections such as cockpit en route inspections and ramp inspections.

#### 4.7. STATION FACILITIES INSPECTION REPORT

The Station Facility Inspection Checklist/ Report form is placed at Annexure to Cap 8200. When completing the report form, discrepancies observed during the inspection should be documented along with any on-the spot corrective action taken by the inspector. Any recommended corrective actions should also be noted on the report. Also, the inspector should indicate an outstanding or above average station facility on the report, to provide an accurate picture of the operator's operations at the particular facility.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 1</b>	<b>July 2018</b>

## 5. FLIGHT CREW PROFICIENCY AND COMPETENCY CHECKS

### 5.1. BACKGROUND AND OBJECTIVES

Operators are required to conduct proficiency and competency checks to ensure that all flight crew are competently performing their duties and responsibilities. CARs Section 8 Series O Part II and Part IV requires that such checks shall be performed twice within the period of one year. DGCA FOIs also conduct skill tests of pilots for issuance of licences and ratings. Paragraph 9.6.28. of the ICAO Doc 8335 Manual of Procedures for Operations Certification and Inspection states that inspectors must ensure that proficiency checks of the operator's flight crew personnel are carried out in accordance with the standards and frequency prescribed in the regulations. FOIs are also required to undertake release and standardisation checks of DEs/ Examiners/ TRIs/ LTCs and SFIs. Accordingly, FOIs are authorized to observe these checks at any time as an inspection job function. The objectives of a proficiency or competency check inspection are as follows:


- 5.1.1 Evaluate individual Flight crew performing their duties and responsibilities.
- 5.1.2 Assess the effectiveness of the operator's training program.
- 5.1.3 Evaluate individual check/ supervisory Flight crew performing their duties and responsibilities.
- 5.1.4 Evaluate the effectiveness of the operator's standardization, and quality control program.
- 5.1.5 Identify previously approved or accepted operational procedures, manuals, or checklists which are deficient.
- 5.1.6 Assess the effectiveness of the operator's simulators and equipment.

### 5.2. GENERAL INSPECTION PRACTICES AND PROCEDURES

5.2.1 The inspector should be adequately, prepared to conduct the inspection. In addition to becoming thoroughly familiar with the operator's manuals, the inspector should be required to qualify in the operation of the aircraft, simulators, or training devices. Inspectors should be familiar with the following areas before conducting proficiency and competency check inspections:

- (a) Crew qualification for simulators, flight training devices, and aircraft.
- (b) Acceptable methods for presenting the manoeuvres and events of the check in simulators, flight training devices, and aircraft.
- (c) Acceptable standards of Flight crew performance.



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(d) Operator's SOP.

(e) Before the check the inspector will

- (i) Introduce himself/herself
- (ii) Brief the crew on the objective of the check
- (iii) Elaborate on the qualifying standard
- (iv) Inquire about any doubts or questions
- (v) Check for validity of Licences


(f) During the check, the check flight crew should be responsible for:

- (i) Ensuring that all required flight test events are completed in a realistic flight scenario.
- (ii) Providing suitable briefings before and after the session.
- (iii) Fairly and objectively evaluating the flight crew being checked.

(g) After the check is completed, the inspector should debrief the flight crew who were checked only if he feels the check flight crew debriefing was inadequate. The inspector is responsible for debriefing the check flight crew regarding the manner in which he carried out the responsibilities enumerated in the preceding paragraph. This debriefing should be accomplished alone with the check flight crew and not in the company of the flight crew who were checked.

(h) The inspector's primary responsibility is to observe and evaluate the overall conduct of the check. The inspector should refrain from asking questions of the flight crew being checked, refrain from attempting to control the type of sequence of checking events, and refrain from interfering in any way with the manner in which the check flight crew conducts the check. The inspector will intervene if safety in any way likely to be jeopardized.

(i) It is the check flight crew responsibility to conduct a complete and proper check. The inspector's responsibility is to evaluate the performance of both the flight crew being checked and the check flight crew and to properly record the inspection results. Should the check flight crew fail to complete all required item on a check, the inspector should bring this fact to the attention of check flight crew and ensure all events are completed.

 महत्त्वमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 0</b>	<b>May 2018</b>

5.2.2 While certain training benefits are gained during proficiency or competency checks, the purpose of a check is to have the flight crew state of proficiency evaluated and to ensure that the last training conducted has been sufficient to ensure the flight crew proficiency throughout the interim period. If the check flight crew conducting the check observes minor deficiencies (and believes that minor instruction may correct the situation) the check flight crew may suspend the check temporarily, conduct remedial training, and then resume the check. However, check flight crew should not repeat events several times until they are performed in an acceptable manner. When a proficiency or competency check is interrupted to conduct training, that check should still be completed within the time frame the operator originally scheduled for the check. If training is so extensive that the check cannot be completed in the allotted time, the inspector should grade the check unsatisfactory reevaluation and place the flight crew in additional training.

5.2.3 Inspectors should record the time required to complete checks and amount of remedial training conducted while the check was suspended. The DGCA should compare the time these checks require when conducted by check Flight crew and inspectors. The inspector shall complete DGCA report/ checklist and handover a copy to the flight crew in order to be submitted to the operator for perusal.


### 5.3. PROFICIENCY/ COMPETENCY CHECK INSPECTION AREAS

5.3.1 From the preceding discussion, it can be seen that five specific areas may be observed and evaluated. These areas have been incorporated in the Aircrew Proficiency and Competency Check Inspection/Checklist which appears at the end of this chapter and will be used for all such inspections. The five areas are as follows:

- (a) Competency of flight crew being checked.
- (b) Content of check.
- (c) Competency of check flight crew as an evaluator.
- (d) Manuals, procedures, and checklists.
- (e) Flight simulators and training equipment.

5.3.2 In filling out the form, the inspector should take the following information into consideration:

- (a) Flight crew Competency. A flight crew should perform specific events in an aircraft, an aircraft simulator, a flight training device, or a combination thereof. The events performed during the check depend on the type of operation conducted and the aircrew's duty position (PIC, Co-Pilot). This inspection area applies to the knowledge, ability, and proficiency of the flight crew receiving the proficiency or competency check, as demonstrated by his performance during a series of required manoeuvres and flight regimes. The inspector takes into account such items as knowledge of the aircraft, its systems, and components.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 3</b>	
		<b>Revision 1</b>	<b>July 2018</b>

- (b) For pilots: Proper control of airspeed, configuration, direction, altitude, and attitude in accordance with the procedures and limitations contained in the manufacturers airplane flight manual, the operator's Aircraft Operating Manual, Checklists, and other materials applicable to the type of aircraft.
- (c) For pilots: Control of aircraft as delineated above over full range of manoeuvres and flight regimes including takeoff, climb, cruise, descent, approach, landing and during emergency and abnormal situations.
- (d) Crew coordination (cockpit resource management and coordination with ground personnel and cabin crew)
- (e) Possession of appropriate ratings and endorsements


5.3.3 Content of Check. In this inspection area the inspector evaluates whether all the manoeuvres required by CAR's were accomplished in the course of the check.

5.3.4 Competency of Check Flight crew as an Evaluator. This inspection area applies to the inspector evaluating the manner in completeness of the check flight crew observations, and the validity of the outcome. Such items as check flight crew briefings (before and after the check), are observed and evaluated by the inspector during the conduct of the check.

5.3.5 Manuals, Procedures and Checklists. This inspection refers to the inspector observing the manuals, procedures, and checklists used during the conduct of the flight. While conducting proficiency or competency check inspections, inspectors have an opportunity to observe deficiencies in previously approved or accepted material that can only be detected while the material is in use. Such observations may provide the only opportunities inspectors have to observe the operator's non-normal and emergency procedures in use.


5.3.6 Flight Simulators and Training Equipment. This inspection area refers to the condition of the aircraft, simulators, or training devices which are used to conduct the check. When evaluating the equipment, inspectors should determine that required inspections have been conducted, observed discrepancies are recorded on maintenance logs, and the equipment in an adequate state of repair.

5.3.7 Further guidance on the conduct of skill tests/ proficiency checks is available in Chapter 10 of Designated Examiner Manual (CAP 7200).

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## **VOLUME 4**

### **TRAINING AND QUALIFICATION**

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 1. THE FLIGHT STANDARDS DIRECTORATE

### 1.1. INTRODUCTION

1.1.1 The Flight Standards Directorate performs the DGCA's task of certifying and maintaining regular surveillance of all Air Transport Operators besides many other functions in order to ensure safe and efficient commercial air transport services in the country. This surveillance covers not only airlines operating scheduled services but also all other fixed wing aircraft and helicopter operators. The Directorate is responsible for carrying out release and standardisation checks of supervisory aircrew as a part of its regular inspection programme. The personnel of this Directorate are responsible for carrying out Safety Oversight Responsibilities assigned by the Convention on International Civil Aviation and its Annexes except for those elements that pertain to determining whether or not there is a need for a service and for determining the financial viability of an operator or a potential operator.

1.1.2 In order to accomplish these tasks, qualified Flight Operations Inspectors (FOIs) are appointed to the DGCA against established posts, who conduct Certification/ Surveillance/ Inspection/ Checks and similar other functions as per the policies laid down and as desired by the DGCA.

### 1.2. STATUTORY AUTHORITY


1.2.1 The Flight Standards Directorate is organized as a component part of DGCA, authorized by the Government of India and receives responsibilities from the Director General of Civil Aviation to carry out all required functions.

1.2.2 The activities of Flight Operations Inspectors are governed by the following: -

- (a) Chapter 9, Para 9.4.4. of 'DOC 8335 of the ICAO Manual of Procedures for Operation Inspection, Certification and Continued Surveillance
- (b) Indian Aircraft Act & Rules, AICs, CARs, and applicable Operations Circulars.
- (c) FOI Manual (CAP 8200) and any directives given by the Director General
- (d) Other relevant circulars and instructions that may be issued from time to time.

### 1.3. STAFFING REQUIREMENTS

1.3.1 Staffing of the Flight Standards Directorate with a sufficient number of suitable Flight Operations Inspectors, experienced, qualified and capable of accomplishing the wide range of activities is paramount to the success of the Safety Oversight Programme of the Civil Aviation Department.

 मृत्यमैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.3.2 Flight Operations Inspectors (FOIs) must not only have the knowledge, experience and qualifications to carry out their duties in a professionally sound manner, but also possess the personality to win the respect and confidence of the operators. This would require a reasonable level of tact, understanding, firmness, impartiality, integrity and an exemplary personal conduct both in the air and on the ground. How well they do this, will be the real measure of their success as Flight Operations Inspectors.

1.3.3 In order to ensure that FOIs contribute effectively towards accomplishment of the Directorate's overall objectives, it is incumbent on Chief Flight Operations Inspector (CFOI) to nominate and encourage their participation in various technical courses, which may enhance their knowledge in discharge of day-to-day functions. OJT and their inclusion in appropriate surveillance activities will help the Directorate to benefit from their qualification and experience.

#### 1.4. AUTHORIZED STRENGTH OF FLIGHT OPERATIONS INSPECTORS

1.4.1 The level of and the growth of aviation in the country will determine the number of Flight Operations Inspectors required. A periodic review will take place from time to time as required to determine whether or not there needs to be a change in the number of Inspectors authorized. The workforce evaluation methodology is given at Appendix A to this Chapter.

#### 1.5. RECRUITMENT POLICY OF FLIGHT OPERATIONS INSPECTORS AND QUALIFICATION REQUIREMENTS

1.5.1 Persons seeking a position as a Flight Operations Inspector should have held previous appointments either as an airline pilot/ flight engineer or training instructor, or as a Military Pilot/flight Engineer where experience in air transport operations would have been acquired. Detailed Recruitment Rules and qualifying experience are defined by the DGCA.

1.5.2 The Flight Operations Inspectors (Aeroplanes) should have the following qualifications:

- (a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.
- (b) Should have a valid or held a ATPL issued by DGCA with PIC rating on Civil Air Transport aircraft.
- (c) Total experience of not less than 5000 hours and not less than 2000 hours as PIC on Air Transport aircraft.
- (d) Accident free record for last 5 years attributable to his proficiency.
- (e) It is desirable that the candidate should have held the qualification of an examiner/ instructor/ check pilot approved by Director General of Civil Aviation on civil air transport aircraft or qualified flight instructor rating in Category A from Defence services.

 मृत्यमैव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.5.3 The Flight Operations Inspectors (Helicopters) should have the following qualifications:

- (a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.
- (b) Should have a Commercial Pilot's License (Helicopter) issued by DGCA India with Pilot- in-Command rating.
- (c) The total experience of not less than 3000 hours and not less than 1500 hours as Pilot-in Command on Helicopter.
- (d) Accident free record for last 5 years attributable to his proficiency.
- (e) It is desirable that the candidate should have held the qualification of an Examiner/ Instructor approved by Director General of Civil Aviation on civil helicopter or Qualified Flight Instructor rating in Category A from Defence services.


1.5.4 The Senior Flight Operations Inspectors (A) should have the following qualifications:

- (a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.
- (b) Should have a valid or held a ATPL issued by DGCA with PIC rating on Civil Air Transport aircraft.
- (c) Total experience of not less than 6,000 hours and not less than 4,000 hours as Pilot-in-Command on air transport aircraft.
- (d) Accident free record for last 5 years attributable to his proficiency.
- (e) It is desirable:
  - (i) That the candidate should have held the qualification of an Examiner/ TRI/ LTC approved by Director General of Civil Aviation on civil air transport aircraft or qualified flight instructor rating from Defence services.
  - (ii) Should have an Open rating for all types of aeroplanes having all-up-weight not exceeding 5,700 kgs.

1.5.5 The Senior Flight Operations Inspectors (H) should have the following qualifications:

- (a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.
- (b) Should have or held a Commercial Pilot's License (Helicopter) or issued by DGCA India with Pilot- m-Command rating.



 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(c) The total experience of not less than 3500 hours and not less than 1750 hours as Pilot-in Command on Helicopter.

(d) Accident free record for last 5 years attributable to his proficiency.

(e) It is desirable:

(i) that the candidate should have held the qualification of an Examiner/ Instructor approved by Director General of Civil Aviation on civil helicopter or Qualified Flight Instructor rating from Defence services.

(ii) Should have an Open rating for all types of Helicopters having all-up-weight not exceeding 1500 kgs.

1.5.6 The Deputy Chief Flight Operations Inspectors (A) should have the following qualifications:

(a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.

(b) Should have a valid or held a ATPL issued by DGCA with PIC rating on Civil Air Transport aircraft.

(c) Total experience of not less than 6,500 hours and not less than 5,000 hours as Pilot-in-Command on air transport aircraft.

(d) Should have held the qualification of an Examiner approved by Director General of Civil Aviation on civil air transport aircraft or Qualified Flight Instructor in Category A rating from Defence services.

(e) Accident free record for last 5 years attributable to his proficiency.

(f) It is desirable that the candidate should have an Open rating for all types of aeroplanes having all-up-weight not exceeding 5,700 kgs.


1.5.7 The Deputy Chief Flight Operations Inspectors (H) should have the following qualifications:

(a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.

(b) Should have a valid or held a CPL(H) issued by DGCA with PIC rating on Civil Air Transport aircraft.

(c) Total experience of not less than 4,000 hours and not less than 2,500 hours as Pilot-in-Command on helicopters.

(d) Should have held the qualification of an Examiner approved by Director General of Civil Aviation on helicopters or Qualified Flight Instructor in Category A rating from Defence services.

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(e) Accident free record for last 5 years attributable to his proficiency.

(f) It is desirable that the candidate should have an Open rating for all types of helicopters having all-up-weight not exceeding 1,500 kgs.

1.5.8 The Chief Flight Operations Inspectors should have the following qualifications:

(a) Should be below 60 years. However in case of qualified and deserving candidates this age can be relaxed by the selection committee.


(b) Should have a valid or held a ATPL issued by DGCA with PIC rating on Civil Air Transport aircraft.

(c) Should have an Open rating for all types of aeroplanes having all-up-weight not exceeding 5,700 kgs.

(d) Total experience of not less than 7000 hours and not less than 5,000 hours as Pilot-in-Command on air transport aircraft.

(e) Should have held the qualification of an Examiner approved by Director General of Civil Aviation on civil air transport aircraft or Qualified Flight Instructor in Category A rating from Defence services.

(f) Accident free record for last 5 years attributable to his proficiency.

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## APPENDIX A

### INSPECTOR WORKFORCE EVALUATION METHODOLOGY


The DGCA conducts a periodic review from time to time as required and at least annually, to determine whether or not there needs to be a change in the number of inspectors authorized. As part of this review and in order to ensure that the DGCA has a sufficient number of inspectors to carry out its surveillance and certification activities, the DGCA utilizes its Workforce Evaluation Methodology.

The Workforce Evaluation Methodology allows the DGCA to determine whether it has an adequate number of inspectors, or needs to hire additional personnel. The methodology is conducted separately for each type of inspector group (e.g., operations, cabin safety and airworthiness). The Inspector Workforce Evaluation Methodology should be re-visited periodically to account for aviation system growth or when a brand new aircraft type is introduced into the system.

#### STEP 1: CALCULATE TOTAL INSPECTOR HOURS REQUIRED

1. First, it is necessary to calculate Total DGCA Inspector Hours Required. This requires collection of three types of information:
  - a. The identification of each work function broken down into categories of activities
    - i. Surveillance activities
    - ii. Renewal activities
    - iii. Certification activities
    - iv. Other regulatory and administrative activities
  - b. The annual frequency of each work function
  - c. The total number of inspector hours required to complete each work function
2. Enter the information into an Excel spreadsheet (see Figure 1 for a sample Workforce Evaluation Worksheet). The total number of annual hours required for each work function can be calculated by multiplying the times per year each work function is performed by the number of inspector hours required to complete each work function.
3. Calculate the total DGCA Inspector Hours Required by each inspector group separately (Operations, Airworthiness, and Cabin Safety), then find the sum of the total number of hours required for each work function performed by that inspector group.

#### STEP 2: CALCULATE TOTAL INSPECTOR HOURS AVAILABLE

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


1. There are two important components to calculating Total Inspector Hours Available:
  - a. The number of hours that each inspector is available to conduct work functions
  - b. The total number of inspectors
2. To determine the number of work hours, assumptions must be made regarding:
  - a. The number of hours each day each inspector is expected to work (typically 8 hours per day)
  - b. The number of work days annually the inspector will be in training, on vacation or unavailable to work for other reasons. For example, if it is assumed that an inspector works 5 days per week; there are 15 days of Government holidays; devotes 20 days for training activities and avails 50 days of leave/ vacation, the inspector's available work days will be 200 work days.
  - c. This will give the number of hours annually an inspector will work (typically between 1500 and 1600 hours)
3. This analysis is conducted separately for each inspector group. Therefore, the total number of inspectors refers to the total number of current, qualified and available inspectors in the group currently being analyzed.
4. Once these two numbers are determined, Total Inspector Hours Available can be calculated by finding the sum of the number of hours each inspector is available to perform work function and the total number of inspectors. Thus, if each inspector has 1600 hours available, and there are 6 inspectors, then the Total Inspector Hours Available are 9600 hours.

### STEP 3: COMPARE TOTAL HOURS REQUIRED AND TOTAL HOURS AVAILABLE

Compare the Total Inspector Hours Required calculated in Step 1 to the Total Inspector Hours Available calculated in Step 2. If the Total Inspector Hours Required is less than the Total Inspector Hours Available, then the DGCA likely has sufficient staffing. However, if the Total Inspector Hours Required is more than the Total Inspector Hours Available, the DGCA may want to consider adding additional staff.


### STEP 4: ENSURE INSPECTOR WORKFORCE IS PROPERLY QUALIFIED AND TRAINED

This step involves taking the number of inspectors required and determining the necessary training and qualification requirements for the inspectors to meet the demands of the civil aviation system. These training requirements include the necessary inspector training (initial, recurrent and on-the-job training) as well as the necessary aircraft type-rating qualification needed for effective oversight of air operators.

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### Sample Operations Inspector Workforce Evaluation Worksheet

STEP 1: CALCULATE TOTAL INSPECTOR HOURS REQUIRED			
Work Function	Annual Frequency	Hours per Function	Hours Required
Function 1	36	24	864
Function 2	48	6	288
Function 3	4	600	2400
Function 4	26	8	208
Function 5	52	8	416
Function 6	12	16	192
Total Inspector Hours Required			4368
STEP 2: CALCULATE TOTAL INSPECTOR HOURS AVAILABLE			
Annual Hours Available per Ops Inspector	1600		
Current Number of Ops Inspectors	3		
Total Ops Inspector Hours Available	4800		
STEP 3: COMPARE TOTAL HOURS REQUIRED TO TOTAL HOURS AVAILABLE			
Total Inspector Hours Available	4800		
Total Inspector Hours Required	4368		
Difference	432		

 मृत्यमैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2. DGCA TRAINING PROGRAM

### 2.1. GENERAL

2.1.1 International aviation standards require that a civil aviation authority provide its safety inspectors with comprehensive training to ensure the competency of its inspector workforce.

2.1.2 The DGCA's Training Program has four components:

- (a) Initial Training
- (b) On-the-Job (OJT)
- (c) Recurrent training
- (d) Specialized Training.

2.1.3 The multiple facets of the Training Program reflect the fact that the program is intended to support not only training for new inspectors, but professional development of inspectors throughout their careers. This Chapter provides the general guidelines and procedures for the DGCA's Training Program, which are further tailored in subsequent chapters in accordance with the duties and responsibilities of the respective inspectors.

### 2.2. POLICY ON INSPECTOR TRAINING

2.2.1 The Director General acknowledges that all inspectors must be appropriately qualified and trained to perform all duties and tasks required. The Director General will ensure that all such personnel are provided the initial training necessary to carry out their duties, as set forth in this Chapter.

2.2.2 The Director General also acknowledges that recurrent training is required for inspectors to be able to keep abreast of industry and DCCA developments and thereby continue to be able to provide appropriate safety oversight. The Director General will ensure such recurrent training is provided, as set forth in this Chapter.

### 2.3. INDIVIDUAL TRAINING PLANS

2.3.1 The Director General will ensure appropriate training by directing that the Training Directorate establish and maintain Individual Training Plans that sets out the training to be provided to each of their inspectors for at least a 12-month period. Each inspector's plan will be updated by managers as necessary to adjust the timing of the planned courses and activities, or to amend the list of planned courses and activities to meet a newly identified need.

### 2.4. INITIAL TRAINING

2.4.1 Flight Standards Directorate provides an in-house Initial Training course for

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

each newly hired inspector. The purpose of this course is to familiarize him/ her with the DGCA and the functioning of the various Directorates, especially FSD.

2.4.2 Newly recruited inspectors are required to complete the Initial Training course within the stipulated time frame in order to start OJT in their respective areas of posting. This will enable them to be more useful in providing assistance to senior inspectors at the preparatory level of work.

## 2.5. ON-THE-JOB TRAINING

2.5.1 OJT provides direct experience in the work environment in which the inspector is performing or will be performing on the job. The DGCA's structured OJT policy and procedure is set forth in greater detail in Appendix B.

2.5.2 OJT entails the completion of three levels of training for each technical job function. The three levels encompass the study of reference materials, task observation, and task performance, as further defined below. An OJT trainer must validate all Levels (I, II, and III) of performance.


2.5.3 Level I Training (Knowledge): Level I training is related to that body of knowledge associated with a specific job task. This knowledge is contained in orders, rules, guidance, and standards. Level I training typically involve a review of all reference materials applicable to the job tasks for which training has been identified. Level I training may be satisfied through classroom training or other delivery methods.

2.5.4 Level II Training (Task Observation): Level II training involves observation of the performance of specific job tasks. This training typically involves the trainee observing and/or assisting the OJT trainer in the performance of those specific job tasks for which the trainee will be held accountable. Level II training may be satisfied through appropriate training that provides the opportunity for the trainee to observe and/or assist the trainer performing the task.

2.5.5 Level III Training (Task Performance): Level III training involves the application of knowledge and skills to the performance of specific job tasks. Typically, the trainee performs the job task under the observation of a qualified OJT trainer. The trainer assesses the performance of the task and indicates on the trainee's OJT training plan when Level III performance is achieved.

2.5.6 The OJT process begins with the DGCA formulating an OJT plan for the newly hired inspector. The OJT plan is based on specific job tasks that are part of his or her particular work assignments; allows for credit for classroom training (such as indoctrination) or prior experience that equate to Level I or Level II OJT for one or more tasks; and includes, as applicable, specialized tasks that newly hired inspectors may need to be able to perform.



 मृत्यमैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 2.6. RECURRENT TRAINING

2.6.1 Each respective Directorate provides an in-house Recurrent Training course for inspectors that are already having working knowledge and experience. The purpose of the Recurrent Training course is to improve the inspector's decision-making capability, develop maturity to share more responsibilities in elevated position, and provide knowledge with international standards.

2.6.2 The Recurrent Training course may share content with the Initial Training course, but varies in emphasis from one to other, as the Initial Training course provides a fuller treatment across all subject area. The Recurrent Training course focuses on changes from year to year in regulations, guidance material as well as significant events occurring in the industry and the local environment from time to time.

## 2.7. SPECIALIZED TRAINING

2.7.1 The purpose of specialized (or continuation) training is to upgrade the knowledge and competency of existing inspectors on par with international standards and for efficient functioning.


2.7.2 Specialized and technical training programs are developed by DGCA as applicable to a particular inspector's duties. The DGCA works in association with international organizations under special training programs/ schemes like US-India Cooperation project, India-US ACP program, COSCAP, etc. Duration of training is based on the course and the hosting organization.

## 2.8. EXTERNAL TRAINING

2.8.1 Formal training courses may be obtained from external training centres, or through relevant manufacturer training programs, subject to the approval of the DGCA based on the procedure set forth herein.

2.8.2 The DGCA evaluates the quality of such training pursuant to the following procedures

- (a) Pre-Course Request: The DGCA requests that the external training centre submit the training course syllabus for review.
- (b) Pre-Course Review and Approval: The DGCA evaluates the general completeness, content and overall quality of training course information, and confirms whether the training adheres to the requirement of the CARs and DGCA standards. Following review, the DGCA either determines that the training course is acceptable or not.
- (c) Post-Course Evaluation: Following a DGCA inspector's completion of an accepted training course, the inspector will submit the following for review:
  - (i) The certificate indicating completion of the training course

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (ii) A course evaluation form that rates the quality of the training curricula, courseware, facilities, instructor, and any other appropriate type of supporting information

Note: Appendix D provides the Training Evaluation Form used by DGCA inspectors to review a course.


**2.8.3 Authorization of External Aircraft Type Training Examiners for New Aircraft Types:** When an aircraft operator applies for a new aircraft to be added to its Air Operator Permit (AOP), the DGCA determines resources available for initial qualification. In the event of a new aircraft type, the DGCA may not have inspectors that are qualified in that aircraft type. In such instances, the DGCA implements the following procedure:

- (a) The DGCA coordinates with another State or external training centre that has appropriately licensed personnel and qualified Inspector/examiner, respectively, who can administer practical test to DGCA inspectors.
- (b) The DGCA selects the qualified Inspector/ examiner that meets the criteria set forth below for DGCA trainers and ensures that this designee is familiar with and competent in CAR requirements and DGCA standards for administering practical tests.
- (c) The DGCA issues a one-time written authorization to the external qualified inspector/ designee examiner to conduct a practical test for the DGCA inspector in accordance with the CAR requirements and DGCA standards.
- (d) The qualified inspector/ designee examiner must be identified by name and possess the requisite qualifications.
- (e) The initial inspector and the AOP pilot applicants (the initial cadre) train together at the same time at the external training centre.
- (f) The practical test is administered by the qualified inspector/designee examiner to the DGCA inspector first.
- (g) The DGCA inspector, now qualified, then administers practical test to AOP pilot applicants for type rating in accordance with CAR requirements and DGCA standards.

**2.8.4** The DGCA inspector is qualified to approve elements for AOP certification and AOP pilot applicants are qualified to develop manuals/ training program for review and approval by the DGCA.

## **2.9. TRAINING GUIDELINES FOR TRAINING OF TRAINERS**

Train the Trainer approach simply involves "initially training a person or people who, in turn, train other people". In other words, one subject-matter expert shares his or her expertise with a group of trainers from the organization. This group then uses this information to instruct others.

 मृत्यमैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 1</b>	<b>July 2018</b>

Training of Trainers (ToT) is a high-level professional learning process for qualified personnel who will be providing training and capacity-building to other trainers within FSD, DGCA.

Often specific qualifications/ expertise in the desired field are not available with any of the staff members. Such a situation may occur especially when new technology, procedures or techniques are being introduced into the already highly technical field of aviation. In such a situation, there is a need for a core team of competent staff to adequately familiarize themselves with the new equipment or processes in order to not only lay down or implement standards but also train other trainers who will then disseminate the new knowledge to rest of the staff.

However, as this approach forms the basis for the overall organizational expertise in any field, it requires special care to be exercised for effective practice. The most critical element of this entire approach is the selection of people with the correct approach and flair for imparting training. Accordingly, FSD, DGCA shall preferably nominate FOIs with prior experience as trainers for undergoing ‘Train the Trainer’ training.

The nominated FOIs shall undergo ‘Train the Trainer’.

The nominated FOIs shall also acquire specific technical knowledge on new technology or procedures from OEMs/ other regulators/ industry accredited bodies. The duration of this training would depend on the technology/ procedure to the satisfaction of the DGCA.

## 2.10. SELECTION OF DGCA TRAINERS


2.10.1 The training provided to DGCA inspectors are delivered by individuals specifically designated by the DGCA as trainers. Selection of trainers is based on criteria explained at Appendix to this Chapter.

2.10.2 The DGCA will provide qualified trainers with a written designation stating that the individual is DGCA trainer and authorized to deliver the training – e.g., in-house training courses, OJT training and external aircraft type training.

## 2.11. AIRCRAFT TYPE TRAINING FOR CERTIFICATION

2.11.1 In the event an Air Operators Certificate applicant proposes to begin operations with an aircraft type for which the DGCA has no qualified Flight Operations Inspector (FOI) and Airworthiness Inspector (AWI), the DGCA must make the appropriate inspector(s) available for training on the new aircraft type.

2.11.2 Generally, the inspectors will receive the necessary training by participating in the initial training provided to the operator’s personnel. The DGCA inspectors will undergo requisite checks with qualified Examiners of the OEM. DGCA inspectors will then carry out checks of the operator’s flight crew/ technicians as required.

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 1</b>	<b>July 2018</b>

2.11.3 In case of non-availability of a Type Rated FOI the DGCA can appoint an ITRE (Industry Type Rated Expert) to carry out tasks or work allocations in terms of Para 2.11.4 below.

2.11.4 The aircraft type-specific training required does not have to be completed prior to the pre-application phase, formal application phase, or early part of the document evaluation and inspection phase, but does have to be completed before the document evaluation and inspection phases can be completed. Specifically, at least one FOI or ITRE (Industry Type Rated Expert) must have recent experience on the aircraft type prior to conducting the following:

- (a) Acceptance of the Aircraft Operations Manual
- (b) Approval of Aircraft Checklists
- (c) Approval of the MEL
- (d) Approval of training programmes
- (e) Approval of All-Weather Operations
- (f) Approval of Special Operations
- (g) Surveillance of demonstration flights
- (h) Flight simulator acceptance
- (i) Check pilot or LTC/ TRI/ Examiner or DE authorization

2.11.5 Other FOIs and AWIs associated with certification/ surveillance will also be provided with basic information regarding the type of aircraft equipment, navigational systems, and/ or proposed techniques associated with the new aircraft type.

2.11.6 Guidance for selection, training and functioning of ITREs is placed at Appendix D to this chapter.


## 2.12. REVIEW OF TRAINING PROGRAM

2.12.1 DGCA will periodically review the Training Program and carry out revisions so that the training of inspectors is continuously updated to keep abreast of the latest developments taking place in the aviation field.

2.12.2 Analysis of feedback received after each training should be considered for revision of policies, syllabus, and curriculum. The DGCA utilizes a Training Evaluation Form, set forth in Appendix D, for this purpose.


## 2.13. TRAINING FILES AND RECORDS

2.13.1 All training completed by an inspector will be documented in his or her inspector training file.

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2.13.2 Inspectors who complete a formal external or in-house training course will receive a Certificate of Completion to be added to their inspector training file.

2.13.3 When OJT is delivered to an inspector, the individual OJT activity will be notated on the inspector's OJT plan.

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## APPENDIX A

### STRUCTURED OJT

#### 1. PART I – INTRODUCTION

1.1. “OJT is planned training conducted at a work site by an authorized Trainer. This type of training provides direct experience in the work environment in which the inspector is performing or will be performing on the job.”

1.2. The OJT Program is an essential part of inspector’s training and adds value to the overall training effort. By applying knowledge and skills learned, the trainee inspector completes the learning process. At the same time, the Directorate gains confidence in the trainee’s capabilities. With the completion of OJT, the Directorate can certify the trainee as a qualified inspector.

1.3. The inspector’s OJT Program is a process for implementation and management of a structured OJT system using DGCA guidelines. The program can be tailored to the tasks in which inspector needs training and may also include training on tasks unique to an office. The training can be provided immediately when the need or opportunity arises.

1.4. OJT empowers an inspector to develop needed skills. When a training need exists, OJT can be provided. OJT has been identified as the best method for delivering the needed training, or if no other means to receive the training is available.

1.5. Throughout the career, OJT remains a valuable tool for continually broadening technical skills and capabilities of an inspector. Cross training in tasks to be coordinated with other directorates may not be possible through other training means due to resource limitations but may be more easily attainable through a structured OJT Program.

#### 2. PART II – OJT BASICS

##### 1.6. Definitions

(a) Certification. Certification work activities validate the competency of an air operator, maintenance organization, or certifying personnel and their compliance with appropriate statutory and regulatory requirements prior to active performance in the aviation Industry.

(b) Level I OJT Training. Level I training is related to that body of knowledge associated with a specific job task. This knowledge is contained in orders, rules, guidance, and standards. Level I training typically involve a review of all reference materials applicable to the job tasks for which training has been identified. Level I training may be satisfied through classroom training or other delivery methods.

(c) Level II OJT Training. Level II training involves observation of the performance of specific job tasks. This training typically involves the trainee observing and/ or assisting the OJT trainer in the performance of those specific job tasks for which the trainee will be held accountable. Level II training may be satisfied through appropriate training that provides the opportunity for the trainee to observe and/ or assist the trainer performing the task.


 मृत्यमैव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (d) Level III OJT Training. Level III training involves the application of knowledge and skills to the performance of specific job tasks. Typically, the trainee performs the job task under the observation of a qualified OJT trainer. The trainer assesses the performance of the task and indicates on the trainee's OJT training plan when Level III performance is achieved.
- (e) Principal OJT Program Coordinator. The Principal OJT Program Coordinator is the in-charge of implementing the OJT Program in DGCA as a whole. He is responsible for approving the OJT Program prepared by OJT Program Coordinator of each Directorate of DGCA and reviewing the implementation and improvements in OJT Program based on feedback.
- (f) OJT Program Coordinator. The Inspector who is designated to establish and maintain the OJT Program for the respective Directorate. This is a key role in establishing the OJT Program.
- (g) Training Coordinator. The inspector who is designated to establish and implement the OJT program in each respective Directorate. This is a key role in the implementation of the OJT Program.
- (h) OJT Trainer. A trained inspector designated to provide OJT instruction to trainees on specific tasks at Levels I, II, and III, in accordance with the procedures established in this document. OJT trainers Should be designated in each respective office.
- (i) OJT Record. A tool that is used to record the trainee's OJT plan, progress, and completion.
- (j) OJT Steering Committee. A group of inspectors from the headquarters who have oversight of the OJT Program.
- (k) OJT Task. A unit of work that contains logical and necessary steps in the performance of a job duty, typically with a defined beginning and ending. The task must produce a meaningful result and is one that can best being taught and learned on the job.
- (l) Surveillance. One of the most significant duties of the DGCA is to conduct surveillance in all areas of air transportation. The primary objective of surveillance activities is to provide the DGCA with accurate, real-time, comprehensive information for the evaluation of the safety status of the air transportation system.

#### 1.7. Job Task Analysis.

- (a) A Job Task is, "A single identifiable unit of work that is regularly accomplished by an inspector in the course of a normal work year."
- (b) Each Job Task is supported by a detailed Job Task Analysis. This analysis is a written summary that describes how to perform the Job Task. More specifically a Job Task Analysis is, "A written description of the materials, procedures, and requirements that are used to accomplish a Job Task, including, supporting documentation, completion standards, narrative description of the task, and step



 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

by step listing of the required sub tasks.”

- (c) Trainee Inspectors must complete OJT for each Job Task that they will be asked to perform without assistance. OJT Program Co coordinator is responsible for determining which tasks are required for each inspector based on the trainee inspector’s work assignment. OJT must be completed for each of the required Job Tasks.


### 3. PART III – ROLES AND RESPONSIBILITIES

1.8. The OJT Steering Committee. An OJT Steering Committee may be established by DGCA with CFOI as the Principal OJT Program Coordinator to supervise the management of the OJT program. When so designated, the OJT Steering Committee should be composed of OJT Program Coordinators of each Directorate of DGCA and chaired by the Principal OJT Program Coordinator. The committee provides oversight and guidance for the implementation of the OJT Program of each Directorate. The Committee shall monitor and assess accomplishment of program objectives and shall recommend changes to the program. The committee should meet at least annually to discuss training issues.

1.9. OJT Program Coordinator. An OJT Program Coordinator shall be of the rank of Dy CFOI/ Deputy Director General/ Director of each Directorate. The OJT Program Coordinator is responsible for the implementation of the OJT program in the respective Directorate.

1.10. The OJT Program Coordinator is responsible for the items discussed below.


- (a) Ensuring that this OJT Program is implemented efficiently and effectively.
- (b) Ensuring the designation of OJT Trainers who meet the selection criteria outlined below.
- (c) Planning and budgeting to ensure that the OJT Program continuously receives the resources necessary for the effective accomplishment of its goals.
- (d) Specifying the particular Job Tasks that apply to trainee inspectors in the office.
- (e) Establishing a standardized method to ensure that trainees are provided adequate time and resources required for completing OJT training on specific tasks.
- (f) Obtaining assistance from an OJT Trainer located at another office when a training requirement cannot be fulfilled locally due to the lack of internal instructional expertise.
- (g) Ensuring that trainees begin their OJT Program as soon as possible.
- (h) Authorizing and signing the Training Record for OJT.

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) Reviewing with each OJT Trainer, on a regular basis, the progress of assigned trainee inspectors and initiating any corrective action necessary to improve performance and/or training deficiencies.
- (j) Final sign off in the Training Record of an inspector to certify completion of all OJT requirements for each Job Task. This sign off is DGCA authorization for the inspector to begin accomplishing that Job Task without further assistance.
- (k) Evaluating OJT Trainer performance annually with a mid-year review based on
  - (i) Feedback from trainees
  - (ii) The Trainer's ability to meet training plans
  - (iii) The selection criteria
- (l) Assuming the role of mediator and decision maker when there are OJT problems and/or disagreements involving OJT Trainers and trainee inspectors.
- (m) Acting upon feedback from trainees concerning the OJT Program.
- (n) Assisting the OJT Program Coordinator in implementing program improvements.
- (o) Verifying that, prior to conducting OJT, selected OJT Trainers have successfully completed required training courses.
- (p) Monitoring OJT Trainer performance and guiding OJT Trainers on effective methods and techniques.

#### 1.11. OJT Trainers

- (a) Completing a course of training in Instructional Techniques,
- (b) Conducting OJT with trainees,
- (c) Ensuring that OJT instruction is consistent with applicable DGCA regulations and practices,
- (d) Updating general entries in OJT trainee records,
- (e) Entering data in a trainee's training record after instruction when necessary to certify completion of individual Job Tasks,
- (f) Exhibiting objective, constructive, empathetic, and other behaviors conducive to supporting all OJT trainees,
- (g) Conducting OJT according to the trainee's individual training plan as developed by the OJT Program Coordinator/Training Coordinator.
- (h) Assessing the trainee level of knowledge and skill on specific tasks,

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) Providing structured, well planned, and documented OJT training with stated objectives and expected levels of performance,
- (j) Communicating with the OJT Program Coordinator about trainee progress, and
- (k) Ensuring that the trainee has accomplished all elements of OJT instruction associated with a particular task in an acceptable manner before notifying the OJT Program Coordinator that the trainee is able to perform the task without assistance and is ready for final sign off.

#### 1.12. Trainee

- (a) Fulfilling their OJT requirements as established within the office,
- (b) Participating in the feedback process to help ensure continual improvement including feedback on the performance of the Trainer, and
- (c) Participating, in a constructive manner, in their own training progress reviews and checking the accuracy of completed tasks during the review meetings.

#### 4. PART IV – OJT SYSTEM IMPLEMENTATION

1.13. This part of the OJT policy discusses the implementation of the OJT system process. This process consists of three phases:

- (a) Phase 1 Planning
- (b) Phase 2 Delivery
- (c) Phase 3 Evaluation


#### 1.14. Phase 1 – Planning

1.14.1 The first step would involve designation of the OJT Program Coordinator and the Training Coordinator.

1.14.2 The following should be ensured by the Training Coordinator

- (a) Should communicate with people at all levels
- (b) Should make presentations to groups
- (c) Should set up a program and to oversee its implementation
- (d) Should have Knowledge of OJT instruction
- (e) Should track OJT for each inspector in the Region.
- (f) Should complete a course of training on instructional techniques

1.14.3 Selection of OJT Trainer

 मृत्यमैव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(a) The OJT Program coordinator and the Training Coordinator should estimate trainer Requirements while planning the OJT program. At a minimum, there should be one trainer for each represented occupational specialty in the office. As a maximum, not more than 25% of all inspectors in the office should be OJT trainer. When selecting OJT trainer following should be considered:

- (i) How many inspectors, including new recruits, are expected to need OJT for the planning period?
- (ii) What knowledge and skills will the OJT trainer require? What specialties are represented in the needed training? This should come from the profiles developed earlier.
- (iii) How can trainer resources be best utilized?

(b) The following criteria should be used to identify OJT trainers:


- (i) Qualification in the job specialty and job tasks they are intended to teach advanced knowledge, skill, and experience that match the identified training needs along with the necessary skills to support and enhance training and create a learning environment
- (ii) Ability to demonstrate a task in a clear and logical order
- (iii) Willingness to prepare training, instruct and coach trainees on performance of tasks being trained
- (iv) Ability to communicate technical information, concepts, and procedures clearly, concisely, and positively in a variety of ways
- (v) Desire to be a trainer
- (vi) Compliance with the standards and definitions of professionalism

(c) It is important for all the trainers to attend a course of training on instructional techniques to ensure consistency in delivering OJT and in evaluating trainee progress. The Training Coordinator will work with the trainer to reinforce training concepts and the value of a structured, planned training activity for each trainee.

(d) Once individuals are appropriately trained to be OJT trainer, the Training Coordinator will prepare and sign a letter stating that the individual meets the criteria to be a trainer, that he has completed the formal training course on instructional techniques, and is authorized as an OJT trainer. The letter will list the specific roles and responsibilities assigned to the OJT trainer if different from those roles and responsibilities listed for OJT trainer in this policy.

(e) Only those OJT trainers who are so authorised are considered to be OJT trainers under the respective OJT Program.

#### 1.14.4 Development of Individual OJT Plans

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(a) Development of the trainee's Individual OJT Plan. The Training Coordinator shall review training program expectations and responsibilities to be sure that the trainee understands the process. The following points should be discussed:

- (i) Review of the importance and goals of OJT
- (ii) Review of the roles of the trainee, OJT trainer, Training Coordinator, and the OJT Program Coordinator
- (iii) Review of the OJT process
- (iv) Informing the trainee that OJT is a means of receiving individualized training but does not substitute for required formal classroom training.

1.14.5 The Training Coordinator shall consider the proposed work assignment for the trainee. He may decide that the trainee should become proficient in all the job functions performed in the office.

## 1.15. Phase 2 – Delivery


### 1.15.1 Scheduling of OJT

- (a) The Training coordinator and OJT trainers will jointly develop a proposed schedule for providing training according to the trainee's individual OJT training plan developed. The Training Coordinator shall ensure that sufficient time is allotted to allow the OJT to take place. When practical, the trainee's work program should be adjusted to accommodate the trainer's schedule. When allocating work time to accomplish OJT, consideration should be given to the specific level of the OJT training to be accomplished (Level I, II, or III) and the complexity of the task. The following should be considered for the different levels of training:
  - (b) Level I training is typically a self-study effort on the part of the trainee with guided discussion and validation conducted by the OJT trainer afterwards. The time allowed for this should be appropriate to the complexity of the task and the amount of material to be studied.
  - (c) Levels II and III involve the actual performance of the task. A good general guideline is to take the normal amount of time to conduct the task and add an additional 50% of that time to allow for instruction and questions. For example, a task that normally takes 1.0 hour should be allowed 1.5 hours for OJT.
  - (d) As the process of scheduling OJT is continuous in nature, the schedule for delivering OJT should be updated as opportunities for OJT arise.

### 1.15.2 Preparation to Deliver OJT.

When preparing for the delivery of OJT, trainer should review the Job Task Analysis, Associated technical guidance materials, and OJT Training Guidance

### 1.15.3 Job Task Analysis.

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (a) To review the Job Task Analysis for the task to be presented.
- (b) To gather all needed equipment, hardware, and software (as applicable).
- (c) To determine if any assistance from other sources is needed regarding the task and how it should be performed. If personnel other than an authorized OJT trainer are used as informational resources, the training should be observed by an authorized OJT trainer to ensure compliance with the training plan and other objectives contained in this policy.
- (d) To create a specific lesson plan for the training event when necessary to properly organize the training.
- (e) To finalize logistical arrangements for training in the office or off site as appropriate to the training event.

#### 1.15.4 Guidance Materials

To review all technical guidance material to ensure that the training will be conducted in accordance with current approved procedures. These guidance materials may include such things as orders, Aircraft Engineering Procedure Manual, regulations, ICAO publications and other documents that are relevant to the task.

#### 1.15.5 The OJT training Process

The OJT training process follows a logical progression of three levels as shown in the table below:

<u>Level</u>	<u>Trainee</u>	<u>Trainer</u>
Level I – Knowledge	Study	Discuss
Level II – Understanding	Observe	Demonstrate
Level III – Performance	Perform	Evaluate

- (a) Level I training is typically a self-study effort on the part of the trainee with guided discussion and validation conducted by the OJT trainer afterwards. Levels II and III involve the actual performance of the task.
- (b) Each task assigned to a trainee requires certification at all three levels. Both formal training and OJT are integral parts of a well-developed training program and should be scheduled to complement each other.

#### 1.15.6 Teaching of the Task

- (a) The content of each training session must be appropriate to the task and to the level of training that is being presented. A typical OJT training event will include some or all of the following activities:


 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) Establishment of a training environment
- (ii) Development of a rapport with the trainee
- (iii) State of learning objectives and expected performance outcomes
- (iv) Review of technical requirements
- (v) Assessment of the trainee's existing knowledge and skill in performing the task
- (vi) Demonstration of tasks
- (vii) Motivation to the trainee
- (viii) Observation of the trainee performing the task
- (ix) Allowing sufficient time for the trainee to practice task
- (x) Asking questions to check for understanding
- (xi) Providing explanations
- (xii) Reviewing and summarizing information
- (xiii) Providing feedback to evaluate the trainee's performance
- (xiv) To Provide additional training when necessary

#### 1.15.7 Updating of OJT Records

- (a) Permanent training records must be maintained for each inspector. This shall be accomplished using a hard copy paper system, and also through computerized record keeping system.
- (b) The training coordinator is responsible to maintain and update Training records. This responsibility may be delegated to the OJT trainers when necessary. Entries should be updated as training is delivered. The OJT program coordinator, training coordinator, and OJT trainers have write access to the training records. Trainees have read only access to their own records.
- (c) When a training event is successfully completed the OJT trainer should notify the Training Coordinator. This can be done via e mail or another locally implemented procedure that will provide a record that a trainee has completed training on a task. The notification should include:
  - (i) The task trained
  - (ii) The level of training completed
  - (iii) The date that training was completed
  - (iv) Confirmation that the trainee successfully achieved the objectives



 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

(d) On receipt of report from OJT trainer about completion of a OJT task, the Training Coordinator shall issue a certificate to the trainee intimating such completion and authorizing him to carry out the tasks without any further assistance. With the Training Coordinator approval the OJT trainer will then update the trainee's records with the new information.

#### 1.15.8 Conducting Review

(a) A simple review of the trainee's OJT performance should be conducted at the end of each OJT training session. More in depth reviews of the trainee's progress in the OJT training program should be conducted quarterly, or as needed. The frequency of these reviews will depend on various factors such as the amount of OJT assigned, problems encountered, and the changing needs of the office. This meeting should be attended by the Training Coordinator, OJT trainer and the trainee.

(b) The Training Coordinator shall schedule a meeting with the trainee and the OJT trainer. The following areas should be discussed:

- (i) Review of OJT since the last meeting
- (ii) Present training status
- (iii) Accuracy of completed tasks
- (iv) Trainee feedback on the OJT process
- (v) Problems encountered
- (vi) Modification of trainee's OJT plan as needed
- (vii) Identification of next tasks to be presented
- (viii) Identification of opportunities for OJT


(c) If problems are encountered between the trainee and his trainer the Training Coordinator should meet with the trainer to discuss the issues and provide coaching as needed.

#### 1.16. Phase 3 – Evaluation

##### 1.16.1 Evaluate the OJT Program

The program shall be evaluated by the Training Coordinator with the input of OJT trainers, trainees. This evaluation shall be done at least twice a year. The Training Coordinator will evaluate the OJT program through meetings and observation. The review is one way of determining if the OJT program is working properly. The feedback should be analyzed and suggested changes discussed with the OJT Program Coordinator. These evaluations should be conducted even if there are no new recruits in the office. On site visits may be conducted on an as needed basis.

##### 1.16.2 Communicate Findings


 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

The Training Coordinator is responsible for communicating program suggestions and changes for his Directorate. This can include any recommendations arising from the evaluation. A meeting shall be scheduled to discuss the OJT program. The meeting should be attended by the OJT Program Coordinator, Training Coordinator and OJT Trainers to discuss the status of the program, problems encountered, and suggestions for improvement. The results of these meetings shall be implemented to improve the OJT Program in the Directorate.

### 1.16.3 Implementation of Improvements


The OJT Program Coordinator is critical in implementing changes as needed to ensure the inspectors develop the skills and capabilities. The OJT Program Coordinator shall develop an implementation plan for needed improvements, answering the following types of questions:

- (i) What improvements are needed to the OJT Program?
- (ii) What are the benefits of these improvements?
- (iii) What are the competing needs?
- (iv) Do these improvements affect DGCA standards and policies?
- (v) What approvals are required?
- (vi) What budgetary support is required?
- (vii) What is the plan for implementing improvements?
- (viii) Who is responsible for carrying out the improvements?
- (ix) What is the estimated timeline?

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


**APPENDIX B**

EMPLOYEE'S ON-THE-JOB TRAINING RECORD			
1. IDENTIFYING INFORMATION			
LAST NAME: _____		FIRST NAME: _____	INITIALS: _____
POSITION: _____		SECTION/ DIVISION: _____	
2. OJT ACTIVITY DOCUMENTATION			
JOB TASK OR SUBJECT MATTER	LEVEL I (UNDERSTANDING)	LEVEL II (DEMONSTRATION)	LEVEL III (PERFORMANCE)
	The trainer explains the objective of the job task. This exercise can be done for a group or in a classroom.	Trainee observes the trainer conducting this exercise. This exercise can also be done for a group.	Individual trainee conducts this exercise under supervision of the trainer.
	DATE	DATE	DATE
	___/___/___	___/___/___	___/___/___
<b>NAME OF THE OJT TRAINER</b>			
<b>CERTIFICATION</b>	By appending my signature in this column, I certify that the trainee has completed the OJT documented above	By appending my signature in this column, I certify that the trainee has completed the OJT documented above	By appending my signature in this column, I certify that the trainee has completed the OJT documented above and is competent to perform the task without supervision.
<b>SIGNATURE</b>			
<b>NAME OF TRAINER</b>			
<b>I hereby confirm that I have completed the OJT documented above with the qualified OJT Trainer(s).</b>			
Trainee's Signature: _____		Date: ___/___/___	
<small>Note : - Trainer(s) to mark 'S' for SATISFACTORY or 'U/S' for UNSATISFACTORY at the appropriate cell.</small>			

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		Revision 0	May 2018


## APPENDIX C

TRAINING EVALUATION FORM					
IDENTIFYING INFORMATION					
Name:					
Training Location:					
Course Title:					
Instructor Name:					
Course Completion Date:					
EVALUATION					
<p>Rate each of the following statements using the scale below. Indicate your rating by marking the applicable letter to the right of each statement. Place additional comments in the space provided on page two. Use back of the page if you need more room for comments and suggestions.</p>					
A = Strongly Agree	B = Agree	C = Neither Agree or Disagree	D = Disagree	E = Strongly Disagree	
1. The objectives were clearly presented for each lesson.	A	B	C	D	E
2. The design (organization, pace, sequence, transitions, feedback) of the lessons enhanced by ability to meet the course/ lesson objectives.	A	B	C	D	E
3. The lesson content was directly related to the stated intent (objectives) of the lessons.	A	B	C	D	E
4. The information in the course materials supported the lesson objectives.	A	B	C	D	E
5. The learning environment was free from distractions.	A	B	C	D	E
6. The instructor provided assistance when I needed it.	A	B	C	D	E
7. The facilities supported the lesson objectives.	A	B	C	D	E
8. The course provided opportunity to demonstrate my knowledge and practice my skills.	A	B	C	D	E
9. The skill performance evaluations assessed my proficiency level.	A	B	C	D	E
10. The tests reflected the course materials presented.	A	B	C	D	E
11. I feel confident that I met the stated objectives	A	B	C	D	E
12. Overall, this training was highly effective.	A	B	C	D	E

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

Training Evaluation Form (contd.)

<b>COMMENTS</b>
<p>If you answered “Disagree” or “Strongly Disagree,” please explain why.</p>
<p>Overall course evaluation:</p>
<p>Describe the effectiveness of instructors:</p>
<p>Please note any additional suggestions for improving the course:</p>

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 1</b>	<b>July 2018</b>

## APPENDIX D

### GUIDANCE FOR INDUSTRY TYPE RATED EXPERTS (ITREs)

1.1. In the event an Air Operators Certificate applicant proposes to begin operations with an aircraft type for which the DGCA has no qualified Flight Operations Inspector (FOI) and/or Airworthiness Inspector (AWI), the DGCA must make the appropriate inspector(s) available for training on the new aircraft type. Generally, the inspectors will receive the necessary training by participating in the initial cadre training provided to the operator's personnel.

1.2. In the event no FOI is available to participate in the initial cadre training provided to the operator's personnel, the DGCA can appoint an ITRE to carry out tasks or work allocations. In order to avoid potential conflict of interest issues, the ITRE will undertake his duties under the supervision of FOIs. The purpose of the following procedures is to ensure that the ITREs are adequately trained and qualified and subsequently supervised by the DGCA in the carrying out of their duties.


1.3. The ITRE candidate will be selected by the DGCA based on qualifications and availability to perform the required certification task. The AOC applicant shall not be involved in the selection of the ITRE. The ITRE candidate must hold the appropriate Indian pilot licence (unless authorized by the Director General) and be a current and qualified PIC with flight operational experience in the aircraft make and model to be evaluated.

1.4. Prior to beginning ITRE functions, the ITRE candidate must successfully complete a two-day ITRE indoctrination course which will include half day OJT provided by the DGCA on the roles and responsibilities of the DGCA and its inspectors in the process of certifications of Air Operators; and the interaction between the FOI and the ITRE. The ITRE candidate shall provide the DGCA copies of their pilot certificate and ratings, medical certification, and report of their latest proficiency check in the aircraft make and model to be evaluated. The ITRE candidate shall provide the DGCA the latest versions of these documents as they are updated or renewed in the event of extension of the ITRE tenure.

1.5. The DGCA shall issue the ITRE candidate a LOA (Letter of Authorization) valid for a period of 02 years provided his License and PPC are valid. If the DGCA determines that the need for an ITRE still exists, the DGCA may renew the ITRE's LOA after the ITRE completes a one-day refresher ITRE training course conducted by the DGCA after the initial LOA two-year period. If the situation demands the LOA may be rescinded by the DGCA earlier.

1.6. The DGCA will assign a FOI to directly supervise and work in cooperation with the ITRE on all assigned ITRE work task and job functions. All documents and work performed by the ITRE will be certified by both the ITRE and the assigned FOI.

1.7. The DGCA will initiate action to rescind the ITRE LOA if the ITRE performance is sub-standard, if a conflict of interest arises for the ITRE or there ceases to be a need for an ITRE for the applicable aircraft. The ITRE LOA will be rescinded when a DGCA FOI becomes qualified in the applicable aircraft.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 1</b>	<b>July 2018</b>

1.8. ITRE selection, training and authorization records will be maintained by the Flight Standards Directorate as documentation of qualified and appropriate involvement in AOC certification activities and flight crew checks.

1.9. The aircraft type-specific training does not have to be completed prior to the pre-application phase, formal application phase, or early part of the document evaluation and inspection phase but does have to be completed before the document evaluation and inspection phases can be completed. Specifically, at least one FOI or ITRE (Industry Type Rated Expert) must have recent experience on the aircraft type prior to conducting the following:

- (a) Acceptance of the Aircraft Operations Manual
- (b) Approval of Aircraft Checklists
- (c) Approval of the MEL
- (d) Approval of training programmes
- (e) Approval of All-Weather Operations
- (f) Approval of Special Operations
- (g) Surveillance of demonstration flights
- (h) Flight simulator acceptance
- (i) Check pilot or LTC/ TRI/ Examiner or DE authorization


1.10. Other FOIs and AWIs associated with certification/ surveillance will also be provided with basic information regarding the type of aircraft equipment, navigational systems, and/ or proposed techniques associated with the new aircraft type.

1.11. The training syllabus for ITREs would be as follows: -

#### 1.11.1 ITRE Initial


Module	Topic	Duration
Module 1	Introduction to ICAO, Chicago Convention & Indian Aviation Laws	2 Sessions (Half Day)
Module 2	Introduction to DGCA and CARs & CAPs	2 Sessions (Half Day)
Module 3	Introduction to Five Phase Approval Process	1 Session
Module 4	Introduction to Special Operations and MEL Approvals	1 Session
Module 5	OJT	2 Sessions (Half Day)



 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 1</b>	<b>July 2018</b>

### 1.11.2 ITRE Recurrent

<b>Module</b>	<b>Topic</b>	<b>Duration</b>
Module 1	Updates/ Revision of DGCA CARs & CAPs	1 Session
Module 2	Revision of MEL Approvals	1 Session
Module 3	Revision of Special Operations' Approvals	1 Session
Module 4	Revision of Conduct of Checks	1 Session

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

### 3. FLIGHT OPERATIONS INSPECTORS' TRAINING.

#### 3.1. INITIAL TRAINING.

The newly recruited Flight Operations Inspector's must successfully complete the Flight Operations Inspectors' Orientation Course (FOIOC) followed by a "bridging" course to cover topics for FOIs in need for additional instruction essentially covering special operations/ authorizations. The course will be conducted by authorised DGCA trainers. The syllabus for FOI Orientation Course is specified at Appendix A to this chapter.

#### 3.2. TYPE ALLOCATION FOR TECHNICAL DUTIES.

3.2.1 FOIs are required to carry out certification/ surveillance and inspection tasks. Some of these tasks are specific to the type of aircraft and normally must be undertaken by FOIs who are qualified and rated on type.

3.2.2 However, in certain cases DGCA may not have adequate number of type qualified FOIs and may need FOIs to obtain additional type qualification. This would also be the case if an operator decided to induct a new type of aircraft into the country. On the other hand, especially in the case of FOIs with a military background, newly inducted FOIs may not hold type ratings on the types currently in active civil flying and would therefore need to be provided type training.


3.2.3 The CFOI, in consultation with Deputy CFOIs and Director Operations, shall decide the type(s) of aircraft for a newly inducted FOI for undertaking FOI technical duties.

3.2.4 The aircraft type(s) allocated to an FOI may be subsequently modified based on the growth/ changes in the aviation industry or other organisational requirements.

3.2.5 Routine FOI activities can be accomplished on any aircraft in operational service whether or not the FOI is type rated on that particular type. In cases where the FOI is conducting a surveillance function on an aircraft in which he is not type rated, he must limit his observations and remarks to those elements that are not specific to that type of aircraft unless the occurrence is self-evident and would not take a type rated person to make an observation of that nature. An example of that would be not levelling at the altitude to which cleared or not complying with an ATC clearance.

#### 3.3. TYPE SPECIFIC TRAINING.

3.3.1 FOIs will normally be required to carry out certification/ surveillance/ inspection tasks related to the type of aircraft they are qualified and rated on. Accordingly, they are required to maintain adequate piloting skills on the type of aircraft allocated to them. However, it also needs to be borne in mind by newly inducted FOIs that they are not required to undertake routine commercial or line flying and therefore the quantum of flying would be lesser and FOIs need to make the best use of flying opportunities provided to them.

	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

3.3.2 A DGCA's Flight Operations Inspector must conduct proficiency checks for a DGCA's Flight Operations Inspector. When this is not possible or practical because of time / distances and/or expenses, by prior arrangement, a check carried out by a Flight Operations Inspector of the country in which the check is to be carried out to the level required by that authority for their own Inspectors, or to the level required by the rules of India would be acceptable.

3.3.3 FOIs would be required to maintain currency in flying by carrying out three take-offs and landings every ninety days. They would be attached to one of the operators operating the same type that the inspector is qualified on for this purpose. Care will be exercised when deciding the operator for attachment in that the FOI should not be the POI for that operator in order to avoid potential conflicts of interest. However, this is not binding e.g. in the case there is only operator with the specific type in the country.

3.3.4 FOIs who are medically unfit or beyond the permissible age for flying are required to undergo type-specific Ground Technical Refresher to enable them to carry out type related work. However, the FOI's above 65 years who are carrying out Simulator based DE/TRI standardization checks are required to carry out limited recurrent training followed by a standardization check with another FOI.

#### 3.4. OJT TRAINING.

3.4.1 FOIs would be required to complete all three levels of OJT in each of the assigned FOI duties before undertaking the duties independently e.g. for undertaking any of the certification duties such as approval of OM as per CAP 8100 or evacuation exercises etc.

3.4.2 OJT requirements may be dispensed/ reduced at the discretion of the CFOI, in consultation with the JDG, in case of non-availability of qualified FOIs.


#### 3.5. RECURRENT TRAINING.

3.5.1 Ground Recurrent training for FOIs shall be conducted annually with the same training curriculum abridged to spread over two-three days and shall include all changes/ amendments in the previous year that are pertinent to the assigned tasks.

3.5.2 All FOIs would be required to undergo the complete type-specific recurrent training on the aircraft type allocated to them at an ATO/ any other training facility acceptable to DGCA. In case FOIs are allocated two types for undertaking FOI technical duties, they may be required to undergo the recurrent training on the second type only once every two years. This training must be followed by a Proficiency Check. The minimum quantum for FOI type recurrent training is based on the license currency and validity, the same is specified at Appendix B.

#### 3.6. SPECIALISED TRAINING.

The purpose of specialized (or continuation) training is to upgrade the knowledge and competency of existing inspectors on par with international standards and for efficient functioning. Specialized and technical training programs are developed by DGCA as

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

applicable to a particular inspector's duties e.g. AS an OJT/ In-house Instructor. It also involves special training programs/ schemes like US-India Cooperation project, India-US ACP program, COSCAP, etc. Duration and content of training is based on the course and the hosting organization.

### 3.7. TRAINING FILES AND RECORDS

3.7.1 All training completed by an inspector will be documented in his or her inspector training file.

3.7.2 Inspectors who complete a formal external or in-house training course will receive a Certificate of Completion to be added to their inspector training file.

3.7.3 When OJT is delivered to an inspector, the individual OJT activity will be notated on the inspector's OJT plan.

3.7.4 The FSD will establish and maintain an inspector training file for each FOI that includes the following:

(a) Section 1 – Employment Documents

- (i) Application Appointment Letter Contract
- (ii) Job Description

(b) Section 2 – Credentials

- (i) DGCA Inspector Identification
- (ii) BCAS Functionary Identification (as applicable)

(c) Section 3 – Qualifications

- (i) License
- (ii) Ratings (as applicable)

(d) Section 4 – Initial Training

- (i) DGCA Initial Training Course


(e) Section 5 – OJT Training

- (i) DGCA On-the-Job Training


(f) Section 6 – Continuation/ Specialized Training

- (i) Documentation of Continuation/Specialized Training

(g) Section 7 – Miscellaneous

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) Additional training, qualifications
- (h) Section 8 – Recurrent Training
  - (i) DGCA Recurrent Training Course
  - (ii) Flying Recurrent Training

	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## APPENDIX A

### DGCA Flight Operations Inspectors' Orientation Course: Syllabus

Course Title: Flight Operations Inspectors' Orientation Course

This course ensures that new DGCA personnel who will be serving as Operations Inspectors, Cabin Safety Inspectors, or other types of Inspectors have a clear understanding of the Civil Aviation Requirements (CARs); Inspector Guidance Material; basic job aides and other materials needed to perform their Inspector job functions.

Successful completion of this training course will prepare new inspectors to begin on-the-job training (OJT) on all aspects of their core duties.

Duration: Delivered in 22 Modules over 22 training days with 7 training hours per day.


Training Schedule: The course involves direct Instruction, self-study and written evaluation as per detailed schedule given subsequently.

Training Modes: Class-room verbal instruction supported with hand-outs and reference materials related to the various training topics, and with student self-study in the form of reading assignments.

Student: All course participants are expected to fully attend to the presentation of course.


Responsibilities: Material, complete assigned reading and self-study activities on time, and ask questions as necessary to ensure they thoroughly understand the information provided. Students also will be expected to complete a course evaluation.

Testing: A comprehensive examination covering all training topics is administered to participants at the end of the course. The examination must be passed to be credited with course completion.

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

<b>Module</b>	<b>Topic</b>	<b>Duration</b>
Module 0	Arrival and Personal Documentation	2 Days
Module 1	Introduction to DGCA	4 Sessions
Module 2	Introduction to International Civil Aviation Organization & Chicago Convention	2 Sessions
Module 3	Introduction to Indian Aviation Law	6 Sessions
Module 4	DGCA Responsibilities	2 Sessions
Module 5	Introduction to Administrative Procedures	2 Sessions
Module 6	Introduction to Indian Civil Aviation Requirements	4 Sessions
Module 7	Flight Operations Inspector's Manual (CAP 8200)	4 Sessions
Module 8	Air Operator Certification Process (CAPs 3100/ 3300/ 3400)	6 Sessions
Module 9	Preparation and Approval of Operations Manuals (CAP 8100)	6 Sessions
Module 10	Special Operations Approvals	4 Sessions
Module 11	Aircraft Leasing	2 Sessions
Module 12	FOI PEL Support Duties	2 Sessions
Module 13	ATO/ GTO Approvals	2 Sessions
Module 14	Designated Examiner Approvals And Monitoring	2 Sessions
Module 15	Surveillance and Enforcement	8 Sessions
Module 16	Ramp Inspections	4 Sessions
Module 17	Introduction to Airworthiness Procedures	2 Sessions
Module 18	Air Safety And FSDS	2 Sessions
Module 19	Safety Management Systems	4 Sessions
Module 20	Human Factors	4 Sessions
Module 21	Revision	8 Sessions
Module 22	Test	1 Session



	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


## CONTINUED PROFICIENCY

The satisfactory execution of the various functions as inspectors depends on the qualifications, experience, competence and dedication of individual inspectors. In addition to the crucial importance of technical competency in performing certification, inspection and surveillance functions, it is likewise critical that inspectors possess a high level of knowledge. In the interest of enhancing objectivity to the indoctrination training, the completion of the course would be concluded with the mandatory written test, minimum passing score is 70%. Considering the specialized and sensitive nature of the FOI duties, it is essential that each of person to be performing inspection and oversight duties be carefully evaluated before carrying out inspector functions. This also addresses the performance assessment condition of the “Term and conditions of appointment” as flight operation inspector.


**METHODOLOGY:** The Exam thus conducted would be comprising of open book test with access to internet.


**Failure/Review Policy:** Board headed by CFOI and assigned members would carry out review on case to case basis and necessary gap training to be provided with emphasis on the short comings (In case of not achieving a minimum score of 70 %).An extended FOI refresher of 04 days will be conducted for the candidates who failed for the first attempt.


Any subsequent failure, a notice to improve his/her performance standard and quality of output to satisfaction of DGCA with in a prescribed period of 15 days for self-study will be provided, to enhance the lacking part .Any further failure, (In case of not achieving a minimum score of 70 %), such cases from CFOI will be forwarded to JDG and DG for further necessary action.


	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


**APPENDIX B**


	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 1</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
---	Arrival and complete documentation at R Cell	Session 1	DGCA Officer
Lecture	Introduction to FSD, Administrative Description -		
<b>LUNCH BREAK</b>			
---	Personal Documentation – DGCA ID, AEP, Vehicle Permit	Session 2	---


	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 2</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
---	Personal Documentation – Complete FOI Personal Folder	Session 1	FOI
<b>LUNCH BREAK</b>			
---	Personal Documentation– Complete FOI Personal Folder	Session 2	FOI


 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 मृत्युमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 3</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
---	Introduction to FOI INDUCTION COURSE	--	CFOI
Instruction	Overview of DGCA INDIA Vision Functions History MoCA, Attached organization and PSUs.	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	DGCA Organization structure Role Directorates Regional Offices / Sub-regional offices	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Overview of each directorate: Functions Duties Headquarters & regional office setup	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Overview of each directorate: Interaction with other Directorates. Procedure Policy Complaints procedure. Certificates / Approvals granted by each Directorate	Session 4	DGCA Officer


	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 4</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Overview of International Civil Aviation Organisation Chicago Convention ICAO Contracting States	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	ICAO SARPS & Annex management	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
	<b>MODULE 3 : INTRODUCTION TO INDIAN AVIATION LAW</b>		
Instruction	Introduction to DGCA website General Information on Act, Rules & Regulations (Hierarchy of regulations) Aircraft Act, Aircraft Rules Delegation of powers under SO 726 and 727 Advisory circulars	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Introduction to Civil Aviation Regulations(CARs) Authorization cards - DGCA card and Airport Entry Pass(AEP) Travel Under AIC Power to detain an Aircraft	Session 4	DGCA Officer


 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 मृत्यमैव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 5</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Discuss Aircraft Act 1934	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Discuss Aircraft Rules 1937	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Discuss Schedules of Aircraft Rules 1937 with special emphasis on Schedule II	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Discuss Aircraft (Demolition of Obstructions) Rules 1994, Aircraft (Carriage of Dangerous Goods) Rules 2003 and Aircraft (Investigation of Aircraft Accidents and Incidents) Rules 2017	Session 4	DGCA Officer


 मृत्यमैव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 6</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Safety Oversight system	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	State Safety Programme	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
	<b>MODULE 5 : INTRODUCTION TO ADMINISTRATIVE PROCEDURES</b>		
Instruction	Introduction to DGCA file system and notings	Session 3	DGCA Officer
Instruction	Report Writing		
<b>TEA BREAK</b>			
Instruction	Introduction To e-Office/ e-DGCA	Session 4	DGCA Officer
Instruction	AIC and foreign travel approvals		


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 7</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Review of relevant CARs of Section 1 and 2	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review of relevant CARs of Section 3, 4 and 5	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Review of relevant CARs of Section 6 and 7	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review of relevant CARs of Section 8	Session 4	DGCA Officer
Instruction	Review of relevant CARs of Section 9, 10 and 11		


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 8</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to CAP 8200	Session 1	DGCA Officer
Instruction	Review important provisions of Volume IV of CAP 8200		
<b>TEA BREAK</b>			
Instruction	Review important provisions of Volume IV of CAP 8200	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Review important provisions of Volume II of CAP 8200	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review important provisions of Volume III of CAP 8200	Session 4	DGCA Officer
Self Study	Revision		


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 9</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to 5 Phase Certification Process and CAPs 3100/3300/3400	Session 1	DGCA Officer
Instruction	Review Phases 1 and 2		
<b>TEA BREAK</b>			
Instruction	Review Phase 3	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Review Phase 4	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review Phase 5	Session 4	DGCA Officer


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 10</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Recap 5 Phase Certification Process and Introduction to Op Specs	Session 1	DGCA Officer
Instruction	Review Certificate Management including amendments to Ops specs and MELs.		
<b>TEA BREAK</b>			
Demonstration	Review of Operator's Documents for 5 Phase Certification Process	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
<b>MODULE 9 : OPERATIONS MANUALS</b>			
Instruction	Introduction to Ops Manual, CAP 8100 and Standards for Ops Manual	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Introduction to CAR Compliance and OM Approval Checklists	Session 4	DGCA Officer
Instruction	OM Amendment Process		





 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 सत्यमेव जयते	<h2 style="margin: 0;">FLIGHT OPERATIONS INSPECTOR'S COURSE</h2>	<b>DAY 11</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Review Chapter-wise Provisions of Part A of CAP 8100	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review Chapter-wise Provisions of Part B of CAP 8100	Session 3	DGCA Officer
Instruction	Review Chapter-wise Provisions of Part C of CAP 8100		
<b>LUNCH BREAK</b>			
Instruction	Review Chapter-wise Provisions of Part D of CAP 8100	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Demonstration	Review of Approved Operations Manuals	Session 4	DGCA Officer
Demonstration	Review of Approved Operations Manuals Amendments		


 सत्यमेव जयते	<h2 style="margin: 0;">FLIGHT OPERATIONS INSPECTOR'S COURSE</h2>	<b>DAY 12</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to Special Operations	Session 1	DGCA Officer
Instruction	RVSM Operations and Approval Process		
Instruction	EDTO Operations and Approval Process		
<b>TEA BREAK</b>			
Instruction	PBN Operations and Approval Process	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Low Visibility Operations and Approval Process	Session 3	DGCA Officer
Instruction	NAT HLA Operations Approval		
<b>TEA BREAK</b>			
Instruction	Data Link and ADS Operations and Approval Process	Session 4	DGCA Officer
Instruction	EFBs and Approval Process		
Instruction	AMT and HEMS Operations and Approval Process		


 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 13</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to Aircraft Leasing	Session 1	DGCA Officer
Instruction	Types of Operational Leasing Arrangements		
<b>TEA BREAK</b>			
Instruction	Interaction with DAT Rep and Review CAP 3200	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
	<b>MODULE 12 : FOI PEL SUPPORT DUTIES</b>		
Instruction	FSD PEL Support Duties – ATPL/ Flight Dispatcher/ FATA Vivas/ Interviews	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Interaction with DTL Rep and Review Pilot Licensing Requirements	Session 4	DGCA Officer


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 14</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to CAP 7100 and Five Phase ATO/ GTO Approval Process	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	ATO/ GTO Approval Process (Continued)	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
	<b>MODULE 14 : DESIGNATED EXAMINER APPROVALS AND MONITORING</b>		
Instruction	Introduction to CAP 7200	Session 3	DGCA Officer
Instruction	Designated Examiner Qualifications, Nomination, Application and Approval		
<b>TEA BREAK</b>			
Instruction	Monitoring and withdrawal of Designated Examiner	Session 4	DGCA Officer
Instruction	Guidelines for Conduct of Skill Test and Proficiency Checks		

 मृत्यमैव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 मृत्यमैव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 15</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Review Surveillance Procedures Manual	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review Enforcement Procedures Manual	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Review Manual of Regulatory Audits	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Introduction to SRRT	Session 4	DGCA Officer
Instruction	Review Job Aid for Regulatory Audit		


 मृत्यमैव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 16</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Main Base Inspections	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Transit Station Facility and Cockpit En-route Inspections	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Flight Crew Proficiency and Competency Checks	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review Job Aids for Surveillance Inspections	Session 4	DGCA Officer


 मृत्यमैव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 17</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Ramp Inspection Policy and Procedures	Session 1	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Ramp Inspection Findings	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
Instruction	Follow Up Actions and Monitoring of Deficiencies	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Review Job Aid for Ramp Inspections	Session 4	DGCA Officer

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 18</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to Airworthiness Directorate	Session 1	DGCA Officer
Instruction	Operators' Airworthiness Functions and Organization		
<b>TEA BREAK</b>			
Instruction	MEL Scrutiny and Approval	Session 2	DGCA Officer
<b>LUNCH BREAK</b>			
	<b>MODULE 18 : AIR SAFETY AND FSDS</b>		
Instruction	Introduction to Air Safety Directorate	Session 3	DGCA Officer
Instruction	Operators' Air Safety Functions and Organization		
<b>TEA BREAK</b>			
Instruction	Review CAR 1-A-V	Session 4	DGCA Officer
Instruction	Operator's FSDS Manual Standards and Approval		


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 19</b>	
<b>Mode of Study</b>	<b>MODULE 20 : SAFETY MANAGEMENT SYSTEMS</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Introduction to SMS	Session 1	DGCA Officer
	<b>TEA BREAK</b>		
Instruction	Review CAR 1-C-I	Session 2	DGCA Officer
	<b>LUNCH BREAK</b>		
Instruction	Introduction to SSP/ SMS Manual	Session 3	DGCA Officer
	<b>TEA BREAK</b>		
Instruction	Practical examples of SMS Review in operator policies/ documents	Session 4	DGCA Officer


 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	<b>DAY 20</b>	
<b>Mode of Study</b>	<b>ARRIVAL</b>	<b>Duration</b>	<b>Trainer</b>
Instruction	Fundamental Human Factors Concepts	Session 1	DGCA Officer
Instruction	Human Factors, Management and Organization		
<b>TEA BREAK</b>			
Instruction	Basic Human Performance Training For Operational Personnel	Session 2	DGCA Officer

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

<b>LUNCH BREAK</b>			
Instruction	Crew resource management (CRM) training	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Instruction	Training Issues In Automation And Advanced Technology Flight Decks	Session 4	DGCA Officer
Instruction	Case Studies : Human Factors and Safety		

 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	DAYs 21 and 22	
<b>Mode of Study</b>	ARRIVAL	<b>Duration</b>	<b>Trainer</b>
Self-Study	Review All Course Material	Session 1	---
<b>TEA BREAK</b>			
Self-Study	Review All Course Material	Session 2	---
<b>LUNCH BREAK</b>			
Revision	Review All Course Material and Clarify Doubts	Session 3	DGCA Officer
<b>TEA BREAK</b>			
Revision	Review All Course Material and Clarify Doubts	Session 4	DGCA Officer

 सत्यमेव जयते	<b>FLIGHT OPERATIONS INSPECTOR'S COURSE</b>	DAY 23	
<b>Mode of Study</b>	ARRIVAL	<b>Duration</b>	<b>Trainer</b>
<b>Test</b>	Provide Test Materials And Administer The Examination Process	Session 1	DGCA Officer

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## APPENDIX C

### RECURRENT TRAINING REQUIREMENTS FOR FLIGHT OPERATIONS INSPECTORS.

DGCA currently hires Flight operations Inspectors on long term contract basis of 3 years further extendable. The inspectors are DGCA license holders (ATPL(A) for aero plane inspectors or ATPL(H)/CHPL for helicopter inspectors) who may be currently active, medically grounded or pilots who have superannuated from flying. This warrants different job functions and currency requirements. As DGCA hires currently active pilots also, who on completion of the contract revert to the industry it is essential to keep the license of such inspectors current.

Only those inspectors who are in possession of current ATPL/ CHPL can undertake pilot certification process, subject to the condition that they have been trainers or have been trained for this duty by DGCA. DGCA will make all attempts to assign each valid license holding inspector to a operator and the same will fulfill a dual requirement. Such inspectors will ensure standards within operators and will carry out minimum flying either on aircraft or simulator of the operator (3 take off and landings in 90 days) to maintain currency of flying.

#### 1. Recurrent Type Training for Inspectors Holding Currently Valid ATPL(A)

1.1. Recurrent training and checks shall be as per applicability of CAR Section 8 Series F Part II/IV/V or VIII depending on the aircraft type on license at the time of joining.

1.2. If rated on an additional type for FOI functions, then Ground training and checks (limited to simulator only) once in two years for this type as per applicable CAR mentioned in 1. above.


1.3. Any FOI will only be rated on a maximum of two types of aircraft. If an inspector has rating for two types, then for the first type the inspector will be attached to an operator for maintaining flying currency and second type will be for FOI requirements only for which a certificate will be issued to the inspector.

1.4. Training, including skill tests, for acquiring proficiency for FOI duties will be as per relevant CAR depending on the weight category, however no line training will be done for the same, hence endorsement on license will be limited to P2 by DTL. A copy of the training record of same will be kept in individual inspectors file with FSD.

1.5. Inspectors will be given a maximum of 2 working days per month to enable them to meet their flying currency requirements either in simulator or aircraft.

1.6. When conducting currency requirements, the inspector shall not carry out any DGCA function.

1.7. DGCA and the inspector shall ensure that if a inspector is attached to a operator for currency purposes, then such a inspector will not be involved in any DGCA function of the operator eg: Inspections / approvals etc, and will receive no remuneration for the same from the operator.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

1.8. It shall be the responsibility of the inspector to ensure that all license and medical requirements are current prior to any flight currency is undertaken.

## 2. Recurrent Type Training for Inspectors Holding Currently Valid ATPL(H)/ CHPL

2.1. Recurrent training and checks shall be as per applicability of CAR 8-H-II depending on the aircraft type on license at the time of joining.

2.2. An inspector may maintain currency concurrently on a maximum of three helicopters of which not more than two shall be ME helicopters.

2.3. If FOI is rated on more than one helicopter types, then Ground training and checks once in two years for the additional type(s) as per CAR 8-H-II which is to be undertaken preferably in alternate years.

2.4. If an inspector has rating for more than one type, then for the first type the inspector will be attached to an operator for maintaining flying currency. Additional type ratings will be for FOI requirements only for which a certificate will be issued to the inspector.

2.5. Training, including skill tests, for acquiring proficiency for FOI duties will be as per relevant CAR depending on the weight category. However, no line training will be done for the same, hence endorsement on license will be limited to P2 by DTL. A copy of the training record of same will be kept in individual inspectors file with FSD.

2.6. Inspectors will be given a maximum of 2 working days per month to enable them to meet their flying currency requirements either in simulator or aircraft.

2.7. When conducting currency requirements, the inspector shall not carry out any DGCA function.

2.8. DGCA and the inspector shall ensure that if a inspector is attached to a operator for currency purposes, then such a inspector will not be involved in any DGCA function of the operator eg: Inspections / approvals etc, and will receive no remuneration for the same from the operator.

2.9. It shall be the responsibility of the inspector to ensure that all license and medical requirements are current prior to any flight currency is undertaken.


## 3. Recurrent Type Training for Inspectors Not Holding Currently Valid ATPL/ CHPL

This Training schedule will be applicable on those who do not have a valid license, either due to being medically unfit or having greater than 65 years of age. Such inspectors will not be take part in any pilot certification process.

3.1. Inspectors who come under this category can carry out all FOI duties other than pilot certification process.

3.2. This will entail along with other duties, document evaluation and approval of MEL,



 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

SPECIAL OPS, TRAINING PROGRAMME etc for the Aircraft type.

3.3. In order to conduct the duties mentioned in 2 above the FOI will need to be aware of the aircraft's technical specifications and performance capabilities.

3.4. If previously type trained for assigned aircraft type, then the FOI will undergo an extended ground refresher as given in CAR Section 8 Series F Part II or relevant CAR of this series depending on weight category including simulator training of 4 hours (2 hrs PF and 2hrs PM). Thereafter, all currency will be limited to ground refresher as per relevant CAR of 8 series depending on weight category, and one annual simulator refresher of 4 hours (2 hrs PF and 2hrs PM) , this refresher can be conducted either by a FOI or trainer of the ATO.

3.5. If not previously endorsed and trained for FOI functions then such inspectors will undergo a type training program limited to ground subjects and simulator training, as applicable for the aircraft type minus the checks and aircraft training. A certificate will be issued to the inspector on completion of such training and submission of training records to FSD. A copy of the training record will be kept in individual inspectors file. There after the inspector will follow the provisions of 4 above.

3.6. In the event a pilot certification has to be carried out on aircraft for which the trained FOI is in this category then such an inspector will be accompanied by another FOI who is qualified for pilot certification duties on another type.


#### 4. Recurrent Ground Training

Module	Topic	Duration
Module 1	Updates/ Revision of Annexes of the Chicago Convention & Indian Aviation Laws	3.5 Hours
Module 2	Updates/ Revision of DGCA CARs & CAPs	3.5 Hours
Module 3	Updates/ Revision of Surveillance Procedures	3.5 Hours
Module 4	Updates/ Revision of Special Operations	3.5 Hours

#### 4.1 CONTINUED PROFICIENCY

The satisfactory execution of the various functions as inspectors depends on the qualifications, experience, competence and dedication of individual inspectors. In addition to the crucial importance of technical competency in performing certification, inspection and surveillance functions, it is likewise critical that inspectors possess a high level of knowledge.

In the interest of enhancing objectivity to the refresher training, the completion of the course would be concluded with the mandatory written test, minimum passing score is 70%. Considering the specialized and sensitive nature of the FOI duties, it is essential that each of person performing inspection and oversight duties be carefully evaluated before


 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

continued carrying out inspector functions. This also addresses the performance assessment condition of the “Term and conditions of appointment” as flight operation inspector.

**METHODOLOGY:** The Exam thus conducted would be comprising of open book test with access to internet.

**Failure/Review Policy:** Board headed by CFOI and assigned members would carry out review on case to case basis and necessary gap training would be provided with emphasis on the short comings .An extended FOI refresher of 04 days will be conducted for the candidates who failed for the first attempt.

Any subsequent failure, will result in the FOI being stopped from utilizing FOI privileges and a notice to improve his/her performance standard and quality of output to satisfaction of DGCA with in a prescribed period of 15 days for self-study will be provided, to enhance the lacking part .Any further failure, such cases from CFOI will be forwarded to JDG and DG for further necessary action.

 मृत्यमैत्रं जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 4. INSPECTOR DUTIES, RESPONSIBILITIES, ADMINISTRATION AND CONDUCT

### 4.1. GENERAL RESPONSIBILITIES


4.1.1 The section describes the general responsibilities of the Flight Operations Inspector (FOI). FOIs of the DGCA's play a key role in ensuring safety in the field of aviation. This responsibility for ensuring safety in air travel covers almost every aspect of aviation, including the operation of aircraft and the certification of aircraft and pilots.

4.1.2 Flight Operations Inspectors are to particularly ensure that: -

- (a) Proper analytical reports are filed and submitted promptly to the FSD on their inspections.
- (b) Flying and surveillance programmes are submitted in advance of each month.
- (c) Monthly reports are to be submitted.
- (d) For important occurrences requiring immediate action, a report is submitted immediately.
- (e) Reports on initial flight trials, such as proving or inaugural flights of operators and comments on Weather Minima are given promptly.
- (f) Tasks assigned by other divisions are responded to promptly. Reports may be submitted through the Director Flight Inspection.
- (g) All orders/notices/circulars issued by the Director Flight Inspection are adhered to and responded to promptly where necessary.
- (h) They use their initiative to pursue any matter that needs to be attended to by the DGCA in the interest of air safety, morale and efficiency of the system.
- (i) They ensure that the confidentiality of matters dealing with the reputation of individuals is always maintained.
- (j) They maintain a constant dialogue with operators and officials in the aviation industry on professional matters in order to keep up to date with latest developments.

### 4.2. DUTIES AND RESPONSIBILITIES OF FLIGHT OPERATIONS INSPECTORS

4.2.1 The duties and responsibilities of Flight Operations Inspectors are divided into Surveillance, Certification Inspections and Pilot Certification. These Job Functions cover both ground and in-flight inspections.

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.2.2 Air Operators Certification. FOIs are heavily involved in the certification of air operators. Some of the many duties of the FOI in air operator certification are as follows:


- (a) Evaluate operators' Operations Manuals
- (b) Evaluate Operators' Compliance Statements
- (c) Evaluate Flight Manuals
- (d) Evaluate operators' Aircraft Checklists
- (e) Evaluate Operators' Minimum Equipment Lists (MEL)
- (f) Evaluate Flight Crew Training Programs
- (g) Evaluate dispatcher training programs
- (h) Evaluate Operators' Crew recordkeeping systems
- (i) Evaluate Operators' flight-following procedures
- (j) Conduct Emergency Evacuations or Ditching Demonstrations
- (k) Conduct Aircraft Proving and Validation Tests
- (l) Evaluate Operators' Special Ops procedures

4.2.3 Pilot Certification. Some of the FOIs certification duties involve the following:

- (a) Designate or renew DE/ Examiners/ TRIs/ LTC's/ Check Pilots/ SFIs etc
- (b) Conduct Proficiency Checks of Operators' Pilots
- (c) Conduct proficiency checks of operators' flight engineers/ navigators (if applicable)

4.2.4 Surveillance.

- (a) Air Operator Main Base Inspections,
- (b) Transit Facility Inspections,
- (c) Cockpit En-route Inspections,
- (d) Cabin En-route Inspections
- (e) Regulatory Audits
- (f) Any other surveillance checks such as Spot Checks as directed.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.2.5 The specific duties, job functions and responsibilities of all officers in the Flight Standards Directorate is placed at Appendix to this Chapter.

### 4.3. DUTIES AND RESPONSIBILITIES OF PRINCIPAL OPERATIONS INSPECTORS

#### 4.3.1 Technical Administration


- (a) Investigations are thoroughly conducted in a timely manner with an impartial and unbiased approach. Required reports are factually and accurately completed and submitted through channels to designated recipients within established time frames.
- (b) Assigned work program activities are effectively prioritized, planned and executed within the parameters of DGCA office policies.
- (c) Technical information provided is accurate and in accordance with DGCA Regulations and policy. Recommended solutions can be implemented without major revision.
- (d) The Deputy CFI/ CFI is informed of problems and/or anticipated problems at the earliest possible time.
- (e) Deficiencies and/or problems are promptly communicated through channels to the operator for corrective action. Follow-up action is initiated to insure correction of the deficiency and/or problem.
- (f) Regular contact with the operator(s) results in knowledge of developments or changes in their method of doing business.
- (g) Effective working relationships are established with assigned air operators.

#### 4.3.2 Certification

- (a) Certification actions especially with regard to Certificate Management are accomplished and documented in accordance with applicable standards and within established time frames.
- (b) Responsible for the maintenance/ update of the operator's documents in the DGCA pertaining to operations, especially the Operations Manual.
- (c) Deficiencies/problems are promptly communicated through channels to the air operator for corrective action.
- (d) Certification/ certificate management actions are appropriately coordinated.
- (e) All contacts and responses are handled in a courteous and professional manner.

#### 4.3.3 Surveillance

- (a) Monitoring activities correctly indicate compliance/non-compliance with the DGCA Regulations.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (b) Deficiencies are promptly communicated through channels to the appropriate management levels.
- (c) Data analysis is continuously performed which detects trends in the operator's safety of operations.
- (d) Safety issues requiring special emphasis are identified and promptly communicated through channels to the DGCA office and the involved air operator.
- (e) An effective working relationship is maintained with the public, industry organizations, and other governmental agencies. All contacts and responses are handled in a courteous and professional manner.

#### 4.4. ADDITIONAL FUNCTIONS OF FLIGHT OPERATIONS INSPECTORS


4.4.1 Investigations. An additional role is the investigation of aircraft accidents in cooperation with the Directorate of Air Safety, which is responsible for investigating accidents. Three areas that FOIs may be required to contribute in investigating are accidents, incidents, and enforcement actions.

- (a) Accidents. FOIs may be required to conduct on-site accident investigations when serious injuries or fatalities have occurred. The inspector will work closely with the AAIB.
- (b) Incidents. FOIs may be required to assist DAS for the investigation of incidents, as appropriate. Some of the incidents that require investigation are as follows:
  - (i) Foreign air carrier incidents
  - (ii) Reports of emergency evacuation
  - (iii) Incidents involving hazardous materials
  - (iv) Noise complaints
  - (v) Damage caused by a civil aircraft
- (c) Enforcement. FOIs are required to investigate, analyze, and report enforcement findings. In situations that involve alleged non-compliance with the CARs, FOIs are required to make recommendations concerning enforcement action.

4.4.2 FOIs participate in other activities such as accident prevention.

4.4.3 Preparation & Evaluation Of Question Papers. FOIs are deputed to CEO for preparation of question papers for CPL, ATPL and Type Rated pilot licencing examinations.

- (a) Two Type Rated FOIs will be deputed to prepare Question Papers/Bank for conduct of Type Rated Technical Exams. Further Type Rated FOI's may be tasked to evaluate the question papers and answer sheets.
- (b) Two FOI's with valid ATPL are also entrusted with preparation of Question Papers/Bank for CPL and ATPL Exams.

 सत्यमेव जयते	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

#### 4.4.4 Conduct of ATPL Vivas / Despatchers Oral examination

(a) FOI's are detailed to conduct the ATPL Viva Voce examinations for the pilots upgrading from CPL and also for Despatchers authorisation. Viva examinations are conducted every three months. DE/TRIs from the industry are also a part of the DGCA Board conducting Viva Voce examinations. As far as possible a type rated FOI is part of the board for despatchers oral examination.

4.4.5 FOIs may also be required to speak to student groups about career opportunities in the field of aviation, and may conduct seminars and briefings on pertinent aviation topics for pilots, dispatchers, and airline officials.

4.4.6 Inspectors may also, from time to time, be called upon to testify in administrative hearings and trials.

#### 4.5. **GUIDE LINES ON PREPARING QUESTIONS PAPERS AND CONDUCT OF ORALS.**

4.5.1 Type rated FOI(two) or a combination of one FOI and one industry type rated expert ( Ideally a type rated examiner) are assigned the task of setting the question paper for type rating exam on request of the CEO. They are also to provide the answers to the questions set by them. At times the question bank may need a update ,and inspectors are also needed for the same.

4.5.2 Type rated FOI(two) or a combination of one FOI and one industry type rated expert ( Ideally a type rated examiner) are assigned the task of vetting the question paper for type rating exam/ question bank as set by A above and verify the answers.

4.5.3 A and B are assigned to different sets of inspectors and industry experts. In the event that there is any discrepancy in the answers then the two team members will resolve the same prior to releasing the questions to CEO.

4.5.4 Inspectors to ensure that questions are framed from manufacturer approved documents only.

4.5.5 Inspectors to ensure that questions are framed from the latest version of the documents of the manufacturer.

4.5.6 Inspectors to ensure that questions are framed in the format as provided by CEO and all CEO guidelines are followed.


4.5.7 Inspectors must ensure that questions are framed in simple English.

4.5.8 If the services of a industry expert are utilised then it is the inspectors duty to ensure that guidelines are followed and the individual is briefed accordingly.

4.5.9 ATPL Viva are conducted by a board approved by the Director General ,comprising of a chairperson( JDG/CFOI/ Dy.CFOI or DDG), FOI and industry Expert( DE or TRI).

4.5.10 The chairperson is mostly required to oversee the conduct of the Viva and ensure no bias of any nature is being exhibited during the interview and also ensure that the interview is conducted in a amicable manner.



	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.5.11 It is the duty of the FOI to ensure that the scope of the Viva is only limited to syllabus as given in CAR Section 7 Series B part VI and IX.

4.5.12 It is the responsibility of the Inspector to ensure that the industry expert is aware of the scope of the syllabus and does not go beyond.

#### 4.6. QUALIFICATIONS REQUIRED FOR INSPECTOR ACTIVITIES

4.6.1 The following is a synopsis for the qualifications required by an inspector for the carrying out of the various activities under the Safety Oversight Programme:

##### (a) Pilot Certification Duties

- (i) Completion of FOIOC; and
- (ii) Completion of type rating training on that type of aircraft within the preceding 12 months or if the initial training was completed more than 12 months, have completed recurrent training and a proficiency check ; and
- (iii) Completion of relevant OJT.


##### (b) Surveillance Duties

- (i) Completion of FOCIC; and
- (ii) Completion of relevant OJT; and
- (iii) For a type rating either by actual flying or by simulator training as a pilot on any type of aircraft in scheduled airline service in India.

#### 4.7. MOVEMENTS BY AN FOI ON INSPECTION OR OTHER DUTY

4.7.1 For the purpose of performing the duties of FOI in terms of AIC 10/ 1991 and exercise the powers under rule 156 of the Indian Aircraft Rules 1937, Inspectors are authorized by air Operators to enable and facilitate travel by using ACM (Additional Crew Member) travel authority, supernumerary or other boarding pass, or with AIC ticketing. Further, the FOI identity card validates entry and trans-shipment of Inspectors when :

- (a) performing in-flight or other "ad hoc" inspection duties;
- (b) responding to an operator's request for special services (e. g., pilot proficiency checks (PPC), etc.) involving air travel with that same carrier; and
- (c) Accompanying flight crewmembers on familiarization flights, unless the operator provides otherwise.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 4.8. ADMISSION TO THE FLIGHT DECK

4.8.1 The flight deck of an aircraft is a close society in which each member is proficient in his/ her duties and aware of his/ her responsibilities, position and rank. The introduction of an inspector into this type of environment may create a distraction and possibly add tension. The FOIs authority can be seen either as a threat to the individual flight crewmember or a challenge to the Pilot-in-Command's status. While maintaining the status of his/ her own position, the FOI must recognize and support the Pilot-in-Command's authority unless he/ she is obviously about to violate a regulation or operate in a hazardous manner. Even in these conditions, the FOI should at first appear to be acting in an advisory capacity and only resort to the powers vested in him/ her by the aeronautical legislation as a last resort.

4.8.2 FOI shall, under normal circumstances, make every effort to reserve the use of any observer seat through the operator's flight dispatch or other designated office prior to scheduled departure time unless a no notice inspection is planned.

4.8.3 If for some reason, such as joining the flight at an en-route stop, the crew could not be contacted prior to boarding the aircraft, the FOI should identify him/ herself to a cabin crew and have him/ her present his/ her credentials to the Pilot-in-Command. The cabin crew should be requested to advise the Pilot-in-Command that an FOI wishes to join the crew on the flight deck for purposes on an in-flight inspection. The FOIs credentials will constitute the FOIs on board authority.

4.8.4 At times, FOIs may occupy any observer seat without advanced notice to the operator or crewmembers. Occasions may arise, such as "ad hoc" inspections, when FOIs will not have had time to affect prior co-ordination. In this situation, a FOIs approach must demonstrate courtesy and common sense.


4.8.5 Where an aircraft is equipped with more than one observer seat, the operator shall make available the observer seat that permits optimal monitoring, by the FOI of the flight deck instrumentation and controls, and the procedures used by flight crew members.

4.8.6 While on the flight deck, the FOI must avoid distracting the crew. This may not be easy, as another aspect of the flight deck environment is a degree of boredom brought about by repetitive duties and routines. The FOI is a new person to talk to, and a new source of information. A flight deck conversation can be valuable to the FOI as a source of information and to establish a good relationship with the flight crew but it must be carefully controlled so as to avoid distractions at critical times.


4.8.7 During the departure and approach phases of a flight, the FOI should silently observe cockpit policy and procedures. This does not preclude the inspector from advising the crew of a potential hazard or infraction.

4.8.8 Potential for the type of situation referred to below is minimal. Such situations would likely occur only during "ad hoc" inspections:

- (a) The legal provisions authorising an FOI to occupy that position.
- (b) That further denial will be in contravention of Civil Aviation Rules/Regulation, which may be processed by way of enforcement action.

 मृत्युमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

4.8.9 If an FOI has reason to believe that an aircraft is unsafe or is about to be operated in an unsafe manner, he/ she should make all efforts to apprise the DCFOI/ DDG/ CFOI/ JDG by the fastest means to enable detention action. In case circumstances do not permit such action, he/ she may detain the aircraft pursuant to Civil Aviation Rule / Regulation. Directing Air Traffic Services (ATS), where available, to deny take-off clearance could be the best course of action. This would give the FOI more time to co-ordinate other recourses.

 मृत्यमैत्र जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## APPENDIX

### DUTIES, JOB FUNCTIONS AND RESPONSIBILITIES OF OFFICERS IN THE FLIGHT STANDARDS DIRECTORATE

#### ROLE OF INSPECTORS IN FSD

##### Role of Chief Flight Operations Inspector


In addition to his/her role as a Flight Operations Inspector, CFOI being the head of FSD has the following functions:

1. Advise and assist the Director General (DG)/ Joint Director General (FSD) in providing support in the justification of budget estimates, administration of executive decisions, and development and maintenance of productive relationships with the public, the aviation community, and other government agencies.
2. Provide for the development, coordination, and execution of the following, and is accountable to the Director General (DG)/ Joint Director General (FSD) for the adequacy of DGCA:
  - (1) Policies, standards, systems, and procedures.
  - (2) Public rules, regulations, and standards.
  - (3) Program plans issued by or on behalf of the Director General.
3. Provide effective evaluation of program performance, and ensure adequacy of follow-up to secure correction of deficiencies.
4. Provides leadership and direction in the planning, management, and control of office activities.

##### Role of Deputy Chief Flight Operations Inspector

In addition to his/her role as a Flight Operations Inspector, DCFOI has the following functions:

1. Monitor duties and activities carried out by Flight Operations Inspectors;
2. Monitor surveillance data and identify trends for continued oversight;

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

3. Monitor designee oversight;
4. Any other work assigned by the JDG/ CFOI.

### **Role and Duties of Flight Operations Inspectors**


Flight Operations Inspectors: (includes CFOI/ DCFOIs/ SFOIs and FOIs)

1. To carry out functions assigned in accordance with CAP 3100 for certification of an Air Operator;
2. To carry out related functions for continuous management of the AOP for the assigned Air Operator(s);
3. To carry out surveillance of assigned Air Operator as per the laid down surveillance plan;
4. To carry out all certificate management tasks related to one or more assigned ATO/ TRTOs;
5. To carry out designee oversight;
6. To carry out skill tests of pilot license applicants (PEL support);
7. Any other work assigned by the Director General/ JDG/ CFOI/ DCFOI.

### **Role of Other Officers In FSD**

#### **Director (Operations)**

1. Administration of FSD;
2. To plan training of inspectors (Flight Operations, Airworthiness, Cabin Safety and Dangerous Goods Inspectors) in coordination with DAW (FSD);
3. Examination of the documents for approval of Training Captains of scheduled/ non-scheduled/ general aviation and recommend the case for necessary approval to the Director General;
4. Scrutinizing the documents for Ground Instructor and conduct oral examination.
5. Conduct oral examination of Flight dispatcher and approval.

 सत्यमेव जयते	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>


6. Examination of documents for approval of TRTO and FSTDs (simulators).
7. Development of surveillance plan in coordination with CFOI.
8. To prepare changes to regulations to include amendments to ICAO Annexes.
9. Follow up action on surveillance reports of air operators.
10. Reply on parliamentary matters/ VIP references/ RTI.
11. Coordinating activities pertaining to functioning of FSD with AT directorate;
12. Any other work assigned by the Director General/ JDG/ CFOI.

#### **Deputy Director (Operations)**

1. Administration of FSD;
2. Planning training of inspectors (Flight Operations, Airworthiness, Cabin Safety and Dangerous Goods Inspectors);
3. Examination of the documents for approval of Training Captains of scheduled/ non-scheduled/ general aviation;
4. Scrutinizing documents for Ground Instructor and conduct oral examination;
5. Conduct of oral examination of Flight dispatcher;
6. Examination of documents for approval of TRTO and FSTDs (simulators);
7. Development of surveillance plan;
8. Preparation of changes to regulations to include ICAO Annex amendments;
9. Follow up action on surveillance reports of air operators;
10. Reply on parliamentary matters/ VIP references/ RTI;
11. Coordinating activities pertaining to functioning of FSD with AT directorate;
12. Any other work assigned by the JDG/ CFOI/ Dir(Ops).


#### **Assistant Director (Operations)**

1. Planning training of inspectors (Flight Operations, Airworthiness, Cabin Safety and Dangerous Goods Inspectors) in FSD;

	<b>Flight Operations Inspector Manual</b>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

2. Development of surveillance plan;
3. Preparation of changes to regulations to include ICAO Annex amendments.
4. Follow up action on surveillance reports of air operators.
5. Preparing reply on parliamentary matters/ VIP references/ RTI.
6. Maintain record of training of all inspectors/ officers in FSD as per laid down policy;
7. Any other work assigned by the JDG/ CFOI/ Dir(Ops).



 मृत्यमैत्र जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 5. PERSONAL ETHICS AND CONDUCT

### 5.1. PURPOSE


5.1.1 This section contains direction and guidance for Flight Operations Inspectors (FOI) pertaining to principles of ethics and conduct as they affect the performance of duties.

5.1.2 Although some hints as regards to personal ethics and conduct in respect of FOIs are outlined and listed in this section, it may be quite obvious that in many instances an inspector may encounter abnormal circumstances whose remedial actions could not possibly be explained or outlined in black and white. Therefore, considering the fact that inspectors are always in the public eye, they are expected to exercise good judgment and professional behaviour at all times while on and/or off duty. Two major areas of responsibilities are outlined as below:

- (a) Civil Aviation Requirements: Inspectors are required to comply fully with the spirit of the standards of conduct as set forth by this section; and with those set forth in Regulations, CARs, circulars and other procedures as required under the ICAO convention and DGCA regulations. The Authority's policy on employee conduct is designed to encourage employees to maintain a level of professionalism that will promote the efficiency of the DGCA and conform to accepted principles of conduct.
- (b) Requirements other than Civil Aviation Regulations: FOIs are exposed to a number of circumstances that are critical to their positions and which are not pertinent to other job functions. The inspector has the critical position of frequently interpreting and evaluating the quality of training programs, looking into the operational standards, inspecting and certifying various manuals and publications, judging and monitoring the professional standards of pilots and maintenance manuals, pilot and mechanic performance, and overall safety activities. It is imperative that all inspectors be sensitive to the responsibilities and demands of their positions and be objective and impartial while performing their duties. Inspectors must also be sensitive to actual as well as perceived appearances of any conflict that could disrupt the effectiveness or credibility of the 'Flight Standards' mission.


### 5.2. ON-THE-JOB ETHICS AND CONDUCT

5.2.1 The conduct of an FOI has a direct bearing on the proper and effective accomplishment of official job functions and responsibilities. Inspectors are required to approach their duties in a professional manner and to maintain that attitude throughout their activities. Through their conduct, inspectors working in direct contact with operators, and with the public, bear great responsibility in the determination of public perception of the DGCA.

 सत्यमेव जयते	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

**5.3. RULES OF CONDUCT. ALL INSPECTORS MUST OBSERVE THE FOLLOWING RULES OF CONDUCT:**


- (a) Report for work on time and in a condition that will permit performance of assigned duties
- (b) Render full and industrious service in the performance of their duties
- (c) Maintain a professional appearance, as appropriate, during duty hours
- (d) Respond promptly to directions and instructions received from Chief Flight Operations Inspector.
- (e) Exercise courtesy and tact in dealing with co-workers, supervisors, and members of the public
- (f) Conserve and protect DGCA property, equipment, and materials (Inspectors may not use or permit others to use DGCA equipment, property, or personnel for other than official business.)
- (g) When duties concern the expenditure of public funds, have knowledge of and observe all applicable legal requirements and restrictions
- (h) Safeguard classified information and unclassified information that should not be given general circulation as provided by DGCA Order (Inspectors shall not disclose or discuss any classified information or "official use only" information unless specifically authorized to do so.)
- (i) Observe the various laws, rules, regulations, and other authoritative instructions, including all rules, signs, and instructions relating to personal safety
- (j) Uphold with integrity the public trust involved in the position to which assigned
- (k) Report known or suspected violations of law, regulations, or policy through appropriate channels
- (l) Not engage in private activities for personal gain or any other unauthorized purpose while on government property
- (m) Give any supervisor or official conducting an official investigation or inquiry all information and testimony about all matters inquired of, arising under the law, rules, and regulations administered by the DGCA.
- (n) Not use illicit drugs or abuse alcohol or other substances (No inspector known to do so will be permitted to perform any duties related to aviation safety until the DGCA is satisfied that any such person is no longer a risk to public safety.)

 मृत्यमैव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (o) Not make irresponsible, false, or defamatory statements that attack, without foundation, the integrity of other individuals or organizations (Inspectors are accountable for the statements they make and the views they express.)

#### 5.4. OFF-THE-JOB ETHICS AND CONDUCT

- (a) General. The Civil Aviation Department expects FOI's to conduct themselves off duty in a manner that will not adversely reflect on the Department's ability to discharge its mission. FOIs must conduct themselves while off duty in a manner that will not cause the public to question their reliability and trustworthiness in carrying out their responsibilities as employees of the Civil Aviation Department.
- (b) Subversive Activity. No inspector shall become a member of any organization that the inspector knows advocates the overthrow of the Government of India, or that seeks by force of violence to deny other persons their rights under the Constitution of India.
- (c) Striking. No inspector shall engage in, or encourage another inspector, or any other civil employee, to engage in a strike, work stoppage, or work slowdown, in a labour management dispute involving the Government.
- (d) Meeting Financial Obligations. All FOIs are expected to meet their private financial obligations in a proper and timely manner. Failure without sufficient excuse or reason to honour valid debts, including claims based on court judgments and tax delinquencies, or to make and adhere to reasonable arrangements for settlement, will constitute grounds for disciplinary action.
- (e) Inaugural Flight and Ceremonial Events. FOIs shall not accept invitations from airlines, aircraft manufacturers, or other aviation-related businesses, that are subject to DGCA regulations, for flights or for free transportation in connection with roll-outs and similar ceremonial events.
- (f) Outside Employment, Financial Interests, And Gifts
- (g) Business Interests. FOIs and their immediate families should seek clarification and guidance before engaging in any airline or other business activity for which the Civil Aviation Department has oversight responsibility. If an inspector holds any interest that may give the appearance of impropriety, the inspector should immediately consult the CFOI for a determination.
- (h) Conflict of Interest. Inspectors may hold employment or own businesses that do not present a conflict of interest with their official job functions. Inspectors who wish to participate in outside aviation activities (such as flight instruction, commercial flying, or any other aviation-related activity) should seek clarification and approval from the DGCA.


	<h2 style="margin: 0;">Flight Operations Inspector Manual</h2>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

- (i) Public Speaking. Inspectors may not receive payment for speaking on issues that deal with their official job functions. Teaching or instructing at colleges, universities, or vocational schools may be acceptable, but should be coordinated and approved through the CFOI.
- (j) Fund Raising. FOIs may not participate in fund raising or soliciting donations from any business or activity for which their office is assigned oversight responsibility. Exceptions to this requirement may exist for door prizes for aviation safety seminars by the aviation safety program. They should be coordinated through the CFOI.
- (k) Gifts - Avoiding Conflict of Interest. As per Govt. of India policy, no gift is acceptable. Gifts should be accepted only when the inspector knows that the gift will not give the appearance of a conflict of interest. Inspectors shall exercise the utmost discretion when giving or receiving gifts.

## 5.5. DRESS

5.5.1 FOIs should be aware that their personal appearance affects their professional image; therefore, they should adhere to the guidelines below:

- (a) On visits to air operator facilities, FOI should dress semi-formally (Jacket and tie (optional) for men, dress or slacks for women).
- (b) During pilot proficiency checks in aircraft or simulators, the semi-formal wear noted above is recommended, regardless of air operator.
- (c) During training FOIs dress should be compatible with the air operator's practice but should lean towards formality.
- (d) During in-flight inspection, the sight of a non-uniformed person moving in and out of the flight deck can be disturbing to hijack-conscious passengers. For this reason, FOIs should maintain a low profile, dress conservatively, restrict movements between cabin and flight decks and wear the Airport Security Pass.
- (e) When conducting FOI duties at an airport, the Airport Security Pass must be used to follow crew access routes and shall be worn at all times on the ramp and air-side of the terminal.

 सत्यमेव जयते	<h1>Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 6. FLIGHT OPERATIONS INSPECTOR (FOI) CREDENTIALS

### 6.1. GENERAL.

This section contains information for inspectors concerning the types of Flight Operations Inspector (FOI) credentials and the inspector eligibility requirements and application procedures for those credentials. This section also contains direction and guidance to be used by inspectors when employing FOI credentials during the performance of inspector tasks.

### 6.2. TYPES OF CREDENTIALS

6.2.1 FOIs are issued two types of credentials:

- (a) DGCA Inspector Identification that identifies as an “Authorized Person” for the purpose of rule 156 of the Indian Aircraft Rules 1937 and in terms of AIC 10/ 1991 and authorized to perform the duties and exercise the powers under said rule; and
- (b) Functionary Identification from Bureau of Civil Aviation Security (BCAS) which provides for access to different areas of any Indian airport and aircraft, as indicated on the credential

### 6.3. ELIGIBILITY REQUIREMENTS


6.3.1 Operations FOIs currently assigned to positions involving air transportation inspections and surveillance are eligible to receive the DGCA credential; however, the inspector must have also completed the FOIOC course.

6.3.2 To be eligible for the BCAS credential, the FOI must possess (or be concurrently issued) the DGCA credential; have undergone DGR training as required by BCAS; and have a job function that requires the conduct of inspections.

### 6.4. APPLICATION PROCEDURES

6.4.1 Inspectors shall apply for the two credentials by completing an application for a DGCA Inspector Credential and a BCAS Credential in accordance with the procedures. The applications would be routed through the respective DCFOI/ DDG to the CFOI for further action.

6.4.2 To expedite the issuance of the credentials, the application may be initiated before the inspector meets the training and qualification requirements outlined in this manual.

	<h1 style="margin: 0;">Flight Operations Inspector Manual</h1>	<b>CAP 8200</b>	
		<b>Volume 4</b>	
		<b>Revision 0</b>	<b>May 2018</b>

## 6.5. USE OF CREDENTIALS

6.5.1 Although the credentials contain the general authorization for the inspector to conduct DGCA functions, specified work functions may only be performed after the inspector has been authorized by an appropriate supervisor and has satisfied the training and qualification requirements specified in this manual. The work functions for the two credentials are as follows:

- (a) DGCA's Inspector Credential. The DGCA Inspector credential identifies an individual as an "authorized Person" for the purposes of rule 156 of the Indian Aircraft Rules 1937 and in terms of AIC 10/ 1991 and authorizes that individual to perform the duties and exercise the powers under the rules. These official duties include the conduct of cockpit enroute inspections. An inspector who meets all training and qualification requirements, with the exception of not yet possessing an airplane type rating, may conduct cabin enroute inspections.
- (b) BCAS Credential. The BCAS credential contains authorization for an inspector to be given free and uninterrupted access to restricted areas at airports while the inspector is performing official duties to the extent stated on the credential. These official duties include inspections such as ramp inspections. An inspector must display this credential on an outer garment to be permitted entry airport secured areas, and while working in these areas. While employing the BCAS credential, inspectors should consider the following procedures:
  - (i) Physical Barriers. Although this credential is an authorization for inspectors to be in secured areas, for physical barriers such as locked doors and gates, an inspector may need to seek local assistance to gain access. Inspectors should ask at the time of entry if the operator has any specific security program practices and procedures that need to be followed.
  - (ii) Passenger Screening Points. Inspectors approaching passenger screening points may not bypass that screening; however, if the inspector is unable to afford the delay that may be involved in passenger screening, then arrangements should be made with the airport or operator personnel to enter the secured areas at other entry points.

## 6.6. LOST OR STOLEN CREDENTIALS.

If either one or both of these credentials are lost, stolen, or damaged, the inspector should report the occurrence immediately to the inspector's supervisor and to the Chief of the Flight Standards Directorate.