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IATA

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Senior Vice President
Operations, Safety and Security
International Air Transport Association
800 Place Victoria
P.O. Box 113
Montreal, Quebec
CANADA H4Z 1M1

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List of Effective Pages

	Page Number	Issue Date
Title Page	N/A	N/A
Disclaimer	N/A	N/A
Change/Revision History	N/A	December 2021
Table of Contents	TOC 1 to TOC 14	December 2021
List of Effective Pages	LEP 1 to LEP 2	December 2021
Description of Changes	DOC 1 to DOC 28	December 2021
Introduction	INT 1 to INT 8	December 2021

IOSA Standards and Recommended Practices

Section 1 Organization and Management System (ORG)	ORG 1 to ORG 36	December 2021
Section 2 Flight Operations (FLT)	FLT 1 to FLT 116	December 2021
Section 3 Operational Control and Flight Dispatch (DSP)	DSP 1 to DSP 70	December 2021
Section 4 Aircraft Engineering and Maintenance (MNT)	MNT 1 to MNT 54	December 2021
Section 5 Cabin Operations (CAB)	CAB 1 to CAB 46	December 2021
Section 6 Ground Handling Operations (GRH)	GRH 1 to GRH 30	December 2021
Section 7 Cargo Operations (CGO)	CGO 1 to CGO 18	December 2021
Section 8 Security Management (SEC)	SEC 1 to SEC 26	December 2021

Record of Revisions

Edition Number	Revision Number	Issue Date	Effective Date
1	N/A	Apr 2003	Apr 2003
2	0	Aug 2006	Mar 2007
2	1	May 2007	Jan 2008
2	2	Feb 2009	Jul 2009
3	0	Jun 2010	Oct 2010
4	N/A	Jul 2011	Dec 2011
5	N/A	Nov 2011	Apr 2012
6	N/A	Apr 2012	Sep 2012
7	N/A	Apr 2013	Sep 2013
8	N/A	Apr 2014	Sep 2014
9	N/A	Apr 2015	Sep 2015
10	N/A	Apr 2016	Sep 2016
10	1	Apr 2016	Sep 2016
11	N/A	Apr 2017	Sep 2017
11	1	Sep 2017	Oct 2017
12	N/A	Apr 2018	Sep 2018
13	N/A	Apr 2019	Sep 2019
14	N/A	Dec 2020	Sep 2021
14	1	Aug 2021	Sep 2021
15	N/A	Dec 2021	Sep 2022
15	1	Jun 2022	Sep 2022

ISM Fifteenth Edition

The following tables describe changes contained in Edition 15 of the IOSA Standards Manual (ISM 15), including Rev 1 to ISM Ed 15. All markup relates to changes for both Ed 15 and Ed 15 Rev 1.

The first table, titled ISM 15 Rev 1 Revision Highlights, describes changes introduced with Revision 1 to ISM 15.

The second table, titled ISM 15 Revision Highlights, describes significant changes in ISM 15. Subsequent tables describe individual changes in each of the ISM sections in relation to the current ISM Edition 14.

The third table, titled Summary–ISARPs Added/Eliminated (All Sections), displays the number of standards, recommended practices and tables added and/or eliminated in ISM 15. The added/eliminated provisions specific to each discipline are again identified with more detail at the beginning of the table for each of the respective ISM sections.

In this ISM 15 revision the ORG section has been completely restructured, resulting in the relocation and revision of provision identifiers for most ORG provisions. The Section 2 (ORG) table (below) provides the new and former identifiers for all ORG provisions that have been relocated within the section.

ISM 15 Rev 1 Revision Highlights	
Area(s) of Change	**Description(s)**
ORG 3.3.5	• Corrected to a Standard, inadvertently listed as Recommended Practice
FLT 3.11.59	• Standard eliminated, replaced by FLT 3.11.59A/B
FLT 3.11.59A/B	• New Standards to replace FLT 3.11.59
FLT 3.11.68A	• Note corrected with planned upgrade to standard in 2023
FLT 3.11.68B	• Note corrected with planned upgrade to standard in 2023
FLT 3.15.5	• Note corrected with planned upgrade to standard in 2023
FLT 4.2.7	• Note corrected with planned upgrade to standard in 2023
GRH 3.2.6A	• Technical change: revised wording regarding the placement of GSE or boarding bridges during opening and closing of cabin access doors

ISM 15 Revision Highlights	
Area(s) of Change	**Description(s)**
ORG Section	• Entire ORG section re-structured; provisions reorganized, renumbered
ORG 1.5.5	• New standard; addresses prevention of psychoactive substance use by personnel that perform any safety-sensitive function; applicable to such personnel in all operational disciplines
ORG 3.2.2	• New recommended practice; specifies process for safety data analysis to predict future risks to aircraft operation; alignment with Annex 19
ORG 3.3.1, 3.3.3, 3.3.4, 3.3.5	• New standards (upgrades): specify elements of a flight data analysis (FDA) program
FLT 3.10.8	• New standard (upgrade): specifies flight crew guidance for implementing strategic lateral offset procedures (SLOP); applicable to operators that conduct flights in airspace where SLOP is used
FLT 3.11.60	• Standard; revised specifications that address go-around policy
FLT 3.12.6	• New recommended practice; specifications address prevention of runway excursions.

ISM 15 Revision Highlights	
Area(s) of Change	**Description(s)**
DSP Sub-section 4	• Numerous provisions and related guidance that address fuel planning, alternate airport selection and EDTO revised to address operational variations (to prescriptive requirements); conformance based on use of safety risk management (SRM) processes within the SMS (replaces former sub-section 4.6, which addressed conformance based on use of performance-based methods)
DSP Table 3.5	• Table completely revised to specify an updated listing of the competencies of operational control
DSP Table 3.6	• New table: provides guidance for the development of operational control competency course syllabi
CAB 3.2.4A	• New recommended practice: specifies procedures for opening and closing cabin access doors; complements GRH and FLT provisions
GRH 3.2.5	• New recommended practice; specifies procedures for opening and closing cabin access doors; complements FLT and CAB provisions (IGOM safety-critical issue)
GRH 3.2.6A	• New standard (upgrade): specifies GSE requirements included in procedures for opening and closing cabin access doors; complements GRH 3.2.5 (IGOM safety-critical issue)
GRH 3.2.6B	• New standard (upgrade): specifies procedures for opening and closing cargo hold access doors; includes associated GSE requirements if GSE is used for door opening/closing (IGOM safety-critical issue)
CGO 3.2.17, 3.2.18	• Standards: revised specifications for dangerous goods reporting requirements; alignment with DGR
CGO 3.7.2	• Standard: revised specifications for security screening of persons and security control of vehicles; alignment with Annex 17

Summary–Additions/Eliminations (All Sections)	
Standards Eliminated	• Total nine (9) ○ FLT (1) ○ DSP (5) ○ CAB (2) ○ SEC (1)
Standards/Specifications Suspended	• None.
Standards Added	• Total eight (8) ○ ORG (5) (4 upgrades) ○ FLT (1) (upgrade) ○ GRH (2) (upgrades)
Recommended Practices Eliminated	• Total eight (8) ○ ORG (4) (upgrades) ○ FLT (1) (upgrade) ○ DSP (1) ○ GRH (2) (upgrades)

Summary–Additions/Eliminations (All Sections)	
Recommended Practices Added	• Total four (4) ○ ORG (1) ○ MNT (1) ○ CAB (1) ○ GRH (1)
Tables Eliminated	• None
Tables Added	• Total one (1) ○ DSP (1)

Introduction	
Summary of Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (These are changes applied throughout this section but not shown below as individual changes)	• Editorial changes: correction of grammatical discrepancies addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
4 Applicability of ISARPs, Aircraft Applicability	• Technical change: note added to define use of the term 'aircraft' in the ISM
5 Explanation of ISARPs, Notes, Tables and Symbols	• Technical change: description of the <AC> symbol deleted; symbol no longer used in identifiers
13 Conflicting Information IATA Dangerous Goods Regulation (DGR)	• Technical change: ISM publication month revised

Section 1 (ORG)	
Summary of Revisions	
Standards Eliminated	• None
Standards Added	• Five (5): **ORG 1.5.5, ORG 3.3.1** (upgrade), **ORG 3.3.3** (upgrade), **ORG 3.3.4** (upgrade), **ORG 3.3.5** (upgrade)
Recommended Practices Eliminated	• Four (4): **ORG 3.3.1** (upgrade), **ORG 3.3.3** (upgrade), **ORG 3.3.4** (upgrade), **ORG 3.3.5** (upgrade)
Recommended Practices Added	• One (1): **ORG 3.2.2**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this ISM section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos, addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• Editorial change: wording revised for simplification (3rd paragraph)
General Guidance	• None
ORG 1.1.1 Guidance	• Editorial change: term added to IRM reference per ISM convention
ORG 1.1.2	• Relocation within ORG section; previously ORG 1.1.3

ORG 1.1.2 Guidance	• Editorial changes: terms added to IRM references per ISM convention (1st paragraph); wording deleted/revised (8th paragraph)
ORG 1.1.3	• Relocation within ORG section; previously ORG 1.1.4 • Editorial change: use of abbreviation per ISM convention (AOC)
ORG 1.1.4	• Relocation within ORG section; previously ORG 1.1.12
ORG 1.1.10 Guidance	• Editorial changes: term deleted from IRM references per ISM convention (1st paragraph); unnecessary word deleted (5th paragraph)
ORG 1.2.1	• Editorial change: wording revised for alignment with Annex 19 • Editorial change: specifications and guidance from previous ORG 1.2.2 incorporated and combined
ORG 1.2.1 Guidance	• Technical change: IRM reference added • Editorial change: wording revised for improved flow (2nd, 6th paragraphs)
ORG 1.2.2	• Relocation within ORG section; previously ORG 1.2.3
ORG 1.2.3	• Relocation within ORG section; previously ORG 1.3.5
Sub-section 1.3 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 1.3.1 and Guidance	• Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
Sub-section 1.4 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 1.4.1	• Relocation within ORG section; previously ORG 3.2.1A
ORG 1.4.1 Guidance	• Technical change: wording added to describe definition of safety objectives in SMS Framework (2nd paragraph)
ORG 1.4.2	• Relocation within ORG section; previously ORG 3.2.1B • Technical changes: wording revised for alignment with Annex 19; specifications revised to include safety performance targets (SPTs) • Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
ORG 1.4.2 Auditor Actions	• Editorial changes: reference to SPTs added for consistency with revisions in provision (1st, 3rd, 4th, 5th AA steps)
ORG 1.4.2 Guidance	• Technical change: addition to IRM reference • Technical change: reference to SPTS added for alignment with revisions in provision (3rd paragraph) • Technical change: wording added to provide description of SPTs (4th paragraph) • Technical change: wording added to explain why/when setting SPTs might not be appropriate (5th paragraph) • Editorial change: wording deleted from note added to guidance (9th paragraph)
Sub-section 1.5 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 1.5.1	• Relocation within ORG section; previously ORG 1.8.1
ORG 1.5.2	• Relocation within ORG section; previously ORG 1.6.1
ORG 1.5.3	• Relocation within ORG section; previously ORG 1.6.2

ORG 1.5.4	• Relocation within ORG section; previously ORG 1.6.3
ORG 1.5.5	• Standard added; specifies psychoactive substance use policy; provides applicability to personnel that perform safety-critical functions in all operational disciplines; replaces FLT 1.5.8, DSP 1.5.9, CAB 1.2.6, which are all eliminated
ORG 1.5.6	• Relocation within ORG section; previously ORG 1.6.4
Sub-section 1.6 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 1.6.1	• Relocation within ORG section; previously ORG 3.5.1A
ORG 1.6.2	• Relocation within ORG section; previously ORG 3.5.1B
Sub-section 1.7 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 1.7.1	• Relocation within ORG section; previously ORG 4.1.1
ORG 1.7.2	• Relocation within ORG section; previously ORG 4.1.2
ORG 1.7.3	• Relocation within ORG section; previously ORG 4.1.3
ORG 1.7.4	• Relocation within ORG section; previously ORG 4.1.4
ORG 1.7.5	• Relocation within ORG section; previously ORG 4.1.12
ORG 1.7.6	• Relocation within ORG section; previously ORG 4.1.10
ORG 1.7.7	• Relocation within ORG section; previously ORG 4.1.13
ORG 1.7.8	• Relocation within ORG section; previously ORG 4.1.14
ORG 1.7.9	• Relocation within ORG section; previously ORG 4.1.15
ORG 1.7.10	• Relocation within ORG section; previously ORG 4.1.16
ORG 1.7.11	• Relocation within ORG section; previously ORG 4.1.17
ORG 1.7.11 Guidance	• Editorial changes: wording revised per ISM convention
ORG 1.7.12	• Relocation within ORG section; previously ORG 4.1.18
ORG 1.7.12 Guidance	• Technical change: IRM reference deleted as duplication
Sub-section 2 Header	• Editorial change: title wording revised for consistency with the associated provisions in the sub-section
Sub-section 2.1 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 2.1.1	• Relocation within ORG section; previously ORG 3.4.1
ORG 2.1.2	• Relocation within ORG section; previously ORG 3.4.2
ORG 2.1.4	• Relocation within ORG section; previously ORG 3.4.6 • Note removed and revised
ORG 2.1.5	• Relocation within ORG section; previously ORG 3.4.10
ORG 2.1.5 Guidance	• Technical change: reference to IAH added (last paragraph)
ORG 2.1.6	• Relocation within ORG section; previously ORG 3.4.11
ORG 2.1.7	• Relocation within ORG section; previously ORG 3.4.3
ORG 2.1.8	• Relocation within ORG section; previously ORG 3.4.12
ORG 2.1.9	• Relocation within ORG section; previously ORG 3.4.13 • Editorial change: word added for ISM consistency
ORG 2.1.9 Guidance	• Editorial changes: wording revised for accuracy/ISM consistency (1st, 5th paragraphs)
Sub-section 2.2 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow

ORG 2.2.2	• Relocation within ORG section; previously ORG 3.5.2
ORG 2.2.3	• Relocation within ORG section; previously ORG 3.5.4 • Editorial change: [Eff] symbol deleted • Technical change: 'not before' date deleted in first note
ORG 2.2.3 Assessment Tool	• Eliminated • Technical change: effective methodology removed from this provision
ORG 2.2.3 Guidance	• Editorial change: word added for ISM consistency (2nd paragraph)
Sub-section 2.3 Header	• New Header
ORG 2.3.1	• Relocation within ORG section; previously ORG 3.6.1
Sub-section 2.4 Header	• New Header
ORG 2.4.1	• Relocation within ORG section; previously ORG 3.4.14
ORG 2.4.2	• Relocation within ORG section; previously ORG 3.3.5 • Technical change: wording revised to orient the specifications toward risk management programs (rather than flight safety analysis program)
ORG 2.4.3	• Relocation within ORG section; previously ORG 3.1.7
Sub-section 2.5 Header	• New Header
ORG 2.5.1	• Relocation within ORG section; previously ORG 2.1.1
ORG 2.5.2	• Relocation within ORG section; previously ORG 2.1.3
ORG 2.5.3	• Relocation within ORG section; previously ORG 2.1.4
ORG 2.5.4	• Relocation within ORG section; previously ORG 2.1.5
Sub-section 2.6 Header	• New Header
ORG 2.6.1	• Relocation within ORG section; previously ORG 2.2.1
ORG 2.6.2	• Relocation within ORG section; previously ORG 2.2.2
Sub-section 3 Header	• Editorial change: title wording revised for consistency with the associated provisions in the sub-section
Sub-section 3.1 Header	• Editorial change: title wording revised for consistency with the associated provisions that follow
ORG 3.1.1	• Technical change: wording revised; reference to process for prediction of future hazards deleted • Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
ORG 3.1.1 Guidance	• Editorial change: wording deleted from note added to guidance (7th paragraph)
ORG 3.1.2	• Relocation within ORG section; previously ORG 3.1.3 • Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
ORG 3.1.2 Guidance	• Editorial change: wording deleted from note added to guidance (6th paragraph)
ORG 3.1.3	• Relocation within ORG section; previously ORG 3.1.4
ORG 3.1.4	• Relocation within ORG section; previously ORG 3.3.14
ORG 3.1.5	• Relocation within ORG section; previously ORG 3.2.2
ORG 3.1.5 Assessment Tool, Effectiveness Criteria	• Technical changes: order of criteria revised (1st, 2nd effectiveness criteria); wording expanded for alignment with specification in provision (2nd effectiveness criterion)

Sub-section 3.2 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 3.2.1	• Relocation within ORG section; previously ORG 3.1.2 • Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
ORG 3.2.1 Effectiveness Criteria	• Technical change: wording revised to address quantitative and qualitive organizational safety risk tolerability (3rd effectiveness criterion)
ORG 3.2.1 Guidance	• Editorial change: wording deleted from note added to guidance (7th paragraph)
ORG 3.2.2	• Recommenced practice added: specifies process for safety data analysis to predict future risks to aircraft operation; alignment with Annex 19
Sub-section 3.3 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 3.3.1	• Relocation within ORG section; previously ORG 3.7.1 • Standard added: upgraded from recommended practice • Technical change: provision and guidance revised with ISM 14, Revision 1
ORG 3.3.2	• Relocation within ORG section; previously ORG 3.7.2 • Editorial change: (GM) symbol added • Technical change: note deleted
ORG 3.3.2 Auditor Actions	• Technical change: reference to conformity with ORG 3.3.3, 3.3.4, 3.3.5 deleted (former 5th AA step)
ORG 3.3.2 Guidance	• New guidance to address typical elements of conformance
ORG 3.3.3	• Relocation within ORG section; previously ORG 3.7.5 • Technical change: conditional phrase revised; applicability predicated on FDA program in accordance with ORG 3.3.1 • Standard added: upgraded from recommended practice • Technical change: provision and guidance revised with ISM 14, Revision 1
ORG 3.3.4	• Relocation within ORG section; previously ORG 3.7.8 • Technical change: conditional phrase revised; applicability predicated on FDA program in accordance with ORG 3.3.1 • Standard added: upgraded from recommended practice • Technical change: provision and guidance revised with ISM 14, Revision 1
ORG 3.3.5	• Relocation within ORG section; previously ORG 3.7.9 • Technical change: conditional phrase revised; applicability predicated on FDA program in accordance with ORG 3.3.1 • Standard added: upgraded from recommended practice
Sub-section 3.4 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 3.4.1	• Relocation within ORG section; previously ORG 3.1.8
ORG 3.4.1 Guidance	• Editorial change: wording deleted as redundant (4th paragraph); covered in following paragraph
Sub-section 3.5 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 3.5.1	• Relocation within ORG section; previously ORG 3.3.10

ORG 3.5.2	• Relocation within ORG section; previously ORG 3.3.11
Sub-section 3.6 Header	• Editorial change: title wording revised for consistency with the group of associated provisions that follow
ORG 3.6.1	• Relocation within ORG section; previously ORG 3.1.6
ORG 3.6.1 Guidance	• Technical changes: wording added; provides examples of communications technology systems/data used in operations that are subject to potential cyber security threats (2nd paragraph)
ORG 3.7.5 Guidance	• Editorial change: wording revised for ISM consistency
Sub-section 4 Header	• Editorial change: title wording revised for consistency with the associated provisions in the sub-section
Sub-section 4.1 Header	• Editorial change: title wording revised for consistency with the associated provisions that follow
ORG 4.1.1	• Relocation within ORG section; previously ORG 1.5.1 and 1.5.2 • Technical changes: specifications and guidance from ORG 1.5.1 and 1.5.2 incorporated and combined • Editorial change: structure revised to include list of sub-specs
ORG 4.1.1 Guidance	• Technical change: wording added to provide expanded information of management review (1st and 2nd paragraphs)
ORG 4.1.2	• Relocation within ORG section; previously ORG 3.3.3 and 3.4.4 • Technical changes: specifications and guidance from ORG 3.3.3 and 3.4.4 incorporated and combined
Sub-section 4.2 Header	• New Header
ORG 4.2.1	• Relocation within ORG section; previously ORG 1.4.1 and 1.4.2 • Technical changes: specifications and guidance from ORG 1.4.1 and 1.4.2 incorporated and combined
Sub-section 4.3 Header	• New Header
ORG 4.3.1	• Relocation within ORG section; previously ORG 1.6.5
ORG 4.3.1 Guidance	• Technical change: reference to IAH added (6th paragraph) • Editorial changes: wording deleted for accuracy (5th paragraph, 6th, 7th bullet points)
ORG 4.3.2	• Relocation within ORG section; previously ORG 1.6.6 • Editorial change: wording deleted in note and relocated to guidance (appropriate location for such wording)
ORG 4.3.2 Guidance	• Technical change: reference to IAH added (last paragraph) • Editorial change: wording deleted from note added to guidance (last paragraph)
Sub-section 4.4 Header	• New Header
ORG 4.4.1	• Relocation within ORG section; previously ORG 1.7.1

Section 2 (FLT)	
Summary of Revisions	
Standards Eliminated	• One (1): **FLT 1.5.8**
Standards Added	• One (1): **FLT 3.10.8** (upgrade)
Recommended Practices Eliminated	• One (1): **FLT 3.10.8** (upgrade)
Recommended Practices Added	• One (1): **FLT 3.12.6**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this ISM section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• Technical change: reference to provisions with an <AC> symbol deleted
General Guidance	• None
FLT 1.1.2	• Technical change: wording revised (2nd sub-spec) for better consistency with ORG 1.1.3
FLT 1.2.1	• Technical changes: wording in sub-spec (vii), (d) revised to better describe use of GPS for approaches and sub-spec (e) to add “ETOPS/EDTO, as applicable”; second note deleted
FLT 1.2.1 Guidance	• Editorial change: IRM reference revised (EDTO) for accuracy, new reference added (ETOPS) to align with provision (2nd paragraph)
FLT 1.4.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
FLT 1.5.8	• Standard eliminated; psychoactive substance use policy now addressed in ORG 1.5.5
FLT 1.8.1	• Editorial change: wording in sub-spec (iv) revised for consistency with ORG 2.6.1
FLT 1.10.1 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
FLT 1.10.2	• Technical change: wording revised/re-structured for consistency with ORG 2.1.5
FLT 1.10.3	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
FLT 1.10.3 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
FLT 1.10.4	• Editorial changes: wording in core provision and sub-specs (ii) and (iii) revised for consistency with ORG 2.1.7 and other sections
FLT 1.11.2	• Technical change: note revised; improper reference to ISAGO deleted
FLT 1.11.3 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
FLT 1.12.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1
FLT 1.12.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added

FLT 1.12.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
FLT 1.12.5 Guidance	• Technical changes: addition to IRM reference, wording revised to address SPTs (multiple paragraphs)
FLT 2.1.27 Auditor Actions	• Technical change: wording revised to provide additional areas to be checked for evidence of implementation (4th AA step)
FLT 2.1.27 Guidance	• Technical changes: wording added to provide expanded explanatory information
FLT 2.1.47 Guidance	• Technical change: wording added to provide additional explanatory material (3rd paragraph)
FLT 2.2.14 Guidance	• Editorial changes: IRM references corrected
FLT 2.2.24	• Editorial change: <AC> symbol deleted from provision identifier
FLT 2.2.24 Guidance	• Technical change: IRM reference added (1st paragraph)
FLT 2.3.1	• Technical change: wording added; (4th sub-spec) to address inclusion of recency-of-experience requirements in line training qualification program
FLT 2.3.1 Auditor Actions	• Technical changes: wording added to provide additional areas to be checked for evidence of implementation (4th and 7th AA steps)
FLT 2.3.1 Guidance	• Technical change: IRM reference added (1st paragraph) • Technical changes: wording added to recency-of-experience in line qualification program (5th and 6th paragraphs)
FLT 2.4.1	• Technical change: wording added ('if required') to improve accuracy
FLT 3.3.7 Auditor Actions	• Technical change: wording added to provide additional areas to be checked for evidence of implementation (6th AA step)
FLT 3.3.7 Guidance	• Technical change: wording added to address satisfaction of recency-of-experience requirements in line qualification program (3rd paragraph)
FLT 3.3.10	• Technical change: wording revised (2nd sub-spec) to specify completion of training and evaluation in special skills/knowledge required to qualify to conduct flights within areas, on routes over difficult terrain and/or into special airports
FLT 3.7.6 Guidance	• Technical change: wording added to provide clarifying information regarding sub-spec (ii) (a) (3rd paragraph)
FLT 3.8.9	• Editorial change: <AC> symbol deleted from provision identifier • Technical changes: wording added to address transport of cargo in passenger cabin without passengers; second note deleted
FLT 3.9.4 Guidance	• Technical changes: wording deleted/added to provide expanded explanatory information regarding onboard weapons
FLT 3.10.2 Guidance	• Technical change: wording revised; flight plan information corrected (2nd paragraph)
FLT 3.10.5	• Technical change: wording revised to specify a policy and/or procedures (rather than guidance) for monitoring appropriate radio frequencies
FLT 3.10.5 Auditor Actions	• Technical changes: wording revised for consistency with changes in provision (1st AA step)
FLT 3.10.8	• Standard added (upgrade): conditional provision; specifies guidance for flight crews to implement strategic lateral offset procedures (SLOP); applicable to operators that conduct flights in airspace where SLOP is used

FLT 3.10.8 Guidance	• Technical changes: wording added to provide expanded information that addresses implementation of SLOP (all paragraphs)
FLT 3.11.5	• Technical change: wording revised to specify a policy and/or procedures (rather than guidance) for monitoring meteorological conditions
FLT 3.11.5 Guidance	• Technical changes: wording deleted/added to provide expanded explanatory information regarding monitoring meteorological conditions
FLT 3.11.7	• Technical changes: wording revised to specify a policy and/or procedures (rather than guidance) for monitoring fuel during flight; applicability revised to flight crew (rather than PIC)
FLT 3.11.9 Guidance	• Editorial change: wording revised; reference to sub-spec item corrected
FLT 3.11.10	• Technical change: wording revised to include specific reference to ETOPS/EDTO.
FLT 3.11.10 Guidance	• Technical change: wording revised; regulatory reference corrected (3rd paragraph, 4th, 5th bullet points)
FLT 3.11.20	• Editorial changes: wording revised (1st, 2nd sub-specs) for clarity and accuracy
FLT 3.11.20 Guidance	• Technical changes: wording added to provide expanded explanatory information regarding provision sub-specs (i), (ii) and (iii) (2nd, 3rd and 4th paragraphs)
FLT 3.11.50A	• Technical change: wording revised to specify a policy and/or procedures (rather than guidance) for flight crews to restrict rate of descent when operating a low altitudes
FLT 3.11.60	• Technical changes: wording revised/restructured significantly to specify elements of a go-around policy
FLT 3.11.60 Auditor Actions	• Technical changes: AA steps revised for consistency with changes in provision (4th and 5th AA steps)
FLT 3.11.60 Guidance	• Technical changes: wording deleted/added to provide explanatory information that addresses a go-around policy (all paragraphs)
FLT 3.11.62 Guidance	• Technical change: abbreviation AGL revised to AAL for accuracy (1st paragraph)
FLT 3.11.63 Guidance	• Technical change: abbreviation AGL revised to AAL for accuracy (2nd paragraph)
FLT 3.11.68A	• Technical change: wording revised to specify a policy and/or procedures (rather than guidance) for flight crew landing performance assessment
FLT 3.11.68B	• Technical change: wording ‘above airport elevation’ revised to AAL for accuracy
FLT 3.12.5	• Technical change: abbreviation AFE revised to AAL for accuracy
FLT 3.12.6 Placeholder	• Placeholder deleted
FLT 3.12.6	• Recommended practice added; specifies guidance that addresses prevention of runway excursions
FLT 3.12.7	• Technical changes: wording revised to specify guidance that addresses prevention of runway incursions is published or referenced in the OM and includes policies, processes, procedures and flight crew actions
FLT 3.12.7 Guidance	• Technical changes: wording added to provide intent statement and expanded explanatory information that addresses risk management associated with prevention of runway incursion (1st – 4th paragraphs)

FLT 3.13.9	• Editorial changes: <AC> symbol deleted from provision identifier; wording revised to improve accuracy • Technical changes: wording revised: 9G specifications deleted; reference to smoke barrier deleted in note
FLT 3.13.11	• Technical changes: wording revised/added to include opening and closing of cabin access doors; complements CAB 3.2.4A and GRH 3.2.5
FLT 3.13.11 Auditor Actions	• Technical changes: AA steps revised for consistency with changes in provision (1st and 3rd AA steps)
FLT 3.13.11 Guidance	• Technical changes: wording revised/added to provide expanded explanatory information regarding cabin access door arming/disarming and opening closing (all paragraphs)
FLT 3.15.2 Guidance	• Technical change: table of potential reportable flight conditions revised to include unmanned aerial vehicles (last line item)
FLT 3.15.3	• Editorial change: (GM) symbol added
FLT 3.15.3 Guidance	• New guidance material; provides explanatory information regarding accident/incident reporting
FLT 3.15.4	• Editorial change: (GM) symbol added
FLT 3.15.4 Guidance	• New guidance material; provides explanatory information regarding notification/reporting of emergencies
FLT 4.3.5	• Technical change: note added to specify guidance/procedures that address additional supplemental oxygen requirements for flights over high terrain
FLT 4.3.5 Guidance	• Editorial changes: wording revised for clarity/accuracy (2nd paragraph)
Table 2.3	• Technical change: item (iii) revised to include EDTO; item (iv) revised to delete HUD/EVS

Section 3 (DSP)	
Summary of Revisions	
Standards Eliminated	• Five (5): **DSP 1.5.9, DSP 4.6.2, DSP 4.6.4, DSP 4.6.5, DSP 4.6.6**
Standards Added	• None
Recommended Practices Eliminated	• One (1): **DSP 4.6.3**
Recommended Practices Added	• None
Tables added	• One (1): **Table 3.6**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this ISM section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• Technical changes: wording revised/added to address conformity with certain IOSA standards through the use of operational variations that are approved by the State and developed using safety risk management (SRM) processes (3rd and 7th paragraphs)
General Guidance	• None

DSP 1.4.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
DSP 1.4.1 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
DSP 1.5.2 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
DSP 1.5.7	• Technical changes: wording deleted; specifications simplified to address FOO and FOA requirements
DSP 1.5.7 Auditor Actions	• Editorial change: word revised for consistency with changes in provision (2nd AA step)
DSP 1.5.7 Guidance	• Technical change: wording deleted for simplification (last paragraph)
DSP 1.5.8 Placeholder	• Placeholder deleted
DSP 1.5.9	• Standard eliminated; specifications redundant, addressed in other DSP provisions
DSP 1.8.2 Guidance	• Editorial change: wording revised; reference to sub-spec item corrected
DSP 1.10.1 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
DSP 1.10.2	• Technical change: wording revised/re-structured for consistency with ORG 2.1.5
DSP 1.10.3	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
DSP 1.10.3 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
DSP 1.10.4	• Editorial change: wording in core provision and sub-spec (ii) revised for consistency with ORG 2.1.7 and other sections
DSP 1.11.2	• Technical change: note revised; improper reference to ISAGO deleted
DSP 1.11.3 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
DSP 1.12.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1
DSP 1.12.1 Guidance	• Technical changes: wording revised to address hazard identification as an SRM process used in the development of operational variations; ETOPS paired with EDTO for abbreviation consistency (4th paragraph)
DSP 1.12.2 Guidance	• Technical changes: wording added/revised to list of potential hazards to operations; ETOPS paired with EDTO for abbreviation consistency and operational variation approved by the State (3rd paragraph, 11th and 12th bullet points)
DSP 1.12.3	• Technical changes: wording revised to address operational safety reporting as an SRM process used in the development of operational variations; ETOPS paired with EDTO for abbreviation consistency (2nd paragraph)
DSP 1.12.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added
DSP 1.12.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
DSP 1.12.5 Guidance	• Technical changes: wording revised to address SPTs (multiple paragraphs)

DSP 2.3.1 Auditor Actions	• Editorial change: word revised for consistency (2nd AA step)
DSP 2.3.1 Guidance	• Editorial change: wording added; reference to Table 3.5 (2nd paragraph)
DSP 2.3.3 Guidance	• Editorial change: word revised for consistency (1st paragraph)
DSP 2.3.4 Guidance	• Editorial changes: word revised for consistency, ETOPS paired with EDTO for abbreviation consistency (1st, 3rd paragraphs)
DSP 2.4.1 Guidance	• Editorial change: word revised for consistency (1st paragraph)
DSP 3.2.9C Guidance	• Editorial change: wording revised; reference to invalid EC regulation deleted (6th paragraph, 2nd bullet point)
DSP 3.5.2	• Technical change: wording in 1st note revised/deleted to specify that variations to aircraft tracking automated reporting intervals are managed using a risk management processes
DSP 3.5.2 Guidance	• Technical changes: wording revised to provide information that addresses/describes the use of risk management processes (multiple paragraphs)
DSP 3.5.3	• Technical change: wording in 2nd note revised/deleted to specify that variations to aircraft tracking automated reporting intervals are managed using a risk management processes
DSP 3.5.3 Guidance	• Technical changes: wording revised to provide information that addresses/describes the use of risk management processes (multiple paragraphs)
DSP 3.6.5B Guidance	• Technical changes: wording revised; ETOPS paired with EDTO for abbreviation consistency (last paragraph)
DSP 3.7.2	• Technical changes: wording revised/restructured to include requirement to make flight-in-distress position information available to appropriate organizations as established by the State
DSP 3.7.2 Guidance	• Technical changes: IRM reference added; wording revised to expand information that addresses aircraft distress reporting (all paragraphs)
Sub-section 4, General Guidance	• Technical changes: wording added/deleted to provide expanded information that addresses/describes processes for the development of operational variations to specifications in certain IOSA standards (all paragraphs and table line items)
DSP 4.1.1	• Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.1.1 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, 6th – 8th AA steps)
DSP 4.1.1 Guidance	• Technical changes: IRM reference added; wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (1st and 6th -10th paragraphs)
DSP 4.1.2	• Technical change: wording in note revised to address conformity with the standard through operational variations provided each variation is subjected SRM processes and safety performance monitoring
DSP 4.1.2 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.1.2 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)

DSP 4.1.4	• Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.1.4 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.1.4 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (9th – 13th paragraphs)
DSP 4.1.5	• Technical change: wording in 2nd note revised to address conformity with the standard through operational variations
DSP 4.1.5 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.1.5 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (9th – 13th paragraphs)
DSP 4.2.3	• Technical change: PCO expiry date extended to 31 August 2023
DSP 4.3.5	• Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.3.5 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.5 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.3.6	• Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.3.6 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.6 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.3.7	• Editorial changes: [PCO] symbols deleted • Technical change: wording added (6th sub-spec) to specify an optional minimum amount of contingency fuel that is based on a statistical method that ensures an appropriate statistical coverage of the deviation from the planned to the actual trip fuel • Technical changes: notes deleted/added to further define minimum amounts of contingency fuel as specified in sub-specs (iv), (v) and (vi) and to address conformity with the standard through operational variations
DSP 4.3.7 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.7 Guidance	• Technical changes: wording revised/added to account for new sub-spec in provision and to provide information that addresses development of operational variations through the use of SRM processes (3rd, 4th, 6th – 10th paragraphs)
DSP 4.3.8	• Technical change: wording in 2nd note revised to address conformity with the standard through operational variations

DSP 4.3.8 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.8 Guidance	• Technical changes: wording added to provide information that addresses development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.3.9	• Technical change: wording in 2nd note revised to address conformity with the standard through operational variations
DSP 4.3.9 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.9 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.3.10	• Technical change: wording in 3rd note revised to address conformity with the standard through operational variations
DSP 4.3.10 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.10 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (2nd – 6th paragraphs)
DSP 4.3.11	• Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.3.11 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.11 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.3.12	• Technical changes: wording revised to simplify the specifications; PCO deleted
DSP 4.3.12 Guidance	• Technical change: wording revised to address definition of final reserve fuel requirements in accordance with requirements of the Authority (3rd – 7th paragraphs)
DSP 4.3.13	• Technical change: wording revised (2nd sub-spec) to address additional fuel requirements in accordance with the State or operator • Technical change: wording in note revised to address conformity with the standard through operational variations
DSP 4.3.13 Auditor Actions	• Technical changes: action steps revised to include actions for collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.3.13 Guidance	• Technical changes: wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.4.1	• Editorial changes: wording revised to improve accuracy
DSP 4.4.1 Guidance	• Technical change: wording added to identify PIC responsibility for the carriage of supplemental oxygen
Sub-section 4.5 Header	• Editorial change: title wording revised; ETOPS paired with EDTO for abbreviation consistency

DSP 4.5.1 Guidance	• Technical change: wording revised; regulatory reference corrected (2nd paragraph, 5th, 6th bullet points)
DSP 4.5.2	• Technical change: wording in conditional phrase revised to provide greater specificity
DSP 4.5.3	• Technical change: wording revised; ETOPS paired with EDTO for abbreviation consistency
DSP 4.5.4	• Technical change: wording added (3rd sub-spec) to define most limiting EDTO-significant system time limitation as and EDTO limitation • Technical changes: notes added to address conformity with the standard through operational variations and to provide a reference to ORG 3.4.1 and DSP 4.5.5 for cargo compartment fire suppression limitation exceedances
DSP 4.5.4 Auditor Actions	• Technical changes: action steps added to include collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.5.4 Guidance	• Technical changes: IRM reference added; wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
DSP 4.5.5	• Technical change: wording added (3rd sub-spec) to define most limiting EDTO-significant system time limitation as and EDTO limitation • Technical changes: notes added to address conformity with the standard through operational variations and to provide a reference to ORG 3.4.1 and DSP 4.5.5 for cargo compartment fire suppression limitation exceedances
DSP 4.5.5 Auditor Actions	• Technical changes: action steps added to include collection of evidence needed to assess conformance through operational variation(s) (header, multiple AA steps)
DSP 4.5.5 Guidance	• Technical changes: IRM reference added; wording added to provide information that addresses/describes development of operational variations through the use of SRM processes (3rd – 7th paragraphs)
Sub-section 4.6 Header	• Header deleted
Sub-section 4.6, General Guidance	• General guidance eliminated; information revised and incorporated in general guidance for sub-section 4
DSP 4.6.1 Placeholder	• Placeholder deleted
DSP 4.6.2	• Standard eliminated; auditor actions and guidance material revised and incorporated in other individual provisions in sub-section 4
DSP 4.6.3	• Recommended practice eliminated; auditor actions and guidance material revised and incorporated in other individual provisions in sub-section 4
DSP 4.6.4	• Standard eliminated; auditor actions and guidance material revised and incorporated in other individual provisions in sub-section 4
DSP 4.6.5	• Standard eliminated; auditor actions and guidance material revised and incorporated in other individual provisions in sub-section 4
DSP 4.6.6	• Standard eliminated; auditor actions and guidance material revised and incorporated in other individual provisions in sub-section 4
Table 3.3	• Editorial change: wording revised (7th sub-spec); ETOPS paired with EDTO for abbreviation consistency

Table 3.5	• Technical change: complete table revision to address competencies of operational control
Table 3.6	• Table added: contains guidance material that addresses the development of operational control competency course syllabi

Section 4 (MNT)	
Summary of Revisions	
Standards Eliminated	• None
Standards Added	• None
Recommended Practices Eliminated	• None
Recommended Practices Added	• One (1): **Table 4.14 (i)**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• None
General Guidance	• None
MNT 1.1.2 Guidance	• Technical change: addition to IRM reference
MNT 1.1.3	• Technical change: wording revised (1st sub-spec) for better consistency with ORG 1.1.3
MNT 1.3.2 Guidance	• Technical change: wording revised for accuracy; Design Approval Holder (DAH) instead of Task Card Holder (3rd paragraph)
MNT 1.5.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
MNT 1.6.3 Auditor Actions	• Technical change: wording revised to improve accuracy (3rd AA step)
MNT 1.8.1	• Editorial changes: sub-specs wording, order revised, re-ordered for consistency with ORG 2.6.1
MNT 1.8.2	• Editorial change: wording revised for consistency with ORG 2.6.2
MNT 1.10.1	• Editorial changes: wording in sub-specs (iii) and (iv) revised for consistency with ORG 2.1.1
MNT 1.10.2	• Editorial changes: wording in core provision and sub-spec (i) revised for consistency with ORG 2.1.7 and other sections
MNT 1.10.3	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
MNT 1.11.7	• Technical change: wording revised; reference to external maintenance organizations for consistency with other provisions in sub-section • Editorial changes: word endings revised for consistency with change to plural term external maintenance organizations
MNT 1.11.8	• Editorial change: wording revised for better consistency with ORG 2.2.2
MNT 1.12.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1

MNT 1.12.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added
MNT 1.12.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
MNT 1.12.5 Guidance	• Technical changes: addition to IRM reference; wording revised to address SPTs (multiple paragraphs)
MNT 2.4.2	• Technical changes: wording revised to improve technical accuracy
MNT 2.4.2 Auditor Actions	• Technical changes: action steps revised/added for consistency with revisions to provision;
MNT 2.4.2 Guidance	• Technical changes: addition to IRM reference; wording revised for consistency with provision
MNT 2.7.1	• Technical changes: wording revised to improve technical accuracy • Editorial change: sub-specs (i) and (ii) exchanged for ordering accuracy
MNT 2.7.1 Auditor Actions	• Technical changes: action steps revised/added for consistency with revisions to provision;
MNT 2.8.1 Auditor Actions	• Technical change: ETOPS paired with EDTO for abbreviation consistency (3rd AA step)
MNT 2.9.1 Guidance	• Technical changes: wording revised to improve technical accuracy (1st, 6th paragraphs); wording added to address FDR/CVR operational checking in the absence of requirements from the Authority and manufacturer
MNT 2.9.2 Guidance	• Technical changes: wording revised to improve technical accuracy (2nd, 5th paragraphs) • Editorial changes: wording revised to improve grammar (2nd paragraph)
MNT 3.2.2 Auditor Actions	• Technical change: missing AA step added (2nd AA step)
MNT 4.2.2 Guidance	• Editorial change: wording revised; verb added to provide complete sentence (1st paragraph)
Table 4.11 (vii)	• Technical changes: ELT specifications; wording revised for alignment with Annex 6; note restored to address ELT equipage for certain international flights
Table 4.11 (xiv)	• Editorial changes: CVR specifications and note; reference to Table 4.12 relocated from note to requirement column; word ‘utilized’ in note replaced by ‘used’ for ISM word usage consistency • Technical change: AI option expired; AI note deleted
Table 4.11 (xv)	• Editorial change: DLR note: symbol for Active Implementation (AI) corrected • Technical change: AI option expired; AI note deleted
Table 4.11 (xix)	• Technical change: wording added to improve accuracy (3rd column, Applicability) • Technical changes: passenger seating specifications revised to provide a minimum number of required megaphones (4th column, Requirements) • Technical change: AI note deleted; no longer applicable (5th column)
Table 4.11 (xxx)	• Technical changes: ADT system specifications and note; individual aircraft CoA date revised to 1 January 2023 for alignment with Annex 6; AI expiry date in note revised to 1 January 2025
Table 4.12 (iii)	• Technical change: PBE installation guidance; wording added to explain the meaning of the term ‘adjacent’

Table 4.12 (xv)	• Technical change: DLR guidance; wording added to define the term 'applicable data link messages'
Table 4.12 (xiii)	• Editorial change: cargo compartment fire detection/suppression system specifications; wording deleted to eliminate duplication
Table 4.12 (xix)	• Technical change: wording added to provide an intent statement, address possibility of a more restrictive regulatory requirement (2nd paragraph)
Table 4.14 (i)	• Recommended practice added; specifies an automatic ELT carried on board all aircraft
Table 4.14 (iv)	• Editorial change: flight deck door specifications; word 'utilized' replaced by 'used' for ISM word usage consistency
Table 4.14 (v)	• Technical change: DLR specifications; wording added for alignment with Annex 6
Table 4.14 (vi)	• Technical change: ADT system specifications and note; individual aircraft CoA date revised to 1 January 2023 for alignment with Annex 6; AI expiry date in note revised to 1 January 2025
Table 4.15 (v)	• Technical change: wording added to define the term 'applicable data link messages'

Section 5 (CAB)	
Summary of Revisions	
Standards Eliminated	• Two (2): **CAB 1.2.6, CAB 3.4.3**
Standards Added	• None
Recommended Practices Eliminated	• None
Recommended Practices Added	• One (1): **CAB 3.2.4A**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• None
General Guidance	• None
CAB 1.1.2	• Technical change: wording revised (3rd sub-spec) for better consistency with ORG 1.1.3
CAB 1.2.4 Guidance	• Editorial change: word revised for consistency in ISM word usage (2nd paragraph)
CAB 1.2.6	• Standard eliminated; psychoactive substance use policy now addressed in ORG 1.5.5
CAB 1.3.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
CAB 1.7.1	• Editorial changes: wording in sub-specs (iv) and (vi) revised for consistency with ORG 2.6.1
CAB 1.9.1	• Editorial change: wording in sub-specs (iii) revised for consistency with ORG 2.1.1

CAB 1.9.2	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
CAB 1.9.2 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
CAB 1.9.3	• Editorial changes: wording in core provision and sub-spec (iii) revised for consistency with ORG 2.1.7 and other sections
CAB 1.10.1A Auditor Actions	• Technical change: improper audit step deleted (4th AA step)
CAB 1.10.2	• Technical change: note revised; improper reference to ISAGO deleted
CAB 1.10.4 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
CAB 1.11.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1
CAB 1.11.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added
CAB 1.11.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
CAB 1.11.5 Guidance	• Technical changes: addition to IRM reference, wording revised to address SPTs (multiple paragraphs)
CAB 2.2.1	• Technical change: wording added to specify cabin crew training in basic subjects as part of the cabin crew initial training course • Technical change: conformance applicability table deleted
CAB 3.2.4A	• Recommended practice added; specifies procedures for opening and closing of cabin access doors; complements FLT 3.13.11 and GRH 3.2.5
CAB 3.2.4B	• Editorial change: Suffix ‘B’ added to provision identifier
CAB 3.3.1 Guidance	• Editorial change: wording revised with reference to provide greater specificity (last paragraph)
CAB 3.3.2 Guidance	• Editorial change: wording revised with reference to provide greater specificity (2nd paragraph)
CAB 3.4.3	• Standard eliminated; specifications integrated in CAB 3.4.13
CAB 3.4.13	• Technical changes: wording revised/restructured; specifications from eliminated CAB 3.4.3 integrated
CAB 3.4.13 Guidance	• Technical change: wording deleted/added to provide expanded information related to procedures for cabin crew delivery of oxygen to passengers (all paragraphs)
CAB 3.4.14	• Technical changes: wording revised to add non-acceptance to specification for policy that addresses passengers that have the potential need for supplementary oxygen
CAB 3.4.14 Auditor Actions	• Technical changes: wording revised/expanded for consistency with changes in the provision (1st, 3rd AA steps)
CAB 3.4.14 Guidance	• Editorial changes: wording deleted/revised for simplification (1st, 3rd paragraphs)

Section 6 (GRH)	
Summary of Revisions	
Standards Eliminated	• None
Standards Added	• Two (2): **GRH 3.2.6A** (upgrade), **GRH 3.2.6B** (upgrade)
Recommended Practices Eliminated	• Two (2): **GRH 3.2.6A** (upgrade)**, GRH 3.2.6B** (upgrade)
Recommended Practices Added	• One (1)**: GRH 3.2.5**
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• None
General Guidance	• None
GRH 1.1.2	• Technical change: wording revised (3rd sub-spec) for better consistency with ORG 1.1.3
GRH 1.1.2 Auditor Actions	• Editorial change: wording added to tailor action step to ground handling operations (2nd AA step)
GRH 1.2.1 Auditor Actions	• Technical change: evidence discovery focus statement added (3rd AA step)
GRH 1.2.2 Auditor Actions	• Editorial changes: wording revised for consistency of terminology (1st, 3rd AA steps)
GRH 1.3.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
GRH 1.6.4 Guidance	• Technical change: DGR reference corrected.
GRH 1.6.5	• Technical change: wording added to complement intent of GRH 1.6.4; provision applicable to operator that does not transport dangerous goods ‘as cargo’
GRH 1.6.5 Auditor Actions	• Technical changes: wording revised to be consistent with specifications in the provision (1st, 4th AA steps)
GRH 1.6.5 Guidance	• Technical changes: wording added/revised to provide explanatory information relevant to an operator that does not transport dangerous goods as cargo
GRH 1.6.6 Guidance	• Editorial changes: wording added to improve clarity (2nd paragraph)
GRH 1.6.7 Guidance	• Technical change: IGOM reference revised
GRH 1.6.8 Guidance	• Technical change: IGOM reference revised (last paragraph)
GRH 1.6.9	• Editorial change: ORG repeat symbol deleted
GRH 1.6.9 Guidance	• Technical changes: wording revised for consistency with provision; reference to IGOM gap analysis checklist and associated video tutorial added (1st, 3rd paragraphs)
GRH 1.7.1	• Editorial change: wording in sub-spec (vi) revised for consistency with ORG 2.6.1
GRH 1.7.2	• Editorial change: wording revised for consistency with ORG 2.6.2 and other sections
GRH 1.9.1	• Editorial change: wording revised in sub-spec (iii) for consistency with ORG 2.1.1

GRH 1.9.2	• Editorial changes: wording in core provision and sub-specs (i) and (iii) revised for consistency with ORG 2.1.7 and other sections
GRH 1.9.3	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
GRH 1.10.1A Auditor Actions	• Technical change: improper audit step deleted (4th AA step)
GRH 1.10.2 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
GRH 1.10.3 Auditor Actions	• Technical change: evidence discovery focus statement added (3rd AA step)
GRH 1.10.3 Guidance	• Editorial change: ORG reference re-located for consistency (last paragraph)
GRH 1.11.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1
GRH 1.11.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added
GRH 1.11.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
GRH 1.11.5 Guidance	• Technical changes: wording revised to address SPTs (multiple paragraphs)
GRH 2.1.1 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 2.2.1 Auditor Actions	• Technical change: action step added; examination of re-qualification training records (5th AA step)
GRH 2.1.3 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 2.1.4 Auditor Actions	• Technical change: wording added to include requalification training (3rd AA step)
GRH 2.2.3 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 2.2.4 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 2.2.5 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 2.2.6 Auditor Actions	• Technical change: wording added to include requalification training (3rd and 4th AA steps)
GRH 3.1.2 Auditor Actions	• Technical change: action step added; examination of reports of prohibited dangerous goods possessed by passenger (4th AA step)
GRH 3.1.2 Guidance	• Technical change: IGOM reference revised
GRH 3.1.3 Auditor Actions	• Technical change: action step added; examination of documents of accepted battery-operated mobility aids (4th AA step)
GRH 3.1.6 Guidance	• Technical change: IGOM reference added (last paragraph)
GRH 3.2.1 Guidance	• Editorial change: wording deleted as repetitive (former 3rd paragraph) • Technical change: IGOM reference revised (5th paragraph)
GRH 3.2.3 Guidance	• Technical changes: one IGOM reference deleted (1st paragraph); wording added to provide explanatory information regarding the post aircraft arrival exterior inspection procedure
GRH 3.2.5	• Recommended practice added; specifies procedures for opening and closing of cabin access doors; complements FLT 3.13.11 and CAB 3.2.4A

GRH 3.2.6A	• Standard added (upgrade); IGOM safety-critical issue • Technical changes: wording revised to complement GRH 3.2.5, which specifies procedures for cabin access door opening/closing • Editorial change: upgrade note deleted
GRH 3.2.6A Auditor Actions	• Technical change: wording revised for consistency with revision to provision; reference to GSE positioning at cabin access doors (1st AA step)
GRH 3.2.6A Guidance	• Editorial changes: wording replaced for consistency with changes to provision (1st, 3rd paragraphs) • Technical changes: wording added to address exceptions when cabin access doors may be open without GSE positioned outside (2nd paragraph); IGOM reference added (last paragraph)
GRH 3.2.6B	• Standard added (upgrade); IGOM safety-critical issue • Editorial change: upgrade note deleted
GRH 3.2.7 Guidance	• Technical change: IGOM reference corrected (2nd paragraph, 1st bullet point)
GRH 3.2.8 Guidance	• Technical change: wording revised to add clarifying information that addresses the check of landing gear safety pins not installed during walkaround, inspection prior to aircraft departure (2nd paragraph)
GRH 3.3.2 Auditor Actions	• Technical changes: wording added to include aircraft type and actual configuration in weight/balance calculations (4th AA step)
GRH 3.3.2 Guidance	• Technical changes: additions to IRM references (1st paragraph); wording added to provide information regarding weight/balance calculations for combi aircraft (10th paragraph)
GRH 3.3.3 Auditor Actions	• Technical change: evidence discovery focus statement added (1st AA step)
GRH 3.3.4 Auditor Actions	• Technical change: reference to NOTOC added; evidence discovery focus statement added (2nd AA step)
GRH 3.3.6 Auditor Actions	• Technical change: evidence discovery focus statement added (1st AA step)
GRH 3.4.3 Auditor Actions	• Technical changes: wording revised to include transport of dangerous goods to aircraft and loading/securing of dangerous goods on aircraft (1st, 3rd, 4th AA steps)
GRH 3.4.3 Guidance	• Technical changes: second DGR reference added (first paragraph); IGOM reference added (last paragraph)
GRH 3.4.10 Auditor Actions	• Technical change: wording revised for accuracy (1st AA step)
GRH 3.4.11 Auditor Actions	• Technical change: wording revised for accuracy (1st, 3rd AA steps)
GRH 3.4.14 Guidance	• Technical change: IGOM reference added (last paragraph)
GRH 3.4.15 Auditor Actions	• Editorial changes: wording revised for accuracy (4th AA step)
GRH 3.4.16 Auditor Actions	• Editorial changes: wording revised for accuracy (1st, 3rd AA steps)
GRH 3.4.17 Auditor Actions	• Editorial changes: wording revised for accuracy (1st, 3rd AA steps)
GRH 3.5.1 Auditor Actions	• Editorial changes: wording revised for accuracy (3rd, 4th AA steps)
GRH 3.5.2 Auditor Actions	• Technical change: evidence discovery focus statement added (3rd AA step)
GRH 3.6.1 Auditor Actions	• Technical change: action step added; examination of records of ERP exercises (4th AA step)
GRH 3.6.1 Guidance	• Technical change: IGOM reference deleted (last paragraph)
GRH 3.6.2 Guidance	• Technical change: IGOM reference revised

GRH 3.6.3 Guidance	• Technical changes: IGOM reference revised; AHM references added.
GRH 3.6.4 Auditor Actions	• Technical change: evidence discovery focus statement added (3rd AA step)
GRH 3.6.5 Auditor Actions	• Technical change: action step added; examination of dangerous goods accident/incident reporting records (4th AA step)
GRH 3.7.1	• Editorial change: wording revised for terminology consistency
GRH 3.7.2 Auditor Actions	• Technical change: wording revised to include aircraft security searches for locating prohibited items; evidence discovery focus statement added (1st AA step)
GRH 3.7.3 Auditor Actions	• Technical changes: wording revised to better align with specifications in provisions (1st, 3rd AA steps)
GRH 3.7.5 Auditor Actions	• Technical change: action step added; examination of records that describe PIC notification of weapons on board (3rd AA step)
GRH 3.7.6 Auditor Actions	• Technical changes: action step added; identified/assessed methods used to notify the PIC for passengers on board that are the subject of judicial or administrative proceedings (2nd AA step); wording revised to better align with specifications in provisions (3rd AA step)
GRH 3.7.7 Auditor Actions	• Editorial change: wording revised to improve intent (4th AA step)
GRH 4.1.2	• Technical changes: wording revised to better align with Annex 17; (2nd sub-spec) to expand the specification of qualified persons on board the aircraft
GRH 4.1.2 Guidance	• Technical change: wording revised for accuracy (4th paragraph) • Technical changes: wording added to provide expanded information regarding the roles/responsibilities of operational personnel potentially involved during aircraft fueling with passengers on board (6th, 7th paragraphs)
GRH 4.1.7 Auditor Actions	• Technical change: wording revised for accuracy (1st AA step)
GRH 4.2.1 Auditor Actions	• Technical changes: evidence discovery focus statements added (1st, 3rd, 4th AA steps)
GRH 4.2.3 Auditor Actions	• Technical changes: evidence discovery focus statement added (3rd AA step)
GRH 4.2.4 Auditor Actions	• Technical change: action step revised; examination of records/reports resulting from monitoring/supervision of aircraft de-/anti-icing and an evidence discovery focus statement (4th AA step)
GRH 4.2.5 Auditor Actions	• Technical changes: action step added; examination of records/reports of quality control inspection and evidence discovery focus statement (3rd AA step)

Section 7 (CGO)	
Summary of Revisions	
Standards Eliminated	• None
Standards Added	• None
Recommended Practices Eliminated	• None
Recommended Practices Added	• None
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this section but are not shown individually below)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability Box	• None
General Guidance	• None
CGO 1.1.2	• Technical change: wording revised (3rd sub-spec) for better consistency with ORG 1.1.3
CGO 1.2.2 Auditor Actions	• Editorial changes: wording revised for consistency of terminology (1st, 3rd AA steps)
CGO 1.3.1	• Technical changes: wording revised/re-structured for consistency with ORG 4.2.1
CGO 1.7.1	• Editorial changes: wording in sub-specs (iv) and (vi) revised for consistency with ORG 2.6.1
CGO 1.7.2	• Editorial change: wording revised for consistency with ORG 2.6.2 and other sections
CGO 1.9.1	• Editorial change: wording revised in sub-spec (iii) for consistency with ORG 2.1.1
CGO 1.9.2	• Editorial changes: wording in core provision and sub-specs (ii) and (iii) revised for consistency with ORG 2.1.7 and other sections
CGO 1.9.3	• Editorial changes: wording revised for consistency with ORG 4.1.2 and other sections
CGO 1.10.1A Auditor Actions	• Technical change: improper audit step deleted (4th AA step)
CGO 1.11.1	• Technical changes: wording revised/re-structured for consistency with ORG 3.1.1
CGO 1.11.5	• Technical changes: wording revised for consistency with ORG 1.4.1 and 1.4.2; reference to SPTs added
CGO 1.11.5 Auditor Actions	• Technical changes: wording revised for consistency with revisions to provision; reference to SPTs added (1st, 3rd, 4th AA steps)
CGO 1.11.5 Guidance	• Technical changes: wording revised to address SPTs (multiple paragraphs)
CGO 2.2.2 Guidance	• Editorial change: wording revised to correct typo (3rd paragraph)
CGO 3.2.17	• Technical changes: wording revised/re-structured to reflect changes to dangerous goods reporting requirements; alignment with DGR • Editorial change: (GM) symbol added
CGO 3.2.17 Auditor Actions	• Editorial changes: wording revised for consistency with revised specifications in provision (1st, 3rd AA steps); (GM) symbol added

CGO 3.2.17 Guidance	• New guidance.
CGO 3.2.18	• Technical changes: wording revised to reflect changes to reporting requirements for dangerous goods discovered as having been transported not in accordance with the DGR and/or not having been reported to the PIC; alignment with DGR • Editorial change: (GM) symbol added
CGO 3.2.18 Guidance	• New guidance
CGO 3.7.2	• Technical changes: wording revised to address procedures for the security screening of persons/control of vehicles in accordance with requirements of the applicable civil aviation security program; alignment with Annex 17

Section 8 (SEC)	
Summary of Revisions	
Standards Eliminated	• One (1): **SEC 3.4.2**
Standards Added	• None
Recommended Practices Eliminated	• None
Recommended Practices Added	• None
Revisions	
Area Changed	**Description of Change(s)**
Group Revisions (Changes that are applied multiple times throughout this section but are not shown individually below.)	• Technical changes: revision/update of numerous references to individual ORG provisions resulting from ORG section restructure • Editorial changes: correction of grammatical discrepancies, minor typos; addition/deletion of commas, periods, hyphens, apostrophes, semicolons or spaces
Applicability box	• None
General Guidance	• None
SEC 1.2.1 Guidance	• Editorial change: word revised for consistency in ISM word usage (6th paragraph)
SEC 1.4.1	• Technical changes: wording revised for consistency with ORG 4.2.1 (not a repeated ORG provision)
SEC 3.1.3 Guidance	• Technical changes: IRM reference added (1st paragraph); wording added to include authorized supernumeraries (2nd paragraph)
SEC 3.3.1	• Technical change: word 'passenger' deleted; onboard weapon policy applicable to all flights • Editorial change: wording revised for alignment with complementary FLT provision
SEC 3.3.1 Guidance	• Technical changes: wording deleted/added to provide expanded explanatory information regarding onboard weapons (1st – 5th paragraphs) • Editorial change: wording revised; use of 'shall' replaced for consistency in ISM word usage (last paragraph)
SEC 3.3.3	• Technical change: wording added (1st sub-spec) to specify that the passenger is authorized to declare a weapon not loaded
SEC 3.3.3 Guidance	• Editorial changes: wording revised; typo corrected, non-relevant wording deleted (1st paragraph, 4th, 5th bullet points)

SEC 3.4.1	• Technical change: note added; states supernumeraries that require a flight reservation are subject to security screening in accordance with the specifications in the provision
SEC 3.4.1 Auditor Actions	• Technical changes: wording added; reference to supernumeraries included for consistency with changes to specifications in provision (1st and 2nd AA steps)
SEC 3.4.2 Placeholder	• New placeholder
SEC 3.4.2	• Standard eliminated: security screening of supernumeraries now addressed in new note in SEC 3.4.1
SEC 3.4.6 Guidance	• Technical change: wording added to provide information on behavior detection methods (3rd paragraph) • Editorial change: wording revised for consistency in ISM word usage (3rd paragraph)
SEC 3.6.6 guidance	• Technical change: wording revised; information expanded for alignment with specifications in provision (2nd paragraph)

Introduction

1 Purpose

The IOSA Standards Manual (ISM) is published in order to provide the IOSA standards, recommended practices (ISARPs), associated guidance material and other supporting information necessary for an operator to successfully prepare for an audit.

The ISM is the sole source of assessment criteria to be used by auditors when conducting an audit against the ISARPs.

The ISM may also be used as a guide for any operator desiring to structure its operational management and control systems in conformity with the latest industry operational practices.

2 Structure

The ISM is organized as follows:

- Section 1 → Organization and Management System (ORG);
- Section 2 → Flight Operations (FLT);
- Section 3 → Operational Control and Flight Dispatch (DSP);
- Section 4 → Aircraft Engineering and Maintenance (MNT);
- Section 5 → Cabin Operations (CAB);
- Section 6 → Ground Handling Operations (GRH);
- Section 7 → Cargo Operations (CGO);
- Section 8 → Security Management (SEC).

Each section in this Manual is assigned an associated 3-letter identifier (in parentheses above). The reference number for every standard or recommended practice within a section includes the specific 3-letter identifier for that section (e.g. ORG 1.1.1).

3 Sources for IOSA Standards and Recommended Practices (ISARPs)

The safety and security requirements published in the Annexes to the Convention on International Civil Aviation (ICAO Annexes) are the primary source for specifications contained in the ISARPs. Safety and security requirements in the ICAO Annexes used as the basis for ISARPs are those that are applicable either directly or indirectly to the air operator.

4 Applicability of ISARPs

Applicability Guidance

To provide guidance to operators, an Applicability box is found at the beginning of each section of this manual. Within the box is a general description of the applicability of the ISARPs contained in the section.

The applicability of individual standards or recommended practices is always determined by the auditor. As a means to assist with the interpretation of individual application, many ISARPs begin with a *conditional phrase* as described below.

Systemic Applicability

When making a determination as to the applicability of individual ISARPs, it is important to take into account operations (relevant to the individual standard or recommended practice) that are conducted within stations and locations throughout the operator's network.

Aircraft Applicability

☐ **Note:** The term aircraft as used throughout the ISM refers to fixed wing aircraft (airplane, aeroplane).

The ISARPs as published in this version of the ISM are applicable only for the audit of an operator that *operates* a minimum of one (i.e. one or more) multi-engine, two-pilot aircraft with a maximum certificated takeoff mass in excess of 5,700 kg (12,566 lb) to conduct:

- Passenger flights with or without cabin crew.
- Cargo flights with or without the carriage of passengers or supernumeraries.

ISARPs may not be applied or used for the Audit of an operator that **either**:

- Does not *operate* a minimum of one aircraft as specified above, **or**
- Has *all* aircraft operations conducted by another operator.

ISARPs may not be applied or used for the Audit of operations that are conducted with:

- Aircraft that have a maximum certificated takeoff mass of 5,700 kg (12,566 lb) or less;
- Single engine aircraft;
- Piston engine aircraft;
- Single pilot aircraft;
- Helicopters;
- Seaplanes.

During an audit, ISARPs are applied only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) and used in commercial passenger and/or cargo operations. Certain ISARPs are also applicable to non-commercial operations, and such application is indicated in a note that is part of the standard or recommended practice.

Other owned or leased aircraft that are *not* of the type authorized in the AOC and/or not used in commercial air transport operations will not be evaluated during an audit. However, the existence of such aircraft will be referenced with an explanation in the IOSA Audit Report (IAR).

Systems and Equipment Applicability

Aircraft that meet the above-specified aircraft applicability criteria are assessed for conformity with the applicable aircraft and cabin systems and equipment specifications contained in ISM Section 4 (MNT), Table 4.11 to Table 4.14.

5 Explanation of ISARPs

ISARPs contained in this manual have been developed for use under the IOSA program and contain the operational criteria upon which the audits are based. ISARPs are *not* regulations.

ISARPs Identifiers

All ISM provisions (i.e. the ISARPs) are preceded by an identifier that consists of the three-letter section abbreviation and a string of three numbers separated by two decimal points (e.g. ORG 1.1.1).

Stabilization of the ISARPs identifiers is an important goal, primarily for facilitating use of the ISARPs by operators, auditors and others, but also for the purpose of ensuring an accurate statistical basis. Therefore, when revising the ISM, every effort is made to minimize any re-numbering of the ISARPs.

In certain instances, new provisions must be inserted into an existing series of ISARPs. Normally this is done when it is important that the new provision has a logical locational relationship with another existing provision. When this occurs, an additional upper-case letter is attached to the identifier of the applicable provisions as the means of avoiding the re-numbering of other ISARPs that follow in the series.

For example, when a new FLT provision was developed to address AQP/ATQP, its logical location was immediately following the existing FLT 2.1.1, which contains the core flight crew training program specifications. The new provision was inserted immediately under FLT 2.1.1, and the two provisions became FLT 2.1.1A and FLT 2.1.1B. The addition of upper-case letters to the identifiers of those two provisions precluded the need to renumber all of the other ISARPs that follow in that series.

Standards

IOSA **Standards** are specified systems, policies, programs, processes, procedures, plans, sets of measures, facilities, components, types of equipment or any other aspect of operations under the scope of IOSA that have been determined to be an operational necessity, and with which an operator will be expected to be in conformity at the conclusion of an audit.

Standards always contain the word “shall” (e.g. “The Operator shall have a process…”) in order to denote that conformance by an operator being audited is a requirement for IOSA registration.

During an audit, determination of nonconformity with specifications contained in an IOSA Standard results in a Finding, which in turn results in the generation of a Corrective Action Report (CAR).

To close a Finding, an operator will develop a Corrective Action Plan (CAP), and then implement corrective action in accordance with the CAP.

Recommended Practices

IOSA **Recommended Practices** are specified systems, policies, programs, processes, procedures, plans, sets of measures, facilities, components, types of equipment or any other aspects of operations under the audit scope of IOSA that have been determined to be operationally desirable, but conformance is optional by an operator. Recommended Practices always contain the italicized word “*should*” (e.g. “The Operator *should* have a policy…”) to denote conformance is optional.

During an audit, a determination of nonconformity with specifications contained in an IOSA Recommended Practice results in an Observation, which in turn results in the generation of a CAR.

An operator is not obliged to close an observation with corrective action but, as a minimum, must provide the root cause analysis (RCA) portion of the CAP. However, if an operator chooses to close an Observation, it will require subsequent implementation of corrective action in the same manner as is required to close a Finding.

Conditional Phrase

Certain provisions (i.e. standards or recommended practices, or sub-specifications within certain provisions), begin with a conditional phrase. The conditional phrase states the conditions (one or more) that serve to define the applicability of the provision or sub-specification to the individual operator being audited. A conditional phrase begins with the words “If the Operator…”

When assessing an operator against a provision or sub-specification that begins with a conditional phrase, the Auditor will first determine if an operator meets the condition(s) stated in the conditional phrase. If the operator meets the stated condition(s), the provision or sub-specification is applicable to the operator and must be assessed for conformance. If the operator does not meet the condition(s), the provision or sub-specification is not applicable to that operator, and such non-applicability will then be recorded as N/A.

Parallel Conformity Option (PCO)

A Parallel Conformity Option (PCO) may be included in a limited number of provisions in this ISM. A PCO provides an optional means for an operator to be in conformity with an IOSA provision that contains a basic operational specification (typically derived from ICAO standards), which, due to technical, logistical regulatory or other relevant factors, cannot be implemented by a large segment of the industry.

Where a PCO is included in an IOSA provision, it will be clearly identified by a **[PCO]** symbol and described in an informational note (see Notes and Symbols below). If the PCO has an expiration date, the note will also include the expiration date.

Within a provision, the basic operational specification(s) will always be stated first and the identifiable PCO specification(s) will immediately follow thereafter.

Each PCO is subject to approval under the IOSA Standards Change Management Process. If a PCO includes an expiration date, such date will be reviewed on a regular basis to determine if an extension is required. Such review will include an investigation of industry capability to meet the basic operational specification. At the point it can be determined the industry will have the capability to meet the basic operational specification, a PCO will be allowed to expire.

Notes, Tables and Symbols

An bold italicized *Note* within a provision contains information relevant to the specification(s) in the provision and is an integral part of the provision.

A **Conformance Applicability (CA) Table** within a provision indicates how factors or aspects relevant to the specifications in the provision must be addressed or satisfied by an operator to be in conformity with the provision. The CA table is an integral part of the provision.

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An **[SMS]** symbol in bold text following the last sentence of an IOSA provision indicates the provision specifies one or more of the elements of a safety management system (SMS). (SMS is addressed in subsection 8 below.)

A **[PCO]** symbol in bold text following a sub-specification within or the last sentence of an IOSA provision identifies a parallel conformity option (PCO).

A **(GM)** symbol in bold text following the last sentence of an IOSA provision indicates the existence of associated guidance material. (Guidance Material is addressed in subsection 6 below.)

An **[Eff])** symbol in bold text following the last sentence of an IOSA provision indicates that the provision is equipped with an Assessment Tool for the Effectiveness methodology and must be assessed for effectiveness.

A ► symbol at the end of an individual standard or recommended practice in Section 1 (ORG) indicates the specific provision is repeated almost verbatim in one or more of the other seven sections of the ISM.

A ◄ symbol at the end of a provision in Sections 2–8 indicates the specific provision is also contained in Section 1 (ORG) and has been repeated almost verbatim.

A ▲ symbol is the identifier for a paragraph that immediately follows a provision and designates the provision as eligible for the application of Active Implementation. (Active Implementation is addressed in subsection 7 below.)

Special Review Suspension

IATA, upon request from an appropriate industry source, may subject the technical specifications within an IOSA standard to a special review in accordance with the IOSA Standards Special Review Process. Such process is defined in Section 1 of the IOSA Program Manual (IPM).

When a special review is conducted, the IOSA standard or certain sub-specifications within the IOSA standard are put under suspension until the special review has been completed.

When a new edition of the ISM is published while a special review is in progress, the suspended IOSA standard or sub-specification(s) within the IOSA standard will be identified with either of the following, as appropriate:

- ***(This standard is currently suspended in accordance with the IOSA Standards Special Review Process),*** or
- ***(This sub-specification is currently suspended in accordance with the IOSA Standards Special Review Process).***

6 Guidance Material

Guidance material is informational in nature and supplements or clarifies the meaning or intent of certain ISARPs. ISARPs that are self-explanatory do not have associated guidance material.

Guidance material is designed to ensure a common interpretation of specifications in ISARPs and provide additional detail that assists an operator to understand what is required in order to achieve conformity. Where applicable, guidance material also presents examples of acceptable alternative means of achieving conformity.

Guidance material associated with an individual standard or recommended practice is co-located with the relevant provision and is preceded by the bold sub-heading **Guidance**.

Additionally, some guidance material relates to an entire ISM section or to a specific grouping of provisions within a section. Such guidance stands alone in an appropriate location and is preceded by the bold heading **General Guidance.**

Audit specifications are contained only in the ISARPs, and never in the guidance material.

7 Operational Audit

During an audit, an operator is assessed against the ISARPs contained in this manual. To determine conformity with any standard or recommended practice, an auditor will gather evidence to assess the degree to which specifications are *documented* and *implemented* by the operator. In making such an assessment, the following information is applicable.

Documented

Documented shall mean the specifications in the ISARPs are published and accurately represented by an operator in a controlled document. A controlled document is subject to processes that provide for positive control of content, revision, publication, distribution, availability and retention.

Documentation is necessary for an operator to ensure systems, programs, policies, processes, procedures and plans are implemented in a standardized manner, and to further ensure such standardized implementation is sustained on an on-going basis. Documentation provides the standards that govern the way personnel perform tasks within the management system and in operations. Such documented standards are necessary for an operator to:

- Provide continuity in the flow of information to personnel;
- Ensure personnel are properly trained;
- Conduct evaluations (e.g. audits, inspections, performance assessments).

Implemented

Implemented shall mean the specification(s) in the ISARPs are established, activated, integrated, incorporated, deployed, installed, maintained and/or made available, as part of the operational system, and is (are) monitored and evaluated, as necessary, to ensure the desired outcome is being achieved.

The continuity of implementation is directly linked to documentation. To ensure standardization within the management system and in the conduct of operations, an operator must ensure specified systems, programs, policies, processes, procedures and plans are implemented as published in its controlled documents.

The requirement for specifications to be documented and implemented by an operator is inherent in ISARPs unless indicated otherwise.

Mandatory Observations

Mandatory Observations are conducted during an Audit as a means for collecting evidence that may, or may not, complement factual evidence that has already been (or will be) collected during the course of the Audit. These observations are normally conducted using checklists supplied by IATA, which are attached to the ISM as an Appendix. The applicability and use of the MO checklists is described in the IPM and the IAH.

Auditing Effectiveness

Certain ISARPs are designated for application of the methodology for auditing the effectiveness of implementation. These ISARPs are designated with the [Eff] symbol and have a published Assessment Tool that follows the ISARP text.

The Assessment Tool consists of three parts: Desired Outcome, Suitability, and Effectiveness Criteria. The Assessment Tool does not introduce any mandatory aspects to the ISARP. It is a separate assessment that has no influence on the determination of conformity with the ISARP. Detailed guidance on the auditing effectiveness methodology can be found in the IOSA Audit Handbook.

Inactive Approved Operations

It is not unusual for an operator to elect not to conduct certain types of operations for which it has regulatory approval (e.g. transport of dangerous goods). In such cases, IOSA provisions with specifications that address such inactive operations would not be applicable to the operator during an Audit *if it is stated clearly in a controlled document (e.g. Operations Manual) that the specified operations are not conducted by the operator*.

Outsourced Operational Functions

Where an operator has chosen to outsource operational functions specified in IOSA provisions to external service providers, conformity with those provisions will be based on evidence provided by the operator that demonstrates acceptable processes are in place (i.e. processes that are documented and implemented) for monitoring such external service providers to ensure fulfillment of applicable operator and regulatory requirements affecting the safety and security of operations. Auditing is recommended as an effective method for an operator to monitor external service providers.

Active Implementation (AI)

Certain ISARPs may be designated as eligible for the application of Active Implementation (AI), which is a concept that permits an operator to be in conformity with a standard based on a demonstration of active and real progress toward completion of an acceptable Implementation Action Plan (IAP). Provisions eligible for AI are identified by a ▲ symbol (see ***Notes and Symbols*** above).

An acceptable IAP defines and maps out the satisfaction of all requirements for an operator to achieve conformity with the designated IOSA Standard. As a minimum, an acceptable IAP shall specify:

- A detailed schedule of all work or activities necessary to complete the IAP;
- The equipment, components, material or other physical resources necessary to complete the IAP;
- A series of milestone dates against which progress toward completion of the plan can be measured;
- A date when the plan is projected to be completed.

Designation of any IOSA Standard for the application of AI will always be predicated on an up-front risk analysis that indicates application of AI would not pose an unacceptable safety risk. Additionally, such designation may include prerequisite conditions that must be satisfied by an operator in order to be eligible for AI.

An IOSA Standard that has been designated for application of AI will be clearly identified in this manual, along with prerequisite conditions, if any.

To conform to a standard based on AI, an operator must be able to provide evidence that execution of an acceptable IAP is underway and material or physical progress toward completion of the plan is consistent with the planned schedule, as measured against published milestones. If applicable, an operator must also demonstrate satisfaction of any associated prerequisite conditions.

An operator that provides only an IAP without other demonstrable evidence of having materially or physically begun execution of the plan does not meet the criteria for conformance based on AI.

8 Safety Management System (SMS)

The components and elements of an SMS for air operators are published in the ICAO Framework for Safety Management Systems (SMS) as published in ICAO in Annex 19. Guidance supporting the Framework may be found in the ICAO Safety Management Manual (SMM), Doc 9859. All SMS components and elements contained in the ICAO Framework are addressed in the ISARPs.

Specific SMS requirements for an operator will always be mandated by the State in accordance with its individual State Safety Plan (SSP).

SMS standards and recommended practices are identified by a bold **[SMS]** symbol immediately following the last sentence of the provision. An operator that is audited and found to be in conformity with all *standards* (not recommended practices) identified by the [SMS] symbol is considered to have a *baseline* **SMS** in place.

Such baseline SMS might not meet the SMS requirements of all states because certain states, in accordance with their individual SSP, could add requirements above those contained in the ICAO framework. Additionally, some states might mandate operators to implement SMS using a multi-phase approach. In either case, having the basic SMS elements implemented in accordance with the IOSA standards should facilitate compliance with individual state SMS requirements.

Note: *The term safety as used In the ISM includes the management of both safety and/or security risks that have the potential to affect aircraft operations.*

9 IOSA Documentation System

The ISM is used in association with the following related manuals:

- IOSA Program Manual (IPM);
- IATA Reference Manual for Audit Programs (IRM);
- IOSA Audit Handbook (IAH).

The IPM, ISM, IRM and IAH comprise the IOSA documentation system.

10 English Language

English is the official language of the IOSA Program; documents comprising the IOSA Documentation System are written in International English* in accordance with IATA policy.

The IPM requires auditors to ensure the English language version of this ISM and/or IOSA Checklists is always used as the basis for a final determination of conformity or nonconformity with ISARPs during the conduct of an audit. Versions of the ISM or IOSA Checklists that have been translated into another language are subject to misinterpretation; therefore, any translated IOSA document is considered an unofficial reference.

* Refer to the IRM for the definition of *International English*.

* The official reference for International English in accordance with IATA policy is the online Merriam-Webster Dictionary (http://www.merriam-webster.com).

11 Manual Revisions

Revisions to the ISM are developed and issued in accordance with the IOSA Standards Change Management process, which is published in the IOSA Program Manual (IPM).

The ISM is normally revised annually. In accordance with IATA policy, a revision to the ISM (other than a temporary revision) will always result in a new *edition* of the ISM.

The time period between the issuance of a new edition of the ISM and the effective date of such new edition is typically four full months.

Should critical issues arise that affect the content of the ISM, a temporary revision (TR) will be issued.

12 Modification Status

All changes in this document are listed in the revision highlights table. For easier orientation, the following symbols identify any changes made within each section:

☐ Addition of a new item.
△ Change to an item.
⊗ Deletion of an item.

13 Conflicting Information

IOSA Documentation System

Manuals within the IOSA documentation system are not revised concurrently, thus creating the potential for conflicting information in different IOSA manuals. If there are inconsistencies between the IOSA documentation, namely the ISM, IPM and IAH, IATA should be contacted for clarification and correction.

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14 Definitions and Abbreviations

The IATA Reference Manual for Audit Programs (IRM) contains the Glossary of Terms and the List of Abbreviations that are associated with the IOSA program.

15 IOSA Documents and Forms

IOSA documents and forms that are referenced in this manual are available for download on the IOSA website (http://www.iata.org/iosa).

16 Authority

The IOSA program operates under the authority of IATA, as directed by the Director General.

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Section 1 — Organization and Management System (ORG)

Applicability

Section 1 addresses the organization and management system of an operator for the purpose of ensuring the safety and security of aircraft operations.

Individual ORG provisions or sub-specifications within an ORG provision that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.

Many ORG provisions are repeated in one or more other sections of the ISM (as indicated by the ► symbol). Refer to the IOSA Audit Handbook for information relevant to the proper internal auditing of repeated ORG ISARPs.

ORG 2.1.4 in this section is applicable only to an operator that is currently on the IOSA Registry and is being audited for the purpose of registration renewal.

General Guidance

Definitions of technical terms used in this ISM Section 1, as well as the meaning of abbreviations and acronyms are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Management System Overview

ORG 1.1.1

The Operator shall have a management system that has continuity throughout the organization and ensures control of operations and management of safety and security outcomes. (**GM**) ►

Auditor Actions

- ☐ **Identified/Assessed** organizational management system structure.
- ☐ **Assessed** status of conformity with all other ORG management system ISARPs.
- ☐ **Coordinated** to verify status of conformity with management system ISARPs in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Operations, Operator, Organogram, Safety (Operational), Security (Aviation) and State.

A management system is documented in controlled company media at both the corporate and operational levels. Manuals or controlled electronic media are acceptable means of documenting the management system.

Documentation provides a comprehensive description of the scope, structure and functionality of the management system and depicts lines of accountability throughout the organization, as well as authorities, duties, responsibilities and the interrelation of functions and activities within the system for ensuring safe and secure operations.

Acceptable means of documentation include, but are not limited to, organograms (organization charts), job descriptions and other descriptive written material that define and clearly delineate the management system.

Documentation also reflects a functional continuity within the management system that ensures the entire organization works as a system and not as a group of independent or fragmented units (i.e., silo effect).

An effective management system is fully implemented and functional with a clear consistency and unity of purpose between corporate management and management in the operational areas.

The management system ensures compliance with all applicable standards and regulatory requirements. In addition to internal standards and regulations of the State, an operator may also be required to comply with authorities that have jurisdiction over operations that are conducted over the high seas or within a foreign country.

ORG 1.1.2

The Operator shall identify one senior management official as the accountable executive (AE) who is accountable for performance of the management system as specified in ORG 1.1.1 and:

(i) Irrespective of other functions, is accountable on behalf of the Operator for the implementation and maintenance of the safety management system (SMS) throughout the organization;

(ii) Has the authority to ensure the planning and allocation of resources necessary to manage safety and security risks to aircraft operations;

(iii) Has overall accountability for ensuring operations are conducted in accordance with conditions and restrictions of the Air Operator Certificate (AOC), and in compliance with applicable regulations and standards of the Operator. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified** senior management official designated as the AE for the conduct of operations.
- ☐ **Examined** management system structure and organizational lines of accountability.
- ☐ **Examined** job description of designated AE (focus: accountability/responsibilities are as specified in the standard).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Accountability, Accountable Executive (AE), Air Operator Certificate (AOC), Authority, Aircraft Operations, Responsibility, Operations Manual (OM), Safety Management System (SMS), Safety Risk Management and Senior Management.

The requirement for an AE is an element of the Safety Policy and Objectives component of the SMS framework.

The designation of an AE means the accountability for operational quality, safety and security performance is placed at a level in the organization having the authority to take action to ensure the management system is effective. Therefore, the AE is typically the chief executive officer (CEO), although, depending on the type and structure of the organization, it could be a different senior official (e.g. chairperson/member of the board of directors, company owner).

The AE has the authority, which includes financial control, to make policy decisions, provide adequate human and physical resources, resolve operational quality, safety and security issues and, in general, ensure necessary system components are in place and functioning properly.

In terms of resources, the AE would have the overall responsibility for ensuring, not only adequate numbers of personnel, but also that positions within the SMS are filled by personnel in accordance with ORG 1.5.3. Additionally, the AE would be responsible for ensuring the SMS is provided with adequate facilities, workspace equipment and supporting services as specified in ORG 1.5.2.

In an SMS, the AE would typically have:

- Ultimate responsibility and accountability for the safety of the entire operation together with the implementation and maintenance of the SMS;
- Responsibility for ensuring the SMS is properly implemented in all areas of the organization and performing in accordance with specified requirements.

The AE also is responsible for ensuring the organization is in compliance with requirements of applicable authorities (i.e. regulations), as well as its own policies and procedures, which may exceed existing regulations or address areas that are not regulated (e.g. ground handling operations). An operator's policies and procedures are typically published in its Operations Manual (OM).

To ensure that the operator continues to meet applicable requirements, the AE might designate a manager with the responsibility for ensuring activities of the operator are monitored for compliance with the applicable regulatory requirements, as well as any additional requirements as established by the operator, and that these activities are being carried out properly under the supervision of the head of relevant functional areas.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.1.4

The Operator shall designate a manager who is responsible for the implementation, maintenance and day-to-day administration of the SMS throughout the organization on behalf of the AE and senior management. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified** designated manager for day-to-day administration and oversight of the SMS.
- ☐ **Examined** SMS organizational structure.
- ☐ **Examined** job description of SMS manager (focus: assigned responsibility for organizational implementation of SMS).
- ☐ **Interviewed** SMS manager and/or designated representative.
- ☐ **Other Actions** (Specify)

Guidance

The requirement for a manager that focuses on the administration and oversight of the SMS on behalf of the AE is an element of the Safety Policy and Objectives component of the SMS framework.

The individual assigned responsibility for organizational implementation of an SMS is ideally a management official that reports to the AE. Also, depending on the size, structure and scope of an operator's organization, as well as the complexity of its operations, such individual may be assigned functions in addition to those associated with the SMS manager position provided those functions do not result in a conflict of interest.

The title assigned to the designated manager will vary for each organization. Regardless of title, the manager is the designated organizational focal point for the day-to-day development, administration and maintenance of the SMS (i.e. functions as the SMS *champion*). It is important that such manager has the necessary degree of authority when coordinating and addressing safety matters throughout the organization.

Whereas the designated manager has responsibility for day-to-day oversight of the SMS, overall accountability for organizational safety rests with the AE. Likewise, post holders (refer to ORG 1.1.3) or operational managers always retain the responsibility (and thus are accountable) for ensuring safety in their respective areas of operations.

Note: *Depending on the size of an operator's organization and the complexity of its operations, the responsibilities for implementation and maintenance of the SMS (i.e. fulfillment of the SMS manager role) may be assigned to one or more persons.*

Expanded guidance may be found in the ICAO SMM, Document 9859.

1.2 Management Commitment

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ORG 1.2.1

The Operator shall have a corporate safety policy that reflects the organizational commitment to safety, including the promotion of a positive safety culture. Such policy shall be communicated throughout the organization and include the following:

(i) A statement about the provision of the necessary resources for the implementation of the safety policy;

(ii) A commitment to the continual improvement of the organization and the management system;

(iii) A commitment to a periodic review of the policy to ensure its continued relevance to the organization. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** corporate safety policy (focus: organizational commitment to safety/provision of necessary resources).
- ☐ **Interviewed** AE, SMS manager and/or designated management representative.
- ☐ **Examined** examples of corporate communication: (focus: safety policy communicated throughout organization).
- ☐ **Coordinated** to verify communication of safety policy in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Quality Management System (QMS).

The requirement for an operator to have a defined safety policy is an element of the Safety Policy and Objectives component of the SMS framework.

The policy of an operator reflects the commitment of senior management to ensuring continual measurement and evaluation as well as the implementation of changes that improve the management system and the culture. Ideas for improvement may come from internal and external sources. Therefore, the organization would be constantly monitoring all sources and willing to make changes as necessary to keep the management system refreshed and strongly focused on improving operational quality, safety and security performance.

The safety policy typically also reflects the commitment of senior management to ensure:

- Compliance with applicable regulations and standards of the Operator;
- The management of safety and security risks to aircraft operations;
- The promotion of safety and security awareness;
- Continual improvement of operational performance;
- Regular review of safety performance indicators by senior management;
- Regular analysis of malfunctions or undesirable operational results;
- Follow-up of corrective actions and their effectiveness in improving operational performance.

An SMS, as well as a Quality Management System (QMS) and Security Management System (SeMS), are integrated components of an operator's overall management system and would typically be subjected to protocols for continual improvement in accordance with the operator's policy.

The corporate safety policy may be documented in the OM or other controlled document. To enhance effectiveness, the policy is communicated and made visible throughout the organization through the dissemination of communiqués, posters, banners and other types of media in a form and language that can be easily understood. To ensure continuing relevance, the corporate policy is typically reviewed for possible update a minimum of every two years.

Consistent with the structure and complexity of the operator's organization, the corporate safety policy may be issued as a stand-alone policy or combined with the safety reporting policy specified in ORG 1.2.2.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.2.2

The Operator shall have a corporate safety reporting policy that encourages personnel to report hazards to aircraft operations and, in addition, defines the Operator's policy regarding disciplinary action, to include:

(i) Types of operational behaviors that are unacceptable;

(ii) Conditions under which disciplinary action would not apply. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** corporate safety reporting policy (focus: personnel urged to report operational hazards; definition of disciplinary policy/potential disciplinary actions).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Coordinated** to verify implementation of safety reporting in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Just Culture.

The requirement for an operator to have a safety reporting policy is an element of the Safety Policy and Objectives component of the SMS framework.

Safety reporting is a key aspect of SMS hazard identification in the management of risk.

Such a policy is typically documented in operations manuals or other controlled documents.

Consistent with the structure and complexity of the operator's organization, the safety reporting policy may be issued as a stand-alone policy or combined with the safety policy that is specified in ORG 1.2.1.

A safety reporting policy encourages and perhaps even provides incentive for individuals to report hazards and operational deficiencies to management. It also assures personnel that their candid input is highly desired and vital to safe and secure operations.

It is important that the operator provides appropriate protections to encourage personnel to report what they see or experience. For example, enforcement action may be waived for reports of errors or, under certain circumstances, even rule breaking. It should be clearly stated that reported information will be used solely to support the enhancement of safety. The intent is to promote an effective reporting culture and proactive identification of potential safety deficiencies.

An effective reporting culture exists when personnel have confidence that their reports are used to improve operational safety by learning from mistakes and system flaws, and thus improve the safety of operations. To that end, an operator's safety reporting policy would typically incorporate the principles of Just Culture.

The safety reporting policy is typically reviewed periodically to ensure continuing relevance to the organization.

Refer to ORG 3.1.2 and 3.1.3, both of which address operational safety reporting.

1.3 Roles and Responsibilities

ORG 1.3.1

The Operator shall ensure the management system defines the safety accountability, authorities and responsibilities of management and non-management personnel throughout the organization, and specifies:

(i) The levels of management with the authority to make decisions regarding risk tolerability with respect to the safety and/or security of aircraft operations;

(ii) Responsibilities for ensuring operations are conducted in accordance with applicable regulations and standards of the Operator;

(iii) Lines of safety accountability throughout the organization, including direct accountability for safety and/or security on the part of senior management. **[SMS] (GM)** ►

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** defined safety accountability/authorities/responsibilities for management/non-management personnel (focus: definitions apply to personnel throughout the organization).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Coordinated** to verify defined accountability/authorities/responsibilities in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of IOSA Audit Handbook (IAH) and Risk Tolerability.

The definition of authorities and responsibilities of management and non-management personnel is an element of the Safety Policy and Objectives component of the SMS framework.

In the context of the management system, the following typically apply:

- Accountability is the obligation to accept ultimate responsibility and be answerable for decisions and policies, and for the performance of applicable functions, duties, tasks or actions. Accountability may not be delegated.
- Authority is the delegated power or right to command or direct activities, and to make decisions.
- Responsibility is the obligation to execute or perform assigned functions, duties, tasks and/or actions. Responsibility may be accompanied by an appropriate level of delegated authority.

In the context of an SMS, the assignment of responsibility to individual personnel means such personnel are ultimately accountable for safety performance, whether at the overall SMS level (accountable executive) or at specific product and/or process levels (other applicable members of management).

An effective management system ensures that responsibilities, and thus accountability, for safety and security are allocated to relevant management and non-management personnel that perform safety- or security-related functions, or that have a defined role in either the SMS or the SeMS. Responsibilities and accountability are typically defined in the functional job description for such personnel and are designed to flow from corporate senior management into all operational areas of the organization.

Responsibilities and accountability are normally described and communicated in a manner that ensures a clear understanding throughout the organization. Organization charts, or organograms, are typically used to depict the functional reporting system of an organization, and thus are an acceptable means for defining the flow (or “lines” as depicted on an organogram) of responsibilities and accountability within the management system.

Management positions critical to operational safety or security may require enhanced job descriptions or terms of reference that reflect specialized requirements inherent in certain key positions. Such specialized requirements would include any delegation of authority exercised by personnel on behalf of an authority (e.g. designated or authorized flight examiner).

Compliance with regulatory requirements, as well as internal policies and procedures, is an essential element of a safe and secure operational environment. The responsibility for ensuring compliance with both regulatory and internal requirements is specified and assigned within the management system. Job descriptions, terms of reference and operating manuals are examples of appropriate locations for documenting management system responsibilities.

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 1.3.2

The Operator shall have a process or procedure for the delegation of duties within the management system that ensures managerial continuity is maintained when operational managers including, if applicable, post holders are unable to carry out work duties. **(GM)** ►

Auditor Actions

- ☐ **Identified/Assessed** processes for management system delegation of duties (focus: processes maintain managerial continuity during periods when corporate/operational managers are unable to perform work duties).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Coordinated** to verify processes for management system delegation of duties in all operational areas.
- ☐ **Examined** example(s) of delegation of duties when managers have been unable to perform work duties.
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to have a process or procedure that ensures a specific person (or perhaps more than one person) is identified to assume the duties of any operational manager that is or is expected to be, unable to accomplish assigned work duties. An operator may have nominated deputies in place or a process for ensuring the appointment of a temporary replacement.

For the purpose of this provision, the use of telecommuting technology and/or being on call and continually contactable are acceptable means for operational managers to remain available and capable of carrying out assigned work duties.

A notification of such delegation of duties may be communicated throughout the management system using email or other suitable communication medium.

1.4 Safety Performance

ORG 1.4.1

The Operator shall have a process to define safety objectives. Such safety objectives shall:

(i) Reflect the Operator's commitment to maintain or continuously improve the overall effectiveness of the SMS;

(ii) Be communicated throughout the organization;

(iii) Be periodically reviewed to ensure they remain relevant and appropriate to the Operator. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** organizational program for setting safety objectives.
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected safety objectives currently valid.
- ☐ **Examined** selected records/documents that identify tracking of safety objectives.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Safety Assurance and Safety Objective.

Defining safety objectives is an element of the Safety Policy and Objectives component of the SMS framework.

Safety objectives provide direction to the operator's safety management activities and would therefore be consistent with the safety policy that sets out the organization's high-level safety commitment.

A safety objective is a high-level statement that typically expresses a desired safety outcome that is to be achieved over a defined period of time (e.g. one year).

Expanded guidance may be found in the ICAO SMM, Document 9859.

1.5 Resource Management

ORG 1.5.3

The Operator shall ensure management and non-management positions within the organization that require the performance of functions relevant to the safety or security of aircraft operations are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM) ►**

Auditor Actions

- ☐ **Identified/Assessed** standards/processes for hiring/selection of management/non-management personnel (focus: safety/security positions relevant to aircraft operations are filled by personnel with qualifications appropriate for position).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Interviewed** selected personnel that perform safety/security functions relevant to aircraft operations.
- ☐ **Coordinated** to verify implementation of personnel selection standards/processes in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Prerequisite criteria for each position, which would typically be developed by the operator, and against which candidates would be evaluated, ensure personnel are appropriately qualified for management system positions and operational roles in areas of the organization critical to safe and secure operations.

ORG 1.5.4

The Operator shall ensure personnel who perform functions relevant to the safety or security of aircraft operations are required to maintain competence on the basis of continued education and training and, if applicable for a specified position, continue to satisfy any mandatory technical competency requirements. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** standards/processes for maintaining competency of personnel in functions relevant to safety/security of aircraft operations (focus: standards specify continuing education/training, meeting technical requirements).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Coordinated** to verify application of competency standards.
- ☐ **Other Actions** (Specify)

Guidance

Positions or functions within an airline organization considered ‘operationally critical’ are those that have the potential to affect operational safety or security. This definition includes management positions and any positions or functions that may affect the airworthiness of aircraft.

Typically, training programs are implemented to ensure personnel throughout the organization are qualified and competent to perform individual duties.

Some management positions within airline operations may require an individual to maintain a technical competency as a requirement for being assigned to the position. For example, it may be specified that certain management positions within Flight Operations may only be filled by individuals who are qualified flight crew members. Similar situations could exist within Cabin Operations, Engineering and Maintenance or other operational disciplines.

In such cases, the job description specifies the requirement for maintaining technical competency, and adequate opportunity is provided to fulfill the requirement.

1.6 Outsourcing Management

1.7 Emergency Response

ORG 1.7.1

The Operator shall have a corporate emergency response plan (ERP) for the central management and coordination of all activities necessary to respond to a major aircraft accident or other type of adverse event that results in fatalities, serious injuries, considerable damage and/or a significant disruption of aircraft operations. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** corporate emergency response plan (ERP) (focus: plan suitable for organizational response to major aircraft accident/other adverse event).
- ☐ **Interviewed** designated ERP manager.
- ☐ **Coordinated** to verify implementation of ERP in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Emergency Response Plan (ERP) and Public Health Emergency.

Emergency response planning is an element of the Safety Policy and Objectives component of the SMS framework.

An emergency (or crisis) response plan is based upon an assessment of risk appropriate to the size and type of operations, and includes consideration of a major aircraft accident and other potential, aircraft and/or non-aircraft events that would require a full corporate emergency response.

In some states, emergency or crisis response is assumed by a governmental authority rather than by the operator. In such case, an emergency response plan focuses on and addresses interaction with and/or participation in the governmental response to an emergency or crisis.

As a best practice, an operator might consider defining in its ERP an appropriately coordinated response to a public health emergency.

An effective ERP includes industry best practices and ensure community expectations are addressed. Additionally, an ERP:

- Specifies general conditions for implementation;
- Provides a framework for an orderly implementation;
- Ensures proper coordination with external entities at all potential locations (refer to ORG 1.7.4);
- Addresses all potential aspects of an event, including casualties;
- Ensures regulatory requirements associated with specific events are satisfied;
- Provides a scenario for the transition back to normal operations;
- Ensures regular practice exercises as a means to achieve continual improvement (refer to ORG 1.7.8 and ORG 1.7.9).

IATA provides a guide for use by operators in addressing a public health emergency. Such document, titled Emergency Response Plan and Action Checklist, may be found at http://www.iata.org/whatwedo/safety/health/Pages/diseases.aspx.

ORG 1.7.5

The Operator shall have published procedures and assigned responsibilities to ensure a coordinated execution of the corporate ERP. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures/responsibilities for execution of corporate ERP.
- ☐ **Interviewed** designated corporate ERP manager.
- ☐ **Coordinated** to verify procedures/assigned responsibilities for ERP execution in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Personnel are typically assigned with specific responsibilities throughout the organization for the implementation of procedures associated with the ERP. Such responsibilities and procedures might include:

- Assemblage of required personnel;
- Travel arrangements, as required;
- Provision of facilities, equipment and other resources;
- Humanitarian and other assistance to individuals involved in the event, as required;
- Management of continuing normal operations;
- Control of areas impacted by the event, as applicable;
- Liaison with relevant authorities and other external entities.

The following areas would normally be considered in developing plans for liaison with external entities associated with any event:

- Fire;
- Police;
- Ambulance;
- Coast guard and other rescue agencies;
- Hospitals and other medical facilities;
- Medical specialists;
- Civil aviation or defense agencies;
- Poison control centers;
- Chemical or radiation specialists;
- Environmental agencies;
- Insurance companies.

Additionally, contact and arrangements are typically made with certain operational business partners, including code share and wet lease operators.

2 Assurance, Monitoring and Documentation Control

2.1 Quality Assurance

ORG 2.1.1

The Operator shall have a quality assurance program that provides for the auditing of the management system of operations and maintenance functions to ensure the organization is:

(i) Complying with applicable regulations and standards;

(ii) Satisfying stated operational needs;

(iii) Identifying areas requiring improvement;

(iv) Identifying hazards to operations;

(v) Assessing the effectiveness of safety risk controls. **[SMS] (GM) ►**

Note: *If the quality assurance audit function is performed by an external organization, the Operator, as the AOC holder, shall be responsible for ensuring the quality assurance program is in conformity with the specifications of this provision.*

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** quality assurance program (focus: role/purpose within organization/SMS; definition of audit program scope/objectives; description of program elements/procedures for ongoing auditing of management system/operational areas).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Interviewed** quality assurance program manager.
- ☐ **Interviewed** selected operational managers (focus: interface with quality assurance program).
- ☐ **Examined** selected audit reports (focus: audit scope/process/organizational interface).
- ☐ **Coordinated** to verify implementation of quality assurance audit program in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Audit, Group Company and Quality Assurance.

The quality assurance program comprises two complementary functions: To monitor an operator's compliance with relevant regulations and standards, as well as to evaluate and continually improve operational safety performance. Such functions are elements of the Safety Assurance component of the SMS framework.

In some organizations the quality assurance program may have a different name (e.g. internal audit program, internal evaluation program).

In certain circumstances, an operator may have the quality assurance audit function performed by an external organization. This typically occurs when the operator is affiliated with one or more other organizations in a Group Company. However, an operator might also choose to simply outsource the quality assurance audit function to a qualified external service provider that is not part of or associated with a Group Company. In both cases, the operator, as the AOC holder, has the ultimate responsibility for ensuring the quality assurance program meets the needs of its organization in accordance with the specifications of this standard.

A robust quality assurance program ensures a scope of auditing that encompasses all areas of the organization that impact operational quality in terms of safety and/or security. Operational functions include flight operations, operational control/flight dispatch, maintenance operations, cabin operations, ground handling and cargo operations.

This provision is designed to permit flexibility in the implementation of the quality assurance program. The structure and organization of the program within an operator's management system, whether centralized, non-centralized or a combination thereof, is at the discretion of the operator in accordance with its corporate culture and regulatory environment.

An effective audit program includes:

- Audit initiation, including scope and objectives;
- Planning and preparation, including audit plan and checklist development;
- Observation and gathering of evidence to assess documentation and implementation;
- Analysis, findings, actions;
- Reporting and audit summary;
- Follow-up and close out.

To ensure auditors gather sufficient evidence to produce realistic assessments during an audit, the program typically includes guidance that defines the various sampling techniques that are expected to be used by auditors in the evidence collection phase of the audit.

The audit process typically includes a means whereby the auditor and responsible personnel from the audited area have a comprehensive discussion and reach agreement on the findings and corresponding corrective actions. Clear procedures are established to resolve any disagreement between the auditor and audited area. All action items require follow-up to ensure closeout within an appropriate period of time.

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

ORG 2.1.4

If the Operator is on the IOSA Registry, the Operator shall ensure the quality assurance program as specified in ORG 2.1.1 provides for the auditing of the IOSA Standards and Recommended Practices (ISARPs) a minimum of once during the IOSA registration period. For internal audits of the ISARPs, the Operator shall have processes that ensure:

(i) The effective edition of the IOSA Standards Manual (ISM) is used;

(ii) Auditor Actions are accomplished by auditors;

(iii) Recording and retention of information associated with the internal audit of individual ISARPs as specified in Table 1.2. **(GM)**

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△ ***Note:*** *If a new edition of the ISM becomes effective before the last 5 months of the Operator's IOSA registration period, the Operator shall take into account all changes that might require additional auditing (e.g. new or significantly revised ISARPs).*

Auditor Actions

- ☐ **Identified/Assessed** processes that ensure auditing of all ISARPs during the IOSA registration period.
- ☐ **Identified/Assessed** internal audit processes/procedures (focus: use of effective ISM edition; auditors accomplish Auditor Actions).
- ☐ **Interviewed** quality assurance program manager.
- ☐ **Interviewed** selected internal auditors.
- ☐ **Examined** selected records (database, procedural documents) of audits performed against ISARPs (focus: effective ISM edition used, all specified information included, Auditor Actions accomplished).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Auditor Actions, IOSA Operator, IOSA Registration Period and Registration Renewal Audit.

The currently effective edition of the ISM is used for auditing of the ISARPs during the first 19 months of the IOSA registration period. Use of an ISM edition that becomes effective in the final five (5) months of the operator's registration period is optional.

The accomplishment of Auditor Actions as specified in item (ii) is necessary to ensure internal auditors gather the necessary evidence to determine whether (or not) a standard or recommended practice is documented and implemented by the operator.

Table 1.2, as specified in item (iii), includes a note that refers to procedural documents. An example of a procedural document is an audit checklist in which all specified audit information associated with the audit of the individual ISARPs is recorded, including accomplishment of the Auditor Action steps.

IATA continues to provide a template in the form of a spreadsheet to record all required information as specified in ORG 2.1.4 and Table 1.2.

To the extent possible, auditing of the ISARPs should be spread out over the full registration period rather than waiting to conduct all auditing just prior to the registration renewal audit.

Refer to the IAH for information relevant to auditing of the ISARPs under the quality assurance program.

ORG 2.1.6

The Operator shall ensure the audit planning process defines the scope of each audit, as appropriate for the area being audited, and also:

(i) Includes audit objectives that address ongoing compliance with regulatory requirements, Operator standards and other applicable regulations, rules and standards;

(ii) Considers relevant operational safety or security events that have occurred;

(iii) Considers results from previous audits, including the effectiveness of corrective action that has been implemented. **(GM)**

Auditor Actions

☐ **Identified/Assessed** quality assurance audit planning process (focus: audits planned/scheduled/completed in order to meet applicable internal/external requirements).

☐ **Interviewed** quality assurance program manager.

☐ **Examined** selected audit plans (focus: audit scope/objectives defined; operational events/previous audits considered).

☐ **Crosschecked** audit plan with selected audit reports (focus: audits conducted in accordance with audit plan).

☐ **Other Actions** (Specify)

Guidance

The audit scope refers to the breadth of operational disciplines or operational areas covered by an audit and therefore will vary depending on the focus area for each audit (e.g. flight dispatch function, dangerous goods handling, ramp handling operations, line maintenance activities).

Audit objectives define tangible achievements expected to result from an audit, normally expressed as a statement of intent (e.g. to determine compliance with regulatory requirements, to establish conformity with operator standards, to assess conformity with IOSA standards, to determine efficiency of operations).

To be effective, auditors prepare for an audit of a particular area of operations by:

- Conducting research into any relevant incidents or irregularities that may have occurred;
- Reviewing reports from previous audits.

Refer to the IAH for information relevant to planning associated with auditing of the ISARPs.

ORG 2.1.7

The Operator shall have a process for addressing findings that result from audits conducted under the quality assurance program, which ensures:

(i) Identification of root cause(s);

(ii) Development of corrective action as appropriate to address findings;

(iii) Implementation of corrective action in appropriate operational area(s);

(iv) Evaluation of corrective action to determine effectiveness. **(GM)** ►

Auditor Actions

☐ **Identified/Assessed** process for addressing quality assurance audit findings.

☐ **Interviewed** quality assurance program manager.

☐ **Examined** selected audit reports/records (focus: identification of root cause, development/implementation of corrective action, follow-up to ensure effectiveness).

☐ **Coordinated** to verify implementation of audit findings process in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Certain audit findings might fall under the category of hazards to operations. In such cases, the hazard would be subject to the risk assessment and mitigation process in the development of corrective action.

Refer to the IAH for information relevant to auditing under the quality assurance program.

2.2 External Monitoring

ORG 2.2.1

The Operator shall have processes to monitor external service providers that conduct outsourced operational functions for the Operator to ensure requirements that affect the safety and/or security of operations are being fulfilled. **(GM)** ►

Note: *IOSA or ISAGO registration as the only means to monitor is acceptable provided the Operator obtains the latest of the applicable audit report(s) through official program channels and considers the content of such report(s).*

Auditor Actions

- ☐ **Identified/Assessed** processes for monitoring external service providers that conduct outsourced operational functions.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records/reports resulting from monitoring of service providers (focus: monitoring process ensures provider is fulfilling applicable safety/security requirements).
- ☐ **Coordinated** to verify implementation of service provider monitoring in applicable operational areas.
- ☐ **Other Actions** (Specify)

Guidance

An operator has a responsibility to ensure outsourced operational functions are conducted in a manner that meets its own operational safety and security requirements. A monitoring process is necessary to satisfy that responsibility, and such process would be applicable to any external service provider that conducts outsourced operational functions, including the parent organization or a separate affiliate of the operator.

In some regulatory jurisdictions, there may be a regulatory control process that permits certain organizations to meet rigorous standards and become approved to conduct outsourced operations or maintenance for an operator. Such regulatory control process would be an acceptable means for meeting the specification of this provision if it can be demonstrated by the operator that the regulatory control process:

- Includes ongoing monitoring of the approved service providers;
- Such monitoring is sufficiently robust to ensure the approved service providers fulfill the operational requirements of the operator on a continuing basis.

Achieving and maintaining IOSA and/or ISAGO registration is a way for an external service provider to demonstrate fulfillment of requirements that affect the safety and/or security of operations. Thus, an operator's process that requires such service providers to maintain IOSA and/or ISAGO registration would generally be acceptable as a method of monitoring.

Using the IOSA and/or ISAGO programs to satisfy the specifications in this provision would require that an operator has access, preferably unrestricted access, to all information and data provided by the respective registration programs. Such access would be subject to receiving the relevant authorizations for individual reports. This type of monitoring would include a regular review of the registry site(s) to identify any potential annotations or restrictions that might have been placed on an operator's or provider's registration.

Using IOSA and ISAGO as described would also require an operator to request relevant audit reports through proper and official program channels. For IOSA this would require requesting an IAR through IATA and for ISAGO it would require participation in the ISAGO program. A review of the information contained in the audit report(s) would ideally complement and/or supplement any additional

monitoring measures an operator is applying to ensure the service provider is fulfilling all relevant requirements. For example, combining the information from the report(s) with a risk assessment would be one option to have acceptable assurance that all requirements are fulfilled.

To ensure effective monitoring, consideration is given to a range of internal and external methods for use in the oversight of external service providers. Methods might include auditing, systematic review and risk assessment of reported hazards and/or occurrences, monitoring of performance output (KPIs), reporting and governance processes; monitoring and analysis of targeted risk areas, as well as the establishment of an effective two-way communication link with the service provider.

Under certain circumstances, operational functions may be involuntarily removed from an operator and conducted by a governmental or quasi-governmental authority that is not under the control of the operator (e.g. passenger or baggage security screening at some airports). Under such circumstances, the operator would have a process to monitor output of the function being conducted by the authority to ascertain desired results are being achieved.

If an operator is part of a Group Company and has management and/or operational functions performed by an affiliate organization that is part of the same Group Company, an operator may demonstrate monitoring of the external organization by processes that ensure functions performed by the affiliate organization for the operator are:

- Subjected to auditing under the quality assurance program of the affiliate organization;
- Continually satisfying the needs of the operator.

ORG 2.2.3

The Operator shall have a process that provides for the auditing of other operators that transport passengers of the Operator under a commercial aviation agreement. Such process shall ensure the following with respect to the audit of other operators:

(i) The audit is conducted against and requires conformity with applicable ICAO standards;

(ii) An initial audit is conducted prior to the commencement of the above-specified passenger transport operations;

(iii) A subsequent audit is conducted during every 24-month period following commencement of the above-specified passenger transport operations. **(GM)**

Note: *A commercial aviation agreement as specified in this standard includes the following:*

- *ACMI Lease (wet lease) Agreement*
- *Capacity Purchase Agreement (CPA)*
- *Code Share Agreement*
- *Damp Lease Agreement*

Note: *The specifications of this standard shall be applicable to the Operator if it has transported its passengers on another operator under any of the specified commercial aviation agreements during the most recent IOSA registration period.*

Note: *IOSA registration indicates an operator is in conformity with all applicable ICAO standards and thus is acceptable as the audit of another operator as specified in this provision provided the Operator obtains the latest applicable audit report(s) through official program channels and considers the content of such report(s).*

Auditor Actions

- ☐ **Identified/Assessed** process for monitoring safety/security performance of external operators that transport passengers of the Operator.
- ☐ **Interviewed** responsible managers.
- ☐ **Examined** plan/methods for monitoring applicable other operators (focus: includes all operators that transport the operator's passengers under a commercial aviation agreement).
- ☐ **Examined** selected monitoring reports of other operators (focus: monitoring process ensures the other operator is fulfilling applicable safety/security requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of ACMI Lease Agreement, Capacity Purchase Agreement (CPA), Code Share Agreement, Damp Lease Agreement, IOSA Registration Period and Wet Lease Agreement.

The intent of this provision is for an operator to have a process that provides for the auditing of any other operator with which it has entered or will enter into a commercial aviation agreement to transport its passengers on flights conducted by the other operator. Such audit verifies that the other operator meets applicable ICAO standards and may be conducted either by the operator or by a third party that is acceptable to the operator.

Another operator that is on the IOSA Registry has already been audited and found to meet applicable ICAO safety standards. Therefore, conformity with this standard does not require an operator to provide for an additional audit of another operator that is on the IOSA Registry as long as such registration is maintained by the other operator and any registration annotations have been taken into consideration by the operator.

Applicable ICAO standards as specified in item (i) are those standards contained in Annexes 1, 6, 8, 17, 18 and 19 that would be applicable to the other operator being audited.

A complete cross-reference list of ICAO-IOSA standards may be found at www.iata.org/iosa.

2.3 Product Control

2.4 Data Management

2.5 Documentation System

ORG 2.5.4

The Operator shall have SMS documentation, including a manual, that describes:

(i) The safety policy and objectives;

(ii) SMS requirements;

(iii) SMS processes and procedures;

(iv) Accountability, authorities and responsibilities for SMS processes and procedures. **[SMS] (GM)**

Note: *An SMS manual may be in the form of a stand-alone document or may be integrated with other organizational documents (or documentation) maintained by the Operator.*

Auditor Actions

- ☐ **Identified/Assessed** SMS documentation (focus: description of overall organizational management of safety).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected parts of SMS documentation (focus: content includes safety policy/objectives; describes/defines accountability/responsibilities for safety processes/procedures in all areas of operations).
- ☐ **Coordinated** to verify SMS documentation in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

SMS documentation is an element of the Safety Policy and Objectives component of the SMS framework.

SMS documentation is typically scaled to the size and complexity of the organization and describes both the corporate and operational areas of safety management to show continuity of the SMS throughout the organization. Typical documentation would include a description of management positions and associated accountability, authorities, and responsibilities within the SMS.

To ensure personnel throughout the organization are informed, SMS documentation includes a description of the operator's approach to safety management. Such descriptive information would be contained in a manual and presented in a manner that ensures the SMS information is clearly identifiable. The exact title and structure of such manual may vary with each operator.

Depending on the size, structure and scope of an operator's organization, as well as the complexity of its operations, SMS documentation may be in the form of stand-alone documents or may be integrated into other organizational documents.

Requirements for SMS documentation will vary according to the individual state safety program (SSP).

SMS documentation typically addresses:

- Scope of the SMS;
- Safety policy and objectives;
- Safety accountability;
- Key safety personnel;
- Documentation control procedures;
- Coordination of emergency response planning;
- Hazard identification and risk management schemes;
- Safety assurance;
- Safety performance monitoring;
- Safety auditing (safety and quality auditing may be combined);
- Management of change;
- Safety promotion;
- Outsourced services.

Expanded guidance may be found in the ICAO SMM, Document 9859.

2.6 Records System

ORG 2.6.1

The Operator shall have a system for the management and control of operational records to ensure the content and retention of such records is in accordance with requirements of the Authority, as applicable, and to ensure operational records are subjected to standardized processes for:

(i) Identification;
(ii) Legibility;
(iii) Maintenance;
(iv) Retrieval;
(v) Protection, integrity and security;
(vi) Disposal, deletion (electronic records) and archiving. **(GM)** ►

Note: *The operational records system specified in this standard shall also include the management and control of SMS operational records.*

Auditor Actions

☐ **Identified/Assessed** system for management/control of operational records (focus: system includes standardized processes as specified in standard).
☐ **Interviewed** responsible management representative(s).
☐ **Examined** selected examples of operational records.
☐ **Coordinated** to verify implementation of records management/control processes in all operational areas.
☐ **Other Actions** (Specify)

Guidance

The system addresses the management and control of all records associated with operations, which includes personnel training records, and also includes any other records that document the fulfillment of operational requirements (e.g. aircraft maintenance, operational control, operational security).

SMS operational records substantiate the ongoing operation of the operator's SMS and may be managed and controlled within either a centralized or standalone records system. SMS operational records typically include or provide a record of the following:

- Hazards register and hazard/safety reports;
- SPIs, SPTs and related charts;
- Completed safety risk assessments;
- SMS internal reviews or audits;
- SMS/safety training;
- SMS/safety committee meeting minutes.

3 Risk Management

3.1 Hazard Identification

△

ORG 3.1.1

The Operator shall have a hazard identification program that is implemented and integrated throughout the organization and includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ►

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** organizational safety hazard identification program (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** cross-discipline process for safety hazard identification (focus: all operational disciplines participate in process).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected records/documents that illustrate organizational integration (focus: coordinated involvement of all operational disciplines in hazard identification process).
- ☐ **Examined** selected examples of hazards identified through data collection/analysis.
- ☐ **Coordinated** to verify implementation of safety hazard identification program in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

The methods used to identify hazards will typically depend on the resources and constraints of each particular organization. Some organizations might deploy comprehensive, technology-intensive hazard identification processes, while organizations with smaller, less complex operations might implement more modest hazard identification processes. Regardless of organizational size or complexity, to ensure all hazards are identified to the extent possible, hazard identification processes are necessarily formalized, coordinated and consistently applied on an on-going basis in all areas of the organization where there is a potential for hazards that could affect aircraft operations.

To be effective, reactive and proactive processes are used to acquire information and data, which are then analyzed to identify existing or predict future (i.e. potential) hazards to aircraft operations. Examples of processes that typically yield information or data for hazard identification include:

- Confidential or other reporting by personnel;
- Investigation of accidents, incidents, irregularities and other non-normal events;
- Flight data analysis;
- Observation of flight crew performance in line operations and training;
- Quality assurance and/or safety auditing;
- Safety information gathering or exchange (external sources).

Processes would be designed to identify hazards that might be associated with organizational business changes (e.g. addition of new routes or destinations, acquisition of new aircraft type(s), the introduction of significant outsourcing of operational functions).

Typically, hazards are assigned a tracking number and recorded in a log or database. Each log or database entry would normally include a description of the hazard, as well as other information necessary to track associated risk assessment and mitigation activities.

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.1.2

The Operator shall have an operational safety reporting system that is implemented throughout the organization in a manner that:

- Encourages and facilitates personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;
- Ensures mandatory reporting in accordance with applicable regulations;
- Includes analysis and management action as necessary to address safety issues identified through the reporting system. **[SMS] (GM) ►**

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** organizational operational safety reporting system (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** records of selected operational/safety reports (focus: analysis/follow-up to identify/address reported hazards/safety concerns).
- ☐ **Coordinated** to verify implementation of operational safety reporting system in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

Frontline personnel, such as flight or cabin crew members and maintenance technicians, are exposed to hazards and face challenging situations as part of their everyday activities. An operational reporting system provides such personnel with a means to report these hazards or any other safety concerns so they may be brought to the attention of relevant managers.

To build confidence in the reporting process and encourage more reporting, an acknowledgement of receipt is typically provided to each person that submits a report.

An effective system provides for a review and analysis of each report to determine whether a real safety issue exists, and if so, ensure development and implementation of appropriate action by responsible management to correct the situation.

Refer to ORG 1.2.2, which specifies a corporate safety reporting policy and addresses the importance of having an effective reporting culture to ensure the proactive identification of potential safety deficiencies.

Refer to the IAH for information that identifies repeats of this provision in other ISM sections.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.1.5

The Operator shall have a process to identify changes within or external to the organization that have the potential to affect the level of safety risks associated with aircraft operations, and to manage risks that may arise from or are affected by such changes in accordance with ORG 3.1.1 and ORG 3.2.1.
[SMS] [Eff] (GM)

☐ **Assessment Tool**

Desired Outcome

• The safety risks associated with aircraft operations that may arise or are affected by external or internal changes are managed and controlled to ensure they remain at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed changes.

• Means used for recording changes.

• Level of awareness within the organization.

• Data and source of information used to identify the changes that may impact the safety of aircraft operations.

Effectiveness Criteria

(i) Clear criteria are established, that define when a formal change management process must be applied

(ii) Process is applied prior to any change that has the potential to affect the level of safety risks.

(iii) All areas within the organization are aware of the process and apply it for all relevant changes.

(iv) All relevant personnel are adequately trained in the execution of the process.

(v) All changes are documented and decisions on the application of the process are recorded.

(vi) The hazard identification process involves personnel from all relevant areas within the organization.

(vii) Information is fed into the RA and mitigation process.

Auditor Actions

☐ **Identified/Assessed** organizational change management process (focus: process identifies/assesses internal/external changes to determine operational safety risk).

☐ **Interviewed** SMS manager and/or designated management representative(s).

☐ **Examined** selected records/documents that show processing of internal/external changes (focus: assessment of changes to determine safety risk; actions taken to implement/revise new/existing risk controls).

☐ **Coordinated** to verify implementation of change management process in all operational areas.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Change Management.

Change management is an element of the Safety Assurance component of the SMS framework and is considered a proactive hazard identification activity in an SMS.

Safety risk management requires an operator to have a formal process to identify hazards that may affect aircraft operations. Hazards may exist in ongoing aircraft operations or be inadvertently introduced whenever internal or external changes occur that could affect aircraft operations. In such cases, hazard identification as specified in ORG 3.1.1 and safety risk assessment and mitigation as specified in ORG 3.1.2 (both are repeated in other ISM sections) are integral elements of an operator's change management process.

A change management process is normally designed to ensure risk management is applied to any internal or external change that has the potential to affect an operator's established operational processes, procedures, products, equipment and services. The change management process typically takes into account the following three considerations:

- *Criticality.* Criticality assessments determine the systems, equipment or activities that are essential to the safe operation of aircraft. While criticality is normally assessed during the system design process, it is also relevant during a situation of change. Systems, equipment and activities that have higher safety criticality are reviewed following change to make sure that corrective actions can be taken to control potentially emerging safety risks.
- *Stability of systems and operational environments.* Changes might be planned and under the direct control of the operator. Examples of such changes include organizational growth or contraction, the expansion of products or services delivered, or the introduction of new technologies. Changes might also be unplanned and external to the operator, such as changing economic cycles, labor unrest and changes to the political, regulatory or operating environments.
- *Past performance.* Past performance of critical systems and trend analyses in the safety assurance process is typically employed to anticipate and monitor safety performance under situations of change. The monitoring of past performance will also assure the effectiveness of corrective actions taken to address safety deficiencies identified as a result of audits, evaluations, investigations or reports.

Expanded guidance may be found in the ICAO SMM, Document 9859.

3.2 Risk Assessment and Mitigation

ORG 3.2.1

The Operator shall have a safety risk assessment and mitigation program that includes processes implemented and integrated throughout the organization to ensure:

(i) Hazards are analyzed to determine corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in operations. **[SMS] [Eff] (GM) ►**

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its operational risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.

• Means used for recording risks and mitigation (control) actions.

• Safety data used for the identification of hazards.

△ **Effectiveness Criteria**

(i) Risk register(s) across the organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix defines safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) All relevant hazards are analyzed for corresponding safety risks.

△ (v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

(ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

(x) The program takes into consideration any area of the organization where there is a potential for hazards that could affect aircraft operations.

(xi) The program has some form of central coordination to ensure all existing or potential hazards that have been identified as relevant are subjected to risk assessment and, if applicable, mitigation.

Auditor Actions

- ☐ **Identified/Assessed** organizational safety risk assessment/mitigation program (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** cross-discipline process for risk assessment/mitigation (focus: all operational disciplines participate in process).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected records/documents that illustrate organizational integration (focus: coordinated involvement of all operational disciplines in risk assessment/mitigation program).
- ☐ **Examined** selected examples of risk assessment/risk mitigation action(s).
- ☐ **Coordinated** to verify implementation of safety risk assessment/mitigation in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

To be completely effective, a risk assessment and mitigation program would typically be implemented in a manner that:

- Is active in all areas of the organization where there is a potential for hazards that could affect aircraft operations;
- Has some form of central coordination to ensure all existing or potential hazards that have been identified are subjected to risk assessment and, if applicable, mitigation.

The safety risks associated with an identified existing or potential hazard are assessed in the context of the potentially damaging consequences related to the hazard. Safety risks are generally expressed in two components:

- Likelihood of an occurrence;
- Severity of the consequence of an occurrence.

Typically, matrices that quantify safety risk acceptance levels are developed to ensure standardization and consistency in the risk assessment process. Separate matrices with different risk acceptance criteria are sometimes used to address long-term versus short-term operations.

A risk register is often employed for the purpose of documenting risk assessment information and monitoring risk mitigation (control) actions.

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

Expanded guidance may be found in the ICAO SMM, Document 9859.

3.3 Flight Data Analysis (FDA)

△ **ORG 3.3.1**

If the Operator conducts flights with aircraft that have a maximum certified takeoff mass in excess of 27,000 kg (59,525 lb), the Operator shall have a flight data analysis (FDA) program that requires a systematic download and analysis of electronically recorded flight data from applicable aircraft in its fleet. The FDA program shall be non-punitive and be integrated in the Operator's SMS. **[SMS] (GM)**

Note: *Conformity with this provision is possible only when the Operator is also in conformity with ORG 3.3.3, 3.3.4 and 3.3.5.*

Auditor Actions

- ☐ **Identified/Assessed** FDA program (focus: program is non-punitive and is applied to aircraft in the fleet with a MCTOM greater than 27 000 kg).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Interviewed** FDA program manager.
- ☐ **Assessed** processes/systems for download of electronically recorded flight data (focus: usable program data is downloaded from all applicable aircraft types in the operator's fleet).
- ☐ **Assessed** status of conformity with ORG 3.3.3, 3.3.4 and 3.3.5.
- ☐ **Observed** FDA program resources and activities.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Data Analysis (FDA) Program.

The FDA program fits into the Safety Assurance (safety performance monitoring/measuring) and Safety Risk Management (hazard identification) components of the SMS framework.

A systematic download and analysis of electronically recorded aircraft flight data would typically include:

- Systems on applicable aircraft that:
  - Capture flight data and permit rapid download through use of an optical disc/PC or equivalent, or
  - Capture and automatically transmit encrypted aircraft data through a ground link to a ground station.
- A ground system that transforms raw digital flight data into a usable form of information that can then be verified, processed and categorized for analysis;

- One or more ground stations (usually a desk top computer loaded with the appropriate software) to permit the analysis of flight data to identify deviations from expected performance;
- A secure database that protects and permits retention, retrieval and use of program data (e.g. data mining, research, event development).

In addition to the above, an FDA program might include optional flight animation software that provides a visual simulation of actual flight events.

The practice of analyzing recorded data from routine flight operations is a cornerstone in support of an operator's accident prevention programs. Rather than reacting to serious incidents, an effective FDA program enables a proactive identification of safety hazards associated with flight operations.

An FDA program is also used for:

- Routine flight operational measurements;
- Incident investigations;
- As applicable, continuing airworthiness.

A key element in developing an FDA program is gaining the support of flight crew members. Such support is typically achieved through a policy and/or procedures and a formal agreement that lays out the conditions for ensuring the program is non-punitive and downloaded flight data is de-identified and secure. If applicable, such policy and/or procedures would typically be set forth in a formal agreement with the association that represents flight crew members.

It is important that the FDA program clearly defines the meaning of a non-punitive environment and that relevant program participants, particularly flight crew members:

- Have a clear understanding of the types of operational behaviors that are unacceptable, and the conditions under which disciplinary action would or would not apply.
- Are provided with enough information about the process to ensure a perception of fair treatment in accordance with program policy and procedures.
- Have confidence that non-punitive principles will be applied in the treatment of events identified under the FDA program.

An effective FDA program typically includes assurance that:

- Flight data and other relevant information are analyzed thoroughly such that, as far as reasonably practicable, all relevant factors associated with an event are identified, not just the action or inaction of specific individuals.
- Investigation of FDA events focuses on systemic issues that might influence behaviors, rather than on individual actions.
- Individuals involved in the investigation of an event will be treated fairly based on the quality of their behavioral choices.
- Factual details of an event are provided to relevant operational managers for an objective review of all factors involved.

All or certain specific elements of the FDA program might be outsourced to an external service provider; however, the operator would retain overall responsibility for the maintenance of the program.

The most comprehensive approach to flight data analysis would include not only the systematic download and analysis of recorded aircraft flight data, but also acquisition, correlation and analysis of other information derived from operational safety reports, regulatory authorities, investigative bodies, OEMs and other operators.

Further guidance may be found in the following source documents:

- ICAO Doc 9859, Safety Management Manual, and ICAO Doc 10000, Manual on Flight Data Analysis Programmes (FDAP).
- CASA CAAP SMS-4(0), Guidance on the establishment of a Flight Data Analysis Program (FDAP)–Safety Management Systems (SMS).

- FAA Advisory Circular AC No: 120-82, Flight Operational Quality Assurance.
- UK CAA CAP 739, Flight Data Monitoring.

Refer to ORG 3.3.5, which addresses the integration of the FDA program in an operator's SMS.

△ **ORG 3.3.3**

If the Operator has an FDA program in accordance with ORG 3.3.1, the Operator shall ensure such program has processes for:

(i) Interpretation and analysis of flight and aircraft technical data;

(ii) Flight crew liaison, including permission and responsibility for confidential discussions with flight crew members involved in events highlighted by FDA;

(iii) Data collection that comprises data that are representative of all aircraft operations for each applicable fleet type;

(iv) Dissemination of de-identified information to relevant operational personnel;

(v) Training and qualification of personnel as appropriate to perform assigned program functions. **(GM)**

Auditor Actions

☐ **Identified** FDA program processes (focus: program includes all required processes).

☐ **Interviewed** FDA program manager.

☐ **Examined** FDA program job descriptions (focus: tasks/qualifications appropriate for program functions performed).

☐ **Assessed** processes for interpretation/analysis of flight/aircraft technical data (focus: data format and qualifications of personnel appropriate for interpretation/analysis of FDA data).

☐ **Identified flight crew liaison process.**

☐ **Assessed** data collection process(es) (focus: data collected is representative of all applicable aircraft operations).

☐ **Examined** selected records that reflect FDA data dissemination.

☐ **Assessed** training and qualification processes (focus: personnel are appropriately trained and qualified for program functions performed).

☐ **Other Actions** (Specify)

Guidance

Responsibilities within FDA program processes may be shared among individuals based on the size and complexity of an operator's organization.

FDA program processes may be outsourced to external service providers, but the operator is always responsible for the performance of the program.

The intent of items (i) and (ii) is that functions in program processes are performed by personnel that have experience, skills and/or capabilities appropriate for the function(s) performed:

Personnel that provide interpretation and analysis of flight technical data are typically flight crew members that have an in-depth understanding of the operator's aircraft types, operating procedures, routes and airports.

Personnel that provide interpretation and analysis of aircraft technical data typically have maintenance engineering and/or appropriated maintenance technical experience and are familiar with the operator's power plant/structures/systems departments, information sources/requirements and engineering monitoring programs.

Personnel that perform flight crew liaison (i.e. the "gatekeeper" function) would typically have integrity, good judgement and the trust of both flight crew members and company management.

The intent of item (v) is a training and qualification program that ensures personnel are competent to perform assigned duties and functions within the FDA program. Personnel would typically complete initial training prior to the performance of any program functions and subsequent recurrent training to ensure continued competency.

Refer to ORG 3.3.4, which addresses the management and protection of program data and information.

△ **ORG 3.3.4**

If the Operator has an FDA program in accordance with ORG 3.3.1, the Operator shall have standards for the management and protection of program data and information that define:

(i) Methods for ensuring the integrity and validity of downloaded flight data;

(ii) Policies and procedures for data de-identification and confidentiality;

(iii) Methods for maintaining and presenting event and exceedance information for trend analysis;

(iv) Policies and procedures for data retention, retrieval and archiving;

(v) Processes for assessing and improving data management policies, methods and procedures. **(GM)**.

Auditor Actions

- ☐ **Assessed** FDA program data management/protection (focus: program standards define all aspects of management and protection of data).
- ☐ **Interviewed** FDA program manager.
- ☐ **Examined** selected records/examples of data management/protection (focus: policies/methods/procedures consistent with program standards for ensuring effective data management/protection).
- ☐ **Other Actions** (Specify)

Guidance

Effective management and protection of FDA program data and information is needed to ensure the success, and perhaps even the survival, of an FDA program.

FDA data de-identification is a critical aspect of protection and therefore is normally well defined in program standards. The operator will typically provide a clear statement that assures the nondisclosure of flight crew individuals associated with or linked to FDA events, except when it can be determined there is an unacceptable safety risk if specific action regarding the flight crew is not taken.

In general, a successful FDA program requires the establishment of an acceptable level of trust between management and its flight crews. Therefore, the safety intent of the FDA program will be clearly documented so it is understood by all participants, and the conditions of use and protection of program data and information will be explicitly defined in a formal agreement involving the operator's management, representatives of its flight crews and the participating regulatory authority.

More detailed information regarding FDA program data management and protection may be found in the source documents referenced in the guidance associated with ORG 3.3.1.

△ **ORG 3.3.5**

If the Operator has an FDA program in accordance with ORG 3.3.1, the Operator shall have processes to ensure program findings (e.g. hazards, adverse events and trends, airworthiness issues) are coordinated with relevant operational areas of the organization for further validation and assessment, and for a determination of appropriate follow-up action. Such coordination and follow-up action shall be accomplished within the SMS as follows:

(i) Hazard identification and safety risk assessment and mitigation in accordance with ORG 3.1.1 and ORG 3.2.1.

(ii) Event investigation in accordance with ORG 3.5.1 and ORG 3.5.2.

(iii) Continuing airworthiness assessment in accordance with Maintenance Management Manual (MMM) procedures as specified in MNT 1.7.1 and Table 4.3. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** organizational safety risk assessment/mitigation program (focus: process for analysis of safety data to predict future risks).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected results of data analysis performed to predict future risks.
- ☐ **Examined** examples of action(s) taken to address future risks identified from safety data analysis.
- ☐ **Other Actions** (Specify)

Guidance

Refer to standards in ICAO Annex 6, which specify an FDA program as part of an operator's SMS.

The primary aim of an FDA program is the continuous improvement of the operator's overall safety performance. Therefore, the FDA program, which functions to monitor and measure flight safety performance, is integrated in the Safety Assurance component of the operator's SMS.

The FDA program is also used for safety hazard identification and, as such, is integrated in the Risk Management component of the operator's SMS. Within an SMS there are typically multiple systems used as sources for hazard identification (e.g. accident/incident investigation, operational safety reporting, change management). Therefore, risk management processes are integrated in the operator's SMS to ensure an efficient use of resources and processes, and, where possible, to eliminate or reduce duplicated processes.

Refer to ICAO Doc 9859, Safety Management Manual, and ICAO Doc 10000, Manual on Flight Data Analysis Programmes (FDAP), for more detailed information regarding integration of the FDA program into the operator's SMS.

3.4 Specific Risk Assessments

3.5 Occurrence Handling

ORG 3.5.1

The Operator shall have a process for the investigation of aircraft accidents and incidents, to include reporting of events in accordance with requirements of the State. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** accident investigation process (focus: process includes compliance with regulatory accident/incident reporting requirements; output includes final report with recommendations).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected accident and incident reports (focus: investigation identifies operational safety hazards, produces recommendations to prevent recurrence/mitigate risk).
- ☐ **Other Actions** (Specify)

Guidance

Accident and incident investigation is considered a *reactive* hazard identification activity in an SMS.

A primary purpose of accident and incident investigation is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

Investigations typically result in a report that describes the factors that contributed to the event, which is then made available to responsible senior operational managers to permit them to evaluate and implement appropriate corrective or preventive action.

An effective investigation process typically includes:

- Qualified personnel to conduct investigations (commensurate with operation size);
- Procedures for the conduct of investigations;
- A process for reporting investigative results;

- A system for implementing any corrective or preventive action;
- An interface with relevant external investigative authorities (when applicable);
- A process for the dissemination of information derived from investigations.

To ensure awareness among operational personnel, information derived from investigations is disseminated to relevant areas throughout the organization.

In the event of a major accident, an operator responds to and possibly participates in an investigation in accordance with provisions contained in ICAO Annex 13. Such capability requires an operator to maintain an ongoing interface with relevant investigative authorities to ensure preparedness in the event a major accident occurs.

Expanded guidance may be found in the ICAO SMM, Document 9859.

ORG 3.5.2

The Operator shall have a process for identifying and investigating irregularities and other non-routine operational occurrences that might be precursors to an aircraft accident or incident. **[SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for identification/investigation of irregularities/non-routine occurrences (focus: process output includes final report with recommendations).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected irregularity/non-routine occurrence reports (focus: process identifies operational safety hazards, produces recommendations to mitigate risk).
- ☐ **Other Actions** (Specify)

Guidance

Investigation of operational irregularities is considered a *reactive* hazard identification activity in an SMS.

A primary purpose of investigating non-routine operational occurrences is hazard identification, which is an element of the Safety Risk Management component of the SMS framework.

The investigation of irregularities or non-routine occurrences is a hazard identification activity. Minor events, irregularities and occurrences occur often during normal operations, many times without noticeable consequences. Identifying and investigating certain irregular operational occurrences can reveal system weaknesses or deficiencies that, if left un-checked, could eventually lead to an accident or serious incident. These types of events are referred to as accident *precursors*.

A process to monitor operations on a regular basis permits the identification and capture of information associated with internal activities and events that could be considered precursors. Such events are then investigated to identify undesirable trends and determine contributory factors.

The monitoring process is typically not limited to occurrences, but also includes a regular review of operational threats and errors that have manifested during normal operations. Monitoring of normal operations can produce data that further serve to identify operational weaknesses and, in turn, assist the organization in developing system solutions.

As with the investigation of accidents and serious incidents, the investigation of minor internal occurrences results in a report that is communicated to relevant operational managers for analysis and the possible development of corrective or preventive action.

Expanded guidance may be found in the ICAO SMM, Document 9859.

3.6 Cybersecurity Risk Management

4 Improvement and Promotion, Training

4.1 Management Review

△

ORG 4.1.1

The Operator shall have a process to review the management system at intervals not exceeding one year to ensure its continuing suitability, adequacy and effectiveness in the management and control of operations and associated risks. A review shall include assessing opportunities for improvement and the need for changes to the system, including, but not limited to:

(i) Organizational structure;
(ii) Defined safety objectives;
(iii) Reporting lines, authorities, responsibilities;
(iv) Policies, processes and procedures;
(v) Allocation of resources;
(vi) Identification of training needs**. [SMS] (GM)**

Auditor Actions

- ☐ **Identified/Assessed** corporate management review process (focus: process identifies organizational opportunities for changes/improvement to management system).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Examined** selected records of management review meetings.
- ☐ **Examined** selected examples of output from management review process (focus: changes implemented to improve organizational performance).
- ☐ **Other Actions** (Specify)

Guidance

Management review is a necessary element of a well-managed company that provides a medium through which organizational control and continual improvement can be delivered. To be effective, a formal management review takes place on a regular basis, typically once or more per year. The management review would focus on the entire management system, including the assessment of the effectiveness of the SMS processes.

The management review would typically be conducted by a strategic committee of senior management officials that are familiar with the workings and objectives of the management system. If the review of the SMS is conducted separately, such committee is typically referred to as a Safety Review Board (SRB), which is a very high level, strategic committee chaired by the AE and composed of senior managers, including senior line managers responsible for functional areas in operations (e.g. flight operations, engineering and maintenance, cabin operations).

To ensure frontline input as part of the review process, an operator would form multiple units of specially selected operational personnel (e.g. managers, supervisors, frontline personnel) that function to oversee safety in areas where operations are conducted. Such units are typically referred to as Safety Action Groups (SAGs), which are tactical committees that function to address implementation issues in frontline operations to satisfy the strategic directives of the SRB.

An appropriate method to satisfy this requirement is a periodic formal meeting of senior executives. The agenda of the meeting would typically include a general assessment of the management system to ensure all defined elements are functioning effectively and producing the desired operational safety outcomes consistent with defined safety objectives.

Senior management ensures deficiencies identified during the management review are addressed through the implementation of organizational changes that will result in improvements to the management system.

Input to the management review process would typically include:

- Results of audits;
- Findings from operational inspections and investigations;
- Operational feedback;
- Incidents and near-miss reports;
- Changes in regulatory policy or civil aviation legislation;
- Process performance and organizational conformance;
- Status of corrective and preventative actions;
- Results from implementation or rehearsal of the emergency response plan (ERP);
- Follow-up actions from previous management reviews;
- Feedback and recommendations for management system improvement;
- Regulatory violations.

Output from the management review process would typically include decisions and actions related to:

- Improvement of the processes throughout the management system;
- Safety and security requirements;
- Resource needs.

The management review is a formal process, which means documentation in the form of meeting schedules, agendas and minutes are produced and retained. Additionally, the output of the management review process would normally include action plans for changes to be implemented within the system where deemed appropriate.

Examples of strategies that might improve the overall effectiveness of the management review process include:

- Integrating the management review meeting into other performance review meetings;
- Scheduling management review meetings frequently enough to ensure any action that might be required is timely;
- Ensuring senior managers understand their responsibilities as part of the review process;
- Ensuring action items resulting from meetings are documented and progress is tracked;
- Ensuring there is always a responsible name associated with action items.

Expanded guidance related to review of the SMS may be found in the ICAO SMM, Document 9859.

△ **ORG 4.1.2**

The Operator shall have a process to ensure significant issues arising from quality assurance and risk management are subject to management review in accordance with ORG 4.1.1. **[SMS] (GM)**

Note: *Conformity with this provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** corporate management review process (focus: quality assurance and risk management issues are included in the management review process).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Interviewed** quality assurance program manager.
- ☐ **Examined** selected records/documents of management review (focus: specific issues/changes identified/implemented to improve quality assurance and risk management programs).
- ☐ **Coordinated** to verify management review of significant quality assurance issues in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Management review supports safety performance monitoring and continuous improvement of the SMS, which are elements of the Safety Assurance component of the SMS Framework.

Such review permits senior management to consider quality assurance and risk management issues that have the potential to affect the safety of operations and then ensure appropriate corrective or preventive actions are implemented and are being monitored for effectiveness in preventing accidents and incidents.

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

4.2 Safety Communication

△ **ORG 4.2.1**

The Operator shall have a system that enables effective communication of safety and operational information throughout the management system and in all areas where operations are conducted. Such system shall ensure:

(i) Personnel maintain an awareness of the SMS;

(ii) Safety-critical information is conveyed;

(iii) External service providers are provided with information relevant to operations conducted. **(GM) ►**

Auditor Actions

- ☐ **Identified/Assessed** organizational communication system (focus: safety and operational information is communicated throughout the organization and to relevant external service providers).
- ☐ **Interviewed** AE and/or designated management representative(s).
- ☐ **Examined** examples or records of information communication.
- ☐ **Interviewed** selected management system personnel.
- ☐ **Coordinated** to verify implementation of communication system in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

Safety communication is an element of the Safety Promotion component of the SMS framework.

An effective communication system ensures the exchange of operational and safety-related information throughout all areas of the organization and includes senior managers, operational managers and front-line personnel.

To be totally effective, the communication system would also include external organizations that conduct outsourced operational functions. Communication with external service providers would typically be limited to information that is pertinent and relevant to the provider's services delivered to the operator. It would be at the operator's discretion to define the extent and content of such communication and the delivery method(s) to be used.

Methods of internal communication will vary according to the size and scope of the organization. However, to be effective, methods are as uncomplicated and easy to use as is possible and facilitate the reporting of operational deficiencies, hazards or concerns by operational personnel.

Specific methods of communication between management and operational personnel could include:

- Email, Internet;
- Safety or operational reporting system;
- Communiqués (e.g. letters, memos, bulletins);
- Publications (e.g. newsletters, magazines).

If email is used as an official medium for communication with operational personnel, the process is typically formalized by the operator to ensure control and effectiveness.

The general intent of safety communication is to foster a positive safety culture in which all employees receive ongoing information on safety issues, safety metrics, specific hazards existing in the workplace and initiatives to address known safety issues. Such communication typically conveys safety-critical information, explains why particular actions are taken to improve safety and why safety procedures are introduced or changed.

Information and issues relevant to safety performance are typically derived from various sources such as, but not limited to, the quality assurance/flight safety analysis programs, operational safety reporting and accident/incident investigations.

Expanded guidance may be found in the ICAO SMM, Document 9859.

4.3 Training

ORG 4.3.1

The Operator shall have a program that ensures its personnel are trained to understand SMS responsibilities and competent to perform associated duties. The scope of such training shall be appropriate to each individual's involvement in the SMS. **[SMS] (GM)** ►

Note: *The specifications of this provision are applicable to personnel of the Operator.*

Note: *Conformity with this ORG provision is possible only when the Operator is in conformity with all repeats of this provision in other ISM sections.*

Auditor Actions

- ☐ **Identified/Assessed** SMS training program (focus: program ensures training for the operator's personnel as appropriate to individual SMS involvement).
- ☐ **Interviewed** SMS manager and/or designated management representative(s).
- ☐ **Examined** selected SMS training curricula/syllabi (focus: personnel are trained to understand SMS responsibilities and to perform associated SMS duties).
- ☐ **Examined** selected management/non-management personnel training records (focus: completion of SMS training relevant to individual involvement in the SMS).
- ☐ **Coordinated** to verify SMS training is implemented in all operational areas.
- ☐ **Other Actions** (Specify)

Guidance

SMS training is an element of the Safety Promotion component of the SMS framework.

Within an operator's organization there are personnel that perform duties that are directly or indirectly related to the safety of aircraft operations. All such personnel thus have an involvement in the operator's SMS. This applies to management and non-management personnel in frontline operational positions and could also include others that perform certain administrative functions. The intent of this provision is for the operator to have a program that ensures personnel are trained and competent to perform their SMS duties. Such program would include training for support staff, operational personnel, managers and supervisors, senior managers and the accountable executive.

The content of safety training is appropriate to each individual's involvement in the SMS and typically includes or addresses some or all of the following subject areas:

- Organizational safety policies, goals and objectives;
- Organizational safety roles and responsibilities related to safety;
- Organizational SMS processes and procedures;
- Basic safety risk management principles;
- Safety reporting systems;
- Human factors.

Recurrent training would be offered at the option of the operator to ensure personnel maintain continuing competency in SMS duties. If offered, such training would typically focus on changes to SMS policies, processes and procedures as well as any specific safety issues relevant to the organization.

An operator may use various methods to verify if personnel are competent to perform their duties at the conclusion of the training. The methods used would be solely at the discretion of the operator and would typically be based on the depth and detail of the training provided. Such methods may include a combination of the following:

- Including knowledge checks during the training modules;
- Performing Q&A sessions at the conclusion of a module or training session;
- Including practical exercises with feedback;
- Observing the staff member during the performance of SMS duties;
- Administering an oral or written test;

Refer to the IAH for information that identifies repeats of this ORG provision in other ISM sections.

Expanded guidance may be found in the ICAO SMM, Document 9859.

4.4 Effectiveness

ORG 4.4.1

The Operator *should* demonstrate that systems, processes and procedures specified in the ISARPs identified with the **[Eff]** symbol are achieving the designated Desired Outcome.

Note: *Conformity with this ORG provision is possible only when the Operator demonstrates effectiveness of implementation for all ISARPs designated with the **[Eff]** symbol.*

Note: *Conformity with this provision does not require specifications to be documented by the Operator.*

Auditor Actions

☐ **Coordinated** to verify status of conformity with ISARPs designated with the **[Eff]** symbol.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Desired Outcome and Effective.

Table 1.1–Documentation System Specifications			
As specified in ORG 2.5.1 , the Operator shall have a system for the management and control of documentation and/or data used directly in the conduct or support of operations. Such system shall comprise the elements specified below. **Note:** Refer to the IRM for the definitions of Documentation, Electronic Documentation and Paper Documentation.			
Elements	**Documentation Types**		
	Type 1	**Type 2**	**Type 3**
(i) Identification of the version and effective date of relevant documents and/or data.	**Recommended**	**Recommended**	**Required** Note
(ii) Identification of the title and, if applicable, sub-titles of relevant documents and/or data.	**Recommended**	**Recommended**	**Required** Note
(iii) Distribution and/or dissemination that ensures all users are provided relevant documents and/or data on or before the effective date: (a) Throughout appropriate areas of the organization; (b) To external service providers that conduct outsourced operational functions.	**Required** Note	**Required** Note	**Required** Note
(iv) Definition of the specific media type(s) designated for presentation or display of the controlled version of relevant documents and/or data.	**Required** Note	**Required** Note	**Required** Note
(v) Definition of documentation and/or data that is considered to be reproduced and/or obsolete.	**Required** Note	**Required** Note	**Required** Note
(vi) Review and revision to maintain the currency of relevant documents and/or data.	**Required** Note	**Required** Note	**Required** Note
(vii) Retention that ensures access to the content of relevant documents and/or data for a minimum period as defined by the Operator.	**Required** Note	**Required** Note	**Required** Note
(viii) Provision for a scheduled backup by copying and archiving relevant documents and/or data, to include validation of the documents or data being backed up.	**Required** Note	**Required** Note	**Required** Note
(ix) Identification and allocation of documentation access/user and modification rights.	**Required** Note	**Required** Note	**Required** Note
(x) Dissemination and/or accessibility of documentation received from external sources such as regulatory authorities and original equipment manufacturers.	**Required** Note	**Required** Note	**Required** Note
Note: Required for conformity with ORG 2.5.1.			

Table 1.2–Required Internal Audit Information
As specified in ORG 2.1.4, the Operator shall ensure the following information associated with the internal audit of individual ISARPs is recorded and retained: (i) The alpha-numeric identifier; (ii) Appropriate documentation reference(s) (from the Operator's documentation system); (iii) Auditor name(s); (iv) Audit date(s); (v) Auditor Actions accomplished by auditor(s) to provide evidence of implementation; (vi) If applicable, a description of non-conformance(s) and: (a) The root cause(s) of non-conformance(s); (b) The corrective action(s) implemented to address non-conformance(s). (vii) If applicable, a description of non-applicability (N/A); (viii) The current status of conformance (documented and implemented). **GM** ***Note:*** *The above-specified audit information may be retained in the Operator's electronic database as specified in ORG 2.1.4 and ORG 2.4.1, or in controlled procedural documents.*

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Section 2 — Flight Operations (FLT)

Applicability

Section 2 addresses safety and security requirements for flight operations, and is applicable to an operator that uses two-pilot, multi-engine aircraft with a maximum certificated takeoff mass in excess of 5,700 kg (12,566 lbs.) to conduct:

- Passenger flights with or without cabin crew;
- Cargo flights with or without the carriage of passengers or supernumeraries.

Additionally, the IOSA standards and recommended practices (ISARPs) in Section 2 are applicable only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) and used in commercial passenger and/or cargo operations unless applicability is extended to encompass non-commercial operations as stated in a note immediately under the body of the provision.

Individual FLT provisions or sub-specifications within a FLT provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.

Certain flight crew training ISARPs in sub-section 2 contain a Conformance Applicability (CA) table, which is an integral part of the standard or recommended practice. Refer to the ISM Introduction for a description of a Conformance Applicability (CA) table.

Where an operator outsources flight operations functions to external service providers, an operator retains responsibility for ensuring the management of safety in the conduct of such operations and must demonstrate processes for monitoring applicable external service providers in accordance with FLT 1.11.2.

Some cabin safety specifications applicable to functions or equipment within the scope of flight operations are located in Section 5 (CAB) of this manual.

General Guidance

The definitions of technical terms used in this ISM Section 2, as well as the list of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Management System Overview

1.2 State Requirements

FLT 1.2.1

The Operator shall have a valid Air Operator Certificate (AOC) or equivalent document issued by the State of the Operator (hereinafter, the State) that authorizes the Operator to conduct commercial air transport operations in accordance with specified conditions and limitations. The AOC and/or associated documents shall include:

(i) Operator identification (name and location);
(ii) Date of issue and period of validity;
(iii) Description of types of operations authorized;
(iv) Type(s) of aircraft authorized for use;
(v) Authorized areas of operation or routes;
(vi) Exemptions, deviations and waivers (listed by name);

(vii) Special authorizations/approvals as required by the Authority, to include, as applicable:

(a) Low visibility operations (LVO);

(b) CAT II and/or III approaches;

(c) Automatic landing, head-up display (HUD) or equivalent displays, vision systems (EVS, SVS or CVS) operations and associated operational credit(s) granted (if such systems are used to gain operational benefit);

△ (d) Use of GPS to conduct any approach;

△ (e) ETOPS/EDTO, as applicable, including the applicable threshold/maximum diversion times established for each particular aircraft and engine combination;

(f) RVSM operations;

(g) MNPS/NAT HLA operations;

(h) Area of Magnetic Unreliability (AMU);

(i) Basic RNAV/RNP operations;

(j) AR navigation specifications for PBN operations;

(k) Performance-Based Communication and Surveillance (PBCS) operations;

(l) Transport of dangerous goods as cargo;

(m) Electronic Flight Bag (EFB) operations. **(GM)**

Note: *"Vision systems" is a generic term referring to the existing systems designed to provide images, such as enhanced vision systems (EVS), synthetic vision systems (SVS) and combined vision systems (CVS).*

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Auditor Actions

- ☐ **Identified** the documents that authorize the Operator to conduct commercial air transport operations in accordance with conditions and limitations specified by the State.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** AOC (focus: information is current and relevant to the Operator).
- ☐ **Crosschecked** AOC against OM (focus: authorizations/limitations consistent with operations conducted by Operator).
- ☐ **Other Actions** (Specify)

Guidance

△ Refer to the IRM for the definitions of Low Visibility Operations (LVO) and North Atlantic Track High Level Airspace (NAT HLA).

Refer to the IRM for the definitions of Electronic Flight Bag (EFB), Enhanced Visual System (EVS), ETOPS, Extended Diversion Time Operations (EDTO), Head-up Display (HUD), Minimum Navigation Performance Specifications (MNPS/NAT HLA), PBN Navigation Specification AR (Authorization Required), Reduced Vertical Separation Minima (RVSM), Required Navigation Performance (RNP) and State.

The specifications of this provision require the conditions and limitations of any State-approved or State-accepted air transport operations, conducted by the operator, to be described in the AOC, AOC equivalents and/or associated documents.

The AOC is produced (by the State) in a manner consistent with local conditions for State approval or acceptance. This should not preclude the operator from describing authorized operations, including conditions and limitations for such operations, in associated documents and in a manner consistent with the specifications of this provision. Such documents typically include the OM or any operational document that describes the conditions and limitations of authorized operations.

The exemptions, deviations, waivers and special authorizations in specifications vi) and vii) may be described in State-approved or State-accepted documents other than the AOC.

Operators subject to laws or regulations of the State that prevent the issuance of an AOC consistent with the specifications of this provision and/or prohibit the description of authorized operations in a manner consistent with the specifications of this provision may demonstrate an equivalent method of ensuring the specifications of this provision are satisfied.

The period of validity is designated on the AOC or determined by reference to the dates of issuance and expiration.

The specification in item vii) e) refers to aircraft operated on routes where the diversion time from any point on the route to an en route alternate airport exceeds the threshold time but is within the maximum diversion time as established by the State.

1.3 Accountability, Authorities and Responsibilities

FLT 1.3.2

The Operator shall delegate authority and assign responsibility for the management and supervision of specific areas of the organization relevant to the flight operations management system, to include, as a minimum:

(i) Fleet operations;
(ii) Line operations;
(iii) Documentation control;
(iv) Flight crew training;
(v) Operations engineering;
(vi) Flight crew scheduling;
(vii) Accident prevention and flight safety;
(viii) Human resources;
(ix) Quality assurance;
(x) Security. **(GM)**

Auditor Actions

☐ **Identified** positions with authority/responsibility for management/supervision of the specified areas of flight operations.
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** job description for selected management positions (focus: authority/responsibility for management of the specified areas of flight operations).
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Crew and Operations Engineering.

The specification in:

- Item i) refers to the management of policies, rules, procedures and instructions governing specific aircraft.
- Item ii) refers to the management of policies, rules, procedures and instructions governing flight crew.
- Item vii) could also be referred to as the flight safety program.
- Item viii) refers to the provision of Human Resources including management staff, support staff, administrative staff and flight crew.

1.4 Communication and Coordination

FLT 1.4.2

The Operator shall have a process to ensure issues that affect operational safety and security are coordinated among personnel with expertise in the appropriate areas within the flight operations organization and relevant areas outside of flight operations, to include, as appropriate:

(i) Accident prevention and flight safety;
(ii) Cabin operations;
(iii) Engineering and maintenance;
(iv) Operations engineering;
(v) Operational control/flight dispatch;
(vi) Human resources;
(vii) Ground handling, cargo operations and dangerous goods;
(viii) Manufacturers, (AFM/AOM, operational and safety communication);
(ix) Regulatory agencies or authorities. **(GM)**

Auditor Actions

☐ **Identified/Assessed** operational safety and security coordination process(es).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected evidence of internal/external coordination.
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Aircraft Operating Manual (AOM) and Approved Flight Manual.

Some examples of issues that could affect operational safety and security include aircraft modifications, new equipment, new destinations/routes, or regulatory changes.

The specifications of this provision are satisfied if an operator can demonstrate that a process exists within the flight operations organization that ensures necessary internal and external coordination.

The coordination processes specified in this provision may occur during meetings or other means of liaison (e.g. email, memos, conference call).

The specification in item iv) refers to coordination with the following or other appropriate categories of personnel:

- The operations engineering manager or other person responsible for defining, producing, customizing and distributing aircraft performance data;
- The manager responsible for defining, producing, customizing and/or distributing route and airport instructions or information, Notices to Airmen (NOTAMs) and Flight Management System (FMS) databases, if applicable;
- The operations engineering manager or other person in charge of aircraft equipment specification.

The specification in item iv) typically includes coordination on the following operational safety issues:

- Fleet and cross-fleet standardization;
- Flight deck layout;
- Aircraft avionics, instrumentation, equipment and/or components in accordance with the provisions of FLT 4.3.1.

The specification in item vi) refers to coordination with respect to staffing necessary to meet operator requirements.

FLT 1.4.3

The Operator shall have a process to ensure the dissemination of safety-critical operational information to appropriate personnel within and external to the flight operations organization, to include:

(i) Airworthiness Directives (ADs);
(ii) Manufacturer bulletins;
(iii) Flight crew bulletins or directives;
(iv) NOTAMs. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process that ensures the dissemination of safety-critical operational information.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** frontline personnel.
- ☐ **Examined** selected evidence of information dissemination.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Airworthiness Directive, Flight Crew Bulletin and NOTAM.

The intent of this provision is to ensure a process is in place to disseminate safety critical information to personnel that require it.

1.5 Provision of Resources

FLT 1.5.3

The Operator shall have a process to ensure candidates, prior to being employed as flight crew members, are screened for the purpose of determining if they possess the requisite certifications, skills, competencies and other attributes required by the Operator and/or State. Such process, as a minimum, shall include procedures for reviewing and/or assessing:

(i) Technical and non-technical competencies and skills, to include interpersonal skills;
(ii) Aviation experience;
(iii) Credentials and licenses;
(iv) Medical fitness;
(v) Security background;
(vi) Common language(s) fluency. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process/criteria used for pre-employment screening of flight crew member candidates.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew candidate screening records.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Air Traffic Control (ATC).

The specification in:

- Item i) refers to technical competencies and skills that will vary with the requirements of the position in which the flight crew member will be employed. For example, an ab initio pilot will not necessarily have flying skills but will possess other skills and/or attributes necessary to succeed in training.
- Item iii) typically includes verification of authenticity of licenses.

- Item iv) could be assessed by a flight operations management interview, Human Resource interview and/or the conduct of a psychological analysis.
- Item vi) is applicable unless such check is performed or prohibited by the State.
- Item vii) refers to aviation English language fluency (where required for Air Traffic Control (ATC) communications) and sufficient fluency in the designated common language(s) necessary for ensuring effective communication (see FLT 3.1.1).

FLT 1.5.5

The Operator shall have criteria and processes for the selection of instructors, evaluators and line check airmen, to include a minimum experience level in line operations that is acceptable to the Operator and/or the State. **(GM)**

Auditor Actions

☐ **Identified/Assessed** instructor/evaluator/line check airman selection criteria and processes.
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected instructor/evaluator/line check airman candidate screening records.
☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure instructors and evaluators are selected in a manner consistent with the overall objectives of an operator's training program. To achieve this aim, selection criteria and processes would typically include:

- Confirmation that a minimum level of experience has been attained;
- A review of the training records of potential selectees;
- Recommendations from Flight Operations management and/or the training department.

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1.6 Documentation System

FLT 1.6.3

△ The Operator shall ensure the system for the management and control of flight operations documentation as specified in ORG 2.5.1 and Table 1.1 addresses, as a minimum, the following documents from external sources:

(i) As applicable, regulations of the State and of the other states or authorities relevant to operations;
(ii) As applicable, relevant ICAO Standards and Recommended Practices (SARPS), manuals, regional supplementary procedures and/or circulars;
(iii) Airworthiness Directives (ADs);
(iv) As applicable, Aeronautical Information Publications (AIP) and NOTAMS;
(v) State-approved or State-accepted Aircraft Flight Manuals (AFM);
(vi) Manufacturer's Aircraft Operating Manuals (AOMs), including performance data, weight and balance data/manuals, checklists and MEL/CDL;
(vii) As applicable, other manufacturer's operational communications. **(GM)**

Auditor Actions

☐ **Identified/Assessed** system(s) for management and control of documentation and data used in flight operations (focus: system includes management/control of specified documents from external sources).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected documents from external sources (focus: application of management/control elements).
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Aeronautical Information Publication (AIP), Aircraft Operating Manual (AOM), Approved Flight Manual (AFM), Airworthiness Directive (AD), Configuration Deviation List (CDL), Master Minimum Equipment List (MMEL), Minimum Equipment List (MEL), State Acceptance and State Approval.

The specification in item i) refers to applicable regulations imposed on an operator by the State, which issues the Air Operator Certificate (AOC), and other states and/or authorities that actively regulate foreign operators or have jurisdiction over international operations conducted by the operator. This may be done through the issuing of an Operational Specification (OPS SPEC) or specific state legislation.

The specification in item ii) refers to applicable ICAO standards, recommended practices, supplemental procedures and/or guidance material made applicable to the operations of the operator by any states or authority with jurisdiction over the operations of the operator. Applicable authorities typically include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or over the territory of a state that is other than the State of the Operator.

The specification in item ii) also refers to applicable ICAO standards and/or recommended practices that are referenced in the operator's documentation.

The specification for the manufacturer's AFM in item v) may be replaced by an Aircraft Operating Manual (AOM) customized by the manufacturer for the specific use in flight operations by an operator.

The specification in item vi) refers to bulletins or directives distributed by the manufacturer for the purposes of amending aircraft technical specifications and/or operating procedures.

The specification in item vii) refers to operational communications received from the manufacturer of equipment that is installed on the airplane, typically from the manufacturers of the engines, components and safety equipment.

1.7 Operations Manual

FLT 1.7.1

The Operator shall have an Operations Manual (OM) for the use of personnel in the flight operations organization, which may be issued in separate parts, and which contains or references the policies, procedures, checklists and other guidance or information necessary for compliance with applicable regulations, laws, rules and Operator standards. As a minimum, the OM shall be managed and controlled in accordance with FLT 1.6.1, define the content of the onboard library and be in accordance with specifications contained in Table 2.2. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** operational documents that comprise the OM.
- ☐ **Identified** external documents referenced in the OM that contain operational information used by flight crew.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected parts of OM (focus: contents in accordance with Table 2.2).
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew use/interpretation of OM and related checklists).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the flight crew will find all information necessary to perform its functions within the OM, or within another document that is referenced in the OM. The OM is identified as a source of operational information approved or accepted for the purpose by the operator or the State.

Guidance and procedures in the OM enable the flight crew to comply with the conditions and limitations specified in the AOC.

1.8 Records System

1.9 (Intentionally open)

1.10 Quality Assurance Program

1.11 Quality Control of Outsourced Operations and Products

1.12 Safety Management

Risk Management

△ **FLT 1.12.1**

The Operator shall have a hazard identification program in the flight operations organization that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in flight operations (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of flight operations in cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** person(s) that perform flight operations data collection/analysis to identify hazards to aircraft operations.
- ☐ **Examined** selected examples of hazards identified through flight operations data collection/analysis.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

FLT 1.12.2

The Operator shall have a safety risk assessment and mitigation program in the flight operations organization that specifies processes to ensure:

(i) Hazards are analyzed to determine the corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in flight operations. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its operational risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.

• Means used for recording risks and mitigation (control) actions.

• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant flight operations hazards are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) within the flight operations organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

△ (ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in flight operations (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** role of flight operations in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** person(s) that perform flight operations risk assessment/mitigation.
- ☐ **Examined** selected records/documents that illustrate risk assessment/mitigation action.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

Hazards relevant to the conduct of aircraft operations are potentially associated with:

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- Operations in airspace affected by armed conflict (i.e. Conflict Zones);
- ATM congestion;
- Mechanical failure;
- Geography (e.g. adverse terrain, large bodies of water, polar);
- Airport constraints (e.g. isolated, runway closure, RFFS capability);
- Alternate airport selection, specification and availability at the estimated time of use;
- Preflight fuel planning and in-flight fuel management;
- Critical fuel scenarios;
- △ ETOPS/EDTO;
- Performance-based compliance to prescriptive regulations;
- Operational considerations (e.g. area of operations, diversion time);

- The capabilities of an individual aircraft (e.g. cargo smoke detection and fire suppression systems, open MEL items);
- The properties of items to be transported as cargo;
- The quantity and distribution of dangerous goods items to be transported;
- Criminal, dangerous, and/or unauthorized activities directed at manned aircraft or in the vicinity of manned aircraft operations (e.g. laser pointing, unauthorized UAS/RPAS operations);
- Flights using aircraft to transport cargo in the passenger cabin, without passengers;
- Any other condition(s) that would pose a safety risk to aircraft operations.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

FLT 1.12.3

The Operator shall have an operational safety reporting system in the flight operations organization that:

(i) Encourages and facilitates flight crew members and other flight operations personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Ensures mandatory reporting in accordance with applicable regulations;

(iii) Includes analysis and flight operations management action as necessary to address safety issues identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

☐ **Identified/Assessed** operational safety reporting system in flight operations (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in flight operations.

☐ **Interviewed** selected flight crew members.

☐ **Examined** selected data that confirm an effective flight operations safety reporting system (focus: quantity of reports submitted/hazards identified).

☐ **Examined** records of selected flight operations safety reports (focus: analysis/follow-up to identify and address reported hazards/safety concerns).

☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Performance Monitoring and Management

2 Training and Qualification

General Guidance

Many provisions in this subsection specify traditional training program requirements that may be replaced by an equivalent requirement as part of an Advanced Qualification Program (AQP), Alternative Training and Qualification Program (ATQP) or Evidence-based Training (EBT) program in accordance with FLT 2.1.1A and FLT 2.1.1B. AQP, ATQP and EBT are contemporary data-driven training programs that allow for variations in the manner and method by which training and, when applicable, an evaluation is conducted. Additionally, traditional recurrent training intervals may be

replaced in accordance with intervals specified in the continuing qualification curriculum that is defined in an operator's AQP, ATQP or EBT (as applicable).

Most provisions contain specifications related to the recurring frequency of training and evaluation events for flight crew members. Such provisions, with a few exceptions, define cycles or intervals for the completion of recurrent training and/or evaluation expressed in months since training was first completed or qualification was first established. It is important to note, however, that for the purpose of conformance with these provisions, such intervals are nominal and that the actual interval may vary slightly. For example, an operator may adjust the frequency of evaluations to minimize overlap, provide scheduling flexibility, preserve the original qualification date, and/or ensure evaluations are consistently completed in accordance with the nominal cycle set forth by the State and/or applicable authorities. Accommodations of this nature are commonplace and vary widely by regulatory jurisdiction. In all cases, however, the auditor will make the determination of whether or not such accommodations fit within the nominal cycles established in each provision.

Conformance Applicability (CA) Tables embedded in certain provisions indicate how aspects or factors relevant to flight crew training and qualification must be addressed or satisfied for an operator to be in conformity with the provision. Each CA table contains four columns that address the following relevant aspects/factors:

- Specific to Aircraft Type: Indicates whether the training specified in the provision must account for or be tailored to aircraft type or crew position.
- Included in Initial/Transition/Conversion Training: Indicates whether the training specified in the provision must be included as part of initial, transition or conversion training.
- Included in Recurrent Training/Continuing Qualification: Indicates whether the training specified in the provision must be included as part of recurrent training/continuing qualification and, as applicable, specifies the maximum recurrent interval.
- Conformance through AQP/ATQP/EBT: Indicates whether the specified training and/or evaluation, including the associated recurrent training/continuing qualification interval, if any, may be replaced by equivalent requirements as part of, as applicable, the operator's AQP, ATQP or EBT program.

2.1 Training and Evaluation Program

General

FLT 2.1.1A

The Operator shall have a training and evaluation program, approved or accepted by the Authority, that consists of ground and flight training and, when applicable, evaluations to ensure flight crew members are competent to perform assigned duties. The program shall address traditional and, if applicable, advanced, alternative or evidence-based training and qualification, and ensure training and evaluation is conducted for each type of aircraft in the fleet. Such program shall also, as a minimum, address:

(i) Initial qualification;

(ii) Continuing qualification;

(iii) Re-qualification;

(iv) As applicable, aircraft transition or conversion;

(v) Upgrade to PIC;

(vi) As applicable, other specialized training requirements, including those associated with operations authorized in the AOC;

(vii) As applicable, each traditional training program requirement that is replaced by a requirement under an Advanced Qualification Program (AQP), Alternative Training and Qualification Program (ATQP) or Evidence-based Training (EBT) program. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew training/qualification program (focus: program includes each type of aircraft in the fleet).
- ☐ **Identified/Assessed** AQP/ATQP/EBT elements/regulatory approval (as applicable).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** training/qualification course curriculum for selected aircraft types (focus: inclusion of applicable training/qualification courses for each aircraft type).
- ☐ **Examined** training/qualification records of selected flight crew members (focus: completion of applicable training/qualification courses).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Advanced Qualification Program (AQP), Alternative Training and Qualification Program (ATQP) and Evidence-based Training (EBT).

The intent of this provision is to ensure an operator's training program contains the elements necessary to ensure flight crew members are continuously competent to perform assigned duties.

The initial qualification process provided to newly hired crew members typically includes company indoctrination and initial endorsement on company aircraft types. This presupposes that the newly hired crew member already holds a commercial flying license.

Initial endorsement training may not be required as part of initial qualification if a newly hired crew member already holds a type endorsement acceptable to both the State and the Operator. Company indoctrination training, however, is considered a part of initial qualification.

Continuing qualification includes recurrent or refresher training and also includes any training necessary to meet recency-of-experience requirements.

Transition (conversion) training refers to an aircraft type qualification training and evaluation program for each type of aircraft in the fleet and is not required when an operator only uses one type of aircraft.

Specialized training could also include training on a specific type of new equipment (e.g., ACAS).

AQP/ATQP incorporate the elements and specifications contained in FLT 2.1.1B, Table 2.6 and Table 2.7.

EBT incorporates the elements and specifications contained in FLT 2.1.1B, Table 2.6 and Table 2.8.

Training could be outsourced, in which case services typically range from simple dry lease of a training device to delegation of all training to an external organization (e.g., Authorized Flight Training School).

FLT 2.1.1B

If the Operator conducts training and evaluation in accordance with an AQP, ATQP or EBT program, such program shall be approved or accepted by the Authority and incorporate all of the elements and specifications contained in Table 2.6 and, as applicable, Table 2.7 or Table 2.8. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (focus: regulatory approval; requirements for elements/specifications in accordance with Tables 2.6, Table 2.7 or Table 2.8.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected training/qualification course curricula/syllabi for different aircraft types.
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of AQP/ATQP/EBT elements).
- ☐ **Other Actions** (Specify)

Guidance

AQP/ATQP incorporate the elements and specifications contained in FLT 2.1.1B, Table 2.6 and Table 2.7.

EBT incorporates the elements and specifications contained in FLT 2.1.1B, Table 2.6 and Table 2.8.

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the development of an AQP, ATQP or EBT program. Such guidance might be derived from one or more of the following source references, as applicable:

- Office of the Federal Register, (2 October 1990), Special Federal Aviation Regulation 58 - Advanced Qualification Program, Federal Register, Vol. 55, No. 91, Rules and Regulations (pp. 40262-40278).
- FAA 14 CFR Part 121, Subpart Y.
- FAA Advisory Circular 120–54A, Change 1, Advanced Qualification Program (31 January 2017).
- Advisory Circular 120–35D (13 March 2015), Flightcrew Member Line-Operational Simulations: Line-Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation, Federal Aviation Administration, Washington D. C.: U. S. Department of Transportation.
- FAA Advisory Circular 120–51E (22 January 2004), Crew Resource Management Training, Federal Aviation Administration, Washington D. C.: U. S. Department of Transportation.
- Commission Regulation (U) No. 965/2012 of 05 October 2012 ORO.FC.A.245 Alternative Training and Qualification Programme (ATQP) including associated GM and AMC.
- Mangold, S., and Neumeister, D. (1995). CRM in the model AQP: A preview. In R. S. Jensen and L.A. Rakovan (Eds.), Proceedings of the Eighth International Symposium on Aviation Psychology (pp 556-561), Columbus; the Ohio State University.
- ICAO Doc 9995 Manual of Evidence-based Training.
- IATA Evidence-Based Training Implementation Guide July 2013.
- IATA Data Report for Evidence-Based Training August 2014.
- Any equivalent reference document approved or accepted by the Authority for the development of an advanced training and qualification program designed to conform to the specifications of Table 2.6, Table 2.7 and Table 2.8.

FLT 2.1.2

The Operator shall ensure objectivity is maintained in the training and evaluation program, and that instructors, evaluators and line check airmen are permitted to perform assigned activities without inappropriate interference from management and/or external organizations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for objectivity in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected instructors/evaluators (focus: evaluation criteria/methodology).
- ☐ **Examined** selected instructor/evaluator job descriptions.
- ☐ **Observed** flight simulator operations (focus: objectivity; no undue external interference in training/evaluation).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an absence of bias in the training and evaluation program that permits trainees to be objectively assessed against the operating standards set forth by the operator and/or authority without undue internal or external interference.

Policies and/or procedures used to address objectivity do not apply to ground training courses and evaluations, but do typically address one or more of the following:

- If applicable, the organizational structure of an operator's training program that ensures flight crew members are trained and evaluated by separate and distinct departments or individuals within the training organization;
- The requirements of the State related to the evaluation of pilots to whom an evaluator may have given flight instruction for a license or rating during Type qualification, Transition (conversion), Upgrade to PIC and/or Re-qualification;
- The proper conduct of evaluations administered in conjunction with simulator, aircraft and/or line training, whether conducted or administered by any of the following:
    - Different organizations, or
    - Different individuals than those that conducted the majority of the training, or
    - A common instructor and check airman (e.g. training to proficiency).
- Exceptions that may be appropriate under extenuating circumstances, such as the introduction of new aircraft types or the management of very small fleets.

FLT 2.1.3

The Operator shall ensure flight crew members receive training that supports the introduction of:

(i) New policies, rules, instructions and procedures;

(ii) New aircraft types, systems and fleet modifications/upgrades. **(GM)**

Auditor Actions

☐ **Identified/Assessed** methodology for introduction of specified new elements into flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected training/qualification course curricula/syllabi (focus: examples of new elements as specified).

☐ **Observed** flight simulator operations (focus: training/evaluation reflects current policies/procedures/equipment/aircraft modifications).

☐ **Other Actions** (Specify)

Guidance

This provision is satisfied if a process exists for the introduction into the training program of each specification that results from the coordination processes required by FLT 1.4.2. Such coordination processes typically occur:

- Within the training program;
- Between those responsible for the training program and the relevant areas of the organization in accordance with FLT 1.4.2.

FLT 2.1.4

If the Operator uses distance learning and/or distance evaluation in the flight crew training and qualification program, the Operator shall ensure such training and/or evaluation is monitored in accordance with FLT 2.1.28 and, if required, is approved or accepted by the State. **(GM)**

Auditor Actions

☐ **Identified/Assessed** regulatory approval, process for monitoring/continual improvement of distance learning in flight crew training/evaluation program.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected distance learning/qualification course development records (focus: monitoring/continual improvement).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Distance Learning.

Distance learning refers to flight crew training or evaluation that is not conducted in a classroom or face-to-face with an instructor or evaluator, but rather is conducted through the use of distributed printed material or electronic media (e.g., Internet, compact disc, etc.).

Training Manual

FLT 2.1.10

The Operator shall have a Training Manual for the use of flight operations personnel, which may be issued in separate parts, that contains the details of all relevant training programs, policies, procedures, requirements and other guidance or information necessary to administer the Operator's Training Program. The Training Manual shall, as a minimum, be managed and controlled as specified in FLT 1.6.1, and be in accordance with specifications contained in FLT 1.6.4 and Table 2.2. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew training manual, regulatory approval, content in accordance with Table 2.2.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected parts of training manual (focus: content includes policies/procedures/ requirements, other guidance/information necessary to administer the training/evaluation program.
- ☐ **Observed** flight simulator operations (focus: simulator training consistent with Training Manual).
- ☐ **Other Actions** (Specify)

Guidance

The training manual typically applies to instructors, evaluators, line check airmen, flight crew members, training schedulers, simulator operations personnel, administrative support personnel and other applicable flight operations personnel.

The training manual may be split among several publications with the relevant parts made easily accessible to the appropriate personnel.

FLT 2.1.12

The Operator shall ensure the Training Manual contains standards for flight crew training and evaluation that have been approved or accepted by the State and include, as a minimum:

(i) Standardized procedures for training and the conduct of evaluations;

(ii) Standards that ensure piloting technique and the ability to execute normal and non-normal procedures are checked in a way that demonstrates each pilot's competence;

(iii) A requirement that simulated aircraft, weather and environmental conditions are standardized and appropriate for the training/evaluation being administered;

(iv) If the Operator conducts training flights, a definition of the conditions and/or maneuvers that can be safely simulated in the aircraft, as well as the minimum weather and environmental conditions required to ensure the training/evaluation being administered can be safely and effectively conducted;

(v) Limits for the number of times maneuvers may be repeated and the evaluation still be considered acceptable;

(vi) Procedures for remedial training and subsequent evaluation of a flight crew unable to achieve or maintain required standards. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew training manual, regulatory approval of standards.
- ☐ **Interviewed** the responsible manager(s) in flight operations.

- ☐ **Examined** selected parts of training manual (focus: content includes specified standards/requirements).
- ☐ **Examined** training/qualification records of selected flight crew members (focus: application of training manual standards/requirements in flight crew training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Maneuver Tolerances and Training Flights.

The intent of this provision is to ensure that the standards for flight crew training and evaluation are published or referenced in the Training Manual.

The specifications in item ii) of this provision are normally satisfied by the application of tolerances to normal and non-normal maneuvers during training and evaluations for the following flight parameters:

- Heading
- Airspeed
- Height/altitude
- Course tracking

With respect to item iv), operators that conduct training flights and cannot safely train/evaluate a non-normal maneuver or procedure in an aircraft or in a representative flight simulator as specified in FLT 2.2.38 may demonstrate an alternative means of conformance in accordance with FLT 2.2.41.

For training and/or evaluations conducted in an aircraft during line operations, maneuver tolerances normally include allowances for turbulence, aircraft characteristics and passenger comfort.

Remedial training and subsequent evaluation of flight crew unable to achieve or maintain required standards can be tailored to the needs of the individual concerned.

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

Resources

FLT 2.1.20

The Operator shall have processes that ensure instructors, evaluators, and line check airmen (whether employed or contracted) are standardized and:

(i) As applicable, have the required certification(s)/approval(s) from the State;

(ii) As applicable, meet the required qualification and performance standards of the Operator and/or the State;

(iii) Are periodically evaluated to ensure compliance with required qualification and performance standards. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew training/evaluation program (focus: includes qualification and performance standards that ensure standardization and appropriate certification/ acceptance/approval/evaluation of instructors/evaluators/line check airmen).
- ☐ **Identified/Assessed** processes for the standardization of instructors/evaluators/line check airmen in the flight crew training/qualification program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected qualification records for training/evaluator/line check personnel (focus: certification/approval in accordance with applicable regulations/standards; periodically evaluated against qualification/performance standards).

- ☐ **Observed** flight simulator operations (focus: Instructors/evaluators/meet required standards).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure instructors, evaluators, and line check airmen are standardized and meet the knowledge, skill, experience and flight instruction requirements of the State and/or the Operator.

Refer to ICAO Annex 1, 2.8 for the knowledge, skill, experience and flight instruction requirements typical of state flight instructor licensing/certification programs.

Specific provisions for flight instructors carrying out instruction for the multi-crew pilot license exist in Chapter 6 of the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868).

FLT 2.1.21

The Operator shall have sufficient instructors, evaluators, line check airmen and support personnel to administer the training and evaluation programs in accordance with requirements of the Operator and/or the State, as applicable.

Auditor Actions

- ☐ **Identified/Assessed** staffing requirements for instructor/evaluator/line check airman/support personnel in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected personnel staffing records (focus: staffing in accordance with required levels).
- ☐ **Other Actions** (Specify)

Program Improvement

FLT 2.1.27

The Operator shall ensure formal and regular communication occurs between and among flight operations management, instructors, evaluators, line check airmen and flight crew members to achieve continual improvement of ground, simulator and aircraft training and line operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for communication among management/training personnel/flight crew members for continual improvement in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight training personnel/flight crew members.
- △ ☐ **Examined** selected communication media including, as applicable, meeting minutes, bulletins, surveys, questionnaires, other communication evidence (focus: regular communication occurs among all stakeholders for continual improvement of operations).
- ☐ **Other Actions** (Specify)

Guidance

△ The intent of this provision is for the operator to ensure a mandate exists, as well the means and opportunity, for the conduct of regular communications between and among the operational personnel, including flight crew members, for the purpose of achieving continual program improvement. This typically includes general training bulletins, instructor/check airman meetings, surveys/questionnaires, and other feedback methods.

FLT 2.1.28

The Operator shall have processes for ensuring continual improvement of the flight crew training and evaluation program, to include, as a minimum, the monitoring, recording and evaluation of results of successful and unsuccessful flight crew evaluations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** processes for program monitoring, continual improvement of flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected records of program monitoring (focus: improvements resulting from monitoring).
- ☐ **Other Actions** (Specify)

Guidance

Flight crew operational non-compliances, training deficiencies and evaluation trends (simulator, aircraft and line operations) are typically used by the training organization for trend analysis and program improvement.

Grading scale criteria (e.g. numerical, letter grade) provides a means to accurately identify areas for improvement.

Instructors, Evaluators, and Line Check Airmen

FLT 2.1.35

The Operator shall have an initial training program for instructors, evaluators and line check airmen, to include:

(i) An instructor course that addresses as a minimum:
  (a) The fundamentals of teaching and evaluation;
  (b) Lesson plan management;
  (c) Briefing and debriefing;
  (d) Human performance issues;
  (e) Company policies and procedures;
  (f) Simulator serviceability and training in simulator operation;
  (g) If the Operator conducts training flights, dangers associated with simulating system failures in flight;
  (h) As applicable, the simulated or actual weather and environmental conditions necessary to conduct each simulator or aircraft training/evaluation session to be administered.

(ii) A formal observation program consisting of:
  (a) The observation by the candidate of experienced instructors administering the course and syllabus lessons;
  (b) The observation of the candidate during supervised practical instruction.

(iii) A seat-specific (right or left seat, as applicable) qualification program for instructors, evaluators, line check airmen and any other pilots, so designated by management, who perform duties from either seat;

(iv) If non-line qualified instructors are used, a jump seat observation program or equivalent for non-line qualified instructors to provide familiarity with current and type-related line operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for initial training program for instructors/evaluators/line check airmen in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Examined** selected initial training course curricula/syllabi for instructors/evaluators/line check airmen (focus: specified elements are addressed in initial training for instructors/evaluators/line check airmen).

- ☐ **Other Actions** (Specify)
- ☐ **Observed** flight simulator operations (focus: Instructor/evaluator demonstrates competence to administer flight training).

Guidance

The specification in item iv) of this provision may be satisfied by an equivalent program that includes line-oriented simulator sessions and/or completion of the company recurrent training program administered to line pilots.

The specification in item i), sub-item g), is applicable to operators that conduct training flights.

The specification in item i), sub-item h), would typically require operators that conduct training flights to specify the actual conditions that will permit such training to be accomplished safely and effectively in accordance with FLT 2.1.12.

FLT 2.1.36

The Operator shall have a recurrent qualification program for instructors, evaluators, and line check airmen that, as a minimum, requires participation in:

(i) Standardization meetings as defined by the Operator or the State;

(ii) Training or evaluation sessions (simulator or aircraft) conducted while supervised by an individual approved by the Operator;

(iii) A State-approved or State-accepted minimum number of training events and/or evaluations per 12-month period or required participation in a supplementary re-qualification/ recertification program if the minimum number of events are not completed;

(iv) A seat-specific (right or left seat, as applicable) recurrent program for instructors, evaluators, Line Check Airmen, who perform duties from either pilot station;

(v) If non-line qualified instructors are used, a jump seat observation program or equivalent approved or accepted by the State for non-line qualified instructors to provide familiarity with current and type-related line operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for recurrent training program for instructors/evaluators/line check airmen in flight crew training/evaluation program.
- ☐ **Interviewed** the responsible manager(s) in flight operations.
- ☐ **Interviewed** selected instructors/evaluators/line check airmen.
- ☐ **Examined** selected recurrent training course curricula/syllabi for instructors/evaluators/line check airmen (focus: specified observations/events/seat-specific training are included in recurrent training).
- ☐ **Examined** selected instructor/evaluator/line check airman training/qualification records (focus: completion of applicable formal observations/required events/seat-specific training).
- ☐ **Other Actions** (Specify)

Guidance

The operator could have different recurrent qualification programs for line check airmen authorized to conduct line flying under supervision and those who conduct simulator and/or aircraft evaluations.

Instructors, evaluators and line check airmen typically attend a standardization meeting at least once within the preceding 12 months. Minutes of standardization meetings are normally distributed to instructors, evaluators and line check airmen.

The observations required in conjunction with item ii) are typically conducted at least within the preceding 12 months for each instructor, evaluator and line check airman, unless a longer interval is approved or accepted by the Authority.

Simulator observations in conjunction with item ii) typically entail an assessment of the individual while carrying out the duties for which highest qualified (e.g., instructor or evaluator).

The specification in item v) of this provision may be satisfied by an equivalent program that includes line-oriented simulator sessions and/or completion of the company recurrent training program administered to line pilots.

Facilities, Training Aids and Equipment

FLT 2.1.46

The Operator shall have published guidance for instructors and evaluators, approved or accepted by the State, if applicable, that specifies minimum serviceability levels of training devices and/or training aircraft to ensure serviceability does not adversely affect training, evaluation and/or safety, as applicable. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance for instructors/evaluators that specifies minimum required serviceability levels for training devices in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected instructors/evaluators.
- ☐ **Observed** flight simulator operations (focus: documentation that specifies minimum simulator serviceability levels for type of training/evaluation to be conducted).
- ☐ **Other Actions** (Specify)

Guidance

Minimum serviceability guidance for training devices typically takes into account, among other things, simulator motion, visual systems, or instrumentation.

Minimum serviceability guidance for aircraft used for Training Flights would typically take into account MEL allowances that are permissible under passenger operations, but unsuitable for the conduct of the training/evaluation to be conducted.

The specification of this provision is satisfied if an operator provides guidance to instructors and evaluators when critical components of a training device are fully or partially inoperative. For example, simulator minimum serviceability requirements typically refer instructors or evaluators to published company guidance to determine if a certain type of training (such as LOFT/LOS) can be conducted with simulator components inoperative.

FLT 2.1.47

If the Operator has a zero flight time training (ZFTT) program, the Operator shall ensure such training program is approved or accepted by the State and:

(i) Is conducted using flight simulators representative of the aircraft flown by the Operator and qualified to Level C, D or an equivalent;

(ii) Specifies minimum pilot experience requirements for entry into each ZFTT qualification/training course;

(iii) Each ZFTT qualification/training course is customized as necessary to address pilot experience, flight crew position and simulator level;

(iv) A demonstration of competency is completed in a flight simulator conforming to the specifications in item i) under the supervision of an evaluator;

(v) A final demonstration of competency is completed in an aircraft during actual line operations under the supervision of an evaluator, instructor or current and qualified Pilot-in-Command (PIC) designated for the purpose by the Operator and/or State. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** program elements for ZFTT in flight crew training/evaluation program; approval by State.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of applicable ZFTT program elements).

- ☐ **Observed** flight simulator operations (focus: simulators at level to support ZFTT).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Zero Flight Time Training (ZFTT), Instructor and Flight Simulator. The latter definition includes descriptions of simulator qualification levels.

The intent of this provision is to define the elements of a ZFTT program, which may be used by an Operator in conjunction with other training programs to qualify flight crew members (e.g. ZFTT could be approved for a specific fleet type but not for all fleets).

The specification in item iv) refers to the demonstration of competencies that must be completed in a qualified simulator as designated for completion during simulator training in an operator's State-approved or State-accepted ZFTT qualification course.

☐ The specification in item ii) may be satisfied by the operator's minimum pilot hiring criteria.

The specification in item v) refers to the final demonstration of competencies that must be completed in an aircraft as designated for completion during actual line operations in an operator's State-approved or State-accepted ZFTT qualification course. Such final demonstration is typically tailored to account for competencies previously demonstrated as part of simulator training in accordance with item iv).

The combination of competencies demonstrated in a qualified simulator plus competencies demonstrated in the aircraft during actual line operations encompasses all of the competencies, designated for demonstration in an operator's State-approved or -accepted ZFTT qualification course, as necessary for the release of a ZFTT candidate to unsupervised flying.

2.2 Training Elements

FLT 2.2.7

The Operator shall ensure flight crew members complete Operator familiarization training prior to being assigned to duties in line operations. Such training shall ensure familiarity with:

(i) Duties and responsibilities;
(ii) Relevant state regulations;
(iii) Authorized operations;
(iv) Relevant sections of the OM. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	No	No
** This training may be provided as a complete package included in a company indoctrination course or, if applicable, tailored to address requirements that are different from the individual's previous training*.			

Auditor Actions

- ☐ **Identified/Assessed** initial training/qualification course curriculum/syllabus (focus: operator familiarization training; definition of subjects addressed).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of operator familiarization training prior to assignment to line duties).
- ☐ **Observed** line flight operations (focus: flight crew demonstrates familiarity with operational responsibilities and requirements).
- ☐ **Other Actions** (Specify)

Guidance

This provision and many of the ensuing flight crew training provisions contain a Conformance Applicability (CA) Table. Refer to the General Guidance at the beginning of this Subsection 2, Training and Qualification, for a detailed description of the CA Table.

Training is applicable to all flight crew members.

Many operators refer to this training course as Basic Company Indoctrination.

FLT 2.2.8

The Operator shall ensure flight crew members complete practical training exercises:

(i) In the use of emergency and safety equipment required to be on board the aircraft;

(ii) That address emergency evacuation and coordination among flight crew members and, as applicable, cabin crew members and/or supernumeraries required for the safety of operations. **(GM)**

Conformance Applicability				
Sub-spec	**Specific to Aircraft Type**	**Included in Initial/Transition/ Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
(i)	Yes	Yes	Yes (every 12 months)	Yes
(ii)	Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for practical training exercises in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT, (focus continuing qualification recurrent schedule for practical training exercises).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of initial/recurrent practical training exercises as specified).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of practical training exercises in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Supernumerary, which defines and includes examples of supernumeraries, including those that are required for the safety of operations.

The principal intent of the specifications of this provision is to ensure flight crew members have a working knowledge of the emergency and safety equipment required to be on board an aircraft. Training exercises typically address the operation of safety and emergency equipment carried on the flight deck, emergency exits and slides, flotation devices (e.g. life rafts, life vests) and locating equipment (e.g. ELT).

The extent to which training exercises must include the actual use or manipulation of such equipment is typically determined by the operator in conjunction with requirements of the Authority. Additionally, since the routine manipulation or use of certain required items may pose an occupational health hazard, such training is typically accomplished using mock-ups or non-functioning replicas.

Training is applicable to all flight crew members.

Supernumeraries as specified in item ii) are those that are required for the safety of operations in accordance with FLT 2.2.44.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.10

The Operator shall ensure flight crew members receive training in all aspects of aircraft performance. Such training shall include:

(i) Weight/mass and balance;
(ii) Takeoff, climb, cruise, approach and landing performance;
(iii) Obstacle clearance;
(iv) Fuel planning;
(v) Diversion planning;
(vi) Effect of inoperative or missing components (MEL/CDL);
(vii) If applicable, engine-out driftdown. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	No	No

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in aircraft performance in flight crew training/evaluation program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial training/qualification course curricula/syllabi (focus: aircraft performance training; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial aircraft performance training).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all flight crew members.

The specification in item vi) might not apply to ferry flights or maintenance flights.

The specification in item vii) is applicable when engine-out performance is operationally limiting.

FLT 2.2.11

The Operator shall ensure flight crew members complete training and an evaluation in aircraft systems and limitations, to include a demonstration of competence in the operation of aircraft systems. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in aircraft systems/limitations in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in aircraft systems/limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in aircraft systems limitations/operation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in aircraft systems limitations/operation).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in flight crew operation of aircraft systems/limitations).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.12

If the Operator transports dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods. **(GM)**.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 24 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in dangerous goods.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in dangerous goods).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of specific aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Dangerous Goods Regulations (DGR).

Training and evaluation is applicable to all flight crew members.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.13

If the Operator does not transport dangerous goods as cargo, the Operator shall ensure flight crew members complete training and an evaluation in dangerous goods. **(GM)**.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 24 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in dangerous goods.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in dangerous goods in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in dangerous goods).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: dangerous goods training/evaluation; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in dangerous goods in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current

validity period. If such recurrent training is completed prior to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.14

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation in crew resource management (CRM), including Threat and Error Management, using facilitators that have been trained in human performance and human factors principles. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous CRM training.			

Auditor Actions

- ☐ **Identified/Assessed** flight requirements for training/evaluation in CRM, use of CRM facilitators trained in human performance/factors principles in crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in CRM, use of CRM facilitators).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in CRM, threat/error management).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in CRM in initial/recurrent training).
- ☐ **Observed** line flight operations (focus: application of CRM/TEM principles/skills to flight management).
- ☐ **Other Actions** (Specify)

Guidance

△ Refer to the IRM for the definitions of Crew Resource Management (CRM), CRM Facilitator, Human Performance, Human Factors Principles and Threat and Error Management.

CRM training is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP elements and specifications, as well as Authority approval/acceptance requirement.

△ Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.16A

The Operator shall ensure flight crew members complete training and an evaluation in subjects associated with adverse weather and/or environmental conditions. Such training and evaluation shall address, as applicable:

(i) Cold weather operations;

(ii) De-/anti-icing policies and procedures as specified in FLT 3.9.6;

(iii) Contaminated runway operations;

(iv) Thunderstorm avoidance. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in subjects associated with adverse weather and/or environmental conditions.			

Note: *Item ii) is applicable if the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing.*

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in adverse weather/environmental conditions in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in adverse weather/environmental conditions).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in adverse weather/environmental conditions; definition of aspects/subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in adverse weather/environmental conditions in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in operations in adverse weather/environmental conditions).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Contaminated Runway.

Training and evaluation is applicable to all flight crew members.

The specifications in this provision are related to the prevention of runway excursions and in-flight loss of control.

The intent of this provision is to ensure flight crew members receive recurrent training and an evaluation in the subjects associated with the adverse weather or environmental conditions they may encounter in operations.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.16B

If the Operator conducts operations on routes that traverse active volcanic areas or in the terminal areas of airports in the vicinity of active volcanoes, the Operator shall ensure flight crew members complete training and an evaluation in such operations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	No	No
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in operations on routes that traverse active volcanic areas or in the terminal areas of airports in the vicinity of active volcanoes.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation in operations associated with potential volcanic ash in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in operations associated with potential for volcanic ash).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in operations associated with potential for volcanic ash).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of training/evaluation in operations associated with potential for volcanic ash in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Training and evaluation is applicable to all flight crew members.

The intent of this provision is to ensure flight crew members receive training and an evaluation in the subjects associated with the adverse environmental conditions they might encounter in operations, to include the consequences of an inadvertent entry into a volcanic ash cloud or unanticipated volcanic eruptions along the route of flight. Such training and evaluation is designed to increase flight crew awareness and vigilance related to volcanic activity and emphasize the possibility that they may be the first to observe an eruption or be required to pass information related to a new eruption to the appropriate authorities for dissemination.

Additional information related to the risk management of flight operations with known or forecast volcanic ash contamination is contained in ICAO Doc 9974, *Flight Safety and Volcanic Ash*.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.17

The Operator shall ensure flight crew members complete upset prevention and recovery training (UPRT). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous UPRT.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training in procedures for aircraft upset recovery in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training in procedures for aircraft upset recovery).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in procedures for aircraft upset recovery).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of upset recovery training/evaluation in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training in upset recovery).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all *pilot* crew members and typically addresses pilot flying (PF) and pilot monitoring (PM) duties.

Aircraft upset recovery training typically includes:

- Upset prevention;
- Factors leading to an upset or loss of control situation;
- Upset situation identification;
- Recovery techniques;
- Emphasis on aerodynamic factors present during the upset and the recovery.

Acceptable means of ground training may include video presentation(s), verbal instruction and/or group discussion.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.

FLT 2.2.22

The Operator shall have a process to ensure flight crew members who conduct flights into areas where English is required for Air Traffic Control (ATC) communications, and who have not previously demonstrated expert English language proficiency, receive a periodic evaluation to demonstrate a minimum level of English language proficiency that is sufficient, as defined by the Operator and/or the State, to ensure effective communication during the performance of duties. Such evaluation shall be completed during initial ground training and subsequently once every three (3) to six (6) years based on the proficiency level of the applicant. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for English language evaluation for flight crew members that have not previously demonstrated expert English language proficiency and operate flights/communicate with ATC in areas where the primary language of ATC is English.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** initial training/continuing qualification course curriculum/syllabus (focus: demonstration of English language proficiency necessary for effective ATC communications, periodic demonstration every 3-6 years based on demonstrated proficiency level).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/periodic demonstration of English language proficiency).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure a pilot who is required to communicate with air traffic control in English, periodically demonstrates a sufficient level of English language proficiency to ensure effective communication during the performance of duties.

Such evaluation applies to each operating pilot member of the flight crew, as required by the AFM.

English proficiency requirements do not apply to flight engineers or flight navigators unless their duties include air/ground communication.

Periodic demonstration of language proficiency is not required of individuals who have previously demonstrated an expert level of English language proficiency. Such individuals are those whose native language is English and those whose native language is not English, but who understand English and speak English that is easily understood, even if spoken with a dialect or accent.

A State requirement, as part of flight crew licensing, for an individual to demonstrate expert English language proficiency can be used to satisfy the specifications of this provision.

In order to conform to these specifications, an operator may periodically evaluate Individuals that have not previously demonstrated expert English language proficiency in accordance with *either*:

- ICAO Annex 1.2.9.6, 1.2.9.7 and ICAO Annex 1, Attachment 1.1 (ICAO Language Proficiency Rating Scale), *or*
- Any State-approved or State-accepted method of English language proficiency evaluation that establishes a minimum proficiency level, defines an evaluation interval and requires pilot flight crew members to demonstrate a level of English language proficiency sufficient to ensure effective communication during the performance of duties.

Guidance for the development of language proficiency plans and associated interim risk mitigation measures related to delayed implementation may be found in ICAO Resolution A36-11 dated 26 October 2007.

△ **FLT 2.2.24**

If the Operator transports dangerous goods on cargo aircraft and assigns flight crew members duties and responsibilities related to the preflight inspection of accessible dangerous goods, the Operator shall ensure applicable flight crew members complete training and an evaluation in the preflight inspection of accessible dangerous goods during initial ground training. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew training in preflight inspection of accessible dangerous goods.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial training/qualification course curricula/syllabi (focus: ground training in preflight inspection of dangerous goods).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial ground training in preflight inspection of dangerous goods).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Cargo Aircraft.

Training and evaluation is applicable to all flight crew members that would be assigned duties and responsibilities as specified.

Accessible dangerous goods are those items accessible to the flight crew that could require flight crew action to ensure:

- Accessible dangerous goods are visually intact;
- If applicable, the securing and preflight of any fire protection equipment;
- Accessible dangerous goods are loaded properly, to include the proper segregation of dangerous goods.

FLT 2.2.26

The Operator shall ensure flight crew members complete training in normal and non-normal procedures and maneuvers. Such training shall address, as a minimum:

(i) Pilot Monitoring (PM) Pilot Flying (PF) and other flight crew division of duties (task sharing);
(ii) Positive transfer of aircraft control;
(iii) Consistent checklist philosophy;
(iv) Emphasis on a prioritization of tasks (e.g. “aviate, navigate, communicate”);
(v) Proper use of all levels of flight automation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

☐ **Identified/Assessed** requirement for training in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.
☐ **Identified/Assessed** in flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training in normal/non-normal procedures/maneuvers).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training in normal/non-normal procedures/maneuvers; definition of specific elements/subjects addressed).
☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training in the specified normal/non-normal procedures/maneuvers).
☐ **Observed** flight simulator operations (focus: training in normal/non-normal procedure/maneuvers).
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Pilot Flying (PF) and Pilot Monitoring (PM).

Training is applicable to all flight crew members.

The intent of this provision is to set a training interval for normal and non-normal procedures, and additionally to ensure the training manual, curricula, lesson plans, or other guidance associated with such training addresses the specifications in items i) through v).

Division of flight crew duties, transfer of aircraft control, checklist use and prioritization of tasks are in accordance with the operator's policies for task sharing and as specified in FLT 3.11.18.

Proper use of automation levels is in accordance with the operator's automation policy and as specified in FLT 3.11.22.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Elements of training may be accomplished as part of ground, simulator, aircraft or line training.

The term *Pilot Monitoring (PM)* has the same meaning as the term *Pilot Not Flying (PNF)* for the purpose of applying the specifications of this provision.

The specification in item iv) refers to the following prioritization of tasks during any normal or abnormal situation or maneuver:

- Aviate: fly the aircraft in accordance with restrictions and limitations set forth in the OM;
- Navigate: guide the aircraft along the intended or appropriate route;
- Communicate: verbalize intentions to other crew members and ATC, as applicable.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.27

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation, that includes a demonstration of competence in normal and non-normal procedures and maneuvers, to include, as a minimum, rejected takeoff, emergency evacuation, engine failure and/or those procedures and maneuvers specified in the Operator's AQP/ATQP/EBT as approved or accepted by the Authority. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes*

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation including a demonstration of competence in normal/non-normal procedures/maneuvers in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in normal/non-normal procedures/maneuvers).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in specified normal/non-normal procedures/maneuvers).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in the specified normal/non-normal procedures/maneuvers).

- ☐ **Observed** flight simulator operations (focus: training/evaluation in performance of normal/non-normal procedures/maneuvers).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to define the basic initial and subsequent recurrent training and evaluation cycles that ensure flight crew members are competent to perform normal and non-normal procedures and maneuvers. It is understood that competence in all potential normal and non-normal procedures may not be demonstrated annually but in accordance with a schedule that is acceptable to the Authority.

The modification of qualification intervals in accordance with an AQP, ATQP or EBT program requires conformity with FLT 2.1.1B.

Training and, when applicable, a demonstration of competence in specified normal and non-normal procedures and maneuvers is applicable to all *pilot* crew members.

Training and, when applicable, evaluation is accomplished as part of ground, simulator/aircraft and line training;

Line training is in normal procedures/maneuvers only.

An evaluation of competence in the normal and non-normal procedures and maneuvers specified is applicable when such procedures and/or maneuvers are stipulated by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent training.

Operators that conduct training flights and cannot safely train/evaluate a non-normal procedure or maneuver in an aircraft or in a representative flight simulator as specified in FLT 2.2.38 may demonstrate an alternative means of conformance in accordance with FLT 2.2.41.

All pilot flight crew members who receive training in the normal and non-normal procedures and maneuvers specified in this provision also demonstrate competence in such procedures and maneuvers in accordance with the applicable specifications of FLT 2.3.2.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.29

The Operator shall ensure flight crew members, before starting line training, have successfully completed an Operator proficiency evaluation administered by an Evaluator of the Operator or a representative of the Authority, and have demonstrated the skill and knowledge level adequate for operating the aircraft at or above the standards stipulated in the training syllabus. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for a final evaluation prior to a flight crew member commencing line flight training.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** syllabus for final evaluations of flight crew members prior to line flight training (focus: demonstration of skill/knowledge adequate to operate the aircraft at or above the standards stipulated in the training syllabus; definition of evaluation criteria).

- ☐ **Examined** selected flight crew member training/qualification records (focus: successful completion of final evaluation conducted by an evaluator prior to commencing line flight training).
- ☐ **Other Actions** (Specify)

Guidance

An evaluation in conjunction with Initial Type Qualification satisfies the specifications in this provision.

FLT 2.2.30

The Operator shall ensure flight crew members complete training in CRM skills, which may be accomplished as part of simulator, aircraft and/or line training, as applicable. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 12 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in CRM skills.			

Auditor Actions

- ☐ **Identified/Assessed** requirements for training in CRM skills in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for CRM training).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of CRM training in simulator/aircraft or during line flight training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent CRM training).
- ☐ **Observed** line flight and flight simulator operations (focus: training in application of CRM/TEM principles/skills).
- ☐ **Other Actions** (Specify)

Guidance

Training is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

This specification is intended to ensure CRM skills are emphasized during and integrated into simulator or aircraft training, as applicable, and line training.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.31

The Operator shall ensure flight crew members complete a Line Operational Simulation (LOS) profile. Such training and/or evaluation shall be:

(i) Approved or accepted by the State;

(ii) A planned scenario administered in a line environment setting with specific CRM objectives where such non-technical skills are observed, debriefed upon completion and used for the performance assessment of the flight crew. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for approved LOS in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for LOS).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** criteria for administration of LOS (focus: conducted as uninterrupted scenario in real-time line environment with planned CRM objectives, CRM skills observed/briefed at completion).
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: inclusion of LOS in simulator/aircraft or during line flight training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of LOS in initial/recurrent training).
- ☐ **Observed** flight simulator operations (focus: training using LOS profile).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Line Operational Simulation (LOS), Line Oriented Evaluation (LOE), Line-Oriented Flight Training (LOFT) and Special Purpose Operational Training (SPOT).

Training and/or evaluation is applicable to flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

LOS includes SPOT, LOE, and LOFT. Such scenarios incorporated into the training program satisfy the specifications of this provision.

LOS scenarios are conducted in a simulated “line environment” setting and are as standardized and scripted as possible. A simple menu of expected weather conditions and/or normal/non-normal procedures/maneuvers would not be acceptable as this would increase the subjectivity of the presentation.

In the absence of a representative flight simulator, such alternatives typically employ:

- LOS profiles conducted in a generic simulation device or representative flight training device;
- An uninterrupted planned scenario in the aircraft with specific CRM objectives that include behavioral observation and assessment of crew performance, where such skills are observed and debriefed upon completion. This requires an operator to specify how the CRM objectives are set, evaluated and debriefed in a line environment.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.32

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation, that includes a demonstration of competence, in wind shear avoidance and recovery from predictive and actual wind shear. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in wind shear avoidance/recovery from predictive/actual wind shear in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for wind shear training/evaluation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: wind shear training/evaluation/demonstration of competence).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent wind shear training/evaluation).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in wind shear avoidance/recovery from predictive/actual wind shear).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Wind Shear.

The intent of this provision is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Training and, when applicable, an evaluation in the specified normal and non-normal procedures and maneuvers is applicable to all *pilot* crew members.

Training is accomplished in a representative flight simulator approved for the purpose by the State.

Such evaluation of competence in the normal and non-normal procedures and maneuvers specified is applicable when such procedures and/or maneuvers are stipulated by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent training.

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically include a review of:

- Conditions conducive to wind shear;
- Effects on aircraft performance;
- Indications of wind shear presence;
- Avoidance and recovery techniques;
- Wind shear case studies or scenarios.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.33

The Operator shall ensure flight crew members complete training and an evaluation, which includes a demonstration of competence in terrain awareness procedures and maneuvers. Such training and evaluation shall include:

(i) Knowledge and conduct of associated procedures;

(ii) Response to GPWS alerts and warnings;

(iii) The avoidance of Controlled Flight Into Terrain (CFIT). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in terrain awareness procedures/maneuvers in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in terrain awareness procedures/maneuvers).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in terrain awareness procedures/maneuvers; definition of subjects addressed).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in terrain awareness procedures/maneuvers).
- ☐ **Observed** line flight and flight simulator operations (focus: terrain awareness procedures/maneuvers).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Controlled Flight into Terrain (CFIT).

The specifications in this provision are directly related to the prevention of controlled flight into terrain (CFIT).

The intent is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Training and evaluation in the specified normal and non-normal procedures and maneuvers in a representative flight simulator approved for the purpose by the State is applicable to *pilot* crew members.

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically includes a review of:

- CFIT avoidance techniques;
- CFIT recovery techniques and maximizing aircraft performance;
- GPWS alerts and warnings;
- CFIT case studies or scenarios.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.34

If the Operator conducts low visibility operations (LVO), the Operator shall ensure flight crew members complete training and an evaluation that includes a demonstration of competence in such operations, as well as operations with inoperative ground based and/or aircraft equipment. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 12 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in LVO.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in LVO and/or operations with inoperative ground based/aircraft equipment in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in LVO and/or operations with inoperative ground based/aircraft equipment).
- ☐ **Observed** flight simulator operations (focus: training in LVO).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Low Visibility Operations (LVO).

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Training and evaluation in low visibility operations is applicable to all *pilot* crew members.

For the purposes of this provision, low visibility operations are considered in effect when the Runway Visual Range (RVR) is below 400 m for takeoff and/or below Category I limits for landing.

Operators that conduct training flights and cannot safely train/evaluate the specified procedures in an aircraft or in a representative flight simulator as specified in FLT 2.2.38 may demonstrate an alternative means of conformance in accordance with FLT 2.2.41.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.35

The Operator shall ensure flight crew members with duties and responsibilities related to TCAS/ACAS alerting equipment complete training and an evaluation that includes a demonstration of competence in maneuvers and procedures for the proper response to TCAS/ACAS alerts. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for training/evaluation/demonstration of competence in procedures for proper response to TCAS/ACAS alerts in flight crew training/evaluation program.
- ☐ **Identified/flight** crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in response to TCAS/ACAS alerts).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: training/evaluation in procedures for proper response to TCAS/ACAS alerts).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent training/evaluation in procedures for proper response to TCAS/ACAS alerts).
- ☐ **Observed** flight simulator operations (focus: training/evaluation in response to TCAS/ACAS alerts).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure training and evaluation occurs, as applicable, in the maneuvers specified within the intervals specified. Such training and evaluation can occur in conjunction with any State-approved or State-accepted training course.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Training is accomplished in a representative flight simulator approved for the purpose by the State.

TCAS training may be performed without demonstrating capability in a simulator (since many simulators do not have TCAS capability).

Training and evaluation of the non-normal procedures and maneuvers specified in this provision cannot be safely accomplished in an aircraft on a training flight (see FLT 2.2.38).

Operators that cannot conform to the specifications of this provision due to the non-existence of a representative flight simulator may demonstrate an alternative means of conforming to these specifications in accordance with FLT 2.2.41.

The additional ground and line training and evaluation used to satisfy the specifications of this provision and of FLT 2.2.41 in the absence of a representative flight simulator typically include a review of:

- TCAS procedures and alert responses;
- TCAS alerts;
- TCAS case studies or scenarios.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.37

If the Operator uses pilot flight crew members designated to perform duties from either control seat, the Operator shall have seat-specific qualification for such flight crew members, to include training and an evaluation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for seat-specific qualification of pilot flight crew members designated to perform duties from either control seat.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for seat-specific qualification).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: seat-specific training/evaluation for flight crew members designated to perform duties from either control seat).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of seat-specific evaluation in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that any pilot designated to perform duties from either control seat, including takeoffs and landings, completes seat specific qualification.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

The specifications of this provision typically apply to pilot flight crew members, such as:

- Type Rating Instructors (TRIs)
- Type Rating Examiners (TREs)
- Pilots who are authorized to conduct takeoff and landings from either control seat.

Cruise relief pilots may meet the seat-specific requirements of this provision as part of a State-approved or State-accepted (cruise relief pilot) qualification program.

Cruise relief pilots are not required to receive recurrent training in both control seats once every 12 months unless required as part of a State-approved or -accepted (cruise relief pilot) qualification program.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.38

If the Operator conducts training flights, the Operator shall specify those required maneuvers and procedures that cannot be safely accomplished in an aircraft, and ensure such maneuvers and procedures are either trained and evaluated in a representative flight simulator or, if such a synthetic device does not exist, ensure a demonstration of pilot competence in those maneuvers and procedures using an alternative means in accordance with FLT 2.2.41. Maneuvers and procedures that cannot be safely accomplished in an aircraft shall include, as a minimum:

(i) Wind shear avoidance and recovery;

(ii) Response to GPWS alerts and warnings and the avoidance of Controlled Flight Into Terrain (CFIT);

(iii) Response to TCAS/ACAS alerts. **(GM)**

Note: *If a representative flight simulator exists, conformity with FLT 2.2.32, FLT 2.2.33 and FLT 2.2.35 is required for the Operator to be in conformity with this provision.*

Note: *If a representative flight simulator does not exist, conformity with FLT 2.2.41 is required for the Operator to be in conformity with this provision.*

Auditor Actions

- ☐ **Identified/Assessed** designation of required maneuvers/procedures that cannot be accomplished in an aircraft, requirement for flight crew training/evaluation in such maneuvers/procedures in an approved representative flight training device or using alternative means in accordance with FLT 2.2.41.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** aircraft training/qualification curriculum/syllabus (focus: exclusion of specified maneuvers from aircraft training).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of specified maneuvers in an approved representative training device or via alternative means).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Simulator.

The intent of this provision is to ensure both of the following:

- The maneuvers and procedures that cannot be safely accomplished in an aircraft are specified by the operator and include, as a minimum, those maneuvers specified in i), ii) and iii);
- A demonstration of pilot competence in the specified maneuvers and procedures using either a representative flight simulator or an alternative means (as specified in FLT 2.2.41) if such flight simulator does not exist.

Training is accomplished in a representative flight simulator approved for the purpose by the State.

Refer to FLT 2.2.41 if no representative flight simulator exists for the aircraft type.

Refer to FLT 2.2.32, FLT 2.2.33, FLT 2.2.35 and associated Guidance for additional specifications and information related to the training and evaluation on the specified maneuvers.

FLT 2.2.39

If the Operator conducts training flights and accomplishes training or evaluation related to a failed or inoperative engine during such flights, the Operator shall ensure engine failures are simulated for the purpose of accomplishing any maneuvers that involve a failed or inoperative engine. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for only simulated engine failure during aircraft training flights.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** instructor guidance for aircraft training flights (focus: instructions for simulation of engine failure for maneuvers that involve failed/inoperative engine).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure maneuvers that involve a failed or inoperative engine are safely accomplished when training in such maneuvers is performed in the aircraft (as required by the Authority or due to the unavailability of a representative flight simulator approved for the purpose by the State). In order to ensure maneuvers that involve a failed or inoperative engine are accomplished safely during training flights, engine failures are typically simulated in a manner that would not prevent the flight crew from recovering immediate and full control of an engine.

FLT 2.2.40

The Operator shall ensure flight crew members complete training and, when applicable, an evaluation that includes a demonstration of competence in duties and procedures related to flight crew incapacitation. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in duties and procedures related to flight crew incapacitation.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for demonstration of competence in duties/procedures related to flight crew incapacitation in flight crew training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for demonstration of competence in duties/procedures related to flight crew incapacitation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: evaluation in duties/procedures related to flight crew incapacitation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of demonstration of competence in duties/procedures related to flight crew incapacitation in initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

The specification of this provision is applicable to all flight crew members.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

A demonstration of competence in the crew member duties and procedures related to flight crew incapacitation is applicable when such a demonstration is required by the operator and/or State in conjunction with State-approved or State-accepted training courses that require a method of evaluation. Such courses typically include:

- Type qualification;
- Transition (conversion);
- Upgrade to PIC;
- Re-qualification;
- Recurrent.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.2.41

If the Operator conducts training flights and is unable to train and evaluate the required maneuvers and procedures specified in FLT 2.2.38 due to the non-existence of a representative flight simulator, the Operator shall use an alternative means for ensuring a demonstration of pilot competence in such maneuvers and procedures. Any alternative means shall be approved or accepted by the State, and require a demonstration of competence through a combination of means, to include:

(i) The use of generic flight simulators;

(ii) The use of representative and/or generic flight training devices;

(iii) Additional ground and line training and evaluation;

(iv) As applicable, any other means that ensures a demonstration of pilot competence in the applicable maneuvers and procedures. **(GM)**

Auditor Actions

☐ **Identified/Assessed** requirement for flight crew demonstration of competence using alternative means for required maneuvers/procedures that cannot be accomplished in an aircraft or due to the non-availability of a representative flight training device.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** applicable training/qualification curriculum/syllabus (focus: training/evaluation in designated maneuvers accomplished; definition of acceptable alternative means of training).

☐ **Examined** selected flight crew member training/qualification records (focus: demonstration of competence in designated maneuvers completed using alternative means).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Training Device (FTD).

The intent of this provision is for the operator to ensure, in the absence of a representative flight simulator necessary to conform to FLT 2.2.38, that suitable and effective alternatives are used for the training and evaluation of maneuvers and procedures that cannot be safely conducted in an aircraft.

It is important to note that conformity with this provision requires a *combination* of alternative training and evaluation methods to ensure a demonstration of pilot competence (i.e. generic simulators and/or flight training devices, ground training/evaluation, line training/evaluation, other). This requirement is based on the presumption that any one method when used alone would be inadequate to ensure competence in the specified maneuvers as well as associated procedures.

Wind shear, GPWS, and TCAS training maneuvers and procedures, as specified in FLT 2.2.38, cannot be safely accomplished in an aircraft during a training flight or line training.

Refer to FLT 2.2.32, FLT 2.2.33, FLT 2.2.35 and associated Guidance for additional specifications and information related to the required training and evaluation associated with:

- Wind shear avoidance and recovery;
- Response to GPWS alerts and warnings and the avoidance of Controlled Flight Into Terrain (CFIT);
- Response to TCAS/ACAS alerts.

FLT 2.2.42

If the Operator transports passengers or supernumeraries, the Operator shall ensure flight crew members complete security training as approved or accepted by the State, and in accordance with the Operator's security training program as specified in SEC 2.1.1. Flight crew security training shall address the following subject areas:

(i) Determination of the seriousness of the occurrence;

(ii) Crew communication and coordination;

(iii) Policy and procedures associated with flight deck access;

(iv) Appropriate self-defense responses;

(v) Use of non-lethal protective devices assigned to crew members for use as authorized by the State;

(vi) Understanding the behavior of terrorists so as to facilitate the ability to cope with hijacker behavior and passenger responses;

(vii) Situational training exercises regarding various threat conditions;

(viii) Flight deck procedures to protect the aircraft;

(ix) Aircraft search procedures;

(x) As practicable, guidance on least-risk bomb locations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 36 months)	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous flight crew security training.			

Note: *Flight crew members shall complete initial security training prior to being assigned to operational duties.*

Note: *The specifications of this provision are applicable to flight crew members used on board an aircraft during commercial and/or non-commercial operations.*

Auditor Actions

☐ **Identified/Assessed** flight crew security training program (focus: approval/acceptance by the State; meets applicable requirements of other states).

☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for flight crew security training).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: security training is included; required subjects are addressed).

☐ **Examined** selected flight crew member training/qualification records (focus: completion of security training).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Air Operator Security Program (AOSP) and Non-Lethal Protective Device.

Flight crew members are directly involved in the implementation of security measures and thereby require an awareness of obligations to the Security Program of the operator.

Crew security training would normally be in accordance with applicable regulations and/or the civil aviation security program of the State, and where no regulatory guidance exists, in accordance with the policy of the operator.

Security training for flight crew members typically focuses on the need for the flight crew to maintain control of the flight deck.

Specific subject areas included in recurrent security training are typically identified and derived from an analysis of actual or likely situations or trends experienced during line operations.

Fight deck access as specified in item (iii) would typically include persons authorized for flight deck access as well as procedures for flight deck entry/exit.

Flight crew training in self-defense responses as specified in item (iv) typically focuses on ensuring the security of the flight deck and takes into consideration relevant operational factors (e.g. type of operation, phase of flight, aircraft type/configuration, responses by cabin crew members or, if applicable, supernumeraries).

Training as specified in item (vi) typically addresses topics or tactics as appropriate for the operator that might be associated with or could be used to facilitate crew-passenger reaction to or interaction with hijackers (e.g. conflict management, use of passive or non-passive cooperation, understanding Stockholm Syndrome, identification of and response to hijacker types/motives).

Training exercises as specified in item (vii) are typically interactive in nature, and scenarios or situations (e.g. bomb threat, hijacking, unruly passenger) may be presented using various accepted training methods (e.g. live role playing, table top, computer-based training).

Training as specified in item (x) is applicable to aircraft types that have designated least-risk bomb locations. Least-risk bomb locations are typically not identified on all-cargo aircraft.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

2.3 Line Qualification

FLT 2.3.1

The Operator shall have a line qualification program consisting of line training and, where applicable, evaluations, approved or accepted by the State, which ensures flight crew members are qualified to operate in areas, on routes or route segments and into the airports to be used in operations for the Operator. Such program shall:

(i) Be published in the Training Manual or equivalent documents;

(ii) Ensure each pilot flight crew member has adequate knowledge of the elements specified in Table 2.5, as applicable to the areas, routes and route segments of intended operation;

(iii) Specify qualification requirements for operations in all areas, on all routes or route segments, and into all airports of intended use;

☐ (iv) Ensure each pilot flight crewmember, prior to entering the line qualification program, has satisfied the applicable recency-of-experience requirements specified in FLT 3.3.7 (i) under the supervision of an instructor or evaluator authorized for the purpose by the Operator and/or State;

(v) Ensure line training and evaluation for each pilot crew member is completed during initial qualification and, if applicable, in accordance with the continuing qualification curriculum as defined in the Operator's AQP/ATQP/EBT that conforms to the specifications of FLT 2.1.1B;

(vi) Ensure line training and evaluation is completed prior to a pilot crew member being used as a PIC in operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** flight crew line qualification training/evaluation program, approved/accepted by the State, specifies qualification requirements for operations associated with areas/routes/route segments/airports used in operations.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification schedule for line training/evaluation).
- ☐ **Identified/Assessed** the requirement for recency-of-experience prior to entry into the line qualification program.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: line training/evaluation in areas/airports of operations; program elements consistent with specifications in Table 2.5).
- ☐ **Examined** selected flight crew member training/qualification records (focus: completion of initial/recurrent line qualification training/evaluation).
- ☐ **Examined** selected flight crew member training/qualification records (focus: assessment of recency-of-experience for pilots entering line qualification).
- ☐ **Observed** line flight operations (focus: flight crew demonstrates knowledge of relevant operational requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Zero Flight Time Training (ZFTT).

The intent of this provision is to ensure flight crew members are qualified to conduct routine operations within each theater of operation as defined by the operator. It does not address the additional and specialized knowledge required to conform to FLT 2.4.1.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses special areas, routes route segments and special airports.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as approval/acceptance requirements of the Authority.

The specification in item (iv) ensures that a qualifying pilot has the necessary experience to operate as a required crewmember in the line training qualification program. Recency-of-experience would typically be established during simulator training in a ZFTT training program or during base training associated with initial aircraft qualification and/or type rating. If there are delays between simulator and/or type qualification training and the commencement of line qualification, recency-of-experience may be lost and would need to be re-established by the operator.

The specification in item (iv) may be satisfied by a process integral to the line qualification program or be in accordance with the process defined by FLT 3.3.7.

This specification in item (v) applies to all candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

The training and evaluation specified in this provision is accomplished by pilot flight crew members as part of; ground training, simulator/aircraft training or line training.

FLT 2.3.2

The Operator shall ensure each pilot flight crew member, in order to maintain qualification, receives training and, when applicable, successfully completes an evaluation at or above the standards stipulated in the training syllabus and administered by an Evaluator of the Operator or a representative of the Authority, and demonstrates piloting technique and competence to execute

emergency procedures and comply with instrument flight rules. Such training and, when applicable, evaluation shall be conducted in accordance with the requirements of the State and applicable authorities to ensure evaluations for all pilot flight crew members are conducted using one or more of the following intervals, as applicable:

(i) For the PIC, twice within any period of one year plus or minus one calendar month from the original qualification anniversary date or base month, **and/or**

(ii) For pilot crew members other than the PIC, in accordance with i), or once within any period of one year plus or minus one calendar month from the original qualification anniversary date or base month, **and/or**

(iii) For any pilot crew member participating in an AQP, ATQP or EBT program, once within any period of one year, or other period approved or accepted by the State, provided such training and qualification program incorporates all elements and specifications contained in Table 2.6, Table 2.7 and Table 2.8. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew continuing qualification that includes a demonstration of piloting technique and competence to execute emergency procedures and comply with instrument flight rules; definition of continuing training/evaluation interval(s).
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification schedule for demonstration of piloting technique and competence to execute emergency procedures and comply with instrument flight rules).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected recurrent training/qualification course curricula/syllabi (focus: training/evaluation in emergency procedures/compliance with instrument flight rules).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of continuing qualification training/evaluation at intervals as specified).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for definitions of Base Month, Calendar Month, LOE and Training to Proficiency.

The modification of qualification intervals in accordance with an AQP, ATQP or EBT program requires conformity with FLT 2.1.1B.

The intent of this provision is to define the conditions necessary for a pilot crewmember to maintain qualification and to set a basic qualification interval, which may be slightly modified in accordance with the specifications of the provision or conditions stipulated in guidance material.

The specifications of this provision are minimum requirements and might be exceeded by requirements of the State or other applicable authorities. The applicable authorities specified in this provision typically refer to authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

An operator, in accordance with the requirements of the State and other applicable authorities, may adjust the frequency of evaluations specified in item i) of this provision to minimize overlap, preserve the original qualification date, and ensure evaluations are completed within the annual cycle set forth by the operator, State and/or applicable authorities.

Providing a minimum of two simulator training sessions within a thirteen-month period typically satisfies the requirements of item i) if the interval between training sessions is not less restrictive than what is specified by the operator, State and/or applicable authorities.

The evaluation cycles specified in items i) and ii) of this provision may be completed in 13 months in accordance with State requirements that allow such cycle to be adjusted a maximum of plus or minus one calendar month from the original qualification anniversary date or base month. Such flexibility is normally incorporated in the training and evaluation program to allow for latitude in the trainee scheduling process.

The evaluation cycles specified in item i) of this provision may also be adjusted in accordance with State requirements that flight crew members undergo training and, when applicable, an evaluation at

least every 6 calendar months. If the training and evaluation, however, is conducted within 3 calendar months prior to the expiry of the 6-calendar month period in the case of item i) or the 12 calendar months period in the case of item ii), the next training and evaluation must be completed within 6 or 12 calendar months, respectively, of the original expiry date of the previous training and evaluation.

Training and evaluation specified in items i) and ii) may be anticipated and conducted within 3 calendar months prior to the expiry date.

Accommodations made to adjust evaluation cycles or frequency may not affect the original anniversary date or base month when flight crew member qualification was *either*:

- First established, *or*
- Re-established following a period of extended absence, and subject to the satisfactory completion of a training program designed specifically for the re-qualification of flight crew members following an extended absence.

One of the evaluations specified in item i), in a 12-calendar month period, may be administered by an instructor, trained and authorized by the operator and the Authority, during the conduct of a simulator or aircraft training course, approved or accepted by the Authority, for the purpose of maintaining piloting technique and competence.

One of the evaluations specified in item ii), in a 24-calendar month period, may be administered by an instructor, trained and authorized by the operator and the Authority, during the conduct of a simulator or aircraft training course, approved or accepted by the Authority, for the purpose of maintaining piloting technique and competence.

Simulator or aircraft training courses approved or accepted by the Authority for the purpose of maintaining piloting technique and competence typically include one or more of the following elements:

- Training-to-proficiency at the pilot controls of an aircraft or aircraft simulator;
- Appropriate briefings before and after the training;
- LOE using a complete flight crew;
- Maneuvers and procedures (abnormal and emergency) that may occur in line operations.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding specified intervals associated with recurrent training/continuing qualification.

FLT 2.3.4

The Operator shall ensure pilot flight crew members complete an evaluation that includes a demonstration of knowledge of the operations approved as part of the Air Operator Certificate (AOC). Such evaluation shall include a demonstration of knowledge of:

(i) Approaches authorized by the Authority;

(ii) Ceiling and visibility requirements for takeoff, approach and landing;

(iii) Allowance for inoperative ground components;

(iv) Wind limitations (crosswind, tailwind and, if applicable, headwind). **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes*	Yes*	Yes (every 12 months)	Yes
* This evaluation may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous evaluation in the knowledge of AOC-approved operations.			

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew initial/continuing qualification that includes a demonstration of knowledge of operations approved as part of the AOC.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for demonstration of knowledge of AOC operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: evaluation of relevant operational knowledge; definition of operational areas addressed).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of initial/continuing qualification training/evaluation).
- ☐ **Other Actions** (Specify)

Guidance

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

The training and evaluation specified in this provision is accomplished by pilot flight crew members as part of ground, simulator/aircraft or line training.

The specifications of this provision are normally satisfied during line training but can occur elsewhere in the training program.

The wind limitations specified in item iv) refer to maximum limits that have been demonstrated for takeoff and landing, as well as limits that have been established for the type of operation being conducted (e.g., as applicable, automatic landing, HUD/EVS guided, or contaminated runway).

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.3.6

The Operator shall ensure pilot flight crew members complete a Command Training and Evaluation program during initial training and qualification and, if applicable, in accordance with the continuing qualification curriculum as defined in the Operator's AQP/ATQP/EBT that conforms to the specifications of FLT 2.1.1B. Such training and evaluation shall be completed prior to a pilot flight crew member being assigned as PIC in operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for PIC command training/evaluation program.
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for PIC command training/evaluation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of command training/evaluation prior to assignment to PIC duties).
- ☐ **Other Actions** (Specify).

Guidance

Refer to the IRM for the definition of Operational Flight Plan (OFP).

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

The specifications of this provision apply to all candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

Command training and evaluation is accomplished by pilot flight crew members as part of ground, simulator/aircraft or line training.

Command training and evaluation programs may be conducted in addition to, and/or in conjunction with, one or more of the training programs specified in FLT 2.1.1.

The program specified in this provision addresses the technical and non-technical aspects of command relevant to the operations of the operator, and typically includes:

- Technical seat-specific aircraft training for the aircraft type;
- Basic operator familiarization training in subjects relevant to the PIC;
- Human performance and CRM skill training relevant to command, the relationship with other crew members and the operation as a whole (e.g. leadership, team building, conflict resolution, etc.);
- Training in the sections of the OM relevant to command, to include:
    - Authority and responsibilities of the PIC in operations for the operator;
    - Adherence to the limitations of the AOC;
    - Responsibilities relevant to the OFP and ATL;
    - Responsibilities relevant to the reporting of accidents and incidents.

2.4 Special Qualification

FLT 2.4.1

△ If the Operator conducts flights in areas or on routes or route segments over difficult terrain and/or into special airports as designated by the State or by the Operator, the Operator shall ensure each PIC completes training and, if required, an evaluation in the special skills and/or knowledge required to qualify or requalify for such operations. The content of training shall ensure the PIC has adequate knowledge of the elements specified in Table 2.5 as applicable to the areas, routes, route segments and special airports of intended operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for training to qualify/requalify a PIC in special skills/knowledge needed for operations associated with specific areas/routes/route segments/difficult terrain/airports as designated by State or operator.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** training curriculum/syllabus used to qualify/requalify PIC to operate over/into special routes/areas/airports (focus: training in special skills/knowledge required for certain operations; program elements consistent with specifications in Table 2.5).
- ☐ **Examined** selected PIC training/qualification records (focus: completion of training for operations associated with designated special areas/routes/route segments/terrain/airports).
- ☐ **Other Actions** (Specify)

Guidance

This provision applies to candidates for the position of PIC, to include SIC upgrade candidates and pilots hired directly into PIC positions in operations for the operator.

Training as specified in this provision may include aircraft type-specific elements as applicable to areas of operations, routes, airports, and equipment operated.

The specifications of this provision address the training required to operate over difficult terrain and/or into special airports based on a determination, by the operator and/or State, that pilots require

special skills or knowledge for such operations. Such training typically addresses routes and/or airports that are over or in areas:

- With mountainous terrain, including high terrain, rapidly rising terrain or terrain with steep gradients;
- With terrain that contributes to the existence of mountain waves, turbulence, high surface winds, sudden wind changes and/or other atmospheric phenomena that could affect the performance of the aircraft;
- Containing topographical variations such as ridgelines, valleys, ravines, fjords or other areas where downdrafts on the leeward or downwind side can make traversing the area or accomplishing a crosswind landing hazardous;
- Where the airport, runway and/or approach environment is difficult to identify at night due to surrounding lights;
- Where featureless or expansive terrain could contribute to optical illusions during the day or at night;
- That are devoid of lighting where airport, runway and/or approach area identification is difficult at night due to lack of visible landmarks;
- That are devoid of lighting and sole reference to external or visual cues is insufficient for the maintenance of proper aircraft attitude control;
- That require the application of any other specific skills or knowledge, as determined by the operator and/or State.

The specified training may be included as part of initial or continuing qualification under FLT 3.3.10 or conducted independently.

FLT 2.4.2

If the Operator engages in specialized operations, the Operator shall ensure flight crew members, prior to being used in such operations, complete training and/or an evaluation in the operating practices and procedures for the following special operations, as applicable to the Operator:

(i) Performance-Based Navigation (PBN), training and evaluation required.

(ii) Performance-Based Communication and Navigation Surveillance System (PBCS).

(iii) Reduced Vertical Separation Minima (RVSM).

(iv) Minimum Navigation Performance Specifications (MNPS/NAT HLA).

(v) Areas of Magnetic Unreliability (AMU). **(GM)**

Conformance Applicability				
Sub-spec	**Specific to Aircraft Type**	**Included in Initial/Transition/ Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
(i)	Yes*	Yes*	Yes (every 12 months)	Yes
(ii)–(v)	Yes*	Yes*	No	Yes
* This training may be provided as a complete package or, if applicable, tailored to address aircraft type or crew position requirements that are different from the individual's previous training in PBN, PBCS, RVSM, MNPS/NAT HLA and/or AMU practices and procedures.				

Auditor Actions

☐ **Identified/Assessed** requirement for training in PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures in flight crew training/evaluation program.

☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification/recurrent schedule for training and evaluation in PBN).

☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Examined** selected initial/recurrent training/other qualification course curricula/syllabi (focus: training in PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures.
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of PBN/PBCS/RVSM/MNPS/NAT HLA/AMU procedures in initial training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Areas of Magnetic Unreliability (AMU), Minimum Navigation Performance Specifications (MNPS), North Atlantic Track High Level Airspace (NAT HLA), Performance-Based Communication and Navigation Surveillance System (PBCS), Performance-Based Navigation (PBN) and Specialized Operations.

Training is applicable to all pilot crew members and, if used in conjunction with such special operations, flight navigators.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

FLT 2.4.3

If the Operator uses flight crew members to concurrently operate aircraft of different types, or operate variants within one type, the Operator shall have qualification processes that are approved or accepted by the State and ensure such flight crew members complete training and an evaluation that emphasizes the differences between aircraft types and variants. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/ Transition/Conversion Training**	**Included in Recurrent Training/Continuing Qualification**	**Conformance through AQP/ATQP/EBT**
Yes	Yes	Yes (every 12 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew training/evaluation in differences between aircraft types/variants (as applicable).
- ☐ **Identified/Assessed** flight crew AQP/ATQP/EBT (if applicable): (focus continuing qualification recurrent schedule for training/evaluation in differences between aircraft types/variants).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** flight crew line qualification initial/recurrent curricula/syllabi (focus: training/evaluation in differences between relevant aircraft types/variants).
- ☐ **Examined** selected flight crew training/qualification records (focus: completion of training/evaluation in differences between aircraft types/variants).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Aircraft Type and Aircraft Variant (within Type).

The intent of this specification is to ensure flight crew members are familiarized with the significant differences in equipment and/or procedures between concurrently operated types or variants.

The determination of variant within type is within the domain of the State as part of flight crew licensing.

FLT 2.1.1B addresses overall AQP/ATQP/EBT elements and specifications, as well as Authority approval/acceptance requirements.

Qualification processes are applicable to all flight crew members used in such operations and as defined in the IRM.

Aircraft differences that require emphasis typically include level of technology, ergonomics, operational differences and handling characteristics.

Refer to General Guidance at the beginning of this Subsection 2, Training and Qualification, for explanatory information regarding traditional training program requirements and, if applicable, recurrent training/continuing qualification intervals that may be replaced by equivalent requirements as part of an AQP, ATQP or EBT program in accordance with FLT 2.1.1B.

2.5 SMS Training

3 Line Operations

3.1 Common Language

3.2 Flight Crew Responsibilities

3.3 Flight Crew Qualifications

FLT 3.3.2

The Operator shall have guidance and criteria that address the pairing of inexperienced pilot crew members and ensure scheduling processes prevent inexperienced pilot flight crew members, as defined by the Operator or the State, from operating together. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/criteria that prohibit pairing of inexperienced pilot flight crew members.
- ☐ **Identified/Assessed** tracking/scheduling processes that prevent pairing of inexperienced pilot flight crew members.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew pairing records (focus: inexperienced flight crew members not paired together).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling uses guidance/criteria that prevent pairing of inexperience flight crew members).
- ☐ **Other Actions** (Specify)

Guidance

The definition of inexperienced pilot flight crew member typically varies depending on the operator or the State and generally refers to a minimum number of hours in aircraft type after the completion of initial training/qualification.

The specifications of this provision are intended to preclude two newly trained or inexperienced pilots from operating together in an aircraft type until they each achieve a level of experience defined by the operator or the State.

FLT 3.3.3

If the Operator conducts low visibility approaches, the Operator shall define a minimum level of command experience required for a pilot to be authorized to conduct such approaches as PIC to approved Operator minima. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** defined minimum level(s) of command experience required for PIC to be authorized to conduct low visibility approaches to approved minima.
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Examined** OM guidance/procedures (focus: defined PIC minimum level of command experience to conduct low visibility approaches to approved minima).
- ☐ **Examined** selected flight crew training/qualification records (focus: low visibility approach authorization based on experience level).
- ☐ **Other Actions** (Specify)

Guidance

For those flight crew members qualified as PIC on aircraft types equipped for low visibility approaches, the specification for a minimum level of command experience may be replaced by a State-approved or State-accepted training program on low visibility operations conducted in a simulator suitable for the purpose.

FLT 3.3.4

The Operator shall ensure flight crew members will not operate an aircraft unless issued a medical assessment in accordance with requirements of the State; such assessment shall not be valid for a period greater than 12 months. **(GM)**

Note: *If authorized by the State, it is permissible to extend the validity beyond 12 months (to preserve the original expiry date) when the medical assessment is renewed up to 45 days prior to its expiry date.*

Auditor Actions

- ☐ **Identified/Assessed** requirement for flight crew members to have valid medical assessment in accordance with requirements of the State, maximum 12 months validity.
- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from assignment to flight duty without valid medical assessment.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew training/qualification records (focus: existence of valid medical assessment).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for valid flight crew member medical assessment).
- ☐ **Other Actions** (Specify)

Guidance

Requirements of the State and/or an applicable authority that are associated with medical classifications, aircraft types, flight crew positions and/or licensing could require a more restrictive assessment interval than specified in this provision. An applicable authority is one that has jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

The “class” of medical assessment required to conform to the specifications of this provision, typically “class 1”, is defined by the State and/or an applicable authority.

FLT 3.3.7

The Operator shall have a process to ensure flight crew member recency-of-experience requirements are satisfied as follows:

(i) A pilot does not act as PIC or SIC of an aircraft unless *either*:

(a) On the same type or variant of aircraft within the preceding 90 days (120 days if under the supervision of an instructor or evaluator), that pilot has operated the flight controls during at least three takeoffs and landings in the aircraft type or in a flight simulator approved for the purpose by the appropriate authority, *or*

(b) On the same type or variant of aircraft within a time period acceptable to the State and applicable authorities, that pilot has operated the flight controls during the number of takeoffs and landings in the aircraft type or in a flight simulator approved for the purpose by the appropriate authority, necessary to conform to a defined

recency of experience schedule approved or accepted by the State and applicable authorities.

(ii) A pilot does not act in the capacity of a cruise relief pilot unless, within the preceding 90 days, that pilot has *either*:

(a) Operated as PIC, SIC or cruise relief pilot on the same type or variant of aircraft, *or*

(b) Completed flying skill refresher training to include normal, abnormal and emergency procedures specific to cruise flight on the same type of aircraft or in a flight simulator approved for the purpose, and has practiced approach and landing procedures, where the approach and landing procedure practice may be performed as the PM.

(iii) A flight engineer does not perform duties in an aircraft unless *either*:

(a) Within the preceding 6 months, that individual has had at least 50 hours of flight time as a flight engineer on that aircraft type aircraft, *or*

(b) Within the preceding 90 days, that individual has operated as a flight engineer on board that aircraft type or in a simulator of the aircraft type.

(iv) A flight navigator or radio operator does not perform duties in an aircraft unless recency-of-experience requirements of the Operator and the State have been satisfied.

(v) If a flight crew member does not satisfy recency-of-experience requirements in accordance with i), ii), iii) or iv), such flight crew member completes re-qualification in accordance with the Operator's training and evaluation program. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from flight duty assignment unless recency-of-experience qualification requirements are met.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of recency-of-experience qualification requirements).
- ☐ **Examined** selected flight crew training/qualification records (focus: satisfaction of recency-of-experience qualification requirements).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for flight crew member recency-of-experience qualification requirements).
- ☐ ☐ **Observed** flight simulator operations (focus: simulators are representative of aircraft flown and are approved for the purpose of satisfying recency-of-experience requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cruise Relief Pilot.

The specification in item i) requires the pilots to operate the flight controls: PM duties do not satisfy recency-of-experience requirements for this specification.

☐ The specifications in item (i) also ensure that newly qualifying pilots have the necessary experience to operate as a required crewmember in the line training qualification program. The process to ensure such pilots meet recency-of-experience requirements may be integral to the line qualification program in accordance with FLT 2.3.1.

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

The specification in item i) b) may stipulate the number of takeoffs and landings to be performed according to a defined schedule in order to establish an equivalent level of recency experience. Such schedule would not have to adhere exactly to the specification in item i) a) of this provision if the level of recent experience is acceptable to the State and applicable authorities, and the PIC or SIC, as applicable, is required to operate the flight controls in order to satisfy recency-of-experience requirements.

Item v) specifies that a flight crew member whose recency has lapsed for any reason becomes unqualified and must be re-qualified by the operator. The requalification program for such a flight

crewmember need not specify the same number of takeoffs and landings as the recency requirements.

Applicable authorities include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.3.9

The Operator shall have an airport qualification process that ensures a PIC has made an actual approach and landing at each airport within the Operator's route system accompanied by a pilot, either as a crew member or flight deck observer, that is qualified for that airport, unless:

(i) The approach to the airport is *not* over difficult terrain and the instrument approach procedures and aids available are similar to those with which the pilot is familiar, and the normal operating minima are adjusted by the addition of a margin of safety that is approved or accepted by the State, or there is reasonable certainty that approach and landing can be made in visual meteorological conditions (VMC), or

(ii) The descent from the initial approach altitude can be made by day in VMC, or

(iii) The Operator has qualified the PIC for operations into the airport by means a pictorial representation that is approved or accepted the Authority, or

(iv) The airport is adjacent to another airport into which the PIC is currently qualified to operate. **(GM)**

Auditor Actions

☐ **Identified/Assessed** tracking/scheduling/pairing processes for ensuring PICs will meet qualification requirements for airports/areas/routes to be used in operations.

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** OM guidance/procedures (focus: definition of crew member qualification criteria for operations into airports/areas/routes used in operations).

☐ **Observed** flight crew scheduling operations (focus: scheduling and crew pairing accounts for PIC qualification for operations into airports of intended landing).

☐ **Other Actions** (Specify)

Guidance

The specification in item (i) may be satisfied by a process, approved or accepted by the State, that:

- Identifies instrument approach procedures that require the application of margins to operating minima;
- Specifies the operating margin to be applied.

The specification in item (iii) may be satisfied by any pictorial representation approved or accepted for the purpose by the Authority, such as an instrument approach plate or chart.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses training for operations associated with special areas, routes, route segments and special airports.

FLT 3.3.10

The Operator shall have a process to ensure a pilot is not used as a PIC in operations that require the application of special skills or knowledge within areas, on routes over difficult terrain and/or into special airports, as designated by the State or by the Operator, unless, within the preceding 12 months, that pilot has *either*:

(i) Made at least one trip as a pilot flight crew member, line check airman or observer on the flight deck on a route in close proximity and over similar terrain within the specified area(s), on the specified route and/or into the special airport, as applicable, *or*

△ (ii) Completed training and an evaluation in the special skills and/or knowledge required to qualify or requalify for such operations. The content of training shall ensure the PIC has adequate knowledge of the elements specified in Table 2.5 as applicable to the areas, routes, route segments and special airports of intended operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent PICs from flight duty assignment into airports/areas and on routes/route segments that require special skills/knowledge, unless qualification requirements have been satisfied.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** OM guidance/procedures (focus: definition of PIC qualification criteria for operations into airports/areas/routes that require special knowledge/skills).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling tracks/accounts for PIC qualification for routes/airports that require special knowledge/skills).
- ☐ **Other Actions** (Specify)

Guidance

Special airport and/or route/area re-qualification (if applicable) could take the form of pictorial review, simulator training, line check airmen briefing or operation into the airport accompanied by a line check airman or other qualified airman and could include exemptions for VFR operations.

The intent of this provision is to ensure the PIC has a level of knowledge of terrain, minimum safe altitudes, seasonal meteorological conditions, communication and air traffic facilities, services and procedures, search and rescue services and navigational facilities and procedures, including any long-range navigation procedures, required for safe operations.

Refer to FLT 2.4.1 and associated Guidance for additional specifications and information that addresses training for operations associated with special areas, routes route segments and special airports.

3.4 Flight Crew Scheduling

FLT 3.4.1

The Operator shall have a means to ensure flight crew members are qualified and current prior to accepting and/or being assigned to duty. Such means shall consist of:

(i) A requirement that prohibits flight crew members from operating an aircraft if not qualified for duty in accordance with requirements contained in Table 2.3;

(ii) A scheduling process that ensures flight crew members, prior to being assigned to duty, are qualified and current in accordance with the applicable flight crew qualification requirements contained in Table 2.3 and, if applicable, additional requirements of the State. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** tracking/scheduling processes that prevent flight crew members from flight duty assignment unless currently qualified in accordance with Table 2.3 or other applicable requirements of the State.
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Examined** process for determining additional flight crew qualification requirements of the State.
- ☐ **Examined** selected flight crew duty assignment records (focus: satisfaction of applicable qualification requirements).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling requires flight crew member qualification in accordance with Table 2.3 and requirements of State).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew member requirements and related scheduling processes preclude operation of an aircraft by a flight crew member that is not qualified and current in accordance with the specifications of the provision.

FLT 3.4.3A

The Operator shall have a methodology for the purpose of managing fatigue-related safety risks to ensure fatigue occurring in one flight, successive flights or accumulated over a period of time does not impair a flight crew member's alertness and ability to safely operate an aircraft or perform safety-related duties. Such methodology shall consist of:

(i) Flight time, flight duty period, duty period limitations and rest period requirements that are in accordance with the applicable prescriptive fatigue management regulations of the State, and/or

(ii) If applicable, the Operator's Fatigue Risk Management System (FRMS) approved or accepted by the State and established in accordance with FLT 3.4.3B. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/methodology for flight crew fatigue management and/or FRMS in accordance with regulations of the State.
- ☐ **Identified/Assessed** FRMS (if applicable) (focus: approved/accepted by State, incorporates elements as specified in FLT 3.4.3B).
- ☐ **Identified/Assessed** tracking/scheduling processes (focus: processes take into account flight time/flight duty period/duty period/rest period limitations in the duty assignment of flight crew members).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected scheduling personnel.
- ☐ **Examined** selected flight crew duty assignment records (focus: examples of application of flight crew fatigue management limitations/mitigations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Fatigue and Fatigue Risk Management System (FRMS).

The intent of this provision is to ensure an operator establishes a methodology for the management of crew member fatigue in a manner that:

- Is based upon scientific principles and knowledge;
- Is consistent with the prescriptive fatigue management and/or FRMS regulations of the State;
- Precludes fatigue from endangering safety of the flight.

Where authorized by the State, the operator may use a Fatigue Risk Management System (FRMS) in accordance with FLT 3.4.3B alone or in combination with prescriptive flight time, flight duty period, duty period limitations and rest period requirements as the means for managing fatigue-related risks.

Guidance for the implementation of an FRMS is contained in the IATA/ICAO/IFALPA Fatigue Management Guide for Airline Operators and, as applicable, in other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120-103A–Fatigue Risk Management Systems for Aviation Safety).

FLT 3.4.3B

If the Operator uses an FRMS to manage flight crew fatigue-related safety risks, the Operator shall incorporate scientific principles and knowledge within the FRMS, comply with any applicable requirements for managing flight crew fatigue as established by the State or Authority and, as a minimum:

(i) Define and document the FRMS policy;

(ii) Incorporate risk management processes for fatigue hazard identification, risk assessment and risk mitigation;

(iii) Develop and maintain effective FRMS safety assurance processes;

(iv) Establish and implement effective FRMS promotion processes. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** FRMS policy/components/elements, compliance with fatigue risk management requirements of State/Authority.
- ☐ **Identified/Assessed** FRMS processes for flight crew fatigue risk management data collection/analysis/hazard identification, safety risk assessment, safety risk mitigation/control.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected personnel that perform flight crew fatigue-related safety risk management functions.
- ☐ **Examined** selected examples of fatigue risk management (focus: hazard identified, risk assessed, mitigation action developed and implemented).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk in accordance with an approved FRMS).
- ☐ **Other** Action (Specify)

Guidance

The intent of this provision is to ensure fatigue occurring either in one flight, successive flights or accumulated over a period of time does not impair a crew member's alertness and ability to safely operate an aircraft or perform safety-related duties.

Where authorized by the State, the operator may use an FRMS as a means to determine that variations from prescriptive fatigue management policies demonstrate an acceptable level of safety. Guidance for the implementation of an FRMS is contained in the IATA/ICAO/IFALPA Fatigue Management Guide for Operators and, as applicable, other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120-103A–Fatigue Risk Management Systems for Aviation Safety).

The applicability of this provision is limited to those operations wherein fatigue is managed in accordance with the FRMS as defined in the operator's FRMS documentation. It is important to note, however, that an FRMS may be used alone or in combination with prescriptive flight time, flight duty period, duty period limitations and rest period requirements as the means for managing fatigue related risks.

The components of an effective FRMS as specified in this provision are described in the following table.

FRMS Component	Item	Description
FRMS policy and documentation	(i)	Policy: • Defines FRMS Terms of Reference • Identifies scope of FRMS operations • Identifies FRMS elements • Reflects shared responsibility • States safety objectives • Declares management commitment • Identifies lines of accountability Documentation: • Policy and objectives • Processes and procedures • Accountabilities, responsibilities and authorities • Mechanism for involvement of all stakeholders • FRMS training records • Planned and actual times worked • Outputs (findings, recommendations, actions)
Fatigue risk management processes	(ii)	• Fatigue hazard identification (reactive/proactive/predictive processes) • Safety risk assessment • Safety risk mitigation
FRMS safety assurance processes	(iii)	• FRMS performance monitoring • Operational and organizational change management • Continual FRMS improvement
FRMS promotion processes	(iv)	• Training programs (for management, crew members and all other involved personnel under the FRMS) • Communication plan (explains FRMS policies, procedures and responsibilities to all relevant stakeholders and also describes communication channels)

FLT 3.4.3C

If the Operator uses an FRMS to manage flight crew fatigue-related safety risks, the Operator *should* ensure the organizational activities specified in FLT 3.4.3B related to the management of flight crew fatigue-related risks are integrated with the Operator's organizational safety management system (SMS) as specified in ORG 1.1.10. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** integration of FRMS elements in organizational SMS.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected personnel that perform flight crew fatigue-related safety risk management functions.
- ☐ **Examined** selected examples of flight crew fatigue-related hazards addressed/analyzed under organization-wide safety risk assessment/mitigation program.
- ☐ **Other** Action (Specify).

Guidance

The intent of this provision is to ensure the “tactical” organizational activities specified in FLT 3.4.3B interface with organizational safety risk management activities. This includes interfaces with SMS and Quality systems to ensure operational systems and processes are subjected to the organization's overarching safety and quality assurance processes.

Guidance for the integration of FRMS and SMS is described in the IATA/ICAO/IFALPA Fatigue Management Guide for Airline Operators.

FLT 3.4.4

The Operator shall consider the following as duty time for the purposes of determining required rest periods and calculating duty time limitations for operating flight crew members:

(i) Entire duration of the flight;

(ii) Pre-operating deadhead time;

(iii) Training periods prior to a flight;

(iv) Administrative or office time prior to a flight (for flight crew members that serve in a management function);

(v) If required by the State, flight time accrued by flight crew members in operations other than those of the Operator. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/criteria used for determination of required rest periods/calculation of duty time limitations for operating flight crew members.
- ☐ **Identified/Assessed** processes used to track flight crew compliance with duty time/rest period limitations.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected flight crew duty assignment records (focus: application of duty time/rest period limitations).
- ☐ **Observed** flight crew scheduling operations (focus: scheduling uses defined criteria for determining required flight crew rest periods/calculating duty time limitations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Deadheading.

The intent of this provision is to ensure an operator considers non-flight duty time, or flight time accrued in operations other than those of the operator, that is likely to induce fatigue into the calculation of duty time limitations and the determination of required rest periods.

FLT 3.4.6

If the Operator uses flight crew members that are concurrently qualified to operate aircraft of different types, or operate variants within one type, and the State specifies unique training and/or recency requirements for such flight crew members to remain concurrently qualified, the Operator shall have a scheduling process that addresses such unique requirements, to include, as a minimum:

(i) Required differences training (between type or variants);

(ii) Recency of experience necessary to maintain currency on all types or variants. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** scheduling processes that address flight crew members concurrently qualified to operate aircraft of different types/variants within one type.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** flight crew scheduling personnel.

- ☐ **Examined** requirements/criteria applicable to concurrently qualified flight crew members (focus: differences training, recency of experience).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure scheduling processes address the unique State requirements (e.g. recency on each type or variant, or training on each type or variant), if any, that are necessary for flight crew members to remain concurrently qualified to operate multiple types or variants within type.

The determination of variant within type is within the domain of the State as part of flight crew licensing.

3.5 Flight Preparation

FLT 3.5.2

If the Operator uses aircraft with electronic navigation data capabilities, the Operator shall have guidance and procedures for flight crew members to ensure the validity of any electronic navigation database installed into aircraft navigation equipment. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for flight crew preflight of aircraft navigation equipment (focus: validation of any installed navigation databases; definition of validation criteria).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew preflight navigation database validation).
- ☐ **Other Actions** (Specify)

Guidance

Where more than one database is available for use in the aircraft navigation system, an operator can ensure database validity by providing guidance for the flight crew to select the new database for use prior to the first flight on the effective date for the new database.

The operator may provide relief in the MEL, permitting flight crew use of a non-current database for a specified period of time due to database errors or faults.

FLT 3.5.3

If the Operator uses electronic flight bag (EFB) devices or systems, the Operator shall, in accordance with requirements of the Authority, have one or more processes to ensure the appropriate management, control, maintenance and use of EFBs. Such process shall ensure, as a minimum:

(i) Portable EFBs, if used, do not affect the performance of aircraft systems, equipment or the ability to operate the aircraft;

(ii) Assessment of the safety risks associated with each EFB function used in operations in accordance with FLT 1.12.2;

(iii) Establishment of procedures for the use, management and maintenance of the device, each EFB function and any database the device may use;

(iv) Establishment of training requirements for the use of the device and each EFB function;

(v) In the event of an EFB failure, sufficient information is readily available to the flight crew for the flight to be conducted safely. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for management/control of EFB systems/devices (focus: device distribution/serviceability (as applicable)/process for data maintenance/timely update, data limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight operations (focus: implementation of relevant process(es)/procedures).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Electronic Flight Bag (EFB).

The specification in item ii) refers to risk assessment and mitigation action. Such process considers an EFB system, its software applications, and its integration inside a specific aircraft, to identify the potential malfunctions and failure scenarios, analyze their operational effects, and, if necessary, propose mitigation means. An effective risk assessment includes:

- Evaluation of the risks associated with the use of an EFB;
- Definition of appropriate risk mitigation measures;
- Identification of potential losses of function or malfunctions (detected and undetected erroneous output) and associated failure scenarios;
- Analysis of the operational consequences of identified failure scenarios;
- Establishment of mitigating measures;
- Assurance that the EFB system (hardware and software) achieves at least the same level of accessibility, usability, and reliability as the means of presentation it replaces;
- The possibility of redundant portable EFBs to reduce the risk of exhausted batteries.

The specification in item v) refers to reliability of EFB use. Consideration is given to establishing a reliable alternative means of providing the information available on the EFB system. For example, alternative means could include one or a combination of the following:

- System design (including hardware and software);
- Alternative EFB possibly supplied from a different power source;
- EFB applications hosted on more than one platform;
- Paper backup (e.g. Quick Reference Handbook (QRH));
- Procedural means; and
- Administration.

3.6 Route and Airport Planning

FLT 3.6.2

The Operator shall have guidance that enables the flight crew to determine if airports of intended use meet operational requirements, to include:

(i) Applicable performance requirements;
(ii) Runway characteristics;
(iii) Air Traffic Services and associated communications;
(iv) Navigation aids and lighting;
(v) Weather reporting;
(vi) Emergency services. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies operational requirements for airports of intended use (focus: availability to flight crew; instructions for information in operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: determination of airport operational requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Air Traffic Services.

3.7 Fuel, Weight/Mass and Balance, Flight Plans

FLT 3.7.1

The Operator shall have a fuel policy and guidance that enables the flight crew to determine the minimum dispatch/departure fuel for each phase of flight in accordance with DSP 4.3.1. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy/OM guidance that requires flight crew to determine minimum dispatch/departure fuel. (focus: availability to flight crew; minimum dispatch/departure fuel includes fuel for phases of flight specified in DSP 4.3.1).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of minimum dispatch/departure fuel).
- ☐ **Other Actions** (Specify)

Guidance

DSP 4.3.1 specifies the fuel categories that are typically used when defining regulatory and/or operational requirements during the flight planning process and on the OFP.

Individual aircraft fuel consumption, MEL/CDL adjustments, anticipated operational constraints (weather, de-icing, slots, etc.) are all factors normally to be considered in calculating minimum dispatch/departure fuel required.

Fuel calculations are typically made by a flight crew member, a Flight Operations Officer/Flight Dispatcher, or both.

FLT 3.7.2

The Operator shall delegate the authority to the PIC to ensure:

(i) A flight is not commenced unless the usable fuel required in accordance with DSP 4.3.1 is on board the aircraft and is sufficient to complete the planned flight safely;

(ii) If fuel is consumed during a flight for purposes other than originally intended during pre-flight planning, such flight is not continued without a re-analysis and, if applicable, adjustment of the planned operation to ensure sufficient fuel remains to complete the flight safely. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement for PIC to ensure required safe usable fuel on board prior to flight (focus: delegation of authority to PIC; instructions for determination of safe usable fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: determination of usable safe fuel prior to flight).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Discretionary Fuel.

The intent of this provision is for the PIC to have the authority to ensure sufficient fuel is on board the aircraft to commence or continue the planned flight safely, and to be able to authorize the loading of *Discretionary Fuel* if such fuel is required for the safe conduct of the flight and will not cause operating limits to be exceeded.

In a shared system of operational control, the PIC and the Flight Dispatcher/Flight Operations Officer share the responsibility to ensure operating limitations are not exceeded and sufficient fuel is on board to commence or continue the planned flight safely.

The extent of the re-analysis or adjustment specified in item ii) is commensurate with the scope and complexity of the planned operation.

FLT 3.7.3

The Operator shall have guidance that enables the flight crew to prepare and/or accept a load sheet with accurate aircraft weight/mass and balance calculations for each flight. Such guidance shall:

(i) Assign responsibility to the PIC for ensuring the load sheet content is satisfactory prior to each flight;

(ii) Incorporate flight crew procedures for preparing or accepting last minute changes (LMC) to the load sheet, to include guidance for the maximum allowable difference between planned and actual weights.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for PIC/flight crew preparation/acceptance of load sheet (focus: instructions for determination of accurate load sheet, preparing/accepting LMCs, maximum allowable difference between planned/actual weights).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight crew preparation/acceptance of accurate load sheet).
- ☐ **Other Actions** (Specify)

FLT 3.7.9

If the Operator conducts isolated airport operations, the Operator shall have guidance and instructions for the flight crew to:

(i) Practically calculate or determine a point of safe return (PSR) for each flight into an isolated airport;

(ii) Ensure the flight does not continue past the actual PSR unless a current assessment of meteorological conditions, traffic, and other operational conditions indicate that a safe landing can be made at the estimated time of use. **(GM)**

Auditor Actions

- ☐ **Identified** aircraft fleets used in isolated aerodrome operations.
- ☐ **Identified/Assessed** OM guidance/procedures for flight crew calculation/consideration of PSR for isolated airport operations (focus: instructions for calculation/re-calculation of PSR; definition of conditions that permit continuation beyond PSR).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: calculation/use of PSR).
- ☐ **Other** Action (Specify)

Guidance

Refer to the IRM for the definitions of Isolated Airport and Point of Safe Return (PSR).

This provision, in combination with the fuel carriage requirements of DSP 4.3.11, is intended to mitigate some of the risks associated with operations to isolated airports that preclude the selection and specification of a destination alternate.

A PSR is the point of last possible diversion to an en route alternate. While this point can be calculated and specified on the OFP during the flight planning stage in accordance with DSP 4.1.7, such a calculation does not typically take into account discretionary fuel or the real-time changes in fuel consumption that will occur after departure. These factors typically result in an actual PSR that will be reached later in the flight than the point originally calculated on the OFP.

In order to conform to item i), an operator would provide practical instructions for the flight crew to re-calculate the position of the PSR while en route. These instructions usually involve using a fuel plotting chart or the calculating capabilities of the Flight Management System (FMS). Alternatively, the position of the actual PSR can be re-calculated by operational control personnel and relayed to the en route aircraft, which also satisfies the specification in item i).

A PSR may coincide with the Final Decision Point used in Decision Point Planning or the Pre-determined Point used in Pre-determined Point planning.

Guidance on flight planning methods including planning operations to isolated airports and guidance related to the determination of a PSR is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

3.8 Aircraft Preflight and Airworthiness

FLT 3.8.3

The Operator shall assign the PIC the authority to reject an aircraft prior to departure of a flight if dissatisfied with any aspect of the airworthiness and/or maintenance status of the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for acceptance/rejection of aircraft based on airworthiness assessment (focus: delegation of authority to PIC; instructions for assessment of airworthiness).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: use of ATL).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that PIC acceptance of an aircraft is based on a review of the MEL/CDL, ATL and/or any other operator or State-approved sources of technical information attesting to the mechanical state of the aircraft.

FLT 3.8.7A

The Operator shall have guidance, published in the OM or other document(s) available to the flight crew during flight preparation, that requires an exterior aircraft inspection (walk-around) that focuses on safety-critical areas of the aircraft and ensures, as a minimum:

(i) Pitot and static ports are not damaged or obstructed;

(ii) Flight controls are not locked or disabled (as applicable, depending on aircraft type);

(iii) Frost, snow or ice is not present on critical surfaces;

(iv) Aircraft structure or structural components are not damaged. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for aircraft exterior inspection prior to each flight (focus: instructions for conduct of inspection; definition of safety-critical areas that must be included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: aircraft exterior inspection).
- ☐ **Other Actions** (Specify)

Guidance

If the exterior aircraft inspection is delegated in accordance with FLT 3.8.6, conformity with this provision would require that guidance is contained in documents accessible to licensed maintenance technicians.

FLT 3.8.7B

The Operator shall have a procedure to ensure the availability, accessibility and serviceability of aircraft flight deck systems and emergency equipment. Such procedure shall include an interior preflight inspection of systems and equipment, which, as a minimum, is conducted by the flight crew prior to the first flight:

(i) Of the flight crew on an aircraft during a duty period;

(ii) On an aircraft after it has been left unattended by the flight crew, unless the Operator has a process or a procedure that ensures flight deck systems and emergency equipment remain undisturbed. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for flight crew preflight inspection of flight deck emergency systems/equipment (focus: instructions for conduct of inspection; definition of emergency systems/equipment to be included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: flight deck preflight inspection).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for the flight crew to ensure the availability, accessibility and serviceability of aircraft flight deck systems and emergency equipment prior to flight.

Serviceability is typically assessed by checking fire extinguisher pressures, oxygen bottle pressures, PBE humidity indicators and/or other preflight checks specified by the aircraft or equipment manufacturers and documented in the operator's procedures.

An operator typically includes associated guidance to ensure action is taken to address a condition where systems or equipment are discovered as faulty, missing or does not satisfy operational requirements.

Discrepancies involving systems or equipment are normally documented in a technical log book or equivalent recording medium.

FLT 3.8.8

If the Operator conducts passenger flights or transports supernumeraries in the passenger cabin with or without cabin crew, the Operator shall have a procedure to ensure the availability, accessibility and serviceability of aircraft cabin emergency systems and equipment. Such procedure shall include a preflight inspection of such systems and equipment, which, as a minimum, shall be conducted by the flight crew or, if applicable, delegated to the cabin crew prior to the first flight:

(i) After a new cabin crew or, if no cabin crew is used, a new flight crew has assumed control of the aircraft cabin;

(ii) After an aircraft has been left unattended by a flight crew or cabin crew unless the Operator has a process or procedure that ensures aircraft cabin emergency systems and equipment remain undisturbed. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedure for flight/cabin crew preflight inspection of cabin emergency systems/equipment (focus: instructions for conduct of inspection; requirement for systems/equipment to be serviceable and available/accessible to passengers/supernumeraries; if applicable, process or procedure that ensures systems/equipment remain undisturbed when no flight or cabin crew on board).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight operations (focus: cabin preflight inspection).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for a preflight inspection of cabin emergency systems and equipment to be accomplished by either the flight crew or cabin crew, as applicable, under the circumstances specified.

Serviceability is typically assessed by checking fire extinguisher pressures, oxygen bottle pressures, PBE humidity indicators and/or other items specified by the aircraft or equipment manufacturers and documented in the operator's preflight inspection procedures.

FLT 3.8.10

If the Operator transports passengers and/or supernumeraries, and does *not* use a cabin crew, the Operator shall have procedures to ensure, prior to departure of a flight, passengers and/or supernumeraries, as applicable, have been briefed and are familiar with the location and use of safety equipment, to include:

(i) Seat belts;
(ii) Emergency exits;
(iii) Life jackets (individual flotation devices), if required
(iv) Lifesaving rafts, if required
(v) Oxygen masks;
(vi) Emergency equipment for collective use. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures for preflight briefing for passengers/supernumeraries; orientation as to location/use of safety equipment (focus: instructions of conduct of briefing; definition of safety equipment to be addressed/included).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: preflight briefing/orientation for passengers/supernumeraries).
- ☐ **Other Actions** (Specify)

Guidance

The briefing related to the specification in item ii) also typically addresses any applicable requirements and restrictions for personnel seated adjacent to cabin emergency exits.

3.9 Ground Handling

FLT 3.9.2

If the Operator conducts passenger flights without cabin crew, the Operator shall have a process and/or procedures to ensure a coordinated and expeditious cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking. Such procedures shall require:

(i) Cabin exits are designated for rapid deplaning or emergency evacuation, and routes to such exits are unobstructed;
(ii) The area outside designated emergency evacuation exits is unobstructed;
(iii) Qualified persons trained in emergency procedures are positioned near aircraft boarding door(s) or are otherwise in a position to monitor passenger safety and, if required, execute a cabin evacuation;
(iv) A suitable method of communication is established between qualified persons in a position to monitor passenger safety and personnel that have responsibility for fueling operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM process/procedures for coordinated cabin evacuation during aircraft fueling operations with passengers embarking/on board/disembarking (focus: description of required flight crew actions; description of required aircraft system configuration/exterior conditions/personnel positioning/method of communication).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin/ground operations (focus: complementary processes/procedures for cabin evacuation).
- ☐ **Observed** line flight operations (focus: coordination for potential cabin evacuation).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure an expeditious and coordinated passenger evacuation regardless of the aircraft type, crew complement or complexity of the fueling operation. For example, the specifications of the provision could be implemented procedurally and exclusively by a flight crew supervising the refueling of a small aircraft. Complex air carrier fueling operations, on the other hand, may call for a process-based approach involving numerous appropriately positioned and qualified individuals that can collectively ensure conformity with the specifications of the provision as well as its principal intent.

The specification in item i) refers to the designation of exits for rapid deplaning or emergency evacuation, which typically considers:

- Aircraft type (e.g. some aircraft types might require the designation of over-wing exits for an emergency evacuation);
- The method being used for passenger boarding and/or deplaning (e.g. boarding bridge, air stairs);
- Exterior or interior obstructions that might render an exit unusable for an emergency evacuation.

The specifications in items i) and ii) refer to obstructions that would render an exit or area outside an exit unusable during an emergency evacuation.

The specification in item iii) refers to the positioning of persons trained and qualified to monitor passenger safety and execute a rapid deplaning or cabin evacuation. Such persons are typically positioned near the boarding door(s) when a passenger boarding bridge is being used or, when a boarding bridge is not in use, in the location(s) most suitable for monitoring the safety of passengers that are embarking, on board or disembarking the aircraft. Certain aircraft might be small enough to permit a qualified person to monitor the safety of passengers embarking, on board or disembarking from outside the aircraft.

The specification in item iv) refers to the procedures for establishing a suitable method of communication, which may be initiated by any applicable person. Acceptable procedural methods of initiating and maintaining communication may include one or more of the following:

- The use of the aircraft inter-communication system, or
- Direct person-to-person contact, or
- Any other method of communication that ensures the flight crew or other suitably qualified persons are able to expeditiously direct personnel to discontinue fueling operations for any reason.

The specification in item iv) may be fulfilled by a flight crew member or other suitably qualified person when aircraft refueling is conducted or supervised by the flight crew.

FLT 3.9.3

If the Operator conducts passenger flights without cabin crew and transports passengers that require special handling, the Operator shall have a policy and procedures for the acceptance or non-acceptance, as well as onboard handling, of such passengers by the flight crew. The policy and procedures shall be in accordance with applicable regulations and as a minimum address, as applicable:

(i) Intoxicated and/or unruly passengers;
(ii) Passengers with disabilities or reduced mobility;
(iii) Passengers with injuries or illness;
(iv) Infants and unaccompanied children;
(v) Inadmissible passengers;
(vi) Deportees;
(vii) Passengers in custody. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for passengers that require special handling (focus: description of flight crew actions; definition of types of passengers that require special handling).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin/ground operations (focus: complementary policy/procedures for treatment of special handling passengers).
- ☐ **Observed** line flight operations (focus: treatment of special handling passengers).
- ☐ **Other Actions** (Specify)

Guidance

The principle intent of this provision is to ensure the appropriate acceptance or non-acceptance, as well as onboard, handling of passengers regardless of aircraft type, crew complement or complexity of the operation. An operator typically provides guidance to the flight crew, commensurate with any assigned responsibilities relative to passenger handling, to address the acceptance or non-acceptance of passengers requiring special handling as defined by this provision. Such guidance also typically defines the conditions necessary to accept or deny boarding to a passenger.

For intoxicated and/or unruly passengers as specified in item (1), the PIC typically has the authority to refuse carriage, order in-flight restraint or, depending on the severity of circumstances, divert a flight to an alternate airport for disembarkation and handover to authorities.

The specifications in items i), v), vi) and vii) might require guidance in the OM that addresses the proper use of restraint devices, unless such devices are prohibited by the Authority or their use is impractical due to lack of appropriate crew members.

FLT 3.9.6

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have de-/anti-Icing policies and procedures published in the OM or in other documents that are available to the flight crew during flight preparation and accessible to the flight crew during flight. Such policies and procedures shall address any flight crew duties and responsibilities related to de-/anti-Icing and include:

(i) Holdover Time tables;
(ii) A requirement for a member of the flight crew or qualified ground personnel to perform a visual check of the wings before takeoff, if any contamination is suspected;
(iii) A requirement that takeoff will not commence unless the critical surfaces are clear of any deposits that might adversely affect the performance and/or controllability of the aircraft;
(iv) A statement that delegates authority to the PIC to order De-/Anti-icing whenever deemed necessary. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for aircraft de-/anti-icing of aircraft (focus: availability/accessibility to flight crew prior to/during flight; description of flight crew authority/duties/responsibilities; statement that requires critical surfaces to be clear of ice prior to takeoff).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: operations in ground icing conditions; de-/anti-icing operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Holdover Time.

The intent of this provision is to ensure flight crew members comply with the clean aircraft concept prior to takeoff anytime there is a potential for the accretion of ice on aircraft critical surfaces during ground operations.

Refer to GRH 4.2.1 located in ISM Section 6 for specifications and associated guidance related to the establishment and maintenance of a De-/Anti-icing Program.

Qualified ground personnel specified in item ii) are typically used to perform a visual wing check in instances when the wings are not visible to the flight crew from the interior of the aircraft (e.g., cargo aircraft operations).

The surfaces specified in item iii) include wings, flight controls, engine inlets, fuselage surfaces in front of engines or other areas defined in the AOM.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations.

FLT 3.9.8

If the Operator transports dangerous goods as cargo, the Operator shall ensure information and guidance that enable the flight crew to carry out duties and responsibilities related to the transport of dangerous goods is published or referenced in the OM and included in the onboard library. Such guidance shall include, as a minimum:

(i) General policies and procedures;
(ii) Duties and responsibilities;
(iii) As applicable, preflight acceptance requirements;
(iv) Flight crew written notification requirements;
(v) Dangerous goods incident and/or emergency response procedures. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures associated with transport of dangerous goods (focus: included in onboard library; description of flight crew duties/responsibilities; acceptance/notification requirements).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: provision/receipt/acknowledgement of onboard dangerous goods).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Dangerous Goods Regulations (DGR) and NOTOC (Notification to Captain).

An operator, in accordance with requirements of the Authority, typically develops flight crew guidance related to the transport of dangerous goods based on technical information from one or more source reference documents, to include:

- IATA Dangerous Goods Regulations (DGR);
- ICAO Doc. 9481 AN/928, Emergency Response Guidance for Aircraft Incidents Involving Dangerous Goods;
- An equivalent dangerous goods manual, dangerous goods emergency response guide or other reference document approved or accepted by the Authority for the development of flight crew guidance related to the transportation of dangerous goods by air.

The specification in item iii) refers to procedures and information formulated to assist each applicable flight crew member in performing or directly supervising the acceptance of dangerous goods for transport on an aircraft. Such information might include, but not limited to:

- Details and locations of cargo compartments;
- The maximum quantity of dry ice permitted in each compartment;
- If radioactive materials are to be carried, instructions on loading;
- Dangerous goods reporting requirements.

Item iii) is only applicable to flight crew members assigned such responsibilities by the State or the operator.

The specification in item iv) refers to PIC and/or flight crew duties and responsibilities related to the acquisition and review of the NOTOC (Notification to Captain).

3.10 Airspace Rules

FLT 3.10.4

The Operator shall have guidance that addresses the use of standard radio phraseology when communicating with ATC, the acceptance and readback of ATC clearances and, when necessary, the clarification of such clearances to ensure understanding. Such guidance shall include, as a minimum:

(i) A requirement for the use of the call sign;

(ii) A requirement for at least two flight crew members to monitor and confirm clearances to ensure a mutual (flight crew) understanding of accepted clearances under circumstances, as determined by the operator or flight crew, when a missed or misunderstood clearance could pose a safety risk to the flight;

(iii) A requirement to clarify clearances with ATC whenever any flight crew member is in doubt regarding the clearance or instruction received. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM requirement/guidance for standard radio phraseology in communication with ATC (focus: instructions/procedures for flight crew communications with ATC; definition/use of standard phraseology).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight operations (focus: ATC communications; use of standard phraseology).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to have policies and procedures that ensure:

- The use of standard radio phraseology;
- ATC clearances are clearly understood during times of increased operational risk.

The specification in item ii) refers to situations when a missed or misunderstood clearance could pose a safety risk to the flight (e.g. inadequate terrain clearance, runway incursion, loss of separation). ATC clearances that have the potential to pose such safety risks, if misunderstood by the flight crew, typically include the following:

- Heading, altitude/flight level, assigned route/waypoint changes;
- Frequency changes during critical phases of flight;
- Instructions for any operation on or near a runway.

FLT 3.10.7

The Operator shall have guidance that enables the flight crew to determine differences in rules and procedures for any airspace of intended use, to include, as a minimum, an explanation of the differences between prevailing or local airspace rules and ICAO airspace rules, where applicable. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for determining differences in rules/procedures in airspace of intended use (focus: instructions for flight crew determination of airspace rules/procedures, differences between prevailing/local and ICAO rules).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Other Actions** (Specify)

Guidance

The specification of this provision ensures flight crews that operate in airspace(s) with different rules have those differences explained in the OM.

Airspace(s) of intended use typically includes ICAO, FAA, State or any other local airspace subject to the operations of the operator.

3.11 In-Flight Operations

Navigation

FLT 3.11.2

If the Operator uses navigation systems that are subject to degradation over time, the Operator shall have procedures to ensure navigation accuracy is checked after prolonged in-flight operation when ground-based or space-based navigation facilities become available for such checks. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for verification of navigation accuracy after prolonged in-flight operation (focus: procedure/instructions for flight crew checking of navigation accuracy using ground-based or space-based facilities).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: verification of navigation accuracy).
- ☐ **Other Actions** (Specify)

Guidance

Prolonged operation may be defined by the operator or manufacturer and refers to navigation systems with accuracy that could degrade over time or are affected by the presence of external navigation aids.

Navigation accuracy may be established with DME/DME, VOR/DME, or VOR/VOR within the service volume of the applicable navaids.

The specifications of this provision may be satisfied by guidance that describes flight crew actions related to Flight Management Computer (FMC) automated navigational accuracy messages (e.g., UNABLE REQD NAV PERF or equivalent) or that instructs flight crews to compare Actual Navigation Performance (ANP) with Required Navigation Performance (RNP).

FLT 3.11.4

The Operator shall ensure minimum flight altitude information applicable to all phases of a flight, including guidance that specifies when descent below any applicable prescribed minimum altitude is permissible, is made available to the flight crew along with instructions for the use of such information. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies when descent below applicable prescribed minimum altitude is permissible (focus: availability of minimum altitude information to flight crew during flight; instructions/procedures for adherence to/descent below minimum altitudes all phases of flight).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: adherence to minimum altitudes).
- ☐ **Other Actions** (Specify)

Guidance

Minimum prescribed safety altitudes typically include:

- Minimum Safety Altitude (MSA);
- Minimum Descent Altitude/Height (MDA/H);
- Minimum En route Altitude (MEA);
- Minimum Obstruction Clearance Altitude (MOCA);
- Minimum Off-Route Altitude (MORA);
- Minimum Vectoring Altitude (MVA);
- Any other minimum altitudes prescribed by the Authority.

△ **FLT 3.11.5**

The Operator shall have a policy and/or procedures that require flight crews to monitor meteorological conditions during the en route phase of flight, to include current weather and forecasts for:

(i) Destination airport;

(ii) Destination alternate airport(s), if applicable;

(iii) En route alternate airports(s), if applicable. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for monitoring meteorological conditions during the en route phase of flight (focus: instructions for flight crew monitoring of en route meteorological conditions, current/forecast weather for destination/alternate airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: monitoring en route/airport weather conditions).
- ☐ **Other Actions** (Specify)

Guidance

△ The intent of this provision is to ensure flight crews monitor meteorological conditions at the destination airport and at each required alternate airport, and that current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use (ETU), at or above the operator's established airport operating minima for that operation. To fulfill monitoring requirements, flight crews may acquire meteorological information from approved ground sources or such information may be provided to the aircraft by the operator as specified in DSP 3.2.9A or DSP 3.2.9B.

FLT 3.11.7

△ The Operator shall have a policy and/or procedures that require the flight crew to monitor fuel during flight to ensure a fuel quantity upon landing that is not less than final reserve fuel. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM requirement/guidance for monitoring en route fuel to ensure landing with not less than final reserve fuel (focus: instructions/procedure for flight crew fuel monitoring to ensure landing with final reserve fuel as specified in DSP 4.3.12).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: en route fuel monitoring/tracking).
- ☐ **Other Actions** (Specify)

Guidance

Refer to FLT 3.14.16 and FLT 3.14.17 for actions to be taken by the PIC in the event the final reserve minimum fuel quantity specified in DSP 4.3.12 cannot be protected in flight and preserved upon landing.

FLT 3.11.9

If the Operator is authorized to conduct LVO, the Operator shall have guidance to ensure the proper conduct of such operations. Such guidance shall address, as a minimum:

(i) Required ground and airborne equipment;
(ii) Operating limitations and procedures;
(iii) Crew qualifications;
(iv) Operating minima (RVR). **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct low visibility operations.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of low visibility operations (focus: procedures/limitations for conduct of operations; requirements for ground/airborne equipment, crew qualifications, operating minima).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: conduct of low visibility operations).
- ☐ **Other Actions** (Specify)

Guidance

△ The operating limitations specified in item (ii) typically address crosswinds, runway condition and aircraft equipment capability.

△ **FLT 3.11.10**

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have guidance that includes:

(i) Procedures to ensure proper conduct of such operations;
(ii) For all aircraft, a requirement for flight crews to monitor meteorological information for any en route alternates during the en route phase of a flight;
(iii) Procedures to ensure, for aircraft with two-engines engaged in ETOPS/EDTO, the most up-to-date information provided to the flight crew indicates that conditions at identified en route alternate airports will be at or above the operator's established airport operating minima for the operation at the estimated time of use. **(GM)**

Auditor Actions

- ☐ **Identified** authorization to conduct ETOPS/EDTO/operations beyond 60 minutes from an alternate airport.
- ☐ **Identified/Assessed** OM guidance/procedures for the conduct of ETOPS/EDTO/operations beyond 60 minutes from alternate airport (focus: procedures/limitations for conduct of operations; requirements for monitoring en route alternate airport meteorological information; for two-engine aircraft, requirements for en route alternate airports).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: conduct of ETOPS/EDTO/operations beyond 60 minutes from alternate airport).
- ☐ **Other Actions** (Specify)

Guidance

The intent of item ii) of this provision is to ensure flight crew are knowledgeable about diversion airport options and prevailing weather conditions appropriate for the type of operation conducted.

The intent of item iii) of this provision is to ensure a larger strategy exists to protect a diversion regardless of whether the diversion is for technical (airplane system- or engine-related) or non-technical reasons.

An operator, in accordance with requirements of the Authority, typically uses technical guidance for the conduct of operations beyond 60 minutes, from a point on a route to an en route alternate airport, including ETOPS/EDTO. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Annex 6, Amendment 36, Attachment D: Guidance for Operations by Turbine Engine Aeroplanes Beyond 60 minutes to an En-route Alternate Aerodrome Including Extended Diversion Time Operations (EDTO);
- ICAO Flight Planning and Fuel Management Manual (Doc 9976);
- FAA Advisory Circular - AC No: 120-42B: Extended Operations (ETOPS and Polar Operations), Effective 6/13/08;
- △ EASA Air OPS (regulation 965/2012) ANNEX V (Part-SPA) Subpart F: Extended Range Operations with Two-Engine Aeroplanes (ETOPS);
- ☐ EASA AMC 20-6, Rev 2 to Air OPS (regulation 965/2012): Extended Range Operation with Two-Engine Aeroplanes ETOPS Certification and Operation;
- Any equivalent reference document approved or accepted by the Authority for the purpose of providing guidance for the conduct of flight operations by turbine engine aircraft beyond 60 minutes to an en route alternate airport including ETOPS/EDTO.

Flight Management and General Procedures

FLT 3.11.17

The Operator shall have a policy and procedures that define a sterile flight deck during critical phases of flight, to include:

(i) A protocol for intra-flight deck communication;

(ii) If the Operator conducts passenger flights with cabin crew, a protocol for communication between the flight crew and cabin crew;

(iii) The mandatory use of headsets and boom or throat microphones for communication with ATC below the transition level/altitude;

(iv) A restriction of flight crew activities to essential operational matters. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirement/procedures for sterile flight deck (focus: procedures associated with sterile flight deck; definition of protocols/requirements/restrictions).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight operations (focus: adherence to sterile flight deck).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Sterile Flight Deck and Critical Phase of Flight.

The specifications of this provision require an operator to ensure the OM defines the specific phases of flight when the operational state of the flight deck is to be “sterile.”

FLT 3.11.20

The Operator shall have a policy and procedures that require flight crew members to crosscheck and confirm critical actions during normal, abnormal and emergency situations, to include:

△ (i) Aircraft configuration changes including landing gear, wing flaps and speedbrakes;

△ (ii) Altimeter bug and airspeed bug settings;

(iii) Altimeter subscale settings;

(iv) Altitude (window) selections;

(v) Transfer of control of the aircraft;

(vi) Changes to the Automated Flight System (AFS)/Flight Management System (FMS) and radio navigation aids during the departure and or approach phases of flight;

(vii) Weight/mass and balance calculations and associated AFS/FMS entries;

(viii) Performance calculations or inputs, including AFS/FMS entries. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirement/procedures for crosscheck/confirmation in performance of critical actions during normal/abnormal/emergency situations (focus: procedures for flight crew crosscheck/confirmation when performing critical actions; definition of critical actions in normal/abnormal/emergency situations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: flight crew crosscheck/confirmation when performing critical actions).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew actions, when considered critical to the safety of flight, are crosschecked and confirmed.

△ The specification in item (i) addresses the risk of a misconfiguration by requiring the flight crew to crosscheck and confirm certain critical manual and/or automatic configuration changes. It is important to note that the criticality of certain actions may be dependent on phase of flight (e.g. landing gear down before landing, correct flap selection before takeoff and landing, speedbrakes extended for a rejected takeoff (RTO) and after landing, speedbrakes retracted for takeoff, go-around and rejected landing).

☐ The specification in item ii) applies to reference bugs that are set externally on the instrument face, manually using a control panel, or automatically/manually through the FMS.

The specification in item iii) refers to the barometric pressure setting to which altitude is referenced.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.11.22

The Operator shall have an automation policy with associated guidance and procedures that address the use of aircraft automated flight and navigation systems, to include:

(i) Flight crew monitoring of the automated flight and navigation systems (AFS) to ensure appropriate aircraft response to inputs by:

(a) Cross-checking mode control panel status;

(b) Observing the results of any mode changes;

(c) Supervising the resulting guidance and aircraft response.

(ii) The use of a level of automation appropriate for the task, to include manual flight when aircraft response is not appropriate or adequate.

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for use of aircraft automated flight/navigation systems (focus: instruction/procedures for flight crew use/monitoring of automation, selection of appropriate mode of flight/navigation automation).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight and flight simulator operations (focus: management of flight automation; use of level appropriate for conditions).

☐ **Other Actions** (Specify)

Altitude Awareness and Altimetry

FLT 3.11.28

The Operator shall have policies, procedures and guidance that address altitude awareness, to include:

(i) Instructions for the use of automated or verbal flight crew altitude callouts and any other actions to be taken by the flight crew to maintain altitude awareness;

(ii) Policies and/or procedures for the avoidance of altitude deviations;

(iii) Policies and/or procedures that address call sign confusion during altitude clearance acceptance and readback;

(iv) Instructions for the flight crew to report the cleared flight level on first contact with ATC, unless specifically requested not to do so by ATC. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policies/guidance/procedures that address altitude awareness (focus: instruction/procedures for flight crew focus on altitude awareness; definition of strategies for avoidance of altitude deviations).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight and flight simulator operations (focus: application of altitude awareness procedures).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Altitude Deviation.

The intent of this provision is for the operator to provide policies, procedures and guidance in the OM designed to manage or mitigate potential risks related to the acceptance and maintenance of assigned altitudes.

As an example, OM guidance to address altitude awareness can include instructions for:

- A crosscheck that the assigned altitude is above the minimum safe altitude;
- “1000 to go” standard callout;

- Dual pilot response for ATC altitude clearance;
- "Double point" to altitude window (both pilots physically point to and confirm the new altitude set).

FLT 3.11.32

The Operator shall have guidance that enables the flight crew to correct for potential errors in altimetry and that addresses:

(i) The effects of Outside Air Temperature (OAT) that is significantly lower than standard temperature;

(ii) Maximum allowable barometric altimeter errors:

(a) Referenced to field elevation;

(b) Compared to other altimeters;

(c) Permissible to meet RVSM limitations. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM guidance that addresses avoidance of potential altimetry errors (focus: instructions/procedures for flight crew avoidance of barometric altimeter errors; definition of maximum allowable barometric altimeter errors).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight operations (focus: avoidance of barometric altimeter errors).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure that potential errors in altimetry are identified and corrected when necessary.

The specification in item i) refers to temperature compensation corrections applied to ensure obstacle clearance in conditions of extreme cold (typically starting at -10 C). Such corrections may be applied manually by the flight crew (e.g. temperature correction charts) or automatically by onboard systems (e.g. Air Data Computer).

The operator may provide tables, charts or other means to address potential errors in altimetry.

Meteorological Conditions and Environment

FLT 3.11.38

The Operator shall have policies and procedures for operations in the proximity of adverse weather and/or environmental conditions to include:

(i) Thunderstorms;

(ii) Turbulence;

(iii) Contaminated runways, including the effect of type and depth of contaminants on performance;

(iv) Cold weather;

(v) Volcanic ash, if the Operator conducts operations on routes that traverse large active volcanic areas or in the terminal areas of airports in the vicinity of active volcanoes. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policies/procedures for operations in proximity of adverse weather/environmental conditions (focus: flight crew adverse weather/environmental conditions operating procedures; definition of adverse weather/environmental conditions).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight operations (focus: operations in proximity of adverse weather/environmental conditions).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flight crew members have access to policies and procedures associated with the adverse weather or environmental conditions they might encounter in operations.

Active volcanic areas specified in item v) normally include the following: Pacific Ring of Fire, the Rift Valley in Africa, North and South America, Indonesia, Japan and Iceland.

FLT 3.11.39

The Operator shall have guidance that includes policies and procedures for:

(i) Wind shear avoidance;

(ii) Wind shear encounter recovery;

(iii) As applicable, response to predictive and/or reactive alerts. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance for wind shear avoidance/encounter recovery/response to predictive/reactive alerts (focus: flight crew wind shear avoidance/recovery procedures).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: wind shear awareness/avoidance/recovery).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Airborne Wind shear Warning System, which includes definitions for Predictive Alert and Reactive Alert.

Limitations and Performance

FLT 3.11.46

The Operator shall provide, and require compliance with, operating limitations, as defined by the original equipment manufacturer (OEM) and established by the State of Registry for each aircraft type used in operations.

Auditor Actions

- ☐ **Identified/Assessed** OM provision of/requirement for compliance with operating limitations as defined by OEM (focus: guidance/procedures for flight crew compliance with operating limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with operating limitations).
- ☐ **Other Actions** (Specify)

FLT 3.11.47

The Operator shall have wind component limitations for takeoff, approach and landing that do not exceed the values demonstrated or recommended by the OEM and also address operations when the:

(i) Runway is contaminated;

(ii) Visibility is degraded;

(iii) Aircraft stopping capability is degraded. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for compliance with takeoff/approach/landing wind component limitations that do not exceed OEM limitations (focus: requirement/procedures for flight crew compliance with wind component limitations).
- ☐ **Interviewed** responsible manager(s) in flight operations.

- ☐ **Observed** line flight and flight simulator operations (focus: compliance with wind component limitations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Runway Excursion.

The specifications of this provision are directly related to the prevention of runway excursions.

The intent is to ensure the operator provides wind component limitations for the phases of flight specified in the body of the provision (e.g. maximum crosswind component for landing). Additionally, the provision ensures the operator provides wind component limitations under the conditions specified in the sub-specifications (e.g. maximum crosswind component for landing on a contaminated runway). In either case such values cannot exceed those demonstrated or recommended by the OEM.

Contaminated runways are typically defined by a specific contaminant type/depth or equivalent braking action report.

FLT 3.11.48

The Operator shall have guidance that specifies a minimum aircraft height above ground level (AGL) or above airport level (AAL) for commencing a turn after takeoff. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance that specifies a minimum aircraft height above ground level (AGL)/above airport level (AAL) for commencing a turn after takeoff (focus: requirement/ procedures for flight crew compliance with minimum altitude limitations for turn after takeoff).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: compliance with turn-after-takeoff altitude limitations).
- ☐ **Other Actions** (Specify)

Guidance

Values typically vary depending on the operator or could include exceptions covering special airport operations.

Approach and Landing

FLT 3.11.58

The Operator shall have guidance and procedures that enable the flight crew to determine the conditions required to commence or continue an approach to a landing, to include, as a minimum:

(i) Crew qualification requirements;
(ii) Onboard equipment requirements;
(iii) Ground based equipment requirements;
(iv) Operating minima.

Auditor Actions

- ☐ **Identified/Assessed** OM requirements/information/guidance/procedures that enables flight crew to determine conditions required to commence/continue an approach to landing (focus: flight crew procedures/requirements for commencing/continuing approach to landing).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: determination of conditions for approach/landing).
- ☐ **Other Actions** (Specify)

⊗

☐ **FLT 3.11.59A**

The Operator shall have a stabilized approach policy that is approved or accepted by the Authority and has associated guidance, criteria, and procedures to ensure the ongoing conduct of stabilized approaches. Such policy shall include:

(i) Criteria defining the stabilized condition, to include:

(a) Aircraft configuration requirements specific to each aircraft type;

(b) Checklist completion requirements;

(c) Speed and thrust limitations;

(d) Vertical speed limitations;

(e) Acceptable vertical and lateral displacement from the normal approach path.

(ii) Required minimum height(s) AAL to achieve stabilization criteria:

(a) Not lower than 1000 ft. for approaches in IMC or not lower than 500 ft. for approaches in IMC as designated by the operator and/or State where a lower stabilization height is operationally required, and a minimum stabilization height not lower than 500 ft. for approaches in VMC; or

(b) Not lower than specific stabilization heights defined by the Operator and supported by a safety risk assessment in accordance with FLT 1.12.2 demonstrating acceptable risk for each defined height that is lower than any applicable height(s) specified in (ii) (a).

(iii) A requirement to abandon an approach or go around in accordance with its go-around policy as defined in FLT 3.11.60 unless stabilization criteria are met at the relevant heights specified in (ii) and can be maintained until touchdown;

(iv) A requirement that deviations from stabilized approach criteria must be pre-planned and require special briefings for designated unique approaches and/or abnormal conditions;

(v) A description of the duties and responsibilities of the PF and PM including countermeasures to human error. **(GM)**

Note: *The stabilized approach policy and associated implementation shall be subjected to the Operator's safety risk management (SRM) processes and safety performance monitoring to ensure an acceptable level of safety risk is achieved and maintained.*

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** safety risk assessments and data associated with Operator-specified AAL, as applicable.

☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates status of fleet stabilized approach performance).

☐ **Examined** relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying and preventing unstabilized approaches).

☐ **Observed** line flight and flight simulator operations (focus: stabilized approach).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Data Analysis (FDA) Program.

☐ The specifications of this provision are directly related to the prevention of controlled flight into terrain (CFIT), Loss of Control In-flight (LOC-I), and runway-related incidents/accidents.

△ The intent of this provision is for the operator to implement a stabilized approach policy, as well as have guidance, criteria and procedures that ensure the maintenance of the intended lateral and vertical flight path during approaches, including visual approaches and/or as depicted in published approach procedures, without excessive maneuvering. Such policy also typically provides guidance

for bracketing and correcting deviations during the approach to ensure the aircraft will always be at the proper speed over the runway threshold and in a position to land in the touchdown zone.

Monitoring of stabilized approach performance through SMS in accordance with the Note is required for all operators and may be accomplished using FDA or through other reporting systems.

One or more stabilization heights AAL as specified in (ii) may be established for the criteria defined in (i) (e.g., landing configuration may be required at 1,000 feet AAL while approach speed or vertical speed limitations may be required at 500 feet AAL). Selection of heights may also vary depending on aircraft type and operational characteristics (e.g., turbojet vs. turboprop). Finally, some Operators may choose not to distinguish between VMC and IMC approaches using one set of stabilization heights and associated criteria for both.

The criteria defining the stabilized condition are listed in item i) of the provision and are considered at the 1000 ft. AAL and 500 ft. gates as specified in item ii) a). Alternatively, the operator may specify stabilization heights appropriate to its operation as specified in item ii) b).

Operator stabilized approach policy and associated implementation is subject to SRM processes and safety performance monitoring. Operator-defined minimum stabilization heights which are lower than those specified in (ii) (a) require the conduct of a specific safety risk assessment in accordance with FLT 1.12.2 demonstrating an acceptable risk level for each defined height.

Refer to FLT 3.11.59B for factors related to the consistent conduct of stabilized approaches that should be taken into account by the operator's SRM processes (including required SRAs).

The specifications in item iv) permit an operator conforming to item ii) a), in accordance with operational requirements approved or accepted by the Authority, to establish stabilization criteria for heights lower than 1000 ft. AAL, but no lower than 500 ft. AAL (IMC or VMC), for approaches designated by the operator and/or State where:

- Lower minimum approach stabilization heights are authorized for turbo-propeller aircraft operations (e.g., 500 feet AAL on VMC/IMC approaches), **and/or**
- Maneuvering at a lower height AAL is required to meet instrument or other charted approach constraints (e.g., RNAV/RNP approaches, circling approaches and charted visual approaches), **and/or**
- Aircraft are required to comply with ATC speed constraints on final approach, **and/or**
- Deviations from selected approach stabilization criteria at a height lower than 1000 feet AAL, are operationally required, and the operator can demonstrate pilot adherence to its stabilized approach policy via a continually monitored, managed and active flight data analysis (FDA) program. These criteria used also typically address the maneuvering that may be required in accordance with a charted visual or instrument approach procedure.

The specifications in item (v) address:

- Timely and effective PF briefings;
- PM stabilized approach criteria deviation callouts and compliance checks;
- PF/PM actions in the event of destabilization below stabilization height, to include monitoring by the PM for possible excessive deviations from flight path, airspeed, vertical speed, pitch or bank during the approach, during the transition from approach to landing and during flare and touchdown;
- As applicable, the role of additional flight crew members on the flight deck (e.g., augmented crew members).
- The Threat and Error Management (TEM) countermeasures to keep threats, errors, and undesired aircraft states from reducing margins of safety in flight operations. Examples of countermeasures include CRM training, SOPs, checklists, briefings, callouts, and other means that assist the flight crew in managing human error.

OEM aircraft-specific descent and approach profiles can provide helpful guidance for flight crews to achieve a stabilized approach.

An operator, in accordance with requirements of the Authority and consistent with OEM guidance, typically develops a stabilized approach policy, guidance, criteria and procedures based on one or more of the following source references:

- Global Action Plan for the Prevention of Runway Excursions Coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- Flight Safety Foundation Runway Excursion Risk Awareness Tool;
- Federal Aviation Administration Advisory Circular – AC No. 91-79A;
- Federal Aviation Administration - Runway Excursions Support Tool;
- European Action Plan for the Prevention of Runway Excursions (EAPPRE) Edition 1.0;
- ICAO Runway Safety Programme – Global Runway Safety Action Plan First Edition, November 2017;
- IATA/IFALPA/IFATCA/CANSO Unstable Approaches: Risk Mitigation Policies, Procedures and Best Practices, 3rd Edition.
- IATA Runway Safety Accident Analysis Report 2010-2014;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the prevention of unstable approaches and runway excursions.

☐ **FLT 3.11.59B**

If the Operator has a stabilized approach policy that defines required minimum heights (AAL) to achieve stabilization criteria in accordance with FLT 3.11.59A (ii) (b), that are lower than any applicable height(s) specified in (ii)(a), the Operator shall ensure the safety risk management processes required to achieve overall conformity with FLT 3.11.59A take into account the following factors:

(i) Precursors of unstable approaches and operational trends that are identified through the collection and analysis of available de-identified data (e.g., from FDA/FDM/FOQA and other non-punitive reporting programs);

(ii) Precursors of unstable approaches identified through observational procedures which cannot be captured by the traditional reporting or FDA;

(iii) Identification and analysis of hazards associated with human factors and piloting techniques;

(iv) Analysis of aircraft type-specific flight characteristics including energy management in the approach, landing, and go-around regimes;

(v) Operator's ability to work with ATSUs to implement procedural changes at specific airports with runways identified as higher risk by data analysis;

(vi) Flight crew training program content related to the implementation of stabilized approach policy;

(vii) The most current and relevant manufacturer's guidance, limitations, and recommendations related to the development and maintenance of stabilized approach policy. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/guidance/procedures for the conduct of a stabilized approach (focus: flight crew procedures/definition of criteria for stabilized approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Examined** safety risk assessments and data associated with Operator-specified AAL, as applicable.

☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates status of fleet stabilized approach performance).

☐ **Examined** relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying and preventing unstabilized approaches).

- ☐ **Observed** line flight and flight simulator operations (focus: stabilized approach).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Data Analysis (FDA) Program.

☐ The specifications of this provision are directly related to the prevention of controlled flight into terrain (CFIT), Loss of Control in-Flight (LOC-I), and runway related incidents/accidents.

△ Refer to FLT 1.12.2 and associated guidance material for additional information regarding safety risk assessments.

The intent of this specification is to ensure the operator's SRM processes take into account the factors related to the consistent conduct of stabilized approaches in accordance with operator policy. Additional hazard criteria and risk factors may be identified by the operator and incorporated into required risk assessments.

Examples of observational procedures specified in (ii) include LOSA or data from regulatory line checks.

To further support SRM activities, an operator would also:

- Include and monitor aircraft parameters related to CFIT, LOC-I, and runway related incidents/accidents in their flight data analysis (FDA) program in accordance with provisions in ORG sub-section 3.3;
- Include unstable approaches followed by a landing as a reporting event by the flight crew;
- Minimize the need for the flight crew to report a go-around due to an unstable approach unless there is another significant event associated with the go-around (e.g., flap overspeed).

△ **FLT 3.11.60**

The Operator shall have a go-around policy with associated procedures and guidance to ensure flight crews discontinue or go around from an approach or landing in accordance with criteria established by the Operator. Such policy, procedures and guidance shall, as a minimum, address or define:

☐ (i) Management support for flight crew decision making to discontinue an approach or execute a go-around;

(ii) Criteria that require a flight crew to discontinue or go around from an approach or landing (prior to the selection of reverse thrust) including when the aircraft is not stabilized in accordance with FLT 3.11.59;

(iii) The go-around maneuver;

(iv) Duties and responsibilities of the PF and PM. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/requirements for execution of a missed approach/go-around when approach not stabilized in accordance with established criteria (focus: flight crew guidance/procedures for execution of a missed approach/go-around).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates fleet status of missed approach/go-around from unstabilized approach).
- ☐ ☐ **Examined** (as applicable) relevant safety objectives including SPIs/SPTs (focus: proactive measures in place for identifying, assessing and addressing potential/actual go-arounds and discontinued approaches.
- △ ☐ **Observed** line flight and flight simulator operations (focus: flight crew awareness of/preparation for factors that could lead to a go-around or discontinued approach).
- ☐ **Other Actions** (Specify)

Guidance

△ The specifications of this provision are directly related to the prevention of approach and landing accidents (ALAs) such as CFIT and runway excursions.

△ The intent of this provision is to reduce the risk of ALAs by ensuring the flight crew will always discontinue or go around from an approach or landing (prior to the selection of reverse thrust) when a safe landing cannot be assured (e.g. aircraft not stabilized in accordance with criteria established by the operator) or a go-around is otherwise required (e.g. when instructed by ATC)

□ The specification in item (i) is intended to foster a culture that supports flight crew go-around decision making. It is typically expressed by senior management in a manner that:

- Promotes the go-around as a normal procedure;
- Encourages go-around preparedness and considers the risk of the go-around maneuver itself;
- Empowers the PM (or the SIC) to call for a go-around at any time during approach and landing until the selection of reverse thrust;
- Ensures that go-around decision making does not affect the PIC's emergency authority in the event of (impending) abnormal or emergency situations;
- Does not inhibit flight crew reporting of go-around related events.

The criteria referred to in item (ii), which would require a go-around or discontinuation of an approach, typically Include:

- The specifications for a stable approach defined in accordance with FLT 3.11.59 are not met at the relevant approach gate(s) or can no longer be maintained until touchdown.
- The visibility or ceiling is below the minimum required for the type of approach at the specified gates (e.g. outer marker, 1,000' AAL or at minimums).
- The appropriate visual references are not obtained or are lost at or below MDA (or minimum descent height) or DA (or decision height) and through flare and touchdown by either pilot.
- Prior to touchdown the wind is above the operational or pre-determined wind limit, or the runway status is below the limit determined by the flight crew's landing performance assessment.
- Technical defects or failures occur during approach that might inhibit a safe continuation of approach, landing or go-around.
- Doubts by either pilot about the aircraft's geographic or spatial position.
- Confusion by either pilot about the use or behavior of the automation.
- It is foreseeable that the go-around routing and path will not be sufficiently clear of adverse weather or restricting traffic.
- If instructed by ATC.
- If required for type-specific reasons as outlined in the respective AOM.
- If required by special considerations associated with a CAT II/III operation.

Note: *in establishing criteria for discontinuing or going around from an approach, consideration would be given to installed equipment (e.g. GPWS, automated callouts) and flight crew procedures to ensure a timely go-around decision can be made.*

The specification in item (iii) refers to the aircraft type-specific maneuver(s) for go around from a visual approach, an instrument approach or a landing prior to the selection of reverse thrust (i.e. rejected landing).

The specification in item (iv) typically addresses:

- Timely and effective PF briefings.
- PF/PNF consideration of all relevant aircraft performance guidance and data in accordance with FLT 4.1.1 and FLT 4.1.2.
- PM stabilized approach criteria deviation callouts and compliance checks.
- PF and/or PM go-around callouts and subsequent execution of the go-around maneuver.

- PF/PM go-around-related memory items.
- PM actions in the event of (subtle) PF incapacitation or delayed response to a go-around callout.
- PF/PM actions in the event of destabilization below stabilization height including PM monitoring for possible excessive deviations from flight path, speed, vertical speed, pitch or bank during the approach, during the transition from approach to landing and during flare and touchdown.
- As applicable, the role of additional flight crew members on the flight deck (e.g., augmented crew members).

To support SRM activities an operator would typically:

- Include and monitor aircraft parameters related to CFIT and runway excursions in their flight data analysis (FDA) program in accordance with provisions in ORG sub-section 3.3.
- Monitor go-around policy compliance through their FDA program and establish go-around safety performance indicators (SPIs). In addition to monitoring go-arounds, aircraft operators would also monitor discontinued approaches.
- Include unstable approaches followed by a landing as a reporting event by the flight crew.
- Minimize the need for the flight crew to report a go-around due to an unstable approach unless there is another significant event associated with the go-around (e.g. flap overspeed, altitude deviation).

An operator, in accordance with requirements of the Authority and consistent with OEM guidance, typically develops a go-around policy, guidance, criteria and procedures based on one or more of the following source references:

- Global Action Plan for the Prevention of Runway Excursions Coordinated by EUROCONTROL and the Flight Safety Foundation – January 2021;
- Flight Safety Foundation Go-Around Decision-Making and Execution Project Final Report March 2017;
- Flight Safety Foundation Reducing the Risk of Runway Excursions – Report of the Runway Safety Initiative – May 2009;
- IATA/IFALPA/IFATCA/CANSO Unstable Approaches: Risk Mitigation Policies, Procedures and Best Practices, 3rd Edition.
- BEA Study on Aeroplane State Awareness during Go-Around – August 2013

Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the establishment of go-around policy and the prevention of unstable approaches and runway excursions.

FLT 3.11.61

The Operator shall have a policy and procedures to ensure the flight crew maneuvers the aircraft so as to touchdown within the touchdown zone or other defined portion of the runway, as specified by the Operator or the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for landing aircraft in the defined touchdown zone (focus: flight crew guidance/procedures for landing aircraft in touchdown zone).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** selected output from FDA/FDM/FOQA program (if applicable) (focus: data that indicates fleet status of landings in the defined touchdown zone).
- ☐ **Observed** line flight and flight simulator operations (focus: landing in touchdown zone).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision are directly related to the prevention of runway excursions.

The definition of the touchdown zone could vary, depending on the operator.

FLT 3.11.65

The Operator shall have guidance, criteria, and procedures for the acceptance of a clearance for a non-ILS (including non-precision) approach and the conduct of such approach, to include:

(i) Minimum weather conditions and visibility required to continue an approach;

(ii) Operating conditions that require a missed approach to be initiated;

(iii) Circling approach minima;

(iv) Approach-related duties of the PF and PM. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM guidance/procedures/criteria for acceptance of clearance and conduct of a non-ILS approach (focus: flight crew procedures/definition of criteria for accepting/conducting a non-ILS approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight and flight simulator operations (focus: non-ILS approach operations).

☐ **Other Actions** (Specify)

Guidance

The term Pilot Monitoring (PM) has the same meaning as the term Pilot Not Flying (PNF) for the purpose of applying the specifications of this provision.

FLT 3.11.66

The Operator shall have a policy and procedures that require and ensure the proper use of a stabilized constant descent profile during the final segment of a non-ILS (including non-precision) approach. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM policy/procedures for conduct of stabilized constant descent profile for final segment of non-ILS approach (focus: flight crew procedures/use of descent profile for conduct of final segment of non-ILS approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight and flight simulator operations (focus: non-ILS approach operations; final segment profile).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure, to the extent reasonably practicable, the use of a stabilized constant descent profile inside the Final Approach Fix (FAF). It does not, however, preclude the definition of altitude gates such as Visual Descent Point (VDP) or level segments between the FAF and the runway where such constraints are deemed necessary and reflected in approach design.

Constant descent profiles during the final segment of an approach might be accomplished by various means to include:

- Vertical Navigation (VNAV);
- Flight Path Angle (FPA);
- Constant Path Angle (CPA);
- Constant Angle Non-Precision Approaches (CANPA);
- Other methods that provide a stabilized constant path angle for the final segment of a non-ILS approach.

FLT 3.11.69

If the Operator is authorized to conduct circling approaches, the Operator shall have guidance and procedures to ensure the proper conduct of such approaches. Such guidance and procedures shall be in accordance with FLT 3.11.59 and address, as a minimum:

(i) Operating limitations and minima;

(ii) Stabilization criteria and go-around requirements;

(iii) Obstacle clearance requirements. **(GM)**

Auditor Actions

☐ **Identified** authorization to conduct circling approaches.

☐ **Identified/Assessed** OM requirements/guidance/procedures for conduct of circling approaches (focus: flight crew procedures/definition of criteria for conducting a circling approach).

☐ **Interviewed** responsible manager(s) in flight operations.

☐ **Observed** line flight and flight simulator operations (focus: circling approach operations).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Circling Approach, PANS-OPS and TERPS.

The specifications of this provision are directly related to the prevention of CFIT and runway excursions.

The intent of this provision is for the operator to provide guidance and procedures in the OM or other controlled document in order to manage or mitigate potential risks related to the conduct of circling approaches. Circling approaches may require maneuvering at low airspeeds in marginal weather at or near the minimum descent altitude/height (MDA/H) as established by the state in which an airport is located.

Guidance and procedures related to circling approaches typically address the following:

- The meteorological conditions (e.g. visibility, and if applicable, ceiling) required for commencement/continuation of circling;
- Approach category to be used or the maximum speed to be attained throughout the circling maneuver;
- Aircraft configuration at various stages of a circling approach;
- The use of flight control systems and automation to assist in the positioning of the aircraft during the approach procedure;
- Required visual references with the runway or runway environment required to descend below the MDA/H;
- The prohibition of descent below MDA/H until obstacle clearance can be maintained, the landing runway threshold has been identified and the aircraft is in a position to continue with a normal rate of descent and land within the touchdown zone;
- Go-around requirements and the missed approach procedure;
- The design criteria used to define containment areas and provide obstacle clearance (e.g. PANS-OPS, TERPs).

A side-step maneuver that culminates in a straight-in instrument procedure is not considered a circling approach, and thus is not addressed by this provision.

3.12 Flight Deck Policy and Procedures

△ **FLT 3.12.7**

The Operator shall have guidance published or referenced in the OM that addresses runway incursions, to include a description of the policies, processes, procedures and flight actions necessary to prevent or reduce the risk of a runway incursion occurring during taxi, takeoff, and landing. Such guidance shall include:

(i) Instructions for the maintenance of situational awareness by the flight crew while operating in the airport environment, on the ground and in the air, to ensure an awareness of the aircraft position relative to the airport surface;

(ii) Operating policies and procedures for use during periods when there is a high risk of an incursion;

(iii) Specific instructions for the use of onboard equipment and aircraft lighting as a means to mitigate the risk of an incursion;

(iv) The identification, in documentation available to the flight crew, of areas on the airport surface that could pose a higher risk of an incursion;

(v) Specific reduced visibility and relevant LVO policies and procedures that minimize the risk of an incursion. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance for runway incursion prevention/risk reduction during taxi/takeoff/landing phases of flight (focus: definition of flight crew duties/responsibilities/ procedures/actions for runway incursion prevention/risk reduction).
- ☐ **Examined** selected output from FDA program (if applicable): (focus: data that indicates efficacy of fleet runway incursion mitigation).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: runway incursion prevention/risk reduction).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Runway Incursion.

☐ The intent of this provision is to ensure an operator provides flight crews with guidance to identify risks associated with runway incursions and strategies to mitigate those risks. Mitigation strategies would address the factors or combination of factors that could pose a higher risk of a runway incursion occurring during taxi, takeoff and landing.

☐ Other ISARPs in this section with applicable runway incursion mitigations contain a sentence in related GM (e.g. “The specifications in this provision are related to the prevention of runway incursions”).

☐ Additional risks and mitigations may result from the application of a safety risk assessment and mitigation program in accordance with FLT 1.12.2. To support SRM activities, an operator would typically include and monitor aircraft parameters related to potential runway incursions in their flight data analysis (FDA) program. Operators would also consider using observational procedures (e.g., Line Operations Safety Audits) to identify runway incursion safety risks precursors and best practices that cannot be captured by safety reporting or flight data analysis/monitoring.

△ It is also the intent of this provision for an operator to ensure the OM incorporates an error mitigation strategy for reducing the risk of a runway incursion occurring during taxi, takeoff, and landing. Such error mitigation strategy would address each of the elements specified in this provision.

The specification in item i) refers to instructions that typically address:

- Specific methods used by the flight crew to maintain situational awareness in order to prevent or minimize the risks of runway incursions;
- The use of all available resources (heading indicators, airport diagrams, airport signs, markings lighting and air traffic control) to keep an aircraft on its assigned flight and/or taxi route;
- Reference to the airport diagram and airport signage;
- Taxi progress monitoring and/or verbal call-outs after taxiway passage;
- The development and/or discussion of a pre-taxi plan and taxi route briefing;
- The transcription of complex ATC taxi instructions;
- Not stopping on a runway and, if possible, taxiing off an active runway and then initiating communications with ATC to regain orientation;
- Visually clearing the final approach path prior to taxiing into the takeoff position on the runway.

The specification in item ii) refers to operating policies and procedures that typically address:

- Managing flight crew workload prior to takeoff and before landing;
- Procedures for deferring administrative tasks until non-critical phases of flight;
- Identifying checklist items that must be re-accomplished in the event of a runway change;
- Maintaining a “Sterile Flight Deck”;
- The use of standard R/T phraseology;
- Clearance read-back and confirmation of changes;
- Monitoring clearances given to other aircraft;
- Obtaining directions or progressive taxi instructions when taxi route in doubt;
- Takeoff and landing runway verification and crosscheck;
- Takeoff and landing clearance verification;
- Questioning clearances when holding or lined up in position for takeoff on the runway, and takeoff clearance has not been received within a specified period of time.

The specification in item iii) refers to instructions that typically address:

- Use of aircraft of lighting during taxi, runway crossing, takeoff, and landing;
- Appropriate transponder use at airports with ground surveillance radar;
- Appropriate use of TCAS when on the runway and holding in the takeoff position (e.g. center mode on Navigation Display to display traffic on final approach).

The specification in item iv) refers to areas on the airport that could be identified through:

- Delineation of potential incursion areas or points (e.g. hot spots) on airport diagrams;
- Use of operator data collection programs to identify potential incursion areas in other documentation available to the flight crew;
- The presence of Land and Hold Short Operations (LAHSO).

The specification in item v) refers to the provision of reduced visibility and relevant LVO policies and procedures, regardless of LVO authorization, such as:

- Methods for maintaining situational awareness at night and during times of reduced visibility;
- A recommendation that checklists be suspended or delayed until the aircraft is stopped;
- If authorized for LVO, methods for maintaining situational awareness during LVO;
- If authorized for LVO, CAT II/III Surface Movement Guidance System (SMGS) procedures.

△ An operator, in accordance with requirements of the Authority, typically develops flight crew guidance related to the prevention of runway incursions based on one or more of the following source references:

- ICAO Document 9870, Manual on the Prevention of Runway Incursions;
- △ European Action Plan for the Prevention of Runway Incursions (EAPPRI), Edition 1.0;
- FAA Advisory Circular AC No: 120–74B;
- Runway Safety; A Pilot's Guide to Safe Surface Operations, published by FAA Air Traffic Organization (ATO), Office of Safety Services;
- Communications; A key Component of Safe Surface Operations, published by FAA Air Traffic Organization (ATO), Office of Safety Services;
- Any equivalent reference document approved or accepted by the Authority for the development of flight crew guidance related to the prevention of runway incursions.

3.13 Flight Deck, Passenger Cabin, Supernumerary Compartment Coordination

FLT 3.13.3

If the Operator conducts passenger flights with cabin crew, the Operator shall have procedures for communication and coordination between the flight crew and the cabin crew to ensure a combined and coordinated process in addressing:

(i) Passenger safety information;
(ii) Cabin readiness prior to first aircraft movement, takeoff and landing;
(iii) If applicable, arming or disarming of cabin door slides;
(iv) Preparation for an encounter with turbulence;
(v) Flight or cabin crew member incapacitation;
(vi) Emergency evacuation;
(vii) Abnormal situations;
(viii) Emergency situations. **(GM)**

Auditor Actions

☐ **Identified/Assessed** OM procedures for flight/cabin crew communication/coordination in addressing situations that require combined/coordinated action (focus: procedures for flight/cabin crew communication/coordination; definition of situations that require combined/coordinated action).
☐ **Interviewed** responsible manager(s) in flight operations.
☐ **Coordinated** with cabin operations (focus: complementary procedures for communication/coordination).
☐ **Observed** line flight operations (focus: flight/cabin crew communication/coordination).
☐ **Other Actions** (Specify)

Guidance

Refer to the Guidance associated with CAB 3.3.3 located in ISM Section 5.

Communication and coordination may be verbal or accomplished by an alternative means (e.g. chimes, lights).

Cabin crew coordination briefings could include security issues, aircraft technical issues affecting cabin service, en route weather, use of seat-belt sign, meal service.

Procedures defining communication/coordination could be part of specific non-normal/emergency procedures.

First aircraft movement as specified in item ii) is defined as pushback, powerback and/or taxi.

The operator may specify a non-communication period during critical phases of flight (e.g. during takeoff roll or during landing).

Refer to FLT 3.13.4 for operations that do not use cabin crew members.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.13.8

If the Operator transports passengers and/or supernumeraries, the Operator shall have procedures that ensure the preparation of the cabin or supernumerary compartment prior to takeoff and landing, and provide for notification to, as applicable, passengers and/or supernumeraries by either the flight crew or cabin crew:

(i) To prepare for takeoff;

(ii) When in the descent phase of flight;

(iii) To prepare for landing. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for preparation of cabin/supernumerary compartment and notification to passengers/supernumeraries prior to takeoff/landing (focus: flight/cabin crew procedures for cabin/supernumerary compartment preparation; definition of situations that require flight/cabin crew notification).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for compartment preparation/notifications).
- ☐ **Observed** line flight operations (focus: flight/cabin crew notification prior to takeoff/landing).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure cabin or supernumerary compartment readiness under the conditions specified. Additionally, the provision requires that all applicable personnel are notified when in the specified phases of flight.

If cabin crew members are not used, preparation of the cabin prior to takeoff and landing would normally require the flight crew to verify certain conditions are in effect. Items checked by the flight crew will vary according to aircraft type and equipment carried, but might typically include:

- Passenger seat belts fastened;
- Tray tables and seat backs in a stowed and upright position;
- Cabin baggage and other carry-on items secure in designated areas;
- As applicable, in-flight entertainment system viewing screens off and stowed;
- Galleys and associated equipment stowed or restrained.

△ **FLT 3.13.9**

If the Operator carries cargo on the same deck as the flight deck and/or supernumerary compartment, the Operator shall have procedures to ensure the cargo restraint system and, if applicable, smoke barrier are closed/secured for:

(i) Taxi operations;

(ii) Takeoff;

(iii) Landing. **(GM)**

△ ***Note:*** *The specifications of this provision are also applicable to procedures for ensuring cargo restraint is secured on an aircraft that is being used to transport cargo in the passenger cabin, without passengers.*

Auditor Actions

- ☐ **Identified/Assessed** OM procedures for ensuring the 9G restraint system and smoke barrier are secured for the specified phases of flight.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- △ ☐ **Observed** line flight operations (focus: procedures implemented to ensure cargo restraint system and, if applicable, smoke barrier are secured).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Cargo Restraint System and Smoke Barrier.

FLT 3.13.16

If the Operator uses aircraft equipped with a flight deck door, the Operator shall have policies and/or procedures that are in accordance with the requirements of the Authority and, as a minimum, define:

(i) When the flight deck door must remain locked;

(ii) If the Operator conducts passenger flights with cabin crew, the means used and actions necessary for cabin crew members to:

(a) Notify the flight crew in the event of suspicious activity or security breaches in the cabin;

(b) Gain entry to the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements for door being locked/unlocked; methods for cabin crew to provide security notifications; process for cabin crew entry to flight deck).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for security communication/flight deck entry).
- ☐ **Observed** line flight operations (focus: flight deck door operation; cabin crew entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew and cabin crew with complementary policies and/or procedures for use when a lockable flight deck door is installed. Such policies and/or procedures define the means used and actions necessary to address the specifications of this provision.

Policies and/or procedures related to flight deck security may be considered sensitive information and provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

FLT 3.13.17

If the Operator uses aircraft equipped with an approved flight deck door as specified in (MNT) Table 4.11 (xxvi) (c) (d) and or Table 4.14 (iv), the Operator shall provide guidance, procedures and instructions for the use of such door by the flight crew to ensure the security of the flight deck. Such guidance shall include, as a minimum, the procedural means by which the crew:

(i) Prevents access to the flight deck by unauthorized personnel;

(ii) Identifies authorized personnel requesting entry into the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements/procedures for flight crew use of door; procedures for identification of persons requesting flight deck entry).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Coordinated** with cabin operations (focus: complementary procedures for gaining flight deck entry).
- ☐ **Observed** line flight operations (focus: flight deck door operation; identification of persons requesting entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew with appropriate guidance, procedures and instructions for use when a reinforced flight deck door is installed, regardless of the aircraft configuration (passenger, cargo, combi).

Guidance, procedures and instructions related to flight deck security are considered sensitive information and are normally provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

Tables 4.11 and 4.14 in ISM Section 4 (MNT) contain specifications related to requirements and recommendations for the installation of reinforced flight deck doors. This provision, however, contains specifications only related to the use of such doors when installed.

FLT 3.13.18

If the Operator conducts international passenger flights using aircraft equipped with an approved flight deck door as specified in (MNT) Table 4.11 (xxvi) (c) (d) and Table 4.14 (iv), the Operator shall have procedures:

(i) To ensure the flight deck door is:

(a) Closed from the time all external aircraft doors are closed following embarkation;

(b) Closed and locked from the time of engine start or commencement of pushback, and until any external aircraft door is subsequently opened for disembarkation, except when necessary to permit access or egress by authorized persons.

(ii) To monitor, using visual or procedural means, the entire area outside the flight deck door to identify persons requesting entry and to detect suspicious behavior or potential threat. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address flight deck security (focus: requirements for door being locked/unlocked; procedures for monitoring area outside door).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: door locked/unlocked; monitoring area outside door).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck by providing the flight crew with appropriate procedures for use when a reinforced flight deck door is installed.

Procedures related to flight deck security may be considered sensitive information and provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

The specification in item i) refers to the period when the aircraft is being operated beginning when all exterior doors are closed for engine start or pushback and ending when the aircraft is parked and any exterior door is opened for disembarkation.

For monitoring the area outside the flight deck door, a closed-circuit television (CCTV) system is an acceptable method of conformance. However, a CCTV system is not required in order to conform to this provision. Implementation of other procedural methods in accordance with applicable regulations is also considered acceptable.

Any means used by an operator for such monitoring ensures that the cabin area outside the flight deck door, and any persons that might be in that area, would be identifiable to the extent necessary to meet the requirements of this standard.

FLT 3.13.19

If the Operator conducts passenger operations and does not use a flight deck door, the Operator shall have measures in place to ensure unauthorized persons are prevented from entering the flight deck. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address flight deck security (focus: measures/procedures for flight deck entry control/prevention).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: prevention of unauthorized flight deck entry).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to ensure the security of the flight deck, and refers specifically to aircraft that:

- Do not have a flight deck door, or
- Are equipped with flight deck door that cannot be locked, or
- Are equipped with a smoke barrier.

Measures referred to in this provision are in place to address the potential for *unauthorized personnel* to gain entry to the flight deck or gain access to the control seats and/or flight controls. Such measures may include, but are not limited to:

- Defining authorized personnel (e.g. jump-seat occupants, supernumeraries);
- Authorizing personnel for flight deck access;
- Airline Security programs (as defined by the authority);
- Briefings, announcements, placards;
- Any other measure designed to ensure unauthorized personnel are not permitted access to the flight deck, control seats, or flight controls.

3.14 Non-Normal/Abnormal and Emergency Operations

FLT 3.14.2

The Operator shall have a policy that prohibits the in-flight simulation of emergencies while passengers and/or cargo are being transported on board the aircraft.

Auditor Actions

- ☐ **Identified/Assessed** OM policy that prohibits in-flight simulated emergencies with passengers/cargo on board the aircraft.
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Examined** training/qualification program for instructors/evaluators/line check airmen (focus: prohibition of in-flight simulated emergencies with passengers/cargo on board the aircraft).
- ☐ **Other Actions** (Specify)

FLT 3.14.3

The Operator shall have a policy and guidance that defines the execution of abnormal/non-normal and emergency procedures and that ensures a crosscheck and verbal confirmation by two flight crew members (dual response) occurs before the actuation of any critical aircraft system controls. Such guidance shall identify critical systems, as defined by the OEM, and address, as a minimum:

(i) Engine thrust levers;

(ii) Fuel master or control switches;

(iii) Engine fire handles or switches;

(iv) Engine fire extinguisher discharge switches (if not automatically armed in conjunction with the associated fire handle or switch);

(v) IDG/CSD disconnect switch. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/guidance that addresses execution of abnormal/non-normal/emergency procedures (focus: procedures for dual flight crew crosscheck/verbal confirmation prior to actuation of critical aircraft system controls; definition of critical aircraft systems).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: execution of abnormal/non-normal/emergency procedures).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the operator's policy and guidance defines how abnormal/non-normal and emergency procedures are executed, and additionally ensures that the critical actions taken during the execution of such procedures are crosschecked and verbally confirmed by at least two flight crew members. Such critical actions are defined by the OEM and typically addressed in operating policy and guidance associated with the use of abnormal/non-normal and emergency checklists. This does not preclude, however, an OEM or operator from procedurally addressing critical actions in the checklists themselves.

The specification in item iv) need only be addressed if required by the OEM when the arming of a fire extinguisher discharge switch (or button) is not linked to the actuation of the associated fire handle or switch.

The term “abnormal” is used to describe a condition or situation (e.g. abnormal airframe vibration, abnormal landing configuration).

The terms “normal” and “non-normal/emergency” typically refer to AOM checklists, procedures and/or maneuvers. The term “non-normal” includes AOM emergency checklists and/or procedures (i.e. an emergency procedure is a subset of non-normal).

The terms can also be used to describe an event, situation or operation that would be addressed by normal or non-normal/emergency procedures or checklists. When used in this manner, the terms may be separated by forward slash marks (e.g. normal/non-normal/emergency).

The term “emergency” used alone refers to declarations and non-AOM procedures.

FLT 3.14.8

The Operator shall have policies and procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are to be applied when a TCAS/ACAS resolution advisory (RA) is displayed by onboard equipment. Such guidance shall, as a minimum:

(i) Specify a TCAS escape maneuver;

(ii) Require flight crews to follow a TCAS RA guidance even if it conflicts with ATC instructions.

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address reaction to display of TCAS/ACAS resolution advisory (RA) (focus: procedures for each aircraft type; requirement for flight crew to follow TCAS/ACAS guidance; definition of/procedure for TCAS/ACAS escape maneuver; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: TCAS/ACAS RA procedures).
- ☐ **Other Actions** (Specify)

FLT 3.14.9

The Operator shall have policies and procedures in accordance with FLT 3.11.18, applicable to each aircraft type, that are applied during a GPWS or other terrain avoidance alert provided by onboard equipment. Such guidance shall, as a minimum, define a CFIT escape maneuver as an aggressive pitch up maneuver that maximizes the performance of the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policies/procedures that address reaction to GPWS/terrain avoidance alert/warning (focus: procedures for each aircraft type; definition of/procedure for aggressive pitch-up escape maneuver; procedures include flight crew sharing/prioritization of tasks).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: GPWS/terrain alert/warning procedures).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are directly related to the prevention of CFIT.

FLT 3.14.14

The Operator shall have guidance and procedures that ensure the proper reset of circuit breakers after a system malfunction or trip. Such guidance shall, as a minimum, specify when and how often tripped circuit breakers may be reset.

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures that address reset of circuit breakers after system malfunction/trip (focus: procedures define when/how often tripped circuit breakers may be reset).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight operations (focus: circuit breaker re-set procedures).
- ☐ **Other Actions** (Specify)

FLT 3.14.15

The Operator shall have an in-flight fuel management policy that requires the PIC to request air traffic delay information from ATC when unanticipated circumstances may result in landing at the destination airport with less than *either*:

(i) The final reserve fuel plus any fuel required to proceed to an alternate airport, *or*

(ii) The fuel required to operate to an isolated airport. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to request airport delay information when trend indicates landing with less than final reserve plus alternate fuel, or isolated airport fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

Refer to the IRM for the definition of Fuel (Flight Planning), which includes the definition of Final Reserve Fuel.

The intent of this provision is to ensure an operator defines the conditions that require the PIC to request air traffic delay information from ATC. Such operator policy is typically part of the overall in-flight fuel management strategy to ensure planned reserves are used as intended or required. It also

typifies the beginning of a process that could ultimately preclude a landing with less than final reserve fuel on board.

It should be noted that the request for air traffic delay information is a procedural means for the flight crew to determine an appropriate course of action when confronted with unanticipated delays. There is no specific phraseology recommended for use in this type of communication with ATC as each situation may be very different.

Guidance on in-flight fuel management and requesting delay information from ATC is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

FLT 3.14.16

The Operator shall have an in-flight fuel management policy that requires the PIC to advise ATC of a minimum fuel state:

(i) When, having committed to land at a specific airport, the PIC calculates that any change to the existing clearance to that airport may result in landing with less than planned final reserve fuel;

(ii) By declaring “MINIMUM FUEL.” **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to declare minimum fuel when minimum fuel for landing at destination airport might be less than planned final reserve fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

The intent of a “MINIMUM FUEL” declaration is to inform ATC that the flight has committed to land at a specific airport and any change to the existing clearance may result in landing with less than planned final reserve fuel. This is not an emergency situation, but rather an indication that an emergency situation is possible should any additional delay occur.

Guidance on in-flight fuel management, including minimum fuel declarations, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

FLT 3.14.17

The Operator shall have an in-flight fuel management policy that requires the PIC to declare a situation of fuel emergency:

(i) When the calculated usable fuel predicted to be available upon landing at the nearest airport where a safe landing can be made is less than the planned final reserve fuel;

(ii) By declaring “MAYDAY, MAYDAY, MAYDAY, FUEL.” **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM policy/procedures for in-flight fuel management (focus: flight crew procedures for monitoring en route fuel usage/identifying trends; requirement for flight crew to declare an emergency when minimum fuel for landing at nearest airport is calculated to be less than planned final reserve fuel).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Observed** line flight and flight simulator operations (focus: in-flight fuel management procedures).
- ☐ **Other** Action (Specify)

Guidance

The intent of this provision is to specify the last procedural step in a series of steps to ensure the safe completion of a flight. The “MAYDAY, MAYDAY, MAYDAY, FUEL” declaration provides the clearest and most urgent expression of an emergency situation brought about by insufficient usable fuel remaining to protect the planned final reserve. It communicates that immediate action must be taken by the PIC and the air traffic control authority to ensure that the aircraft can land as soon as possible. It is used when all opportunities to protect final reserve fuel have been exploited and in the judgment of the PIC, the flight will now land with less than final reserve fuel remaining in the tanks. The word fuel is used as part of the declaration simply to convey the exact nature of the emergency to ATC.

Guidance on in-flight fuel management including emergency fuel declarations is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

3.15 Flight Crew Reporting Requirements

FLT 3.15.2

The Operator shall have a policy that requires the PIC to report any hazardous flight condition to the appropriate ATC facility without delay. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy for flight crew ATC hazard reporting (focus: flight crew procedures for reporting occurrences that could potentially have adverse effect on safety of flight operations).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight crew members.
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure hazards with the potential to pose safety risks to the reporting aircraft or flight operations are appropriately identified and reported to the applicable ATS unit as soon as possible. Such required reports are typically defined by the State or applicable authorities and may include types of hazards as described in the following table.

Generic Hazard	Report Description
Meteorological Conditions	Un-forecast or severe weather, icing, wind shear, severe turbulence
Geophysical Events	Volcanic ash observed or encountered
Security Breaches	Air Piracy or other hostile acts that threaten the safety of the aircraft or its passengers
Wildlife	Birds or large animals in the vicinity of the airport or runways
Facilities and Infrastructure	Inadequacy of navigational facilities or undesirable navigational aid performance or other irregularity in navigational or ground facilities
Aircraft Performance	Unable to accept or maintain RVSM and reason (e.g. turbulence, mountain wave, wake turbulence, etc.), loss of navigational capability
Lasers	Illumination activities, events or exposure
Dangerous Goods	Dangerous goods on board the aircraft in the case of an in-flight emergency and for the information of airport authorities.
Other	Unmanned aerial vehicles, unmanned free balloons, downed aircraft observation or ELT broadcast

△

△ **FLT 3.15.3**

The Operator shall have a policy that assigns responsibility to the PIC for notifying the nearest authority, by the quickest available means, of any accident or serious incident resulting in injury, death, or substantial aircraft damage. (**GM**)

Auditor Actions

- ☐ **Identified/Assessed** policy for flight crew accident/incident reporting (focus: flight crew responsibility/procedures for reporting accidents/serious incidents to the nearest authority by the quickest available means).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected flight crew members.
- ☐ **Other Actions** (Specify)

☐ **Guidance**

The intent of this provision is to ensure the appropriate authority in the state where an event occurred and any other organization required by such state are expeditiously informed of any accident or serious incident resulting in injury, death, or substantial aircraft damage. Such authority and organization(s) are typically defined in the applicable Aeronautical Information Publication (AIP) and may refer to one or more entities including but not limited to local law enforcement agencies, emergency service providers, the Civil Aviation Authority (CAA) and related air accident branches, safety bureaus or boards (e.g., NTSB).

The PIC, if able, typically reports an applicable event to the operator who then forwards it to the appropriate authority and other relevant organization(s).

4 Operations Engineering Specifications

4.1 Aircraft Performance

FLT 4.1.1

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, procedures and performance data in the OM, applicable to each aircraft type, for applicable departure, destination and alternate airports. Such guidance and data shall enable the flight crew to determine or compute:

(i) Maximum structural weights (taxi, takeoff, landing);

(ii) Takeoff performance (accelerate - stop, close-in obstacles) that also ensures charting accuracy is accounted for, when necessary, in assessing takeoff performance in the event of a critical power unit failing at any point in the takeoff;

(iii) Maximum brake energy and minimum cooling time;

(iv) Climb performance (distant obstacles);

(v) Landing performance (minimum landing distance, go-around). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/data for flight crew calculation of aircraft performance for taxi/takeoff/climb/landing at departure/destination/alternate airports (focus: performance data provided for all aircraft types; OM contains performance data as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).
- ☐ **Observed** line flight operations (focus: use of taxi/takeoff/climb/landing performance information/data).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are related to the prevention of CFIT and runway excursions.

The intent is to ensure the operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

Data may be tailored for airports of intended use (e.g. runway analysis).

The specifications in items ii) and v) may necessitate the inclusion of guidance and/or patterns to be followed in case of engine failure during takeoff, approach and go-around.

Tailored data is not always available for emergency alternate airports.

FLT 4.1.2

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures in the OM, applicable to each aircraft type, that enable the flight crew to determine and/or compute aircraft performance for all phases of flight. Such guidance and data shall ensure the flight crew considers all relevant factors affecting aircraft performance, to include:

(i) Aircraft weight (mass);
(ii) Operating procedures;
(iii) Pressure altitude appropriate to the airport elevation;
(iv) Temperature;
(v) Wind;
(vi) Runway gradient (slope);
(vii) Runway surface condition at the expected time of use;
(viii) Obstacle data;
(ix) NOTAMs (including airport NOTAMs);
(x) As applicable, MEL/CDL information;
(xi) Aircraft configuration (wing flap setting);
(xii) Anti-ice usage and, when applicable, ice accretion;
(xiii) As applicable, runway length used for aircraft alignment prior to takeoff;
(xiv) As applicable, fuel freeze considerations during extended operations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM guidance/procedures/data for flight crew calculation of aircraft performance for all phases of flight (focus: performance data provided for all aircraft types; OM guidance/data incorporates relevant factors/limitations as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).
- ☐ **Observed** line flight operations (focus: determination of relevant factors affecting aircraft performance).
- ☐ **Other Actions** (Specify)

Guidance

The specifications in this provision are related to the prevention of CFIT, runway excursions and in-flight loss of control.

The intent is to ensure the operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

The specification in item vii) could be defined by a specific contaminant type/depth (e.g. snow, slush, water, ice) or an equivalent braking action report.

The specifications in xiii) refers to a determination of the length of the runway available, taking into account the loss, if any, of runway length due to alignment of the aircraft prior to takeoff.

The specifications in xiv) apply to considerations regarding the use of standard fuel freeze temperatures, fuel temperature analysis and en route fuel temperature monitoring for the specific fuels used in operations. Such considerations allow the flight crew to determine the actual fuel freeze temperature during extended operations (e.g. polar operations) in order to prevent in-flight freezing of fuel.

FLT 4.1.3

The Operator shall have a process, performed by Operations Engineering, to determine and maintain guidance, data and procedures in the OM, applicable to each aircraft type, that enable the flight crew to determine and/or compute en route aircraft engine-out performance. Such guidance, data and procedures shall include, as a minimum, aircraft engine-out:

(i) Service ceiling;

(ii) Drift down altitudes, as well as specific guidance and procedures that assure terrain clearance along the route to the destination airport or to an en route alternate airport. **(GM)**

Auditor Actions

- ☐ **Identified** OM guidance/procedures/data for flight crew calculation of en route aircraft engine-out performance (focus: performance data provided for all aircraft types; OM contains engine-out performance data as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for development of OM performance information/data).
- ☐ **Observed** line flight operations (focus: use of en route engine-out performance information/data).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator has a process or processes to obtain or determine the specified performance data for use by flight crew. Such process(s) also address the maintenance and publication of guidance, procedures, and performance data in the OM.

The specification in item ii) refers to those areas were adequate terrain clearance cannot be assured at the engine-out service ceiling of the aircraft without following specific guidance and procedures for drift down.

4.2 Navigation and Facilities

FLT 4.2.2

The Operator shall have a process, performed by Operations Engineering, to ensure completion of an analysis that addresses relevant operational factors prior to operating over any new route or into any new airport. Such analysis shall take into account:

(i) Obstacle clearance for all phases of flight (minimum safe altitudes);

(ii) Runway (width, length and pavement loading);

(iii) Navigation aids and lighting;

(iv) Weather considerations;

(v) Emergency services;

(vi) Fuel burn calculations;

(vii) As applicable, fuel freeze considerations;

(viii) As applicable, ETOPS/EDTO requirements;

(ix) Air Traffic Services;

(x) Critical engine inoperative operations;

(xi) Depressurization over critical areas;

(xii) (Special) airport classification. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for analysis to identify/address relevant operational factors prior to conducting operations over new routes/into new airports (focus: analysis includes/addresses factors as specified in standard).
- ☐ **Interviewed** responsible manager(s) in flight operations.
- ☐ **Interviewed** selected operations engineering personnel (focus: process for analysis of new routes/airports).
- ☐ **Examined** selected examples of new route/airport analyses.
- ☐ **Other Actions** (Specify)

Guidance

The specifications are related to the prevention of CFIT and runway excursions.

The specifications in:

- Item vii) refers to a determination if the occurrence of fuel freeze during extended operations is operationally relevant when planning a new route. If operationally relevant, the specification vii) of this provision requires the operator to determine and designate the methods used by the flight crew to determine fuel freeze points in accordance with the specifications of FLT 4.1.2.
- Item xi) refers to carriage of fuel to respect oxygen requirement after depressurization.
- Item xi) may be satisfied by depressurization routes, charts and/or tables that consider oxygen requirements over high terrain and fuel burn over remote areas.
- Item xii) may be satisfied by standardized criteria for the determination and classification of special airports (e.g., EU-OPS).

4.3 Aircraft Systems and Equipment Specifications

Table 2.1–Onboard Library Specifications	
The following documents shall be included in the Onboard Library:	
General Operating Information	
(i)	General operating information to include: (a) A copy of the air operator certificate (AOC); (b) A copy of the operations specifications relevant to the aircraft; (c) If applicable, a copy of the Article 83 bis agreement summary (including an English version); (d) The Operations Manual (OM). ***Note:*** *Refer to the IRM for the definitions of Article 83 bis, Article 83 bis Agreement and Article 83 bis Agreement Summary.*
Aircraft Operating Information	
(ii)	Applicable Aircraft Operating Manual (AOM) and, as a minimum: (a) Normal and Emergency Checklists for each operating flight crew member as required by the AFM; (b) Performance tables or access to performance calculations via telecom systems (e.g. ACARS) is acceptable, if completed with appropriate backup procedures; (c) Takeoff performance deviations (e.g. due to inoperative equipment or abnormal situations).
(iii)	Minimum Equipment List (MEL) and Configuration Deviation List (CDL);
(iv)	Aircraft-specific weight/mass and balance instructions/data (including load sheet).
Areas, Routes and Airport Information	
(v)	Flight Plans (OFP and ATS) for each flight;
(vi)	The applicable departure, navigation and approach charts for use by each operating flight crew member as required by the AFM;
(vii)	Route and airport instructions and information (flight crew member route guide) for each flight to include, as a minimum: (a) Departure airport; (b) Destination airport; (c) En route alternate airports; (d) Emergency airports.
(viii)	If applicable, the escape routes used in case of decompression or engine failure in an area of high terrain.
Other Information	
(ix)	Cabin safety and emergency procedures relevant to the flight crew;
(x)	Dangerous Goods manual or parts relevant to the flight crew, to include information and instructions on the carriage of dangerous goods and action to be taken in the event of an emergency;
(xi)	Security Manual or parts relevant to the flight crew, including bomb search procedures;
(xii)	Ground Handling Manual or parts relevant to the flight crew, if required for flight crew to accomplish assigned duties (recommendation only and only applicable to cargo aircraft operations).

Table 2.2–Operations Manual (OM) Content Specifications			
This table contains the fundamental OM content specifications required to achieve conformance with FLT 1.7.1 and FLT 2.1.10. The table also specifies Section 3 (DSP) provisions that must be addressed in the sections of the OM relevant to flight crew. **Note**: Specific flight crew policies, guidance, data and/or procedures that must also be addressed in the sections of the OM relevant to flight crew can be found in individual Section 2 provisions and are not duplicated in the table.			
General Information			**DSP ISARP**
(i)	General Information, to include:		None
	(a)	Non-aircraft type related and/or standard operating procedures for each phase of flight, policies, procedures, checklists, descriptions, guidelines, emergency procedures and other relevant information;	None
	(b)	Authorities, duties and responsibilities associated with the operational control of flights;	DSP 1.3.1, 1.3.4, 1.3.5, 1.3.6, 1.3.7
	(c)	If applicable, guidance that identifies and defines the common flight documents used by the flight crew, the FOO, FOA and/or other personnel responsible for operational control.	DSP 3.2.2
Aircraft Operating Information			**DSP ISARP**
(ii)	Aircraft Operating Manual (AOM), to include:		None
	(a)	Normal, abnormal/non-normal and emergency procedures, instructions, and checklists;	None
	(b)	Aircraft systems descriptions, limitations and performance data.	None
(iii)	Minimum Equipment List (MEL) and Configuration Deviation List (CDL);		None
(iv)	Aircraft specific weight/mass and balance instructions/data (including load sheet);		DSP 3.3.3
(v)	Instructions for the computation of the quantities of fuel and oil (if required) to be carried.		DSP 4.3 (all)
Areas, Routes and Airport Information			**DSP ISARP**
(vi)	Route and airport instructions and information (departure, destination, en route and destination alternates, to include:		None
	(a)	Airway manuals and charts, including information regarding communication facilities, navigation aids and minimum flight altitudes;	None
	(b)	Airport charts, including the method for determining airport operating minima;	None
	(c)	FMS databases;	None
	(d)	Airport and runway analysis manual or documents;	None
	(e)	If applicable, supplemental oxygen requirements;	None
	(f)	If applicable, escape routes used in the event of a decompression or engine failure in an area of high terrain;	None
	(g)	If applicable, procedures for loss of communication between the aircraft and the FOO;	DSP 3.6.1
	(h)	Instructions for the selection, designation (on the OFP) and protection of departure, en route and destination alternate airports.	DSP 4.1 (all), 3.6.5B, 4.5.2, 4.5.3
Areas, Routes and Airport Information			**DSP ISARP**
	(i)	Instructions to address departure if current meteorological reports and forecasts indicate that the destination airport or destination alternate will not be at or above operating minima;	DSP 3.2.9B

Table 2.2–Operations Manual (OM) Content Specifications			
	(j)	Instructions to address the continuation of a flight towards an airport of intended landing if the latest available information indicates a landing cannot be accomplished at that airport or at least one destination alternate;	DSP 3.2.9B, 3.6.5A
	(k)	If applicable, flight monitoring requirements and instructions to ensure the PIC notifies the operator of en route flight movement or deviations from the OFP;	DSP 3.6.2, 3.6.3
	(l)	If applicable, flight planning considerations that address the continuation of a flight after the failure of the critical engine on a two-engine aircraft and/or the second engine on a three or four engine aircraft;	DSP 4.2.2, 4.2.3
	(m)	The essential information concerning the search and rescue services in the area over which the aircraft will be flown.	None
	(n)	Information regarding RFFS capability available at airports of intended use.	None
Training Information			**DSP ISARP**
(vii)	Training Manual, to include:		None
	(a)	Details of all relevant training programs, policies, directives and requirements, including curricula and syllabi, as applicable, for basic operator familiarization, initial qualification, continuing qualification (including recency-of-experience), re-qualification, aircraft transition or conversion, upgrade to PIC and other specialized training requirements, as applicable;	None
	(b)	Curricula to include: ground training, simulator training, aircraft training, evaluation and certification, line flying under supervision, and any specialized training;	None
	(c)	Comprehensive syllabi to include lesson plans, procedures for training and the conduct of evaluations;	None
	(d)	The training program for the development of knowledge and skills related to human performance (Crew Resource Management/Dispatch Resource Management, CRM/DRM).	None
Other Information			**DSP ISARP**
(viii)	Cabin safety and emergency procedures relevant to the flight crew.		None
(ix)	Dangerous Goods manual or parts relevant to the flight crew, to include information and instructions on the carriage of dangerous goods and action to be taken in the event of an emergency.		None
(x)	Security Manual or parts relevant to the flight crew, including bomb search procedures.		None
(xi)	Ground Handling Manual or parts relevant to the flight crew, if required for flight crew to accomplish assigned duties (recommendation only and only applicable to cargo aircraft operations).		None

Table 2.3–Flight Crew Qualification Requirements
△ Fulfillment of the following flight crew certifications, qualifications, training and currency requirements shall be recorded and retained in accordance with FLT 1.8.2, and monitored and considered when assigning flight crew members to duty in accordance with FLT 3.4.1. (i) Licenses/certification, including eligibility to exercise privileges of pilot license/certificate in international operations in accordance with FLT 3.3.5; (ii) Specific pilot license/certification limitations (First Officer, relief pilot); (iii) Specific qualifications (LVP, RVSM, ETOPS/EDTO); (iv) Equipment qualifications (TCAS/ACAS, GPWS/EGPWS, HGS, HUD/EVS, PBN, PBCS); (v) Recency-of-experience; (vi) Medical status, including Medical Certificate; (vii) Initial training and checking/line check/proficiency check/recurrent training and checking results; (viii) Right seat qualification; (ix) Type(s) qualification; (x) Airport and route competence (including special airports); (xi) Instructor/evaluator/line check airman qualification; (xii) CRM/Human Factors training; (xiii) Dangerous goods training; (xiv) Security training; (xv) Accrued flight time, duty time, duty periods and completed rest periods for the purposes of fatigue risk management and compliance with operator or State flight and/or duty time limitations.

Table 2.4–(Intentionally open)

Table 2.5–Route and Airport Knowledge Requirements
Each pilot crew member, in order to conform to the specifications of FLT 2.3.1, and/or the PIC, in order to conform to the specifications of FLT 2.4.1, shall have adequate knowledge of the following elements related to areas, routes or route segments, and airports to be used in operations: (i) Terrain and minimum safe altitudes; (ii) Seasonal meteorological conditions; (iii) Meteorological, communication and air traffic facilities, services and procedures; (iv) Search and rescue services for the areas over which the aircraft will be flown; (v) Navigational facilities and procedures, including any long-range navigation procedures associated with the route along which the flight is to take place; (vi) Procedures applicable to flight paths over heavily populated areas and areas of high air traffic density; (vii) Airport obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures and applicable operating minima. **Note**: That portion of an evaluation relating to arrival, departure, holding and instrument approach procedures may be accomplished in an appropriate training device that is adequate for this purpose.

Table 2.6–Elements Common to an Advanced Qualification Program (AQP), an Alternative Training and Qualification Program (ATQP) or an Evidence-based Training (EBT) Program

The following elements shall be included as part of an AQP, ATQP or EBT program as specified in FLT 2.1.1B.

(i) Training program and curricula approved or accepted by the State.

(ii) Training and evaluation which is conducted to the maximum extent possible in a full flight deck crew environment (e.g. Captain and First Officer). Qualification and continuing qualification curricula must include a line operational evaluation (LOE), which consists of a full flight scenario systematically designed to target specific technical and crew resource management (CRM) skills.

(iii) Mandatory evaluation of CRM proficiency and substandard performance on CRM factors shall be corrected by additional training. A demonstration of proficiency in maneuver oriented technical skills is a necessary but insufficient condition for pilot qualification. For pass/fail purposes, pilots must also demonstrate proficiency in LOE's, which test both technical and CRM skills together.

(iv) Specific training for instructors and evaluators, together with explicit training and evaluation strategies to verify the proficiency and standardization of such personnel for crew oriented, scenario-based training and evaluation tasks.

(v) Integrated use of advanced flight training equipment, including full flight simulators. Operators are encouraged to use a suite of equipment matched on the basis of analysis to the training requirements at any given stage of a curriculum.

(vi) Curriculum elements that are:

- (a) Defined;
- (b) Crew member-specific or personnel-specific;
- (c) Aircraft-specific. (See Note 1)

Note 1: Each curriculum must specify the make, model and series aircraft (or variant) and each crew member position or other positions to be covered by that curriculum. Positions to be covered by the program must include all flight crew member positions, instructors and evaluators and could include other positions, such as flight attendants, aircraft dispatchers and other operations personnel.

(vii) Separate curricula for indoctrination, qualification and continuing qualification.

(viii) CRM Training/Evaluation and Data Collection (feedback) to determine program effectiveness to include:

- (a) State-approved or -accepted Crew Resource Management (CRM) Training applicable to each position for which training is provided under the program;
- (b) State-approved or -accepted training on and evaluation of skills and proficiency of each person being trained under the program to use their crew resource management (CRM) skills and their technical (piloting or other) skills in an actual or simulated operations scenario. For flight crew members, this training and evaluation must be conducted in an approved flight training device or flight simulator;
- (c) Data collection procedures that will ensure the certificate holder provides information from its crew members, instructors and evaluators that will enable the State to determine whether the training and evaluations are working to accomplish the overall objectives of the curriculum;
- △ (d) Performance proficiency data collection on students, instructors, and evaluators and the conduct of airline internal analyses of such information for the purpose of curriculum refinement and validation.

(ix) Defined airman certification and licensing requirements.

(x) Training devices and simulators used under the program evaluated against published standards and be approved or accepted by the State to ensure adequacy for training/qualification performed.

Table 2.6–Elements Common to an Advanced Qualification Program (AQP), an Alternative Training and Qualification Program (ATQP) or an Evidence-based Training (EBT) Program
(xi) Program approval to include: (a) A demonstration to the Authority of how the program will provide an equivalent or superior level of safety for each curriculum item that differs from traditional training programs approved or accepted by the State. (b) A demonstration to the Authority for every requirement that is replaced by the program curriculum, of how the new curriculum provides an equivalent or superior level of safety for each requirement that is replaced. Each traditional training program requirement that is not specifically addressed in the program curriculum continues to apply to the Operator. (c) A requirement that training, qualification, or evaluation by a person who provides training by arrangement: “Training Centers” must be approved or accepted by the State. (xii) Records in sufficient detail to establish the training, qualification and certification of each person qualified under the program in accordance with the approved training, qualification and certification requirements.

Table 2.7–Requirements Specific to an Advanced Qualification Program (AQP) or an Alternative Training and Qualification Program (ATQP)

The specifications in this table apply to an AQP/ATQP as specified in FLT 2.1.1B and are in addition to those delineated in Table 2.6:

(i) **Proficiency Objectives**

The Operator shall conduct an aircraft-specific job task analysis beginning with the development of a comprehensive task listing for each duty position. The task listing covers the full range of conditions and contingencies - internal to the aircraft, external to the aircraft, normal, abnormal, and emergency - to which the pilot could be exposed within the Operator's sphere of operations. Proficiency objectives are then extracted from the task and subtask analysis, respectively, for each duty position, and include identification of applicable performance, standards, and conditions. The documentation of proficiency objectives also identifies the references used, respectively, in defining performance, standards, and conditions for each.

An operator may elect to categorize certain proficiency objectives as currency items. Currency items refer to flight activities on which proficiency is maintained by virtue of frequent exercise during routine operations. Such items do not need to be addressed for training or proficiency evaluation purposes in periodic training sessions. However, verification is required that proficiency on such items is being maintained. Such verification might be obtained during line checks.

An operator could also elect to categorize proficiency objectives, including currency items, as critical or non-critical, based on operational significance and the consequences of error. This categorization is employed to determine the time interval within which training and evaluation on such items must occur for continuing qualification curricula. Critical proficiency objectives are trained and evaluated during an evaluation period the initial duration of which cannot exceed thirteen months. Each such evaluation period includes at least one training session. Non-critical terminal proficiency objectives may be distributed over a continuing qualification cycle the initial duration of which cannot exceed twenty-six months.

(ii) **First Look Evaluations**

Performance on selected proficiency items will be evaluated prior to each formal training session and prior to any pre-briefing or practice. Such pre-evaluation data is used to determine the extent to which safety-critical skills might have decayed since previous training and/or checking, and provides a baseline for assessing degree of improvement attributable to subsequent training. Consistently poor pre-evaluation results occurring within the pilot group might indicate that curriculum modifications, including potentially the frequency and content of training, are warranted.

(iii) **Continuing Qualification Cycles and Evaluation Periods**

After initial qualification, which incorporates training and evaluation on all proficiency objectives, follow-on training will occur within a scheduling interval called a continuing qualification cycle. This is the time period during which all proficiency objectives are trained, validated, or evaluated for all crewmembers. The initial approval for a continuing qualification cycle is no more than 26 months in duration, divided into two 13-month evaluation periods. All critical proficiency objectives are accomplished during each evaluation period, and all currency proficiency objectives are accomplished during each continuing qualification cycle.

The initial duration of a continuing qualification cycle is 26 months, but it may be subsequently and incrementally extended by the Authority to a maximum of 39 months, contingent upon the results of performance proficiency data from each such cycle.

(iv) **Training Sessions**

Each evaluation period shall include a minimum of one training session but may include more. Initially, training sessions cannot be more than 13 months apart.

Table 2.7–Requirements Specific to an Advanced Qualification Program (AQP) or an Alternative Training and Qualification Program (ATQP)
(v) **Proficiency Evaluations** For PICs, SICs, flight engineers, and other persons covered by an AQP/ATQP, a proficiency evaluation shall be completed during each evaluation period. Typically, the proficiency evaluation will occur during a required training session; however, if more than one training session is completed during an evaluation period, the proficiency evaluation may be divided among training sessions or otherwise allocated to one or more such sessions.

Table 2.8–Requirements Specific to an Evidence-based Training (EBT) Program

The specifications in this table apply to EBT as specified in FLT 2.1.1B and are in addition to those delineated in Table 2.6.

(i) **EBT Framework**

The operator shall establish as a minimum:

(a) A core competency framework using behavioral indicators approved or accepted by the authority;

(b) The means to develop, train and assess competencies using scenarios that are relevant to the operator's environment;

(c) A malfunction clustering system.

(ii) **Baseline EBT**

The operator shall ensure the following requirements, as a minimum, are met prior to the implementation of EBT:

(a) A set of core competencies is developed;

(b) A competency-based assessment and grading system is developed;

(c) Instructors are trained to ensure a standardized approach to EBT. Such instructor training programs also ensure each instructor's capability to conduct the training and assessment of the core competencies;

(d) Flight crew members are provided with background knowledge of EBT principles, methodology and the set of competencies;

(e) A system to measure the effectiveness of EBT is developed;

(f) Training scenarios are developed as provided in the IATA Data Report for Evidence-based Training or as required by the State.

(iii) **Additional Program Requirements (applicable to any EBT)**

An EBT program shall be approved or accepted by the Authority and include as a minimum:

(a) The definition of an implementation and operations plan;

(b) Programs as defined in ICAO Doc 9995, Appendices 2 to 7 to Part II, and as required by the types of operations of the Operator;

(c) Implementation with a limited trial phase;

(d) The review of training effectiveness upon receipt of sufficient training system data;

(e) Adjustment and continuous improvement of the training program according to the training system feedback;

(f) A risk assessment of any implementation and/or proof of concept trial in accordance with SMS principles.

(iv) **Enhanced EBT Requirements**

The difference between the baseline EBT and an enhanced EBT is optimization that, as a minimum, is based on the following activities:

(a) Collection and analysis of operations data;

(b) Collection and analysis of training data;

(c) Integration of analysis;

(d) Program development;

(e) Risk assessment of enhanced EBT implementation and/or proof-of-concept trial in accordance with SMS principles.

Table 2.8–Requirements Specific to an Evidence-based Training (EBT) Program

(v) **Enhanced EBT Scenarios**

Enhanced EBT scenarios shall be based on one or more of the following:

(a) IATA Data Report for evidence-based training;

(b) Flight Data Analysis (FDA) program;

(c) Safety reporting system;

(d) Flight deck observation program;

(e) Training data;

(f) The Operator's specific operational challenges that relate to route network, airports used, weather, etc.;

(g) World fleet data with an analysis of available safety data from operations with similar aircraft types and similar operations (e.g. OEM/OSD data).

(vi) **Continuing Qualification Cycles and Evaluation Periods**

After initial qualification, which incorporates training and evaluation on all proficiency objectives, follow-on training will occur within a scheduling interval called a continuing qualification cycle. This is the time period during which all proficiency objectives are trained, validated, or evaluated for all flight crewmembers. The initial approval is for a continuing qualification cycle that is no more than 26 months in duration and is divided into two 13-month evaluation periods. All critical proficiency objectives are accomplished during each evaluation period, and all currency proficiency objectives are accomplished during each continuing qualification cycle.

The initial duration of a continuing qualification cycle is 26 months but it may be subsequently and incrementally extended by the Authority to a maximum of 39 months, contingent upon the results of performance proficiency data from each such cycle.

(vii) **Training Sessions**

Each evaluation period shall include a minimum of one training session but may include more. Initially, training sessions cannot be more than 13 months apart.

(viii) **Proficiency Evaluations**

For PICs, SICs, flight engineers, and other persons covered by EBT, a proficiency evaluation shall be completed during each evaluation period. Typically, the proficiency evaluation will occur during a required training session. However, if more than one training session is completed during an evaluation period, the proficiency evaluation may be divided among training sessions or otherwise allocated to one or more such sessions.

Note: The requirements specified in this table are applicable to an operator that is currently authorized for AQP/ATQP and is transitioning to EBT. For an operator that is initially implementing EBT, and is not currently authorized for AQP/ATQP, requirements as specified in items vi), vii) and viii) might vary in accordance with requirements of the State.

Section 3 — Operational Control and Flight Dispatch (DSP)

Applicability

Section 3 addresses the requirements for operational control of flights conducted by multi-engine aircraft and is applicable to an operator that conducts such flights, whether operational control functions are conducted by the operator or conducted for the operator by an external organization (outsourced). Specific provisions of this section are applicable to an operator based on the operational system in use, the manner in which authority is delegated by the operator, and the responsibilities, functions, duties or tasks assigned to the personnel involved.

The IOSA standards and recommended practices (ISARPs) in Section 3 are applicable only to those aircraft that are of the type authorized in the Air Operator Certificate (AOC) and used in commercial passenger and/or cargo operations, unless applicability is extended to encompass non-commercial operations as stated in a note immediately under the body of the provision.

△ Subsections 3.5, 4.1, 4.3, and 4.6 contain provisions that allow for the use of variations, including Operational Variations approved by the Authority, to achieve conformity with eligible aircraft tracking, alternate airport, fuel planning and EDTO specifications. General guidance related to the safety risk management (SRM) processes necessary to develop and use all such variations prefaces subsection 4.

Table 3.1 categorizes the personnel that are delegated the authority to exercise operational control, assigned the overall responsibility for the overall operational control of a flight, assigned the individual responsibility to carry out one or more functions, duties or tasks related to the operational control of a flight, or assigned the duty to provide administrative support to others with responsibilities related to operational control.

Table 3.5 defines the competencies of operational control personnel appropriate to the assignment of overall responsibility for operational control and/or to carry out one or more operational control functions, duties or tasks according to their specific competencies.

All personnel used to perform operational control functions as defined in Table 3.1, *or that act in a manner consistent with the functional categories specified in Table 3.1 and the competencies specified in Table 3.5*, irrespective of management or post holder title, are subject to specified training and qualification provisions in this section relevant to the operational control function performed.

Individual DSP provisions, and/or individual sub-specifications within a DSP provision, that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.
- Begin with a conditional phrase (“If the Operator...”) are applicable if the operator meets the condition(s) stated in the phrase. The conditional phrase serves to define or limit the applicability of the provision (e.g. “If the operator uses…” or “If an FOO or FOA is used…”).
- Begin with a conditional phrase that specifies the use of a Flight Operations Officer (FOO) by an operator are applicable when the operator assigns the FOO, as defined in the IRM and delegated authority in accordance with Table 3.1, responsibility to carry out operational control functions, duties or tasks related to *all* of the competencies of operational control as specified in Table 3.5.
- Begin with a conditional phrase that specifies the use of a Flight Operations Assistant (FOA) by an operator are applicable when the operator assigns the FOA, as defined in the IRM, responsibility to carry out operational control functions, duties or tasks related to one or more, *but not all*, competencies of operational control as specified in Table 3.5.
- Are applicable to all systems of operational control, but with differences in application to each system, will have those differences explained in the associated Guidance Material (GM).
- Contain the phrase “personnel responsible for operational control” or “personnel with responsibility for operational control” refer to any suitably qualified personnel with responsibility for operational control as designated by the operator, to include the pilot-in-command (PIC) unless otherwise annotated.

- Contain training and qualification requirements are applicable to personnel, other than the PIC, that are assigned responsibilities related to the operational control of flights. PIC training and qualification requirements for all systems of operational control are specified in ISM Section 2 (FLT).
- △ Are eligible for conformance using variations, including Operational Variations approved by the Authority, that contain a note referring to the additional SRM and safety monitoring requirements necessary to ensure an acceptable level of safety is maintained.

Where operational functions, duties or tasks associated with operational control are outsourced to external service providers, an operator retains overall responsibility for ensuring the management of safety in the operational control of flights and must demonstrate processes for monitoring applicable external service providers in accordance with DSP 1.11.2.

General Guidance

Authority and Responsibility

For the purposes of this section *authority* is defined as the delegated power or right to command or direct, to make specific decisions, to grant permission and/or provide approval, or to control or modify a process.

For the purposes of this section *responsibility* is defined as an obligation to perform an assigned function, duty, task or action. An assignment of responsibility typically also requires the delegation of an appropriate level of authority.

Operational Control

Operational control is defined as the exercise of authority to initiate, continue, divert or terminate a flight in the interest of the safety and security of the aircraft and its occupants. An operator may delegate the authority for operational control of a specific flight to qualified individuals, but typically retains overall authority to operate and control the entire operation. An operator may also assign the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight to identifiable, qualified and knowledgeable individual(s), but would remain responsible (and accountable) for the conduct of the entire operation.

Any individuals delegated the authority to make specific decisions regarding operational control would also be responsible (and accountable) for those decisions. Additionally, individuals assigned the responsibility to carry out specific operational control functions, duties, or tasks related to the conduct of each flight are also responsible (and accountable) for the proper execution of those functions, duties, or tasks. In all cases, the authority and responsibility attributes of operational control personnel are clearly defined and documented by the operator and communicated throughout the organization.

It is important to note that when an operator assigns the responsibility for functions, duties or tasks related to the initiation, continuation, diversion and termination of a flight to employees or external service providers, such operator retains full responsibility (and accountability) for the proper execution of those functions, duties or tasks by ensuring:

- The training and qualification of such personnel meets any regulatory and operator requirements;
- Personnel are performing their duties diligently;
- The provisions of the Operations Manual are being complied with;
- An effective means of oversight is maintained to monitor the actions of such personnel for the purposes of ensuring operator guidance and policy, as well regulatory requirements, are complied with.

Authority for the Operational Control of Each Flight

In order to practically exercise operational control of flight operations, an operator typically delegates the authority for the initiation, continuation, diversion or termination of each flight to qualified individuals. Such delegation occurs in conjunction with an operator's overall system of operational control as follows:

- Shared systems, wherein operational control authority is shared between the pilot-in-command (PIC) **and** a flight operations officer/flight dispatcher (FOO) **or** designated member of management, such as the Director of Flight Operations (or other designated post holder);

For example: *The FOO (or designated member of management, as applicable) has the authority to divert, delay or terminate a flight if in the judgment of the FOO, a designated member of management or the PIC, the flight cannot operate or continue to operate safely as planned or released*.

- Non-shared systems, wherein operational control authority is delegated **only** to the PIC.

  For example: *Only the PIC has the authority to terminate, delay, or divert a flight if in the judgment of the PIC the flight cannot operate or continue to operate safely as planned.*

Responsibility for Operational Control of Each Flight

While an operator retains full responsibility (and accountability) for the entire operation, the responsibility for the practical operational control of each flight is typically assigned to qualified individuals. As with the delegation of authority, the assignment of responsibility related to the operational control of each flight occurs in conjunction with a system of operational control as follows:

- Shared systems, wherein operational control responsibility for each flight is shared between the PIC and an FOO, or between the PIC and a designated member of management such as the Director of Flight Operations (or other designated post holder). In either shared system, the PIC, FOO or designated member of management, as applicable, may be assisted by other qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks. Such personnel, however, typically do not share operational control responsibility with the PIC, FOO or designated member of management, as applicable.

  For example: *The FOO (or designated member of management) and the PIC are jointly responsible (and accountable) for the functions, duties or tasks associated with the operational control of a flight, such as pre-flight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc. In such systems, the FOO (or designated member of management) may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.*

- Non-shared systems, wherein the PIC is solely responsible for all duties, functions, or tasks regarding operational control of each flight, and may carry out such responsibilities unassisted or be assisted by qualified personnel assigned the individual responsibility (by the operator) to carry out specific operational control functions, duties or tasks.

  For example: *The PIC is solely responsible (and accountable) for the duties, functions, duties or tasks associated with the operational control of a flight, and the PIC either acts unassisted or is assisted by qualified personnel in carrying out functions, duties or tasks such as preflight planning, load planning, weight and balance, delay, dispatch release, diversion, termination, etc.*

Responsibility for Individual Operational Control Functions, Duties, or Tasks

It is important to note that, except for purely non-shared (PIC-only) systems, and as illustrated by the examples in the previous paragraph, the assignment of responsibilities related to the operational control of each flight can be further subdivided among a number of qualified and specialized personnel. In such cases, the responsibility for individual or specific operational control functions, duties or tasks is typically assigned to FOA personnel who support, brief and/or assist the PIC, FOO personnel and/or designated member(s) of management, as applicable, in the safe conduct of each flight. Examples of such qualified personnel include Weather Analysts, Navigation Analysts/Flight Planning Specialists, Load Agents/Planners, Operations Coordinators/Planners/Controllers, Maintenance controllers and Air Traffic Specialists.

Note: *Some operators might choose to assign the responsibility for specialized operational control functions, such as those described in the example, to fully qualified FOO personnel. In such cases, an FOO, although qualified in all competencies of operational control, would be functionally acting as an FOA. Therefore, for the purpose of an audit, FOO personnel acting in this limited capacity are assessed as FOA personnel.*

Note: *Load Agents/Planners/Controllers who perform load control functions within the scope of ground handling operations may not be considered FOAs if trained and qualified in accordance with ISM Section 6 (GRH), Subsection 2.1, Training Program.*

Administrative Support Personnel

FOA personnel are not to be confused with administrative personnel that lack any operational control authority, have very limited operational control responsibilities, and who simply provide, collect or assemble operational documents or data on behalf of the PIC, the FOO, designated member of management or the operator.

Administrative personnel may be present in any system of operational control, are excluded from the initial and continuing qualification provisions of this section and may be qualified as competent through on-the-job training (OJT), meeting criteria as specified in a job description, or through the mandatory use of written instruments such as task cards, guidelines, or checklists.

Additional Note

For the purposes of this section, continuing qualification includes recurrent or refresher training as well as any training necessary to meet recency-of-experience requirements.

Definitions, Abbreviations, Acronyms

Definitions of technical terms used in this ISM Section 3, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Management System Overview

1.2 (Intentionally open)

1.3 Accountability, Authorities and Responsibilities

DSP 1.3.2B

The Operator shall have a process or procedures for the delegation of duties within the management system for operational control that ensures managerial and operational control continuity is maintained and responsibility for operational control functions is assumed by qualified personnel when:

(i) Managers directly responsible for the operational control of flights are unable to carry out work duties;

(ii) If used in the system of operational control, FOO and/or FOA personnel are unable to carry out work duties. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** processes for management system delegation of duties for operational control personnel (focus: operational control managerial continuity is maintained, operational; control responsibilities are assumed by qualified personnel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** example(s) of delegation of duties (focus: responsibilities for operational control are assumed by qualified personnel).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator has a process or procedures for succession in cases when operational control personnel directly responsible for the operational control of flights are unable, for any reason, to carry out work duties. Such process or procedures typically also address a handover of responsibilities that ensures no loss of continuity in the operational control of flights.

The operational control personnel subject to the specifications of this provision include, as a minimum:

- Managerial personnel, as defined by the operator, with direct responsibility for ensuring the operational control of flights;
- If applicable, FOO or FOA personnel who are delegated authority and/or responsibility in accordance with DSP 1.3.4 and 1.3.5 respectively.

DSP 1.3.7

The Operator shall have a process to be used in the event of an emergency situation that endangers the safety of the aircraft or persons, including those situations that become known first to the Operator. Such process shall ensure the FOO, FOA or other delegated person:

(i) Initiates emergency procedures, as outlined in the OM, while avoiding taking any action that would conflict with ATC procedures;

(ii) Notifies the appropriate authorities, without delay, of the nature of the situation;

(iii) Requests assistance, if required;

(iv) Conveys, by any available means, safety-related information to the PIC that may be necessary for the safe conduct of the flight, including information related to any necessary amendments to the flight plan. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** OM procedure for implementation of emergency procedures/actions (focus: definition of operational control positions/persons with assigned responsibility for initiating emergency procedures/notifying authorities/requesting assistance).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to implement emergency actions).
- ☐ **Other Actions** (Specify)

Guidance

The specification in item ii) refers to notification to the appropriate authorities without delay and/or within a period(s) specified by each applicable authority.

Applicable authorities include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

Processes used for operational control of flights in the event of an emergency would typically be compatible with any operating procedures that have been established by the agencies providing system services for air traffic control. Such compatibility is necessary to avoid conflict and ensure an effective exchange of information between the operator and any of the service agencies.

During an operational emergency, the procedures specified in item i) would normally be designed to not conflict with ATC procedures, such as separation standards, controller instructions, minimum flight altitude assignments or any other restrictions imposed by ATC. During an emergency, however, the PIC may exercise emergency authority and take any action necessary in the interest of the safety of the passengers and aircraft.

It would also be important in this context for the PIC to convey relevant information to the FOO, FOA or other delegated person during the course of the flight with respect to the emergency situation.

1.4 Communication and Coordination

DSP 1.4.2

The Operator shall have a communication system that ensures operational control personnel are provided with or have access to information relevant to the safe conduct of each flight, to include information associated with:

(i) The aircraft (MEL, maintenance);

(ii) Meteorology;

(iii) Safety, including current accident and incident notification procedures;

(iv) Routes, including over water and critical terrain (NOTAMs, facilities, outages);

(v) Air Traffic Services (ATS). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system for dissemination of operational safety information in operational center/office (focus: capability for communicating safety information relevant to operational control personnel; definition of types of safety information required to be disseminated).
- ☐ **Identified/Assessed** accident/incident notification procedures for use by operational control personnel.
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** names/numbers of applicable personnel on mass messaging list.
- ☐ **Examined** examples of operational safety information disseminated in operational center/office.
- ☐ **Observed** operational control/flight dispatch operations (focus: operational control personnel have access to information relevant to safe conduct of flights, accident/incident notification procedures).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to the PIC, an FOO, a designated member of management and/or an FOA whose job functions require access to information in one or more of the areas specified.

An effective system ensures operational control personnel are in receipt of relevant and current information, as necessary, to complete operational control functions, duties or tasks.

Accident and incident notification procedures are typically contained in an operator's Emergency Response Plan or Manual, or in a dedicated checklist accessible in the Dispatch or Operations Control location.

1.5 Provision of Resources

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1.6 Documentation System

△

DSP 1.6.3

The Operator shall ensure the system for the management and control of operational control documentation as specified in ORG 2.5.1 and Table 1.1 addresses, as a minimum, the following documents from external sources:

(i) As applicable, regulations of the State of the Operator and of other states or authorities relevant to operations;

(ii) As applicable, ICAO Standards and Recommended Practices; (SARPS), manuals, regional supplementary procedures and/or circulars;

(iii) Airworthiness Directives (ADs);

(iv) As applicable, Aeronautical Information Publications, (AIP) and NOTAMS;

(v) State-approved or State-Accepted Aircraft Flight Manuals (AFM);

(vi) Manufacturer's Aircraft Operating Manuals (AOMs), including performance data, weight and balance data/manuals, checklists and MEL/CDL;

(vii) As applicable, other manufacturer's operational communications. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system(s) for management/control of documentation/data used in operational control system (focus: system addresses documents from external sources; definition of applicable external documents).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected documents from external sources (focus: application of management/control elements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Aeronautical Information Publication (AIP), Aircraft Operating Manual (AOM), Approved Flight Manual, Airworthiness Directive (AD), Configuration Deviation List (CDL), Master Minimum Equipment List (MMEL), Minimum Equipment List (MEL), State Acceptance and State Approval.

The specifications of this provision may be satisfied by the flight operations organization documentation management and control system, if used in conjunction with the operator's system of operational control.

The specifications in item i) refer to:

- Applicable regulations imposed on an operator by the State that issues the Air Operator Certificate (AOC);
- Regulations issued by other states and/or authorities that actively regulate foreign operators, which may be done through issuance of an Operational Specification (OPS SPEC) or specific state legislation;
- Regulations, standards, recommended practices, supplemental procedures and/or guidance material that are applicable to the operations of the operator by any states or authorities with jurisdiction over the operations of the operator. Applicable authorities would include those that have jurisdiction over international operations conducted by an operator over the high seas or over the territory of a state that is other than the State of the Operator.

The specification in item ii) refers to applicable ICAO standards and/or recommended practices that are referenced in the operator's documentation.

The specification for the manufacturer's AFM in item v) may be replaced by an Aircraft Operating Manual (AOM) customized by the manufacturer for the specific use in flight operations by an operator.

The specification in item vi) refers to bulletins or directives distributed by the manufacturer for the purposes of amending aircraft technical specifications and/or operating procedures.

The specification in item vii) refers to operational communications received from the manufacturer of equipment that is installed on the aircraft, typically from the manufacturers of the engines, components and safety equipment.

1.7 Operations Manual

DSP 1.7.1

The Operator shall have an Operations Manual (OM) for the use of operational control personnel, which may be issued in separate parts, and which contains or references the policies, procedures and other guidance or information necessary for compliance with applicable regulations, laws, rules and Operator standards. As a minimum, the OM shall:

(i) Be managed and controlled in accordance with DSP 1.6.1;

(ii) Have all parts relevant to operational control personnel clearly identified and defined;

(iii) Be in accordance with the specifications in Table 3.2. **(GM)**

Auditor Actions

☐ **Identified/Assessed** operational documents that comprise the OM (focus: external documents referenced in OM/used by operational control personnel).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected parts of OM (focus: contents in accordance with in Table 3.2).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure operational control personnel are able to find all information necessary to perform their functions either within the OM or within another document that is referenced in the OM. The OM is normally identified as a source of operational information approved or accepted for the purpose by the operator or the State.

Refer to the FLT 1.7.4 and associated guidance for human factors principles observed in the design of the OM.

DSP 1.7.2

The Operator shall have a description of the Operational Flight Plan (OFP) or equivalent document that is published in the OM and includes:

(i) Guidance for use by operational control personnel;

(ii) An outline of the content in accordance with specifications in Table 3.3. **(GM)**

Auditor Actions

☐ **Identified/Assessed** description of OFP in OM.

☐ **Examined** selected OFP(s).

☐ **Other** Action (Specify)

Guidance

Items readily available in other documentation, obtained from another acceptable source or irrelevant to the type of operation may be omitted from the OFP.

1.8 Records System

1.9 (Intentionally open)

1.10 Quality Assurance Program

1.11 Quality Control of Outsourced Operations and Products

DSP 1.11.4

If the Operator uses electronic navigation data products for application in operational control, the Operator shall have processes, approved or accepted by the State, if required, which ensure such electronic navigation data products acquired from suppliers, prior to being used in operations:

(i) Are assessed for a level of data integrity commensurate with the intended application;

(ii) Are compatible with the intended function of equipment in which it is installed. **(GM)**

Auditor Actions

☐ **Identified/Assessed** processes for acceptance of electronic navigation data products acquired for application in operational control (focus: assessment for data integrity/functionality are compatible with intended use; processes have regulatory acceptance).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected product acceptance records (focus: products assessed for data integrity/functionality).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Navigation Data Integrity.

The responsibility of ensuring electronic navigation data is assessed for integrity and is compatible with the intended application rests with the operator.

Navigation database integrity can be assured by obtaining data from a supplier accredited in accordance with approved or accepted standards of data integrity and quality. Such standards include but are not limited to:

- RTCA/DO-200A, Standards for Processing Aeronautical Data, issued 09/28/98;
- RTCA/DO-201A, Standards for Aeronautical Information, issued 04/19/00;
- Advisory Circular (AC) 20-153, Acceptance of Data Processes and Associated Navigation Databases, issued 09/20/10.

The specifications in items i) and ii) may be satisfied by an operator, in accordance with State-approved or-accepted methods for assuring data integrity and compatibility, such as:

- Obtaining a letter of acceptance from an applicable authority stating the data supplier conforms to a recognized standard for data integrity and compatibility that provides an assurance level of navigation data integrity and quality sufficient to support the intended application, **or**
- The existence of operator validation processes to determine navigation data compatibility and accuracy that provide an assurance level of navigation data integrity and quality sufficient to support the intended application.

Monitoring and control of electronic navigation data products acquired from suppliers are also in accordance with DSP 1.11.3.

1.12 Safety Management

Risk Management

△ **DSP 1.12.1**

The Operator shall have a hazard identification program in the organization responsible for the operational control of flights that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in operational control system (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of operational control in cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Interviewed** person(s) that perform operational control data collection/analysis to identify hazards to aircraft operations.
- ☐ **Examined** selected examples of hazards identified through operational control data collection/analysis.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

The specifications of this provision may be satisfied by the hazard identification program in the flight operations organization if such program includes the operational control system.

△ Hazard identification specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process that is central to the development and use of variations, including Operational Variations approved by the Authority, in accordance with applicable provisions in subsections 3 and 4.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

DSP 1.12.2

The Operator shall have a safety risk assessment and mitigation program in the organization responsible for the operational control of flights that specifies processes to ensure:

(i) Hazards are analyzed to determine the corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in operational control. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its operational control risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.
• Means used for recording risks and mitigation (control) actions.
• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant operational control hazards are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) across the operational control capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

△ (ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

Auditor Actions

☐ **Identified/Assessed** safety risk assessment/mitigation program in operational control system (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
☐ **Identified/Assessed** role of operational control in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
☐ **Interviewed** responsible operational control manager(s).
☐ **Interviewed** person(s) that perform operational control risk assessment/mitigation.
☐ **Examined** selected records/documents that illustrate risk assessment/mitigation actions.
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Estimated Time of Use (ETU), EDTO (Extended Diversion Time Operations), Risk Registry, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

Hazards relevant to the conduct of aircraft operations are potentially associated with:

- Weather (e.g. adverse, extreme and space);
- Geophysical events (e.g. volcanic ash, earthquakes, tsunamis);
- Operations in airspace affected by armed conflict (i.e. Conflict Zones);

- ATM congestion;
- Mechanical failure;
- Geography (e.g. adverse terrain, large bodies of water, polar);
- Airport constraints (e.g. isolated, runway closure, rescue and RFFS capability);
- Alternate airport selection, specification and availability at the estimated time of use (ETU);
- Preflight fuel planning and in-flight fuel management;
- Critical fuel scenarios;
- △ ETOPS/EDTO;
- △ Variations to prescriptive regulations or international standards including Operational Variations approved by the Authority;
- Operational considerations (e.g. area of operations, diversion time);
- The capabilities of an individual aircraft (e.g. cargo smoke detection, fire suppression systems, open MEL items);
- The properties of items to be transported as cargo;
- The quantity and distribution of dangerous goods items to be transported;
- Criminal and/or unauthorized activities directed at manned aircraft or in the vicinity of manned aircraft operations (e.g. laser pointing, unauthorized UAS/RPAS operations);
- Flights using aircraft to transport cargo in the passenger cabin, without passengers;
- Any other condition(s) that could pose a safety risk to aircraft operations.

The specifications of this provision may be satisfied by the safety risk assessment and mitigation program in the flight operations organization if such program includes the operational control system.

△ Risk assessment and mitigation specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process central to the development and use of variations in accordance with applicable provisions in subsections 3 and 4.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

DSP 1.12.3

The Operator shall have an operational safety reporting system in the organization responsible for the operational control of flights that:

(i) Encourages and facilitates operational control personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Ensures mandatory reporting in accordance with applicable regulations;

(iii) Includes analysis and operational control management action as necessary to address safety issues identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** operational safety reporting system in operational control (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in operational control.
- ☐ **Examined** data that indicates robustness of operational control safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected operational control safety reports (focus: analysis/follow-up to identify/address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

△ Safety reporting specific to an operational activity (e.g. aircraft tracking, alternate airport selection, fuel planning and/or ETOPS/EDTO) is an SRM process central to the development and use of variations in accordance with applicable provisions in subsections 3 and 4.

The specifications of this provision may be satisfied by the operational reporting system in the flight operations organization if such system includes the operational control system.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Performance Monitoring and Management

2 Training and Qualification

General Guidance

Many of the provisions of this subsection contain specifications related to the recurring frequency of training and evaluation events for operational control personnel. Such provisions, with a few exceptions, define cycles or intervals for the completion of recurrent training and/or evaluation expressed in months since training was first completed or qualification was first established. It is important to note, however, that for the purpose of conformity with these provisions, such intervals are nominal and that the actual interval may vary slightly. For example, an Operator may adjust the frequency of evaluations to minimize overlap, provide scheduling flexibility, preserve the original qualification date, and/or to ensure evaluations are consistently completed in accordance with the nominal cycle set forth by the State and/or applicable authorities. Accommodations of this nature are commonplace and vary widely by regulatory jurisdiction. In all cases, however, the auditor will make the determination of whether or not such accommodations fit within the nominal cycles established in each provision.

2.1 Training and Evaluation Program

General

DSP 2.1.1

The Operator shall have a training program, approved or accepted by the Authority, to ensure the operational control personnel as specified in Table 3.1, as applicable to the Operator, are competent to perform any assigned duties relevant to operational control in accordance with the applicable specifications of Table 3.5 prior to being assigned to operational control duties. Such program shall, as a minimum, address:

(i) Initial qualification;

(ii) Continuing qualification. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** training program for operational control personnel (focus: program addresses initial/continuing qualification for functions specified in Table 3.1).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification course curricula for operational control personnel (focus: course content as specified in Table 3.5).
- ☐ **Examined** training/qualification records of selected operational control personnel (focus: completion of initial/recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Continuing Qualification, State Acceptance and State Approval.

Not all states require the approval or acceptance of a training program for operational control personnel. In such cases, state acceptance is considered implicit.

A training program for operational control personnel typically addresses:

- For FOO and FOA personnel, initial and continuing qualification in accordance with the specifications of Table 3.1 and Table 3.5;
- For FOO and FOA personnel, a method of qualification through written, oral and/or practical evaluation;
- For administrative support personnel as defined in Table 3.1, on-the-job training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

FOO personnel who have completed training programs conducted in accordance with ICAO Doc 7192-AN/857, Part D, Training Manual–Flight Operations Officers/Flight Dispatchers, meet the specifications of this provision.

FOO initial training programs contain all of the competencies in Table 3.5 that are relevant to the operations of the operator.

FOA initial training programs contain the competencies in Table 3.5 that are relevant to their job function as determined by the operator.

DSP 2.1.3

The Operator shall have a process to ensure course materials used in training programs for personnel responsible for operational control are periodically evaluated to ensure compliance with the qualification and performance standards of the Operator and/or Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for periodic evaluation of course materials used in training program for operational control personnel (focus: evaluation addresses compliance with applicable qualification/performance standards).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected records of training courseware evaluation (focus: completion of periodic courseware evaluations).
- ☐ **Other Actions** (Specify)

Guidance

Such process typically provides:

- Continual improvement and effectiveness;
- Incorporation of the latest regulatory and operational changes in a timely manner.

Instructors and Evaluators

DSP 2.1.7

If an FOO or FOA is used in the system of operational control, the Operator shall have a process to ensure those individuals designated to evaluate the competency of such personnel, as applicable, are current and qualified to conduct such evaluations. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified/Assessed** qualification program for FOO/FOA evaluators (focus: curriculum based on defined competency standards/criteria).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO/FOA evaluators (focus: completion of evaluator qualification program).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

The intent of this provision is to ensure:

- Personnel delegated to evaluate FOO personnel are themselves current and qualified as an FOO in accordance with requirements of the State and/or operator;
- Personnel delegated to evaluate FOA personnel are themselves current and qualified in the applicable competencies of operational control in accordance with requirements of the State and/or operator.

The specifications of this provision refer to personnel delegated to evaluate the competency of operational control personnel only. The qualifications for individuals delegated to train operational control personnel are in accordance with requirements of the State and/or operator.

2.2 Training Elements

DSP 2.2.2

If an FOO or FOA is used in the system of operational control, the Operator shall ensure such personnel receive recurrent training in the applicable competencies of operational control, as specified in Table 3.5. Recurrent training shall be completed on a frequency in accordance with requirements of the Authority, if applicable, but not less than *once during every 36-month period plus or minus one month from the original qualification anniversary date or base month.* **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified/Assessed** recurrent training/evaluation program for FOO/FOA personnel (focus: curriculum addresses knowledge/proficiency in competencies as specified in Table 3.5; training interval not greater than 36 months).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO/FOA personnel (focus: completion of recurrent training/evaluation every 36 months).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

Human factors training is accomplished in accordance with DSP 2.2.3.

Dangerous goods training is accomplished in accordance with DSP 2.2.4.

The intent of this provision is to ensure:

- The recurrent training program for FOO personnel addresses all of the competencies that are relevant to the operations of the operator as specified in Table 3.5;
- The recurrent training program for FOA personnel addresses each of the competencies relevant to their specific job function and to the operations of the operator as specified in Table 3.5.

Different methods of conducting recurrent training are acceptable, including formal classroom study, home study, computer-based training, seminars and meetings. All recurrent training, regardless of method, is documented and retained in accordance with DSP 1.8.1.

DSP 2.2.3

If an FOO is used in the system of operational control, the Operator shall ensure such personnel receive training in human factors on a frequency in accordance with requirements of the Authority, if applicable, but not less than *once during every 36-month period plus or minus one month from the original qualification anniversary date or base month.* **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO function as defined in Table 3.1).
- ☐ **Identified/Assessed** human factors training program for FOO personnel (focus: training interval not greater than 36 months).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: completion of human factors training every 36 months).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Human Factors.

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with DSP 1.3.4, and/or
- △ Is assigned the responsibility in accordance with DSP 1.3.5 to carry out operational control functions, duties or tasks related to all applicable competencies defined in Table 3.5.

DSP 2.2.4

If the Operator transports dangerous goods as cargo, and an FOO or FOA is used in the system of operational control with duties or responsibilities related to the carriage of dangerous goods, the Operator shall ensure such personnel receive training and evaluation in dangerous goods during initial ground training and subsequently during recurrent training on a frequency in accordance with requirements of the Authority, if applicable, but not less than once during every 24-month period. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified** FOO/FOA duties/responsibilities related to transport of dangerous goods.
- ☐ **Identified/Assessed** dangerous goods training program for FOO/FOA personnel (focus: curriculum addresses knowledge/proficiency in dangerous goods; training interval not greater than 24 months).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO/FOA personnel (focus: completion of dangerous goods training every 24 months).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with GRH 3.4.2, GRH 3.4.3, DSP 1.3.4 and/or DSP 1.3.5 respectively, and perform or directly supervise job functions related to the carriage of dangerous goods as defined by the Authority.

The curriculum for dangerous goods training for operational control personnel is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is typically completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months (or 90 days) of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

Refer to the General Guidance at the beginning of this section for additional information regarding the application of the recurrent training interval.

2.3 Line Qualification

DSP 2.3.1

If an FOO, FOA or designated member of management is used in the system of operational control, the Operator shall have a line qualification program to ensure such personnel, prior to being assigned to operational control duties, have demonstrated proficiency in the competencies of operational control as specified in Table 3.5, as applicable to the Operator, and have demonstrated the ability to:

(i) Assist the PIC in flight preparation and provide the relevant information required;

(ii) File a flight plan with the appropriate ATS unit;

(iii) Furnish the PIC in flight, by appropriate means, with information that may be necessary for the safe conduct of the flight;

(iv) Initiate, in the event of an emergency, applicable procedures as outlined in the OM. **(GM)**

Auditor Actions

☐ **Identified** use of FOO/FOA/designated management personnel in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).

△ ☐ **Identified/Assessed** line qualification program for FOO/FOA/designated management personnel (focus: curriculum includes evaluation of competencies as defined in Table 3.5).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** training/qualification records of selected FOO/FOA/designated management personnel (focus: completion of line qualification prior to operational control duty assignment).

☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to designated members of management, as well as FOO or FOA personnel, who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, respectively.

☐ Competencies of operational control are defined in Table 3.5.

Demonstrations of proficiency are recorded in accordance with DSP 1.8.1.

The intent of this provision is to ensure:

- FOO personnel demonstrate the ability to perform all duty functions;
- FOA personnel demonstrate the ability to perform specific duty functions associated with their assigned area(s) of responsibility;
- A designated member of management that is directly involved with or directly performs the functions specified in this provision demonstrates the same functional abilities as specified for an FOO or FOA. Where the performance of one or more functions specified in this provision is delegated to others (e.g. to FOOs or FOAs), a designated member of management would typically demonstrate the knowledge necessary to accept the specified responsibilities and have an understanding of how such functions are associated with the operational control of flights.

Item ii) refers to planning activities that involve ATS (e.g. flight plan filing, re-routes during flight, traffic flow management and/or slot controls).

DSP 2.3.3

If an FOO is used in the system of operational control, the Operator shall ensure such personnel who have not performed duties as an FOO for a period of 12 consecutive months are not assigned to perform FOO duties until re-qualified, by demonstrating knowledge and/or proficiency in accordance with DSP 2.1.1. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO in operational control system (focus: applicable to FOO/Flight Dispatcher functions as defined in Table 3.1).
- ☐ **Identified/Assessed** re-qualification program for FOO personnel (focus: applicable when FOO duties have not been performed for 12 months; curriculum addresses knowledge/proficiency in competencies as specified in Table 3.5).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected FOO personnel (focus: completion of re-qualification prior to re-assignment to operational control duty).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to each FOO qualified in all applicable competencies of operational control, whether licensed or not, who participates in an approved or accepted system of operational control and:

- Is delegated authority in accordance with DSP 1.3.4, and/or
- Is assigned the responsibility in accordance with DSP 1.3.5 to carry out operational control functions, duties or tasks related to all applicable competencies defined in Table 3.5.

2.4 Special Qualification

2.5 SMS Training

3 Line Operations

3.1 General

DSP 3.1.2

The Operator shall have a process or procedures to ensure the PIC is provided with all documents, information and data necessary for the safe conduct of the flight. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** operational control process/procedure for provision of documentation to flight crew (focus: definition of required documents/information/data provided to flight crew).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: PIC provided with documents/information/data necessary for safe conduct of flight).
- ☐ **Other Actions** (Specify)

Guidance

The OM typically specifies the documents required by the PIC for the safe conduct of each flight. This list of required documents may also be replicated on the folder/envelope containing such documents or displayed in the operational control/flight dispatch center/office for reference purposes. Additionally, the process or procedures associated with the provision of flight documents typically

includes safeguards to ensure all of the required documents are provided to the PIC prior to each flight.

3.2 Flight Preparation and Planning

DSP 3.2.2

If an FOO or FOA is used in the system of operational control, the Operator shall have a process or procedures to ensure such personnel, as applicable, and the PIC use a common set of flight documents for each planned flight. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified/Assessed** process/procedures for development/issuance of documents for each flight (focus: documents issued to PIC are common with those used by FOO/FOA personnel).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: common flight planning documents used by PIC and FOO/FOA personnel).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5 respectively.

Refer to Table 2.2 found in ISM Section 2 (FLT) for OM documentation requirements.

DSP 3.2.7

If an FOO or FOA is used in the system of operational control, the Operator shall have a process or procedures to ensure Operator changes in an ATS flight plan are, when practicable, coordinated with the appropriate ATS unit before transmission to the aircraft by the FOO, FOA or other delegated person. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified/Assessed** process/procedures for coordination of ATC flight plan changes (focus: FOO/FOA coordinates changes with ATC prior to flight plan transmission to flight crew).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: coordination of changes to ATS flight plan by FOO/FOA).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision apply to FOO or FOA personnel who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5 respectively.

The intent of this provision is to ensure ATS flight plan changes that occur prior to departure and/or en route are, when practicable, coordinated with the appropriate ATS unit prior to transmission to the aircraft. When such coordination is not possible, the flight crew remains responsible for obtaining an appropriate clearance from an ATS unit, if applicable, before making a change in flight plan.

DSP 3.2.8A

The Operator shall have guidance and procedures to ensure a flight will not be commenced unless it has been ascertained, by every reasonable means available, that conditions and ground facilities required for the flight are adequate for the type of operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for assessment of required conditions/ground facilities prior to flight departure (focus: flight planning accounts for adequacy of conditions/facilities for type of flight operation).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: assessment of relevant conditions/ground facilities prior to flight departure).
- ☐ **Coordinated** with FLT auditor (focus: flight crew preflight assessment of conditions/facilities).
- ☐ **Other Actions** (Specify)

Guidance

The term “reasonable means” used in this standard is intended to denote the use, at the point of departure, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

A review of factors to determine if the conditions at the airport(s) of operation are acceptable for operations typically includes, as applicable:

- Navigation aids;
- Runways, taxiways, ramp areas;
- Curfews;
- PPR (prior permission required);
- Field conditions;
- Lighting;
- ARFF/RFFS (airport rescue and firefighting/rescue and firefighting services);
- Applicable operating minima.

Guidance for assessing the level of RFFS deemed acceptable by aircraft operators using airports for differing purposes is described in ICAO Annex 6. Part 1, Attachment I.

DSP 3.2.8B

The Operator shall ensure a flight will not commence or continue as planned unless it has been ascertained by every reasonable means available that the airspace containing the intended route from the airport of departure to the airport of arrival, including the intended take-off, destination and en route alternate airports, can be safely used for the planned operation. (GM)

Note: *If the Operator conducts operations over or near areas of armed conflict, a risk assessment shall be conducted and appropriate risk mitigation measures taken to ensure a safe flight.*

Auditor Actions

- ☐ **Identified/Assessed** flight planning process and procedures (focus: flights are not commenced or continued unless intended airspace/airports of use have been assessed and determined to be safe for the planned operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: airspace/airports of intended use are assessed for safe operations prior to and during the conduct of a flight).
- ☐ **Coordinated** with FLT auditor (focus: flight crew preflight and en route assessment of airspace/airports of intended use).
- ☐ **Other Actions** (Specify)

Guidance

The term “reasonable means” in this standard is intended to denote the use, at the point of departure or while the aircraft is in flight, of information available to the operator either through official information published by the aeronautical information services or readily obtainable from other sources.

Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).

The Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones (Doc 10084) contains further guidance on risk assessment for air operators when flying over or near conflict zones.

DSP 3.2.9A

If the Operator is authorized to conduct certain portions of a commercial flight under visual flight rules (VFR), the Operator shall have guidance and procedures that:

(i) Specify the type of flight plan to be filed with the appropriate ATS unit;

(ii) Require current meteorological reports, or a combination of current reports and forecasts, to indicate that meteorological conditions along the portion of the flight to be flown under VFR will, at the appropriate time, be such as to make compliance with VFR possible. **(GM)**

Auditor Actions

- ☐ **Identified** authorization for portions of flights to be conducted under VFR.
- ☐ **Identified/Assessed** guidance/procedures applicable to conducting portions of flights under VFR (focus: flight planning accounts for type of flight plan to be filed/required meteorological conditions; determination of expected times when meteorological conditions will permit compliance with VFR).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for control of flights to be conducted under partial VFR, availability of meteorological reports, determination of expected times/conditions that will permit compliance with VFR).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure:

- Operations that require compliance with VFR are practicable under the anticipated meteorological conditions;
- The operator has guidance and procedures for determining expected times when meteorological conditions will permit compliance with VFR.

The specification in item i) refers to the type of flight plan to be filed in instances where certain portions of a flight will be conducted under VFR. In some cases, it may be possible to identify VFR portions in a predominantly instrument flight rules (IFR) flight plan (e.g. Y and Z designation on an ICAO flight plan). In other cases, an IFR Flight Plan is normally filed for all flights and an instrument clearance obtained or cancelled en route in accordance with FLT 3.10.2.

Guidance related to the filing of a composite ICAO flight plan, and the use of the Y designation for flights initially operated under IFR and Z designation for flights initially operated under VFR, is contained in Amendment 1 to the Procedures for Air Navigation Services–Air Traffic Management (PANS-ATM, Doc 4444).

DSP 3.2.9B

The Operator shall have guidance and procedures to ensure a flight to be conducted in accordance with IFR *does not*:

(i) Take off from the departure airport unless the meteorological conditions are at or above the operator's established airport takeoff operating minima for that operation; **and**

(ii) Take off, or continue beyond the point of in-flight re-planning, unless at the airport of intended landing or at each required alternate airport, current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions will be, at the estimated time of use (ETU), at or above the operator's established airport operating minima for that operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for the assessment of airport meteorological conditions prior to departure of IFR flights (focus: flight planning determines that conditions at departure/destination/alternate airports meet all applicable requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations office (focus: procedures for monitoring/assessing meteorological conditions for operational airports).
- ☐ **Coordinated** with FLT auditor (focus: flight crew assessment of meteorological conditions for operational airports).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Alternate Airport, In-flight Re-planning Point and Estimated Time of Use (ETU).

The intent of this provision is to ensure:

- Flights do not take off or continue beyond the point of in-flight re-planning unless the meteorological conditions at each airport specified in i) or ii), are or will be at or above the operator's established airport operating minima for the operation at the ETU;
- The operator has guidance and procedures for determining the ETU.

The ETU specified in (ii) is typically the estimated time of arrival derived from the OFP. However, some operators may apply a time margin as required by the State.

The specification in item ii) would require the definition and application of alternate airport planning minima in accordance with DSP 3.2.9C.

DSP 3.2.9C

The Operator shall have guidance and procedures, approved or accepted by the State, for determining whether an approach and landing can be safely conducted at each required alternate airport at the ETU. Such guidance and procedures shall specify the appropriate incremental values for visibility (and ceiling, if required), to be added to the Operator's established airport operating minima. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for the application of safety margins in the assessment/selection of planned alternate airports (focus: flight planning takes into account defined additives/margins to alternate airport operating minima/times of arrival to account for forecast uncertainties, determination of ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for monitoring/assessing approach/landing suitability for planned alternate airport, determination of ETU).
- ☐ **Coordinated** with FLT auditor (focus: flight crew assessment of suitability of planned alternate airports).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for the operator to have a means to ensure, with a reasonable degree of certainty, that at the ETU of an alternate airport, the meteorological conditions will be at or above the operator's established operating minima for an instrument approach. This is practically accomplished through guidance and procedures for the definition and application of alternate planning minima and the determination of an ETU.

The specified visibility (and, if required, ceiling) additives are typically dependent on the approach facility configuration and State requirements for a ceiling to be taken into account.

The ETU for alternate airports is normally determined in accordance with the type of operational control system and requirements of the State:

- In a non-shared system of operational control, the ETU is typically expressed as a time margin (e.g. one hour before to one hour after the ETA at the alternate airport);
- In a shared system of operational control, the ETU is typically considered to be a specific point in time coupled with a requirement to ensure the alternate airport remains at or above appropriate minima for the duration of the flight.

Specific requirements for en route alternate airports are addressed in DSP 3.6.5.

When determining an ETU, the operator might use a variable time margin based on specific flight parameters that can be monitored after departure by an FOO or FOA and communicated to the PIC.

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the development or application of alternate airport planning minima. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Flight Planning and Fuel Management Manual (Doc 9976).

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- Commission Regulation EC No. 965/2012.
- FAR 121.625–Alternate Airport Weather Minima.
- FAR 121.631(b)–Original Dispatch or Flight Release, Redispatch or Amendment of Dispatch or Flight Release.
- FAA OPSPEC C055 Table.
- Any equivalent reference document approved or accepted by the Authority for the development or application of alternate planning minima designed to conform to the specifications of the provision.

3.3 Aircraft Performance and Load Planning

DSP 3.3.1

The Operator shall have guidance and procedures to ensure a planned flight does not exceed:

(i) The maximum performance takeoff, en route and landing weight limits, based upon environmental conditions expected at the times of departure, along the route of flight and at arrival;

(ii) The aircraft structural ramp, takeoff and landing weight limits. **(GM)**

Auditor Actions

☐ **Identified/Assessed** guidance/procedures for application of aircraft performance data for planned flights (focus: flight planning accounts for aircraft takeoff/en route/landing performance weight limitations).

☐ **Interviewed** responsible operational control manager(s).

☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures/restrictions that ensure flights do not exceed aircraft performance weight limitations).

☐ **Coordinated** with FLT auditor (focus: preflight consideration of aircraft performance limitations).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the presence of guidance and procedures for the calculation of maximum takeoff and landing weights, based on takeoff, en route, landing performance, structural limitations as well as any applicable MEL restrictions. Additionally, such guidance and procedures address the means used to prevent an aircraft from being loaded in a manner that precludes a flight from being operated overweight (e.g. notification of weight restrictions to a Load Control Center/office or equivalent).

DSP 3.3.3

The Operator shall ensure qualified personnel perform weight and balance calculations. **(GM)**

Auditor Actions

- ☐ **Identified** specific personnel that perform weight/balance calculations.
- ☐ **Identified/Assessed** weight/balance training/qualification program for operational control personnel (if applicable) (focus: applicable to personnel that perform weight/balance calculations; program includes demonstration of competence in weight/balance calculation).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** training/qualification records of selected operational control personnel (if applicable) (focus: completion of weight/balance training program by operational control personnel that perform weight/balance calculations).
- ☐ **Coordinated** with FLT auditor (if applicable) (focus: flight crew members are qualified to perform weight/balance calculations).
- ☐ **Coordinated** with ground handling operations (if applicable) (focus: load control personnel are qualified to perform weight/balance calculations).
- ☐ **Other Actions** (Specify)

Guidance

Weight and balance calculations may be delegated to a FOO or an appropriately qualified FOA.

The PIC may complete weight and balance calculations, if qualified in accordance with ISM Section 2 (FLT), Subsection 2.1, Training and Evaluation Program.

Load control personnel that perform functions within the scope of ground handling operations may complete weight and balance calculations if qualified in accordance with ISM Section 6 (GRH), Subsection 2.1, Training Program.

3.4 Icing Conditions

DSP 3.4.1

The Operator shall have guidance and procedures to ensure a flight to be operated in known or expected icing conditions shall not be commenced unless the aircraft is certificated and equipped to be operated in such conditions. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for consideration of aircraft type for flights planned into expected in-flight icing conditions (focus: flight planning accounts for aircraft certified/equipped for icing conditions).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight planning records (focus: aircraft certified/equipped for flight into icing conditions).
- ☐ **Coordinated** with MNT auditor (focus: verification of fleet(s) certified/equipped for in-flight icing conditions; identification of any exceptions).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure flights planned to operate in known icing conductions are only conducted using appropriately certificated and equipped aircraft, which includes consideration of inoperative items on the Minimum Equipment List (MEL). Additionally, if the operator uses a mixed fleet including aircraft that are and are not suitably equipped for operations in icing conditions, the operator would have a means to preclude unequipped aircraft from being used on flights in known icing conditions.

DSP 3.4.3

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have guidance and procedures to ensure a flight planned to operate in known or suspected ground icing conditions is subjected to the following:

(i) The aircraft has been inspected for ice accretion;

(ii) If necessary, the aircraft has been given appropriate de/anti-icing treatment. **(GM)**

Note: *The specifications of this provision are applicable to commercial and/or non-commercial operations.*

Auditor Actions

- ☐ **Identified** the operation of commercial/non-commercial flights at airports/stations during times when there is potential for ground icing conditions.
- ☐ **Identified/Assessed** guidance/procedures for flights planned into airports with known/suspected ground icing conditions (focus: flight planning accounts for possibility of required aircraft de-/anti-icing operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight planning records (focus: consideration of requirement for aircraft de-/anti-icing operations).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for flights planned to operate in known/suspected ground icing conditions).
- ☐ **Other Actions** (Specify)

Guidance

Refer to GRH 4.2.1 located in ISM Section 6 for specifications and associated Guidance related to the establishment and maintenance of a De-/Anti-icing Program.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations.

3.5 Aircraft Tracking

3.6 Flight Monitoring and In-Flight Management

DSP 3.6.1

If an FOO or FOA is used in a shared system of operational control, the Operator shall have procedures and equipment that ensure effective communication between the:

(i) FOO and the PIC;

(ii) If applicable, FOA and the PIC;

(iii) FOO, PIC and maintenance. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO/FOA in shared operational control system (focus: applicable to FOO/FOA functions as defined in Table 3.1).
- ☐ **Identified/Assessed** procedures/equipment for communications within the operational control system (focus: capability for effective communication with flight crew/maintenance operations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: FOO/FOA communication with flight crew/maintenance operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Operational Control–Shared Responsibility.

The specifications of this provision apply to FOO or FOA personnel who participate in an approved or accepted shared system of operational control and who are delegated authority and/or assigned responsibilities in accordance with DSP 1.3.4 and/or DSP 1.3.5, as applicable.

FOO or FOA personnel that participate in a partial shared system might lack the dedicated equipment necessary to maintain shared responsibility in flight.

The communications system can be direct voice or electronic, but an effective system would be reliable, clear and understandable over the entire route of the flight. An effective system would also perform adequately, and appropriate personnel would be knowledgeable in its use.

DSP 3.6.2

If required by the State, the Operator shall have a system of operational control that includes flight monitoring for the duration of a flight and ensures timely notification to the Operator by the PIC of en route flight movement and/or significant deviation from the operational flight plan. **(GM)**

Auditor Actions

- ☐ **Identified** regulatory requirement for an operational control system that includes flight monitoring.
- ☐ **Identified/Assessed** implementation of flight monitoring for duration of all flights (focus: operational control procedures/capability for timely PIC communication/notification of en route flight movement/OFP deviations).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: flight monitoring process; communication with flight crew).
- ☐ **Coordinated** with FLT auditor (focus: verification of flight crew notifications to operational control).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Flight Monitoring.

DSP 3.6.5A

The Operator shall have guidance and procedures to ensure a flight is not continued toward the airport of intended landing unless the latest available information indicates, at the ETU, a landing can be made either at that airport or at least one destination alternate airport. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for monitoring/assessing conditions at flight destination/alternate airports (focus: flight continuation permitted only if information indicates landing can be made at destination/alternate airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: monitoring of destination/alternate airport conditions/information during flight).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure personnel with operational control responsibilities have access to the most current and accurate information available in order to support informed decision-making related to safe flight completion. This is especially important when the conditions under which a flight was originally planned have changed after takeoff (e.g. unplanned re-release) or because the flight was planned with a re-release point (a pre-planned re-release). In either case, the overriding intent is to ensure operational control personnel, including flight crews, have access to the most current and accurate information available. Access to such information is typically necessary to

ensure flights do not proceed beyond the last possible point of diversion to an en route alternate airport (appropriate for the aircraft type) and continue to the destination when, in the opinion of either the PIC or, in a shared system of operational control, the PIC and FOO it is unsafe to do so.

The ETU for an airport of intended landing is normally determined in accordance with the type of operational control system and requirements of the State:

- In a non-shared system of operational control, the ETU is typically expressed as a time margin (e.g. one hour before to one hour after the ETA at the alternate airport);
- In a shared system of operational control, the ETU is typically considered to be a specific point in time coupled with a requirement to ensure the alternate airport remains at or above appropriate minima for the duration of the flight.

Information that would be useful in determining whether a landing can be made at the destination or any required alternate is typically related to:

- Meteorological conditions, both en route and at the airport of intended landing, to include hazardous phenomena such as thunderstorms, turbulence, icing and restrictions to visibility.
- Field conditions, such as runway condition and availability and status of navigation aids.
- En route navigation systems and facilities status, where possible failures could affect the safe continuation or completion of the flight.
- En route fuel supply, including actual en route consumption compared to planned consumption, as well as the impact of any changes of alternate airport or additional en route delays.
- Aircraft equipment that becomes inoperative, which results in an increased fuel consumption or a performance or operational decrement that could affect the flight crew's ability to make a safe landing at an approved airport.
- Air traffic management concerns, such as re-routes, altitude or speed restrictions and facilities or system failures or delays.
- Security concerns that could affect the routing of the flight or its airport of intended landing.

Refer to Table 2.2 found in ISM Section 2 (FLT) for OM documentation requirements.

DSP 3.6.5B

If the Operator selects and specifies en route alternate airports on the OFP, the Operator shall have guidance and procedures to ensure en route alternate airports selected and specified on the OFP are available for approach and landing, and the forecast at those airports is for conditions to be at or above the operating minima approved for the operation at the ETU. **(GM)**

Auditor Actions

- ☐ **Identified** requirement for selection of en route alternate airports.
- ☐ **Identified/Assessed** guidance/procedures for selection/designation of en route alternate airports (focus: flight planning includes assessment/selection/designation on OFP of en route alternate airports with conditions that will permit approach/landing at ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: specification of en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: monitoring of en route airports conditions/information during flight).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for the operator to have a methodology to protect a diversion *should* a situation occur that may require an aircraft to divert while en route. For example, such a methodology typically includes ensuring that operational control personnel and pilots are knowledgeable about diversion airport alternates, applicable meteorological conditions, and have the means to obtain information related to the availability of en route alternates.

One way to ensure a reasonable certainty that the weather conditions at a required en route alternate will be at or above operating minima approved for the operation is through the application and use of planning minima (at the planning stage) as specified in DSP 3.2.9C. This is done to increase the probability that a flight will land safely after a diversion to an en route alternate airport.

The ETU for an en route alternate airport is typically understood to be the earliest to the latest possible landing time at that airport.

△ Refer to Subsection 4.5 for provisions that specify the additional steps necessary to protect an en route alternate airport when aircraft are engaged in operations beyond 60 minutes (from a point on a route to an en route alternate airport) or ETOPS/EDTO.

DSP 3.6.5C

The Operator shall have procedures to ensure that the inadequacy of any facilities observed during the course of flight operations is reported to the responsible authority without undue delay, and to further ensure that information relevant to any such inadequacy is immediately disseminated to applicable operating areas within the Operator's organization. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for identifying/reporting inadequacy of relevant/required facilities during course of flight operations (focus: inadequate facilities reported to responsible authority/communicated to applicable operating areas within organization).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight records (focus: identification/notification of inadequate facilities).
- ☐ **Observed** operational control/flight dispatch operations (focus: procedures for reporting of inadequate facilities observed during flights to applicable authorities/operational areas of organization).
- ☐ **Other Actions** (Specify)

Guidance

The specifications of this provision address situations when operational control personnel learn of the inadequacy of facilities (e.g. navigation aid outages, runway closures) from flight crew reports, ATS, airport authorities or other credible sources. Operational control personnel would be expected to convey any safety-critical outages to applicable authorities and relevant operational areas within the organization.

Applicable authorities include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

3.7 Emergency Response

DSP 3.7.1

If the Operator conducts international flights with aircraft that have emergency and survival equipment on board, the Operator shall ensure the availability of information for immediate communication to rescue coordination centers that describes such equipment, to include, as applicable:

(i) The number, color and type of lifesaving rafts and pyrotechnics;

(ii) Details of emergency medical and water supplies;

(iii) Type and frequencies of the emergency portable radio equipment. **(GM)**

Auditor Actions

- ☐ **Identified** aircraft used for international flights that have emergency/survival equipment on board.
- ☐ **Identified/Assessed** availability of information that describes onboard emergency/survival equipment for the purpose of communication to rescue coordination centers in the event missing

aircraft (focus: definition of required information to be communicated; responsibility for communication).

- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to communicate emergency/survival equipment information to SAR centers).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of International Flight.

The intent of this provision is for an operator to have published information that describes the emergency and survival equipment carried on board aircraft engaged in international operations, and to have such information readily available when necessary for immediate communication to search and rescue (SAR) facilities.

DSP 3.7.2

△ The Operator shall have guidance and procedures to ensure FOO, FOA or other designated personnel:

(i) Notify the appropriate authority in the quickest manner of any accident involving an aircraft that results in a fatal or serious injury to any person or substantial damage to the aircraft or property;

(ii) Make position information of a flight in distress available to the appropriate organizations as established by the State. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for notification to appropriate authority in event of accident resulting in serious injury/substantial damage (focus: procedures/responsibility for providing timely accident notification).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: preparedness to provide accident notification to the appropriate authority).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Autonomous Distress Tracking (ADT)

△ The intent of this provision is to ensure applicable operational control personnel provide timely aircraft accident notification or position information of a flight in distress to the appropriate authority by designated personnel using the system specified in DSP 1.4.2 and if applicable, the specifications of ORG 1.7.11.

☐ Position information of an aircraft in distress aims at establishing, to a reasonable extent, the location of a potential accident site within a 6 NM radius.

☐ Descriptive information relevant to an aircraft in distress may be found in Table 4.12 (xxx) located in ISM Section 4 (MNT).

DSP 3.7.3

If the Operator transports dangerous goods as cargo, the Operator shall ensure FOO, FOA and/or other designated operational control personnel:

(i) Have access to the same information pertaining to dangerous goods carried as cargo on board the aircraft that is provided to the PIC;

(ii) Are assigned the responsibility to provide detailed information without delay about dangerous goods carried as cargo to emergency services responding to an accident or serious incident involving the Operator's aircraft. **(GM)**

Auditor Actions

- ☐ **Identified** authority for transport of dangerous goods as cargo.
- ☐ **Identified/Assessed** guidance/procedures for notification to emergency services responding to an aircraft accident (focus: procedures/responsibility for providing timely dangerous goods information).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: access to same dangerous goods information as provided to PIC; preparedness to provide dangerous goods information in event of accident).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Dangerous Goods Regulations (DGR) and NOTOC (Notification to Captain).

The intent of this provision is to ensure:

- Applicable operational control personnel have access to the same dangerous goods information that has been provided to the PIC;
- The operator assigns an operational control person the responsibility to provide specific information regarding onboard dangerous goods to emergency services personnel that are responding to an accident or serious incident involving the operator's aircraft.

An operator, in accordance with requirements of the Authority, typically develops guidance related to the transport of dangerous goods based on technical information from one or more source reference documents, to include:

- IATA Dangerous Goods Regulations (DGR);
- An equivalent dangerous goods manual, dangerous goods emergency response guide or other reference document approved or accepted by the Authority for the development of flight crew guidance related to the transportation of dangerous goods by air.

The dangerous goods information provided to the PIC is specified in GRH 3.3.4 located in ISM Section 6.

4 Operational Control Requirements and Specifications

General Guidance

△ Operators are increasingly reliant on the use of variations, including Operational Variations approved by the Authority. Such alternative means of compliance allow for greater operational flexibility without degrading the safety performance of an operational activity. This presumption is dependent on the presence of specific organizational and operational capabilities, the results of SRM activities and the determination of acceptable standards of safety performance.

△ Certain provisions in sub-sections 4.1, 4.3, and 4.5 contain a variation option applicable only to those operators that use SRM processes to support conformity with selected alternate airport selection, fuel planning and/or EDTO ISARPs. These options are typically presented as alternatives to one or more “prescriptive” specifications of the parent provision.

△ In order to take advantage of any variation, including Operational Variations approved by the Authority, operators would have the resources necessary to analyze operational hazards, manage the associated safety risks and achieve target levels of safety performance. These processes are typically attributed to the implementation of a safety management system (SMS).

☐ The determination that operators will be able to reach a target level of safety performance necessary to ensure safety is dependent on numerous organizational and operational capabilities that typically include, but are not limited to, those that are compiled in the following table.

☐ ***Note:*** *The table is provided as guidance material and does not introduce new requirements or specifications. It should be used as an aid in evaluating an operator's ability to achieve conformity with the eligible provisions contained in this subsection.*

Organizational and Operational Capabilities	Description
△ **Organizational and Operational Process Management and Control** Operators typically possess the requisite knowledge, skills, experience, resources and technologies necessary to implement and oversee the many systems and processes required to use variations, including Operational Variations approved by the Authority.	This is demonstrable organizational and operational process management and control that is dependent on robust subordinate or related processes including: • The development of policy and procedure; • The staffing of positions with an appropriate number of qualified personnel; • Training to the operator's policy and procedure and to ensure personnel remain competent and qualified; • Implementation or the demonstration of performance in accordance with policy and procedure; • Data reporting, measurement and analysis for the purpose of monitoring the effectiveness and efficiency of systems, processes, policies and/or procedures; • An adjustment component or subsystem to respond to any underperformance or deviation and for the purpose of continuous improvement.
△ **Specific Operational Capabilities** (operational control, aircraft, airport, infrastructure and meteorological)	These are the key operator capabilities necessary to support operational activities related to alternate selection, fuel planning and/or ETOPS/EDTO including: • Operational control systems and standard operating procedures that provide the direction for the conduct of flight operations; • Ground-based and airborne tools and technologies to improve situational awareness and operational capability; • Flight monitoring that encompasses the activities necessary to effectively exercise operational control; • Field condition monitoring at the destination, en route, en route alternate and destination alternate airports (as applicable) nominated for use by the flight up until the flight is no longer dependent on the use of the applicable airports • Rapid and reliable communication capabilities; • Weather reporting and monitoring capability.

Organizational and Operational Capabilities	Description
△ **(Tactical) SRM processes** (specific to the development and use of variations, including Operational Variations approved by the Authority)	SRM processes interface with the internal system of production (related to a specific system or process) for data reporting, measurement and analysis, as well as other organizational systems. These include the interfaces with SMS and Quality systems to ensure operational systems and processes are subjected to the organization's overarching safety and quality assurance processes, and: • Appropriate data from many sources are isolated and extracted; • Reports from operational personnel are collated and analyzed; • Feedback and control references are provided against which hazard analysis and consequence management can be measured; • Material is provided for root cause and safety trend analysis; • Data are collected relevant to the mitigation of safety risks; • Identification and analysis of applicable hazards; • Assessment, control and of resultant safety risks.
△ **An Oversight Component** (safety performance monitoring and measurement)	This is the monitoring and measurement of safety performance through appropriate safety performance measures that continuously track system safety performance as necessary to determine whether an operator's system is truly operating in accordance with design expectations.

☐ Refer to the IRM for the definition of Safety Risk Management (SRM).

△ The variation options in the applicable sub-section 4 provisions allow for alternative means of compliance so long as hazards are identified and safety risk assessment processes are used to ensure safety risks are mitigated or controlled to an acceptable level

△ The applicable sub-section 4 provisions are also designed to ensure the operator possesses the capabilities to sustain demonstrable levels of safety performance that are acceptable to the State and the operator.

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4.1 Alternate and Isolated Airports

DSP 4.1.1

The Operator shall have a system, process and/or procedures for alternate airport selection to ensure an appropriate takeoff alternate airport is selected and specified on the OFP whenever:

(i) The meteorological conditions at the airport of departure are below the applicable airport operating landing minima, *and/or*

△ (ii) Other operational conditions exist, as defined by the State or the Operator, that would preclude a return to the departure airport. **(GM)**

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to takeoff alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

- ☐ **Identified/Assessed** system/process/procedures for takeoff alternate airport selection (focus: flight planning includes assessment/selection/designation on OFP of takeoff alternate airport when meteorological/other conditions preclude flight return to departure airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: designation of takeoff alternate airport).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for selection of takeoff alternate airports).
- △ ☐ **Coordinated** with FLT auditor(s) (focus: complementary process for selection/designation of takeoff alternate airport).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

- ☐ ☐ **Identified** applicable variation(s) used for takeoff alternate airport selection (focus: differences from any basic requirements specified in the provision).
- ☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Operational Variations.

The intent of this provision is to ensure a methodology exists for the selection and specification of takeoff alternate airports when required. The selection of such airports is typically intended to address an operational condition (e.g. an emergency during or immediately after takeoff) that would require the flight crew to land the aircraft as soon as practicable. Accordingly, the applicable operating landing minima specified in the provision would typically refer to the minimum ceiling and/or visibility/runway visual range for landing with an engine inoperative as established by the operator.

Takeoff alternates are typically selected during the planning stage but may be selected after flight commencement when necessary via radio, ACARS, or any other communication means acceptable to the operator and the State.

The appropriateness of an airport for selection as a takeoff alternate is dependent on many factors including, but not limited to, the operational conditions specified in DSP 3.2.8.

An operator may use a system, a process or procedures alone or in any combination in order to fulfill operational requirements related to the selection of takeoff alternate airports. In all cases, however, the robustness of any methodologies used for takeoff alternate airport selection is commensurate with the breadth and complexity of the operation.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to alternate airport selection are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;
- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

☐ Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.1.2

The Operator shall have a system, process, and/or procedures for alternate airport selection to ensure a takeoff alternate airport selected in accordance with DSP 4.1.1 is located within a specified flying time from the airport of departure as follows (as applicable to the Operator):

(i) For aircraft with two engines, not more than one hour flying time from the airport of departure calculated at the single-engine cruise speed, determined from the aircraft operating manual in ISA and still air conditions using the actual takeoff mass.

(ii) For aircraft with three or more engines, not more than two hours flying time from the airport of departure calculated at the all-engine operating cruise speed, determined from the aircraft operating manual in ISA and still air conditions using the actual takeoff mass.

(iii) For aircraft engaged in ETOPS/EDTO, where an alternate airport meeting the flight time criteria of i) or ii) is not available, the first available alternate airport located within the maximum diversion flying time approved for the Operator considering the actual takeoff mass. **(GM)**

Note: *Pre-existing approved ETOPS/EDTO calculations for the determination of threshold distances substantially similar to those specified in items i), ii) or iii) may be used to conform with maximum diversion flight time calculations. For example, operators may be authorized by the State to define diversion distances for each aircraft type, rounded up to easily recalled figures, that are based on maximum certificated takeoff mass or on takeoff masses largely representative of those used in operations.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to takeoff alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

△ ☐ **Identified** operator procedures for designating takeoff alternate airports on the OFP.

☐ **Identified/Assessed** system/process/procedures for selection/designation of a takeoff alternate airport located a specified distance in flying time from the departure airport (focus: flight planning takes into account regulatory/operational conditions/requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the takeoff alternate process are defined).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected OFPs (focus: designation of takeoff alternate airport in accordance with relevant factors).

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- ☐ **Observed** operational control/flight dispatch operations (focus: process for selection/designation of takeoff alternate airports).

△ ☐ **Coordinated** with FLT auditor(s) (focus: complementary distance criteria for selection/designation of takeoff alternate airport).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐ ☐ **Identified** applicable variation(s) used for takeoff alternate airport selection (focus: differences from any basic requirements specified in the provision).

☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).

- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to address the safety risks associated with continuing a flight to an alternate airport when a landing as soon as practicable is warranted, but a return to the airport of departure immediately after takeoff is not possible. As a practical matter, and to limit the exposure to such risks, this requires the operator to calculate the maximum diversion flight time for each aircraft type to ensure a takeoff alternate, when required, will be located within a prescribed flight time from the airport of departure.

An operator may use a system, process, and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies used for takeoff alternate airport selection is commensurate with the breadth and complexity of the operation.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to alternate airport selection are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;
- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

☐ Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.1.4

The Operator shall have a system, process and/or procedures for alternate airport selection that takes into account meteorological conditions and relevant operational information to ensure a minimum of one destination alternate airport is specified on the OFP and the ATS flight plan, except under one or more of the following conditions (as approved or accepted by the Authority based on the operations of the Operator):

(i) When, based on the duration of the flight (from the departure airport, or from the point of in-flight re-planning to the destination), there is reasonable certainty that, at the ETU of the destination airport:

△ (a) The approach and landing may be made under visual meteorological conditions (VMC), as defined by the State; and

(b) Separate runways are usable with at least one runway having an operational instrument approach procedure.

(ii) When, based on the duration of the flight (from the departure airport, or from the point of in-flight re-planning to the destination airport), there is reasonable certainty that, at the ETU of the destination airport, the visibility will be at least 3 miles (5 km) **and** the ceiling will be at or above one or more of the following prescribed heights, (as approved or accepted by the Authority based on the operations of the Operator):

(a) The ceiling height for VMC, as defined by the State, or

(b) 1,500 feet above the lowest (*TERPS*) circling MDA, if a circling approach is required and authorized for that airport, or

(c) 2,000 feet or 500 feet above the (*PANS-OPS*) circling height, whichever is greater, or

(d) 2,000 feet or 1,500 feet above the lowest applicable HAT/HAA, whichever is greater. **(GM)**

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7.*

Note: *Conformity with item ii) requires the definition of the ceiling and visibility expected at the ETU of the destination airport. Other determinants such as flight time (e.g. 6 hours) or the availability of separate runways may also be used to further limit the instances when a flight may depart without nominating a destination alternate but are not required to achieve conformity with item ii).*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to destination alternate airport selection criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

△ ☐ **Identified** regulatory requirements (including AMC) and exceptions for designation of a minimum of one destination alternate airport.

☐ **Identified/Assessed** system/process/procedures for selection of a minimum of one destination alternate airport (focus: flight planning takes into account regulatory/operational conditions/ requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the destination alternate airport selection process are defined).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected OFPs/ATS flight plans (focus: designation of destination alternate airport in accordance with relevant factors).

⊗

☐ **Observed** operational control/flight dispatch operations (focus: process for selection/designation of destination alternate airport).

△ ☐ **Coordinated** with FLT auditor (focus: complementary distance criteria for selection/designation of a minimum of one destination alternate airport).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐ ☐ **Identified** applicable variation(s) used for destination alternate airport selection (focus: differences from any basic requirements specified in the provision).

☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Domestic Flight, Isolated Airport, PANS-OPS and TERPS, and for the abbreviations HAT and HAA.

The principal intent of this provision is to address the safety risks associated with unavailability of the destination airport. As a practical matter this is typically accomplished by the selection and specification of alternate airports in accordance with the technical specifications of the provision and/or to otherwise ensure, to the extent reasonably practicable, that an airport of intended landing will be available to a flight at the ETU.

Item i) identifies the basic operational specifications for alternate airport selection, although an operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformance with the intent of the entire provision. Individual conformity with items i) and ii) is "as approved or accepted by the Authority based on the operations of the Operator" and dependent on many factors including the regulatory environment and the type of operations conducted.

The ETU is typically defined as one hour before to one hour after the estimated time of arrival at the destination airport.

Isolated airport operations, by definition, preclude the designation of a destination alternate airport and are conducted in accordance with the planning specifications of DSP 4.1.7 and the fuel specifications of DSP 4.3.11.

For the purposes of item ii), separate runways are two or more runways at the same airport configured such that if one runway is closed, operations to the other runway(s) can be conducted.

Applicable authorities typically include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

The operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies used for destination alternate airport selection is commensurate with the breadth and complexity of the operation.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to alternate airport selection are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following.

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;
- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

☐ Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.1.5

The Operator shall have a system, process and/or procedures for alternate airport selection that takes into account meteorological conditions and relevant operational information to ensure a second destination alternate airport is specified on the OFP and the ATS flight plan under *one or more* of the following conditions (as approved or accepted by the Authority based on the operations of the Operator):

(i) When, for the destination airport, meteorological conditions at the ETU will be below the Operator's established airport operating minima.

(ii) When, for the destination airport, meteorological information is not available (unless the Authority will not permit the initiation of a flight in the absence of such information).

(iii) If the Operator conducts operations to airports with “marginal” meteorological conditions as defined in the OM, when, for such operations, the meteorological conditions at the ETU of the destination *and* first alternate airports will be marginal.

(iv) If the Operator conducts extended over-water operations as defined in the OM, when, for such operations, the meteorological conditions at the ETU of the destination airport will be below the Operator's established operating minima for that operation, *unless* there is a reasonable certainty that the first alternate airport will be at or above the Operator's established operating minima at the ETU. **(GM)**

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to destination alternate airport selection criteria provided each variation is subjected to the Operator’s SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained*

Auditor Actions

⊗

- ☐ **Identified/Assessed** system/process/procedures for selection of a second destination alternate airport (focus: flight planning takes into account regulatory/operational conditions/ requirements/factors applicable to the operator/flight; such conditions/requirements/factors that are considered/assessed in the destination alternate airport selection process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs/ATS flight plans (focus: designation of second destination alternate airport in accordance with relevant factors).

⊗

- ☐ **Observed** operational control/flight dispatch operations (focus: system/process for selection/designation of second destination alternate airport).
- △ ☐ **Coordinated** with FLT auditor(s) (focus: complementary criteria for selection/designation of second destination alternate airport).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐
- ☐ **Identified** applicable variation(s) used for destination alternate airport selection (focus differences from any basic requirements specified in the provision).

☐
- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐

- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

The principal intent of this provision is to address the safety risks associated with lack of weather reporting for the destination airport or its unavailability at the ETU due to the prevailing meteorological conditions. As a practical matter this may be accomplished by the selection and specification of a second alternate in accordance with the technical specifications of the provision and/or to otherwise ensure, to the extent reasonably practicable, that an airport of intended landing will be available to a flight at the ETU.

An operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformity with the intent of the entire provision. Individual conformity with items i) through iv) is "as applicable to the operator" and dependent on many factors including the regulatory environment and the type of operations conducted.

Isolated airport operations, by definition, preclude the designation of any destination alternate airport and are conducted in accordance with the planning specifications of DSP 4.1.7 and the fuel specifications of DSP 4.3.11.

The specifications in ii) define a condition that triggers the selection and specification of a second destination alternate except in cases when the operator is not authorized to depart in the absence of any destination weather information. In such cases, the Authority may authorize departures without nominating a second destination alternate if, for example:

- The FOO and flight crew obtain and consider those weather reports and forecasts which are available;
- The FOO and flight crew ensure adequate contingency plans (such as extra fuel) are available to deal with an unfavorable change in conditions.

The term "marginal" as used in item (iii) is typically not defined by regulation. This, to some extent, is because the definition of what constitutes "marginal" depends on the nature of the meteorological conditions present, the type of operation being conducted and the capabilities of the airborne and ground-based equipment available. In any case, an operator, in order to conform to item iii) must clearly define the term including the conditions under which a second alternate is required.

The specifications in item iii) are typically applicable to flights conducted between airports within the territories of one nation or country, or between nearby countries as approved or accepted by the applicable authorities.

The specification in item iv) is applicable if the term "extended overwater operations" is defined by regulation of the State and by the operator. Such term is typically defined as an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline.

An operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the selection of alternate airports. In all cases, however, the robustness of any methodologies for destination alternate airport selection is commensurate with the breadth and complexity of the operation.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to alternate airport selection are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall capability of the aircraft and its systems;
- Available airport technologies, capabilities and infrastructure;
- Quality and reliability of meteorological information;

- Identified hazards and safety risks associated with each alternate aerodrome variation; and
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

☐ Examples of variations related to the selection of alternate airports are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.1.7

If the Operator conducts isolated airport operations that preclude the selection of any destination alternate airport in accordance with DSP 4.1.4 or 4.1.5, the Operator shall have a process to ensure, for each flight into an isolated destination airport:

(i) The designation of a point of safe return (PSR);

(ii) The flight does not continue past the PSR unless a current assessment of meteorological conditions, traffic, and other operational conditions indicate that a safe landing can be made at the ETU. **(GM)**

Auditor Actions

- ☐ **Identified** operations to isolated airport that preclude selection/designation of destination alternate airports.
- ☐ **Identified/Assessed** process/procedures for designation/use of PSR in the conduct of isolated airport flights (focus: flight planning includes computing/designating PSR for each isolated airport flight; procedures for monitoring/assessing conditions during flight to allow/disallow flight continuation past PSR to destination airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected flight records (focus: designation/use of PSR for isolated airport flights).
- ☐ **Observed** operational control/flight dispatch operations (focus: process for designation of PSR for isolated airport flights; ensuring safe destination conditions for flight continuation past PSR).
- ☐ **Coordinated** with FLT auditor (focus: complementary PSR procedures for isolated airport flights).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Isolated Airport and Point of Safe Return (PSR).

The intent of this provision, in combination with the fuel carriage requirements specified in DSP 4.3.11, is the mitigation of some risks associated with operations to those airports that preclude the selection of a destination alternate and, in addition, the creation of awareness among operational control personnel and the PIC as to the actual position of the PSR and the conditions necessary to continue beyond the PSR to the isolated airport.

For the purposes of this provision, an airport is considered isolated when there is no destination alternate appropriate for a given aircraft type within a prescribed flight time from the destination. A destination airport is typically considered isolated by the Authority when the fuel required to go-around from Decision Altitude/Height (DA/H) or the Missed Approach Point (MAP) at the destination airport and then divert to the nearest alternate exceeds, for a turbine engine aircraft, the fuel required to hold at the destination airport for two hours including final reserve fuel.

In the context of isolated airport operations, a PSR is the point of last possible diversion to an en route alternate. The specification in item i) requires that a PSR is to be determined for each flight to an isolated airport. While this point can be calculated and specified on the OFP at the planning stage, such a calculation does not typically take into account any discretionary fuel, or the real-time changes in fuel consumption that will occur after departure.

Therefore, since the PSR will typically be reached later in the flight than the point originally calculated in the OFP, an operator would normally provide practical instructions so that operational control personnel and the flight crew can calculate or determine the actual position of the PSR.

The Final Decision Point used in Decision Point Planning or the Pre-determined Point used in Pre-determined Point planning may be used to meet the intent of this specification in lieu of a specific PSR.

Guidance for planning operations to isolated airports, including the determination of a PSR, may be found in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

4.2 Minimum Flight Altitudes and En Route Performance

DSP 4.2.2

The Operator shall have guidance and procedures to ensure provision of an OFP such that, if the most critical engine on an aircraft with two engines become inoperative at any point along the planned route of flight, the aircraft can continue to an airport and land safely without flying below the minimum flight altitude(s) at any points along the route. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for consideration of en route critical engine failure for flights conducted by two-engine aircraft (focus: flight planning takes into account critical engine failure/flight diversion at any point on planned route without flying below minimum altitudes; designated en route alternates shown on OFP).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: planned route of flight/en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: process that ensures OFP route for two-engine aircraft permits, in case of critical engine failure at any point, flight to proceed to an airport above minimum altitudes).
- ☐ **Coordinated** with FLT auditor (focus: complementary criteria for consideration of en route critical engine failure/selection of en route alternate airports).
- ☐ **Other Actions** (Specify)

Guidance

Operational flight planning normally includes a review of the route of the flight in conjunction with published aeronautical and terrain data to ensure compliance with the minimum flight altitudes defined by the operator and/or applicable authorities. The specifications of this provision typically require a minimum amount of terrain clearance, specified by the operator and/or applicable authorities along the route of flight to assure continued safe flight and landing.

Applicable authorities include those authorities that have jurisdiction over international operations conducted by an operator over the high seas or the territory of a state that is other than the State of the Operator.

4.3 Fuel Planning

DSP 4.3.1

The Operator shall have a system, process and/or procedures to ensure an aircraft carries a sufficient amount of usable fuel to complete each planned flight safely and allow for deviations from the planned operation. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system/process/procedures for fuel planning for all flights (focus: flight planning takes into account possible deviations from planned operation in calculating usable fuel for safe completion of flight).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: fuel load meets/exceeds minimum required departure/dispatch fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures that ensure sufficient usable fuel for safe flight completion taking into account unplanned deviations).

- ☐ **Coordinated** with FLT auditor (focus: complementary procedures for assessing minimum required fuel).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to define the foundation necessary to support the practical implementation of an operator's fuel policy. It also addresses the baseline criteria to be considered in any methodology used in the determination of total usable fuel required to complete each planned flight safely. Simply put, it requires an operator to use system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the implementation of its fuel policy. In all cases the robustness of any such methodologies is commensurate with the breadth and complexity of the operation and takes into account:

- The aircraft-specific data and operating conditions for the planned operation (see DSP 4.3.2);
- The following components of usable fuel required in accordance with the respective provisions of this sub-section:
  - Taxi fuel (see DSP 4.3.5);
  - Trip fuel in (see DSP 4.3.6);
  - Contingency fuel (see DSP 4.3.7);
- If required (as applicable to each flight):
  - Destination alternate fuel (see DSP 4.3.8 or DSP 4.3.9), or
  - No-alternate fuel (see DSP 4.3.10), or
  - Isolated airport fuel (see DSP 4.3.11).
- Final reserve fuel (see DSP 4.3.12);
- If required, additional fuel (see DSP 4.3.13);
- If requested by the PIC, or the PIC and FOO in a shared system of operational control, discretionary fuel (see DSP 4.3.14).

Some regulatory authorities or operators may classify destination alternate fuel, no alternate fuel and Isolated airport fuel under the common heading of “Alternate Fuel” in regulations and/or flight planning systems.

It is important for operational control personnel and the flight crew to have a clear and common understanding of the terms used in the operator's fuel policy, as such understanding is the key to successful flight planning and completion. Equally important is the notion that differences in terminology may exist from operator to operator. Regardless of the terms used, however, an operator can conform to the provisions of this sub-section if the pre-flight computation of usable fuel is substantially equivalent, allocates fuel in a similar fashion, and has the components that, when combined, result in an equivalent or greater amount of fuel.

Fuel calculations are typically made by a flight crew member, a Flight Operations Officer/Flight Dispatcher (FOO), or both.

Guidance on the organizational and operational systems and processes related to the implementation of fuel policy is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.2

The Operator shall have a system, process and/or procedures to ensure the amount of usable fuel to be carried on an aircraft in accordance with DSP 4.3.1 is, as a minimum, based on the following data and operating conditions for each planned flight:

(i) Current aircraft-specific data derived from a fuel consumption monitoring program, if available, or if current aircraft-specific data is not available, data provided by the aircraft manufacturer;

(ii) The anticipated aircraft mass;

(iii) Notices to Airmen (NOTAM);

(iv) Current meteorological reports, or a combination of current reports and forecasts;
(v) Applicable air traffic services procedures, restrictions and anticipated delays;
(vi) The effects of deferred maintenance items and/or configuration deviations;
(vii) Any other conditions that might cause increased fuel consumption. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system/process/procedures for planning sufficient usable fuel for safe completion of all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased fuel consumption; such operating data/conditions that are considered/assessed in usable fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** fuel policy (focus: guidance for calculation of minimum required departure/dispatch fuel).
- ☐ **Examined** selected OFPs (focus: operating factors considered as basis for required departure/dispatch fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures that ensure planned flight usable fuel is based on all relevant data/operating conditions).
- ☐ **Coordinated** with FLT auditor (focus: complementary procedures for assessing minimum required fuel).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of NOTAM (Notice to Airmen).

The intent of this provision is to define the aircraft-specific data, manufacturer data, operating conditions and other factors that would be considered by an Operator during the pre-flight computation of the total usable fuel required for a planned flight. When considered in combination with DSP 4.3.1, this provision helps to form the basic foundation for the means to complete the pre-flight calculation of usable fuel.

The specification in item i) refers to the process for ensuring actual aircraft fuel use approximates planned fuel use within an acceptable margin of error. This is practically accomplished by comparing the achieved in-flight performance of an aircraft to its predicted performance. Variations between the achieved performance and the predicted performance will result in a variation of the rate of fuel consumption which is typically accounted for by the operator during flight planning and in flight.

An operator may use a system, process and/or procedures alone or in any combination in order to fulfill operational requirements related to the implementation of fuel policy. In all cases, however, the robustness of any such methodologies is commensurate with the breadth and complexity of the operation.

Guidance on fuel planning including guidance related to the creation and maintenance of fuel consumption monitoring programs is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.5

The Operator shall have a process and/or procedures to ensure the taxi fuel required in accordance with its fuel policy is the amount of fuel estimated to be consumed before takeoff, taking into account local conditions at the departure airport and auxiliary power unit (APU) fuel consumption. **(GM)**

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of taxi fuel for all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased taxi fuel consumption; such operating data/conditions that are considered/assessed in taxi fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: operating data/conditions used as basis for taxi fuel).

⊗

- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned taxi fuel).

△

- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing taxi fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).

☐

- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐

- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the accurate computation of taxi fuel in order, to the extent reasonably practicable, protect the remaining elements in the useable fuel equation. To achieve this aim, the computation of taxi fuel would take into account foreseeable taxi conditions and delays in order to result in an amount of fuel generally equal to or greater than the actual taxi fuel consumed before takeoff.

It is important to note that every usable fuel calculation typically takes into account unforeseen as well as foreseen deviations from the planned operation. Unforeseen taxi delays, for example, may be addressed by the use of Statistical Taxi Fuel, the uplift of discretionary fuel when deemed necessary by the PIC, or the partial consumption of contingency fuel. Consuming contingency fuel during taxi, however, would be carefully considered as its use on the ground may leave the flight crew with fewer options, once airborne, to compensate for other unforeseen factor(s).

☐ Operators using a variation to determine taxi fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust taxi times to ensure continuous improvement in preflight taxi fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

(i) Flight fuel calculations;
(ii) Capabilities of the operator;
(iii) Capabilities of the data-driven method used for determining usable fuel required;
(iv) Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
(v) Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Guidance on fuel planning, including pre-flight fuel calculation examples, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.6

The Operator shall have a process and/or procedures to ensure the trip fuel required in accordance with its fuel policy is the amount of fuel required to enable the aircraft to fly from takeoff, or from the point of in-flight re-planning, until landing at the destination airport taking into account the operating conditions specified in DSP 4.3.2. **(GM)**

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of trip fuel for all flights (focus: flight planning takes into account operating data/conditions that might cause/lead to increased trip fuel consumption; such operating data/conditions that are considered/assessed in trip fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: operating data/conditions used as basis for trip fuel).

⊗

- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned trip fuel).

△

- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing trip fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).

☐

- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐

- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the accurate computation of trip fuel in order, to the extent reasonably practicable, ensure that the total planned trip fuel burn is greater than or equal to the actual trip fuel burn.

The specifications of this provision define trip fuel for preflight planning and in-flight re-planning purposes, as well as to form the basis for the computation of other fuel amounts (e.g., contingency fuel, additional fuel). In this context, trip fuel is typically computed from either the departure airport or the point of in-flight re-planning until landing at the destination airport taking into account the operating conditions of DSP 4.3.2. In the case of in-flight re-planning (planned or unplanned), the intent of this provision is for the operator to reconsider (re-compute) the trip fuel required from the re-planning point to the commercial (actual) destination.

△ Operators using a variation to determine trip fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust taxi times to ensure continuous improvement in trip fuel calculations.

△ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

△ Variations to fuel planning criteria are typically approved or accepted by the State.

△ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

(i) Flight fuel calculations;

(ii) Capabilities of the operator;

(iii) Capabilities of the data-driven method used for determining usable fuel required;

(iv) Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;

(v) Specific mitigation measures.

△ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Guidance on fuel planning, including pre-flight fuel calculation examples, is contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.7

The Operator shall have a process and/or procedures to ensure the contingency fuel required in accordance with its fuel policy is the amount of fuel required to compensate for unforeseen factors that could have an influence on the fuel consumption to the destination airport. Contingency fuel shall *not be lower than any one or more* of the following (as approved or accepted by the Authority based on the operations of the Operator):

(i) Five (5) percent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel, but never lower than the amount required to fly for five (5) minutes at holding speed at 450 m (1,500 ft) above the destination airport in standard conditions.

△ (ii) If approved or accepted by the Authority for domestic operations; an amount of fuel to fly for 45 minutes at normal cruising fuel consumption, including 30 minutes final reserve.

△ (iii) If approved or accepted by the Authority for international operations, an amount of fuel to fly for 10 percent of the total time required to fly from the airport of departure or the point of in-flight re-planning to, and then land at, the airport to which it was released or re-released.

△ (iv) If approved or accepted by the Authority for the purpose of reducing contingency fuel, not less than three (3) percent of the planned trip fuel or, in the event of in-flight re-planning, three (3) percent of the trip fuel for the remainder of the flight, provided that an en route alternate airport is available in accordance with the requirements of the Authority.

(v) If approved or accepted by the Authority based on actual fuel consumption data, an amount of fuel sufficient for 20 minutes flying time based upon the planned trip fuel consumption provided that the operator has established a fuel consumption monitoring program for individual aircraft and uses valid data determined by means of such a program for fuel calculation.

□ (vi) If approved or accepted by the Authority, an amount of fuel based on a statistical method that ensures an appropriate statistical coverage of the deviation from the planned to the actual trip fuel. This method is used to monitor the fuel consumption on each city pair/aircraft combination and the Operator uses this data for a statistical analysis to calculate contingency fuel for the applicable city pair/aircraft combination. **(GM)**

△ ***Note:*** *Contingency fuel in accordance with item (iv), (v) and (vi) can never be lower than the amount of fuel required to fly for five (5) minutes at holding speed at 450 m (1,500 ft) above the destination airport in standard conditions.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

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Auditor Actions

- □ **Identified/Assessed** process/procedures for calculation of contingency fuel for all flights (focus: flight planning takes into account unforeseen operating factors that might cause/lead to increased fuel consumption to the destination airport; such operating factors that are considered/assessed in contingency fuel calculation process are defined; minimum contingency fuel amount in accordance with regulatory requirements is defined).
- □ **Interviewed** responsible operational control manager(s).
- □ **Examined** selected OFPs (focus: operating factors used as basis for contingency fuel).

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- □ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned contingency fuel).
- △ □ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing contingency fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

- □ □ **Identified** variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).
- □ □ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- □ □ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- □ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure fuel is allocated to compensate for unforeseen factors that could influence fuel burn to the destination airport. Such factors include, for example, deviations of an individual aircraft from expected fuel consumption data, forecast meteorological conditions expected taxi times before takeoff or planned routings and cruising altitudes/levels.

From a safety risk management perspective, contingency fuel is used to mitigate the risks associated with operational factors or hazards that cannot be planned, anticipated, or controlled. The risk associated with the improper calculation or complete consumption of contingency fuel is that of creating a low fuel state or a diversion that could subsequently affect Air Traffic Management (ATM) and other aircraft.

△ It is important to note that differences in fuel computation terminology may exist from operator to operator. For example, required contingency fuel may be a component of other fuel reserves mandated by the Authority. Regardless of the terms used, however, an operator can conform to the provision if the pre-flight computation of usable fuel allocates an equivalent or greater amount of fuel as specified in items i) through vi) and as applicable to the operator in order to compensate for unforeseen factors that could influence fuel burn to the destination airport.

△ An operator may conform to a minimum of one of the numbered specifications of the provision and be in overall conformity with the intent of the entire provision. Individual conformity with items i) through vi), however, is "as approved or accepted by the Authority based on the operations of the Operator" and dependent on many factors including the regulatory environment and the type of operations conducted.

The specification in item ii) protects 15 minutes of contingency fuel plus 30 minutes of final reserve fuel for a combined domestic reserve of 45 minutes.

☐ Operators using variations to determine isolated airport fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of isolated airport fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples related to the computation of contingency fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.8

The Operator shall have a process and/or procedures to ensure, *for flights that require a single destination alternate airport*, the destination alternate fuel required in accordance with its fuel policy is *not lower* than amount of fuel that will enable the aircraft to complete all of the following:

(i) Perform a missed approach at the destination airport;
(ii) Climb to the expected cruising altitude;
(iii) Fly the expected routing to the destination alternate airport;
(iv) Descend to the point where the expected approach is initiated;
(v) Conduct the approach and landing at the destination alternate airport. **(GM)**

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

□ **Identified/Assessed** process/procedures for calculation of destination alternate fuel for flights that require a single destination alternate airport (focus: flight planning takes into account fuel consumption required to divert from destination airport and proceed to/hold/land at alternate airport; diversion flight phases that are considered/assessed in single destination alternate fuel calculation process are defined).

□ **Interviewed** responsible operational control manager(s).

□ **Examined** selected OFPs (focus: factors used as basis for single destination alternate fuel).

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□ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating destination alternate fuel for flights that require a single destination alternate airport).

△ □ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing single destination alternate fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐ ☐ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).

☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the accurate computation of destination alternate fuel when one destination alternate airport is required. Such computation ensures, to the extent reasonably practicable, that the planned fuel burn will be greater than or equal to the actual fuel burn.

From a safety risk management perspective, “destination alternate fuel” is used to mitigate the risks associated with the unavailability of the destination airport. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a low fuel state or a diversion that could subsequently affect Air Traffic Management (ATM) and other aircraft.

☐ Operators using variations to determine additional fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of additional fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of destination alternate fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.9

The Operator shall have a process and/or procedures to ensure, *for flights that require a second destination alternate*, the destination alternate fuel required in accordance with its fuel policy is *not lower* than the amount of fuel, as calculated in accordance with DSP 4.3.8, that enables the aircraft to proceed to the destination alternate airport requiring the greater amount of fuel **(GM)**.

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator’s SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of destination alternate fuel for flights that require a second destination alternate airport (focus: planned isolated airport fuel is the calculated amount that enables flight to proceed from destination and hold/approach/land at the alternate airport requiring the most fuel; diversion flight phases that are considered/assessed in second destination alternate fuel calculation process are defined).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for second destination alternate fuel).

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- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating destination alternate fuel for flights that require a second destination alternate airport).

△

- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing second destination alternate fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: differences from any basic requirements specified in the provision).

☐

- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐

- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the accurate computation of destination alternate fuel when a second destination alternate airport is required. Such computation ensures, to the extent reasonably practicable, that the planned fuel burn will be greater than or equal to the actual fuel burn.

From a safety risk management perspective, “destination alternate fuel” as described in this provision is used to mitigate the risks associated with the unavailability of the destination or first alternate airport. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a diversion or low fuel state that subsequently impacts Air Traffic Management (ATM) and other aircraft.

☐ Operators using variations to determine alternate fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of alternate fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of alternate fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.10

If the Operator conducts flights that do not require a destination alternate airport, the Operator shall have a process and/or procedures to ensure a supplemental amount of fuel is carried on such flights to provide for increased fuel consumption during the flight to the destination airport due to unforeseen operational occurrences. **(GM)**

Note: *The specifications of this provision are not applicable if the contingency fuel calculated in accordance with DSP 4.3.7 is sufficient to enable the aircraft to hold at an altitude of 450 m (1,500 ft) above the destination airport for 15 minutes at the holding speed based on standard conditions.*

Note: *The specifications of this provision are not applicable for flights conducted under isolated airport operations as specified in DSP 4.1.7 and DSP 4.3.11.*

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

- ☐ **Identified/Assessed** process/procedures for addition of supplemental fuel to provide for potential increased fuel consumption for flights that do not require a destination alternate airport (focus: planned supplemental fuel required when contingency fuel is not sufficient to fly at holding speed for 15 minutes at 450 m/1500 ft above destination airport).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: basis for addition of supplemental fuel).

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- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned supplemental fuel for flights that require no destination alternate airport).

△

- ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing second destination alternate fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐

- ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).

☐

- ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐

- ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

From a safety risk management perspective "no-alternate" fuel is intended to mitigate the safety risks associated with the occurrence of unforeseen operational contingencies associated with no-alternate operations. The risk associated with the improper calculation or complete consumption of such fuel is that of creating a low fuel state.

☐ Operators using variations to determine isolated airport fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of isolated airport fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of alternate and contingency fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.11

If the Operator conducts isolated airport operations, the Operator shall have a process and/or procedures to ensure the isolated airport fuel calculated in accordance with its fuel policy is *not less* than the amount of fuel required to fly for two (2) hours at normal cruise consumption above the isolated destination airport, including the final reserve fuel calculated in accordance with DSP 4.3.12. **(GM)**

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

☐ **Identified** conduct of isolated airport operations that preclude selection/designation of destination alternate airports.

☐ **Identified/Assessed** process/procedures for calculation of isolated airport fuel for flights to isolated airports (focus: planned isolated airport fuel is the amount of fuel sufficient to fly for two hours at normal cruise consumption above destination isolated airport, but not less than the greater of final reserve fuel).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected OFPs (focus: factors used as basis for isolated airport fuel).

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☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned isolated airport fuel).

△ ☐ **Coordinated** with FLT auditor(s) (focus: complementary procedures for assessing isolated airport fuel in accordance with fuel policy).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐ ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).

☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure sufficient fuel is uplifted to mitigate the safety risks associated with isolated airport operations conducted in accordance with DSP 4.1.7, and to protect final reserve fuel. As such, final reserve fuel must be computed and protected in accordance with DSP 4.3.12 regardless of the method used to compute "isolated airport fuel"

As a practical matter destination airports are typically considered isolated by an authority when the fuel required to go-around from Decision Altitude/Height (DA/H) or the Missed Approach Point (MAP) at the destination airport and then divert to the nearest alternate exceeds, for a turbine engine aircraft, the fuel required to hold at the destination airport for two hours including final reserve fuel (e.g. 90 minutes hold + 30 minutes Final Reserve).

☐ Operators using variations to determine additional fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of additional fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of the computation of isolated airport fuel are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

△ **DSP 4.3.12**

The Operator shall have a process and/or procedures to ensure the final reserve fuel calculated in accordance with its fuel policy is not less than the amount of fuel required to fly for 30 minutes under speed and altitude conditions specified by the Operator and as approved or accepted by the Authority. **(GM)**

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Auditor Actions

- ☐ **Identified/Assessed** process/procedures for calculation of final reserve fuel for all flights (focus: planned final reserve fuel is an amount that is not less than fuel to fly for 30 minutes at holding speed at 450 m/1500 ft or fuel to fly 30 minutes under speed/altitude conditions approved/accepted by authority).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: factors used as basis for final reserve fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned final reserve fuel).
- ☐ **Coordinated** with FLT auditor (focus: complementary procedures for assessing final reserve fuel in accordance with fuel policy).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the allocation of an amount of fuel to be protected in flight and preserved upon landing at any airport. As such, it represents the last line of defense in a multi-layered strategy to ensure safe flight completion. It also serves as the demarcation line between normal and emergency fuel states for the purposes of the fuel state declarations in accordance with FLT 3.14.17.

△ An operator may define the 30-minute final fuel reserve requirements using speed, altitude and/or other conditions that are in accordance with requirements of the Authority (e.g. 30 minutes at holding speed at 450m/1,500 ft above airport elevation in standard conditions).

DSP 4.3.13

The Operator shall have a process and/or procedures to ensure the additional fuel calculated in accordance with its fuel policy is a supplementary amount of fuel required to be carried when the sum of the trip fuel, contingency fuel, alternate fuel and final reserve fuel is *insufficient* to meet *any one* of the following conditions (as applicable to the Operator):

(i) Allow the aircraft engaged in ETOPS/EDTO to comply with critical fuel scenario as established by the State.

(ii) Allow the aircraft flying greater than 90 minutes from an alternate airport to:

(a) Descend as necessary and proceed to an alternate airport in the event of engine failure or loss of pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route;

(b) Fly for 15 minutes at holding speed at 450 m (1,500 ft) above the alternate airport elevation in standard conditions;

(c) Make an approach and landing at the alternate airport.

△ (iii) Allow for any additional operational requirements, as defined by the State or the Operator, not covered by items i) and ii). **(GM)**

△ ***Note:*** *The Operator may conform with this provision through Operational Variations approved by the Authority or other variations to fuel planning criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Auditor Actions

△ ☐ **Identified/Assessed** process/procedures for calculation of additional fuel for all flights (focus: planned additional fuel is required when the calculated sum of trip fuel/contingency fuel/alternate fuel/final reserve fuel is insufficient to meet defined operational conditions or, if applicable, when calculated using a variation; operational conditions that are considered/assessed to determine requirement for additional fuel are defined).

☐ **Interviewed** responsible operational control manager(s).

☐ **Examined** selected OFPs (focus: factors used as basis for additional fuel).

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△ ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for calculating planned additional fuel when required).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

☐ ☐ **Identified** applicable variation(s) used for fuel planning (focus: deviation from basic ISARP requirements).

☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).

☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).

☐ **Other Actions** (Specify)

Guidance

Basic fuel planning, represented by the sum of the trip fuel, contingency fuel, alternate fuel and final reserve is predicated on the termination of a flight at the destination or destination alternate. As such, it only takes into account foreseen and unforeseen factors (excluding system failures) that could influence fuel consumption to the planned destination or destination alternate. The intent of this provision is to define the "additional fuel" required to protect against the very unlikely event of an engine failure or de-pressurization at the most critical point in the flight and presumes that the majority of the fuel used in basic fuel planning will still be available for use in proceeding to an en route alternate in the event of such an occurrence.

The specification in item i) applies to aircraft engaged in ETOPS/EDTO. It addresses the fuel necessary to comply with the ETOPS/EDTO critical fuel scenario as established by the State of the Operator. Such scenarios typically include additional controls to ensure sufficient fuel is uplifted for conditions that would contribute to increased fuel burn (e.g. to account for icing, errors in wind forecasting, deterioration in cruise fuel burn performance, and APU use).

☐ Operators using variations to determine no-alternate fuel would typically have the demonstrable capability, using historical data collection and analysis tools, to adjust their fuel policy to ensure continuous improvement in the accuracy and adequacy of no-alternate fuel calculations.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to fuel planning criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Flight fuel calculations;
- Capabilities of the operator;
- Capabilities of the data-driven method used for determining usable fuel required;
- Capabilities of the fuel consumption monitoring program used for determining hull-specific fuel burn and/or the advanced use of alternate airports, as applicable;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Examples of additional fuel calculations and critical fuel scenarios are contained in the ICAO Flight Planning and Fuel Management Manual (Doc 9976).

DSP 4.3.14

The Operator shall have a process and/or procedures to provide for the uplift of discretionary fuel in accordance with its fuel policy, which is the extra amount of fuel to be carried at the discretion of the PIC, or the PIC and FOO in a shared system of operational control. **(GM)**

Auditor Actions

- ☐ **Identified** use of FOO in shared operational control system (focus: applicable to FOO/Flight Dispatcher function as defined in Table 3.1).
- ☐ **Identified/Assessed** process/procedures for addition of discretionary fuel for all flights (focus: planned discretionary fuel is designated when requested by PIC or requested by PIC/FOO in shared system of operational control).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected OFPs (focus: basis for addition of discretionary fuel).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures for uplift of discretionary fuel when requested by PIC or PIC/FOO).

- ☐ **Coordinated** with FLT auditor (focus: procedures for calculating/requesting discretionary fuel in accordance with fuel policy).
- ☐ **Other Actions** (Specify)

Guidance

In a shared system of operational control, the PIC and the Flight Dispatcher/Flight Operations Officer (FOO) share the responsibility to ensure operating limitations are not exceeded and sufficient fuel is on board the aircraft to complete the planned flight safely.

4.4 Oxygen

△ 4.5 Operations Beyond 60 Minutes from an En Route Alternate Airport and ETOPS/EDTO

DSP 4.5.1

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have a system, process and/or procedures to ensure such operations are planned and conducted in accordance with operational requirements and applicable regulations. **(GM)**

Auditor Actions

- ☐ **Identified** conduct of flight operations, including ETOPS/EDTO, over routes beyond 60 minutes from alternate airport.
- ☐ **Identified/Assessed** system/process/procedures for planning flights conducted over routes beyond 60 minutes to an alternate airport (focus: flight planning for ETOPS/EDTO takes into account all applicable regulations/requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Observed** operational control/flight dispatch operations (focus: process or procedures to ensure flights operated beyond 60 minutes from an alternate airport are conducted in accordance with applicable requirements).
- ☐ **Other Actions** (Specify)

Guidance

An operator may use a system, process or procedures alone or in combination in order to fulfill operational requirements related to the conduct of operations beyond 60 minutes. In all cases, however, the robustness of any methodologies is commensurate with the breadth and complexity of the operation.

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the conduct of operations beyond 60 minutes, from a point on a route to an en route alternate airport. Such guidance might be derived from one or more of the following source references, as applicable:

- ICAO Annex 6, Part 1, Attachment C: Guidance for Operations by Turbine Engine Aeroplanes Beyond 60 minutes to an En route Alternate Aerodrome Including Extended Diversion Time Operations (EDTO).
- ICAO Flight Planning and Fuel Management Manual (Doc 9976).
- ICAO Extended Diversion Time Operations (EDTO) Manual (Doc 10085).
- FAA Advisory Circular - AC No: 120-42B: Extended Operations (ETOPS and Polar Operations).
- △ EASA Air OPS (regulation 965/2012) ANNEX V (Part-SPA) Subpart F: Extended Range Operations with Two-Engine Aeroplanes (ETOPS)
- ☐ EASA AMC 20-6, Rev 2 to Air OPS (regulation 965/2012) : Extended Range Operation with Two-Engine Aeroplanes ETOPS Certification and Operation

- Commission Regulation EC No. 965/2012 Annex V SPA.ETOPS.
- Any equivalent reference document approved or accepted by the Authority for the purpose of providing guidance for the conduct of flight operations by turbine engine aircraft beyond 60 minutes to an en route alternate airport.

△ **DSP 4.5.2**

If the Operator conducts flight operations beyond 60 minutes from a point on a route to an en route alternate airport, including ETOPS/EDTO, the Operator shall have guidance and procedures to ensure (as applicable to the Operator):

(i) For all aircraft, en route alternate airports are identified and the most up-to-date information relative to such airports is available to the flight crew, including airport status and meteorological conditions;

(ii) For aircraft with two engines engaged in ETOPS/EDTO, the most up-to-date information available to the flight crew indicates that conditions at identified en route alternate airports will be at or above the Operator's established airport operating minima for the operation at the ETU. **(GM)**

Auditor Actions

- ☐ **Identified** conduct of flight operations, including ETOPS/EDTO, over routes beyond 60 minutes from alternate airport.
- ☐ **Identified/Assessed** guidance/procedures for planning flights conducted over routes beyond 60 minutes from alternate airport (focus: flight planning includes provision of information for flight crew that identifies en route alternate airports, indicates conditions at en route alternate airports will be at/above established airport operating minima for operation at the ETU).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: identification of en route alternate airports; information indicates conditions at/above operating minima).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures that ensure flight crew has up-to-date information relative to planned en route alternate airports for flight operations beyond 60 minutes from an en route alternate airport).
- ☐ **Other Actions** (Specify)

Guidance

The intent of item i) of this provision is to ensure operational control personnel and the flight crew are knowledgeable about diversion airport options and prevailing weather conditions appropriate for the type of operation conducted.

The intent of item ii) is to ensure a larger strategy exists for two-engine aircraft engaged in ETOPS/EDTO to protect a diversion regardless of the reason for the diversion (i.e. technical or non-technical reasons).

Guidance related to the identification and/or protection of en route alternate airports is contained in ICAO Annex 6, Part 1, Attachment C and the ICAO Extended Diversion Time Operations (EDTO) Manual (Doc 10085).

△ **DSP 4.5.3**

If the Operator uses aircraft with two engines in ETOPS/EDTO, the Operator shall have guidance and procedures to select en route alternate airports for such operations, and ensure en route alternate airports are specified on:

(i) The OFP or other equivalent operational document available to the PIC in flight;

(ii) The ATS flight plan where required by the State or the ATS system in use. **(GM)**

Auditor Actions

- ☐ **Identified** the conduct of ETOPS/EDTO using aircraft with two engines.
- ☐ **Identified/Assessed** guidance/procedures for en route alternate selection/designation for ETOPS/EDTO conducted with two-engine aircraft (focus: flight planning includes selection/designation of en route alternate airports; en route alternate airports shown on OFP; shown on ATS flight plan in accordance with applicable regulatory requirements).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: designation of en route alternate airports).
- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for selecting en route alternate airports and specifying on OFP and ATS flight plan for two-engine aircraft ETOPS/EDTO).
- ☐ **Other Actions** (Specify)

Guidance

The intent of the specification in item i) is to ensure en route alternates, when required, are selected and subsequently specified on the OFP or other equivalent operational document available to the PIC in flight.

The intent of the specification in item ii) is to ensure en route alternates, when required for ETOPS/EDTO, are specified on the ATS flight when required by the State or other applicable authority.

DSP 4.5.4

If the Operator conducts ETOPS/EDTO, the Operator shall have guidance and procedures to ensure, for aircraft engaged in such operations:

(i) A flight will not proceed beyond the threshold time unless the identified en route alternate airports are re-evaluated for availability and the most up-to-date information indicates that, during the ETU, conditions at those airports will be at or above the Operator's established airport operating minima for the operation;

△ (ii) If any conditions are identified that would preclude a safe approach and landing at an identified en route alternate airport during the ETU, an alternative course of action has been determined;

☐ (iii) The most limiting EDTO-significant system time limitation (except for the most limiting fire suppression system), if any, indicated in the aircraft flight manual (directly or by reference) and relevant to a particular operation is not exceeded. **(GM)**

☐ ***Note:*** *The Operator may conform with item (iii) of this provision through Operational Variations approved by the Authority or other variations to EDTO significant system time limitation criteria provided each variation is subjected to the Operator's SRM processes and safety performance monitoring to ensure an acceptable level of safety is maintained.*

Note: *Refer to ORG 3.4.1 and DSP 4.5.5 for cargo compartment fire suppression limitation exceedances.*

Auditor Actions

- ☐ **Identified** that ETOPS/EDTO is in use.
- ☐ **Identified/Assessed** guidance/procedures for the monitoring/assessment of en route alternate airport conditions during the conduct of ETOPS/EDTO (focus: designated en route alternate airports monitored/assessed during ETOPS/EDTO to verify continuation of planned flight; when conditions make designated en route alternate unusable, planned flight evaluated for change).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected ETOPS/EDTO OFPs (focus: designation of en route alternate airports).

- ☐ **Observed** operational control/flight dispatch operations (focus: guidance/procedures for monitoring/assessing en route alternate airports during ETOPS/EDTO).
- △ ☐ **Coordinated** with FLT auditor (focus: complementary procedures for monitoring/assessing conditions at en route alternates; coordination to re-evaluate planned flight in event en route alternate becomes unavailable).

If the Operator conforms through Operational Variation (see Note), the following additional actions apply

- ☐ ☐ **Identified** applicable variation(s) used for EDTO flight planning (focus: deviation from basic ISARP requirements).
- ☐ ☐ **Examined** safety risk assessment(s) applicable to use of variation(s) (focus: consistent with applicable regulatory requirements; identification and mitigation of applicable risks).
- ☐ ☐ **Examined** records of safety performance monitoring applicable to use of variation(s) (focus: monitoring of risk associated with applicable variations).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Threshold Time.

The intent of this provision is to ensure a larger strategy exists to preclude a diversion and to protect a diversion should one occur regardless of whether the diversion is for technical (aircraft system or engine) or non-technical reasons.

☐ A description of the typical relevant organizational and operational capabilities related to the use of variations, including Operational Variations approved by the Authority, can be found in the General Guidance at the beginning of this subsection.

☐ Variations to EDTO significant system time limitation exceedance criteria are typically approved or accepted by the State.

☐ The subordinate SRM processes of an existing organizational SMS can be applied to variations to ensure the desired level of safety is being achieved. Such SRM processes would typically consider at least the following:

- Capabilities of the operator;
- Overall reliability of the aircraft;
- Reliability of each time limited system;
- Relevant information from the aircraft manufacturer;
- Specific mitigation measures.

☐ Guidance on safety risk management and performance of safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

⊗

Table 3.1–Operational Control Personnel			
This table categorizes operational control personnel, defines the scope of their authority, identifies their responsibilities and illustrates the relationship of such responsibilities to the operation as a whole. It shall be used for the purposes of applying relevant Section 3 provisions and is provided to ensure suitably qualified persons are designated, where applicable, to support, brief and/or assist the pilot-in-command (PIC) or FOO or designated member of management in the safe conduct of each flight. The terms used in the table to identify operational control personnel are generic and might vary. Personnel, however, employed in operational control functions that are delegated the authority and/or assigned the responsibility to carry out functions, duties or tasks, as outlined in the table, are subject to the training and qualification requirements commensurate with their position.			
Operational Control ➡ ⬇	**Authority** (DSP 1.3.4)	**Responsibilities, Including the Assignment of Functions, Duties or Tasks.** (DSP 1.3.5 and 1.3.6)	**Training and Qualification** *Operator shall designate responsibilities and ensure personnel are competent to perform the job function.*
Administrative Support Personnel[1] (e.g. gate agent)	**None** Do **not** make recommendations or decisions regarding the operational control of a flight.	Provide, collect or assemble operational documents or data only.	Not subject to initial and recurrent training in the competencies of operational control in Table 3.5 and are qualified via On the Job Training (OJT), job descriptions, task cards, guidelines, checklists, training materials or other written means to establish competence.
Flight Operations Assistant (FOA)[4] (e.g. Weather Analysts, Navigation Analysts/Flight Planning Specialists, Operations Coordinators/Planners, Maintenance controllers, Air Traffic Specialists), and Load Agents/ Planners/Controllers unless qualified in accordance with GRH)	**None or limited to area(s) of expertise** May be authorized to make decisions or recommendations in area(s) of expertise.[5] (e.g., maintenance controller grounds aircraft.)	Support, brief and/or assist the PIC or FOO. Specializes in one or more of the elements of operational control.[3] Collects, provides filters, evaluates and applies operational documents or data relevant to **specific** elements of operational control. Makes recommendations or decisions in area(s) of expertise.	**For each area of expertise or specialization.** [3] Subject to initial and continuing qualification in accordance with DSP 2.2.2 and **specific** competencies of Table 3.5 relevant to the job function and operations of the Operator.

Table 3.1–Operational Control Personnel			
Flight Dispatcher or Flight Operations Officer (FOO)[4] or **Designated Member of Management** (e.g. Director of Operations or other post holder)	**None or limited or shared** [2] May share operational control authority with the PIC.[2] May be authorized to make recommendations or decisions.	May share operational control responsibility with the PIC.[2] Support, brief, and/or assist the PIC. Collects, provides, filters, evaluates and applies operational documents or data relevant to **all** elements of operational control.[3] Makes recommendations or decisions.	Subject to initial and continuing qualification in accordance with DSP 2.2.2 **and all** competencies of Table 3.5 relevant to the operations of the Operator.
Pilot in Command (PIC)	**Full/shared** [2] Has final authority to ensure the safe operation of the aircraft. May share authority and responsibility for operational control.	**Full/shared** [2] Responsible for safe conduct of the flight. Collect, provide, filter, evaluate and applies operational documents or data relevant to **all** competencies of operational control.[3]	Subject to training and qualification requirements specified in ISM Section 2.
Legend	**1** - Personnel lacking any authority or responsibility for operational control are identified in the table for the purposes of excluding them from the initial and continuing qualification provisions of this section. **2** - FOO personnel used in conjunction with a shared system of operational share authority and responsibility with the PIC. **3** - The competencies of operational control are contained in Table 3.5. FOA personnel that specialize in one competency of operation control may be referred to as Weather Analysts, Navigation Analysts/Flight Planners, Operations Coordinators/Planners, Maintenance controllers, Air Traffic Specialists and Load Agents/Planners/Controllers unless qualified in accordance with GRH. **4** - The terms used in this table to identify operational personnel are generic and may vary. Personnel used in operational control functions and assigned the responsibilities delineated in the table are subject to the relevant qualification and training provisions in this section. **5** - Authority limited in scope to decision making in area of expertise.		

Table 3.2–Operations Manual (OM) Content Specifications	
This table contains the fundamental OM content specifications required to achieve conformity with DSP 1.7.1. It also specifies Section 2 (FLT) provisions that must be addressed in the sections of the OM relevant to personnel with responsibilities related to the operational control of flights. ***Note:*** *Specific policies, guidance, data and/or procedures that must be addressed in the sections of the OM relevant to operational control personnel can be found in individual Section 3 provisions and are not duplicated in the table.*	
General Information	**FLT ISARP**
(i) General information, to include:	None
(a) Non-aircraft type related and/or standard operating procedures for each phase of flight, policies, procedures, checklists, descriptions, guidelines, emergency procedures and other relevant information;	None
(b) Authorities, duties and responsibilities associated with the operational control of flights;	None
(c) The requirement for commercial flights to be conducted under an IFR flight plan and in accordance with an IFR flight plan.	FLT 3.10.1
Aircraft Operating Information	**FLT ISARP**
(ii) Aircraft Operating Manual (AOM), to include:	None
(a) Normal, abnormal/non-normal and emergency procedures, instructions and checklists;	None
(b) Aircraft systems descriptions, limitations and performance data.	None
(iii) MEL and CDL, to include applicability and a description of the relationship between the Minimum Equipment List (MEL) and the Master Minimum Equipment List (MMEL);	None
(iv) Aircraft specific weight and balance instructions/data;	None
(v) Instructions for the conduct and control of ground de/anti-icing operations.	FLT 3.9.6, 3.9.7
Areas, Routes and Airport Information	**FLT ISARP**
(vi) Route and airport instructions and information (departure, destination, en route and destination alternates, to include:	None
(a) Airway manuals and charts, including information regarding communication facilities, navigation aids and minimum flight altitudes;	None
(b) Airport charts, including the method for determining airport operating minima, operating minima values for destination and alternate airports and the increase of airport operating minima in case of degradation of approach or airport facilities;	None
(c) Airport and runway analysis manual or documents:	None
(d) If applicable, flight monitoring requirements and instructions to ensure the PIC notifies the operator of en route flight movement or deviations from the OFP including procedures for loss of communication between the aircraft and the FOO;	None
(e) Instructions for the conduct of precision and non-precision approaches, including approach minima;	FLT 3.11.65, 3.11.67
(f) If applicable, procedures for the conduct of long-range navigation;	FLT 3.11.8, 3.11.9, 3.11.11
(g) Supplemental oxygen requirements and escape routes in case of decompression in an area of high terrain, if applicable;	4.3.5
(h) Regional guidance necessary to comply with local regulations.	None

Table 3.2–Operations Manual (OM) Content Specifications		
Training Information		**FLT ISARP**
(vii)	Training Manual, to include:	None
	(a) Details of all relevant training programs, policies, directives and requirements, including curricula and syllabi, as applicable, for initial qualification, continuing qualification and other specialized training;	None
	(b) Curricula for ground training, evaluation and certification;	None
	(c) Comprehensive syllabi to include lesson plans, procedures for training and conduct of evaluations;	None
	(d) The training program for the development of knowledge and skills related to human performance (Crew Resource Management/Dispatch Resource Management, CRM/DRM).	None
Other Information		**FLT ISARP**
(viii)	Cabin safety and emergency procedures relevant to operational control personnel.	None
(ix)	Dangerous Goods manual or parts relevant to operational control personnel, to include information and instructions on the carriage of dangerous goods and action to be taken in the event of an emergency.	None
(x)	Security Manual or parts relevant to operational control personnel, including bomb search procedures.	None

Table 3.3–Operational Flight Plan (OFP) Specifications
△ The OM contains a description and specifications for the content and use of the OFP or equivalent document. The content of the OFP shall consist of, as a minimum, the following elements: (i) Aircraft registration; (ii) Aircraft type and variant; (iii) Date of flight and flight identification; (iv) Departure airport, STD, STA, destination airport; (v) Route and route segments with check points/waypoints, distances and time; (vi) Assigned oceanic track and associated information, as applicable; (vii) Types of operation (e.g. ETOPS/EDTO, IFR, ferry-flight); (viii) Planned cruising speed and flight times between waypoints/check points; (ix) Planned altitude and flight levels; (x) Fuel calculations; (xi) Fuel on board when starting engines; (xii) Alternate(s) for destination and, when applicable, takeoff and en route; (xiii) Relevant meteorological information.

Table 3.4–Flight Information
The Operator shall record and retain the following information for each flight: (i) Aircraft registration; (ii) Date; (iii) Flight number; (iv) Flight crew names and duty assignment; (v) Fuel on board at departure, en route and arrival; (vi) Departure and arrival point; (vii) Actual time of departure; (viii) Actual time of arrival; (ix) Flight time; (x) Incidents and observations, if any; (xi) Flight weather briefings; (xii) Dispatch or flight releases; (xiii) Load Sheet; (xiv) NOTOC; (xv) OFP; (xvi) ATS flight plan; (xvii) Communications records; (xviii) Fuel and oil records (obtained in accordance with MNT 3.1.1); (xix) Aircraft tracking data to assist SAR in determining the last known position of the aircraft. ***Note:*** *After an aircraft has landed safely, an operator may discard tracking data.*

△

Table 3.5–Competencies of Operational Control	
The Operator shall ensure FOO or FOA personnel demonstrate knowledge and/or proficiency in the competencies of operational control appropriate to the assignment of responsibility to carry out operational control functions, duties, or tasks, to include, as applicable:	
Competencies	**FOA Relevancy Examples**
(i) Air law	• Air Traffic Specialists
(ii) Flight performance	• As relevant to function
(iii) Navigation	• Navigation Analysts • Flight Planning Specialists
(iv) Aircraft General knowledge and instrumentation	• As relevant to function
(v) Meteorology	• Weather Analysts • Meteorologists
(vi) Mass and balance	• Load Agents • Load Planners • Load Controllers
(vii) Operational procedures	• As relevant to function
(viii) Flight planning and monitoring	• Flight Planning Specialists • Flight Followers
Notes	
• FOO personnel that are assigned overall operational control responsibility for specific flights, assigned responsibilities in all competencies of operational control or used in shared systems of operational control demonstrate knowledge and/or proficiency in all applicable competencies in this table. • FOO or FOA personnel assigned the individual responsibility to carry out specific operational control functions, duties or tasks demonstrate knowledge and/or proficiency in competencies relevant to area of expertise or function as determined by the operator or State. • It is important to note that some operators might choose to assign the responsibility for specific operational control functions to fully qualified FOO personnel. In such cases an FOO is acting in a limited capacity and although qualified in all competencies of operational control, would be functionally acting as an FOA. • Sub-topics for each competency course subject are developed in accordance with reference documents, approved or accepted by the state of the operator. Refer to Table 3.6 for guidance material related to the development of syllabi outlines for each competency course subject.	

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
The Operator typically develops a competency course curriculum and related syllabi for each competency in Table 3.5. Curriculum and associated syllabi development can be based on one or more source references or their equivalent: • ICAO Doc 10106 • ICAO Doc 7192 • 14 CFR § 121.415 and 14 CFR § 121.422 • EASA ORO.GEN.110 and related AMC and GM		
Competency Course Subjects		**Examples of Syllabus Outlines (ICAO Doc 10106)**
(i)	Air law	To enable operational control personnel to identify the basic requirements for authorization to operate a commercial air transportation service, air law may include topics such as: • Conventions and agreements • National organizations and rulemaking process • Rules of the air, general • Air services and airspace • ATC separation and clearances • Search and rescue (SAR) • Security • ATS flight plan (FPL) • Flight safety, accident and incident
(ii)	Flight performance	To enable the operational control personnel to identify the basic elements of aircraft performance, flight performance may include topics such as: • Certification standards • Influencing variables on performance • Takeoff performance • Accelerate-stop distance • Balanced field length • Takeoff climb • Obstacle limits • Reduced/de-rated thrust • Cruise • Cost index • Driftdown • Landing performance • Quick turnaround limits
(iii)	Navigation	To enable the operational control personnel to identify the fundamentals of navigation and equipment used in navigation, navigation may include topics such as: • Basics of general navigation • Latitude, longitude

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
		• Time and time conversions • Determining sunrise, sunset, civil twilight • Directions • Distance • Charts • Basics of radio navigation • NDB • VOR • DME • ILS • Radar • GPS/GNSS • RNAV • FMS • RNP • Satellite augmentation systems
(iv)	Aircraft General knowledge and instrumentation	To enable the operational control personnel to identify the main components and systems of an aircraft and their basic functions, aircraft general knowledge and instrumentation may include topics such as: • Units and basic definitions • Lift • Drag • Thrust • Weight • Flight mechanics • System design, loads, stresses, maintenance • Hydraulics • Landing gear • Primary and secondary flight controls • Pneumatics • Air conditioning systems • Ice and rain protection • Fuel • Electrics • Engines and APU • Flight management and navigation • Automatic flight • Communications • Fire protection • Equipment and furnishings • Indicating and recording systems

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
(v)	Meteorology	To enable the operational control personnel to interpret meteorological information, reports, forecasts and warnings correctly and efficiently, meteorology may include topics such as: • Atmosphere, composition, extent, vertical division • Air temperature, definition and units • Atmospheric pressure and density • International standard atmosphere (ISA) • Altimetry • Wind • Clouds and fog • Precipitation • Air masses and fronts • Pressure systems • Climatology • Icing conditions • Turbulence • Wind shear • Thunderstorms • Flight hazards • Meteorological information
(vi)	Mass and balance	To enable the operational control personnel to identify the basic requirements for load planning, calculation of payload, loadsheet preparation, and aircraft balance, mass and balance may include topics such as: • Importance of structural limitations • Mass terms • Mass limits, structural limitations • Cargo compartment limitations • Mass calculations • Definition of center of gravity (CG) • Load and trim sheet, general considerations
(vii)	Operational procedures	To enable the operational control personnel to policies, procedures, guidance, and instructions developed to perform their respective functions, operating procedures may include topics such as: • Operational control responsibilities • SMS • AOC • Operating manuals • Aircraft airworthiness • Operational limitations and minima

Table 3.6–Guidance for Development of Operational Control Competency Course Syllabi		
		• Duty time limitations and rest requirements • Operational flight plan contents • Anti-icing, de-icing • Security (unlawful events) • Abnormal and emergency procedures • Communication systems and procedures
(viii)	Flight planning and monitoring	To enable the operational control personnel to complete an operational flight plan in accordance with laid-down rules and standards and to apply the skills acquired to effectively maintain a flight watch, and monitor fuel consumption, en route weather including winds, aircraft performance including the limitations imposed by MEL restrictions, in-flight equipment failures, security problems, and the effects of and on hazardous materials, restricted articles, and perishable cargo, flight planning and monitoring may include topics such as: • Weather analysis • AIP/NOTAM analysis • Track selection & flight level • Equipment requirements • Airport suitability • Fuel requirements • Payload planning • ETOPS/EDTO • MEL/CDL • ATC/ATM • Security (unlawful events) • Abnormal and emergency procedures

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Section 4 — Aircraft Engineering and Maintenance (MNT)

Applicability

Section 4 is applicable to all operators, and addresses aircraft engineering and maintenance functions relevant to the airworthiness of the aircraft, engines and components.

Individual MNT provisions or sub-specifications within a MNT provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase “If the Operator...” are applicable if the Operator meets the condition(s) stated in the phrase.

An operator may choose to have certain functions within the scope of ground handling operations (e.g. aircraft loading, aircraft ground handling) performed by maintenance operations personnel. If this situation exists, the operator must be in conformity with the ISARPs contained in Section 6, Ground Handling Operations (GRH), that are applicable to the ground handling functions performed by maintenance operations personnel.

Where an operator outsources the performance of aircraft engineering and maintenance operational functions to external organizations, the operator retains overall responsibility for ensuring aircraft airworthiness, and must demonstrate processes for monitoring the applicable external organization(s) in accordance with MNT 1.11.7.

General Guidance

Definitions of technical terms used in this ISM Section 4, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

Many provisions in this section contain the phrase “organization that performs maintenance (or performs maintenance functions) for the Operator.” This phrase is inclusive and refers to any organizations that might perform maintenance on the operator’s aircraft, either an external maintenance organization or the operator’s own maintenance organization.

The term “maintenance” as used in above-referenced phrase means restoring or maintaining an aircraft, aircraft engine or aircraft component to or in an airworthy and serviceable condition through the performance of functions such as repair, modification, overhaul, inspection, replacement, defect rectification and/or determination of condition.

If a standard or recommended practice requires an operator to ensure that certain provisions (specifically in MNT subsection 4) are satisfied by an organization that performs maintenance or maintenance operational functions for the operator under a maintenance agreement, then the operator monitors such maintenance organization to ensure specifications in the relevant ISARPs are being fulfilled.

If the organization that has a maintenance agreement with the operator subcontracts certain maintenance functions to other maintenance organizations (as agreed between parties), then the operator’s monitoring of the contracted maintenance organization would also ensure such organization is performing oversight of all relevant subcontractors. For example, when an operator contracts with an airframe maintenance provider to conduct base maintenance and such maintenance provider then subcontracts certain maintenance activities or functions to one or more of its subcontractors, the operator’s monitoring would also ensure the contracted airframe maintenance provider is providing proper oversight of the relevant subcontractors.

1 Management and Control

1.1 Management System Overview

1.2 Accountability, Authorities and Responsibilities

1.3 Maintenance Program

MNT 1.3.1

The Operator shall provide, for the use and guidance of relevant maintenance and operational personnel, a Maintenance Program that is approved by the relevant Authority and contains information and data for each aircraft type/model and configuration in the Operator's fleet in accordance with specifications in Table 4.1. The Maintenance Program shall satisfy:

(i) Requirements of the State of Registry;

(ii) Requirements of the State of Design;

(iii) Requirements of the Operator;

(iv) Maintenance specifications provided by the aircraft, engine and component OEMs. **(GM)**

Auditor Actions

- ☐ **Identified** an approved maintenance program for each aircraft type.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected maintenance program(s) (content in accordance with specifications in Table 4.1).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Approved Maintenance Organization (AMO), State of Design and State of Registry.

An aircraft maintenance program is usually approved by the Authority. However, when an operator uses an aircraft registered in a different state, it is possible that the maintenance program could be approved by the authority of the State of Registry.

An operator's Authority typically holds the operator responsible for the definition, the control and the provision of Maintenance Data, and an Approved Maintenance Program for use by the operator and its maintenance organization.

The aircraft is maintained under one approved operator's aircraft maintenance program. When an operator wishes to change from one approved aircraft maintenance program to another approved program, a transfer/bridging check/Inspection may need to be performed, as agreed with the Authority, in order to implement the change.

The operator's aircraft maintenance program typically contains a preface that defines the maintenance program contents, the inspection standards to be applied, permitted variations to task frequencies and, where applicable, any procedure to escalate established check/inspection intervals.

A reliability program provides an appropriate means of monitoring the effectiveness of the maintenance program. Maintenance program optimization relies on implementation of the reliability program.

Some operator's approved aircraft maintenance programs, not developed from the MRB Process, use reliability programs as the basis of the approval. The purpose of a reliability program is to ensure the aircraft maintenance program tasks are effective and carried out at appropriate time intervals. Actions resulting from the reliability program may result in the escalation or de-escalation, or addition or deletion, of maintenance tasks, as deemed necessary.

The maintenance program typically contains the following:

- The type/model and registration number of the aircraft, engines and, where applicable, auxiliary power units (APUs) and propellers;
- The name and address of the operator;
- The operator's reference identification of the program document, the date of issue and issue number;
- A statement signed by the operator to the effect the specified aircraft is maintained in accordance with the program and that the program is reviewed and updated as required;
- Contents/list of effective pages of the document;
- Check periods that reflect the anticipated use of the aircraft and where use cannot be anticipated, calendar time limits are included;
- Procedures for the escalation of established check periods, where applicable, and acceptable to the Authority;
- Provision to record date and reference to approved amendments incorporated in the program;
- Details of preflight maintenance tasks accomplished by maintenance personnel and not included in the Operations Manual for action by flight crew;
- The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APUs, propellers, components, accessories, equipment, instruments, electrical and radio apparatus and associated systems and installations are to be inspected, together with the type and degree of inspection;
- The periods when items are checked, cleaned, lubricated, replenished, adjusted and tested;
- Details of specific structural inspections or sampling programs;
- Details of the corrosion control program, when applicable;
- The periods and procedures for the collection of engine health monitoring data;
- The periods when overhauls and/or replacements by new or overhauled parts are to be made;
- A cross-reference to other documents approved by the Authority that contain the details of maintenance tasks related to mandatory life-limitations, Certification Maintenance Requirements (CMRs) and Airworthiness Directives (ADs);

  Note: *To prevent inadvertent variations to such tasks or intervals, these items would not be included in the main portion of the maintenance program document, or any planning control system, without specific identification of their mandatory status.*
- Details of, or cross-reference to, any required Reliability Program or statistical methods of continuous surveillance;
- A statement that practices and procedures to satisfy the program are to the standards specified in the Type Certificate Holder's Maintenance Instructions. When practices and procedures are included in a customized operator's maintenance manual approved by the Authority, the statement refers to this manual;
- Each maintenance task quoted is defined in the definitions section of the program.

An operator's approved aircraft maintenance programs are subject to periodic review to ensure they reflect current Type Certificate Holder's recommendations, revisions to the Maintenance Review Board Report and the mandatory requirements and maintenance needs of the aircraft. The operator reviews the detailed requirements at least annually for continued validity in light of the operating experience.

1.4 Provision of Resources

1.5 Communication

1.6 Documentation System

1.7 Maintenance Management Manual (MMM)

1.8 Maintenance Records System

1.9 Aircraft Systems/Equipment

MNT 1.9.1

The Operator shall ensure all aircraft in its fleet are equipped with, in accordance with conditions of applicability, the aircraft systems and equipment specified in Table 4.11. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** fleet aircraft systems/equipment (focus: systems/equipment in accordance with Table 4.11 for aircraft types in operator's fleet).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** records of installation, inspection and/or maintenance of selected systems/equipment.
- ☐ **Observed** line flight operations (FLT/CAB auditors) or inspected static aircraft (focus: sampled aircraft have applicable systems/equipment installed).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is that in accordance with conditions of applicability, which includes requirements of the relevant authority, the systems and equipment specified in Table 4.11 are installed on each aircraft type in the operator's fleet.

The condition of applicability of some system or equipment requirements is predicated on the use of an aircraft type in a certain type of operation (e.g. long-range over-water flights). Where an operator has a fleet of an aircraft type of which some are not used in the conditional operation, then the operator would typically have to demonstrate a segregation system that prevents such aircraft from being used in the conditional operation.

The operator or the Authority may prescribe additional requirements for aircraft systems or equipment installation.

1.10 Quality Assurance Program

1.11 Quality Control of Outsourced Operations and Products

△ **MNT 1.11.7**

The Operator shall have monitoring processes to ensure external approved maintenance organizations that perform maintenance for the Operator:

(i) Comply with applicable regulations and safety and quality requirements;

(ii) Have procedures that are acceptable to the Authority granting the approval;

(iii) Perform all maintenance in accordance with requirements of the Operator. **(GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** (focus: monitoring process ensures provider fulfils applicable safety/security requirements).
- ☐ **Interviewed** responsible manager(s) in MNT operations.

- ☐ **Examined** selected records/reports resulting from monitoring of maintenance operations service providers (focus: monitoring process ensures provider fulfils applicable safety/security requirements).
- ☐ **Other Actions** (Specify)

Guidance

△ Refer to Guidance associated with ORG 2.2.1 located in ISM Section 1.

MNT 1.11.9

The Operator shall have processes that ensure:

(i) Aircraft parts and materials are only obtained from approved sources;

(ii) Certification documentation requirements are specified;

(iii) Traceability to the last certifying organization for used or surplus parts;

(iv) A statement of conformity or certification test results is retained for hardware and raw materials (e.g. extrusions, sheet or bar stock);

(v) Inventory storage of consumable material is managed to ensure traceability of manufacturer batch/lot control. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process(es) for the management and control of parts and materials.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected incoming parts documentation.
- ☐ **Examined** traceability of selected parts.
- ☐ **Observed** aircraft parts/components management/handling (focus: processes for management of acquisition/certification/traceability/inventory for aircraft parts/components).
- ☐ **Other Actions** (Specify)

Guidance

An external maintenance organization that performs contracted maintenance functions for the operator may perform the tasks specified in i) through v).

An aircraft part fabricated or manufactured for an operator by a non-approved maintenance organization is produced under the quality system of either the operator or the external maintenance organization. Such an arrangement must be approved by the Authority.

An operator is not required to keep records of traceability that would track the use of batch-controlled consumables.

1.12 Safety Management

Risk Management

△ **MNT 1.12.1**

The Operator shall have a hazard identification program for maintenance operations that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in MNT operations (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of MNT operations in the organization-wide, cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in MNT operations.
- ☐ **Interviewed** person(s) that perform analysis of MNT operational data for the purpose of identifying hazards to aircraft operations.

- ☐ **Examined** examples of hazards to aircraft operations that have been identified through data collection and analysis in MNT operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations), Base Maintenance, Line Maintenance, Risk Management and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

The operator typically applies its safety hazard identification program to the full scope of maintenance operations associated with maintaining its aircraft, which includes line and base maintenance.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

MNT 1.12.2

The Operator shall have a safety risk assessment and mitigation program in maintenance operations that specifies processes to ensure:

(i) Hazards are analyzed to determine corresponding safety risk(s) to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in maintenance operations. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its maintenance risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.

• Means used for recording risks and mitigation (control) actions.

• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant maintenance hazards are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) across the maintenance organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

(ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 1.6.5.

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in MNT operations (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** role of maintenance operations in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in MNT operations.
- ☐ **Interviewed** person(s) that perform safety risk assessments in MNT operations.
- ☐ **Examined** selected records/documents that illustrate risk assessment and resulting risk mitigation action(s) in MNT operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

The operator typically applies its safety risk assessment and mitigation program to the full scope of maintenance operations associated with maintaining its aircraft, which includes line and base maintenance.

Hazards relevant to the conduct of maintenance operations are potentially associated with:

- Weather (e.g. temperature, precipitation);
- Work environment (e.g. lighting, temperature, noise/vibration, ventilation, hazardous/toxic substances, cleanliness, floor condition, body position, physical facility layout changes);
- Infrastructure (e.g. inadequate, uncontrolled or lack of equipment/tools);
- Automation limitations (e.g. poor assumptions based on misunderstanding of automation functionality);
- Foreign Object Debris (FOD);
- Personnel (e.g. not enough, lack or ineffective training, lack of skills, shift work, inadequate shift patterns);
- Aircraft and parts (e.g. different configurations, lack or difficulty of access);
- Technical data (e.g. uncontrolled, not up to date, inadequate layout of Task Cards, lack of understanding or difficulty in using electronic documentation or IT system);
- Inadequate communication (e.g. language differences, comprehension);
- Changes in processes, procedures, IT platforms, organizational, tooling and equipment.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

MNT 1.12.3

The Operator shall have an operational safety reporting system in maintenance operations that:

(i) Encourages and facilitates feedback from personnel to report safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Includes analysis and management action as necessary to address safety issues identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** operational safety reporting system in MNT operations (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible manager(s) in MNT operations.

- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in maintenance operations.
- ☐ **Examined** data that confirm an effective maintenance operations safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected maintenance operations safety reports (focus: analysis/follow-up to identify and address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

Safety issues are generally associated with the various operations (internal and outsourced) that are conducted for the purpose of ensuring aircraft are maintained in an airworthy condition.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Assurance

SMS Training

2 Maintenance Control

2.1 Control System

MNT 2.1.1

The Operator shall have a maintenance control system that is in accordance with procedures acceptable to the Authority and ensures:

(i) Each aircraft is maintained in an airworthy condition;

(ii) Operational and emergency equipment necessary for flight is serviceable;

(iii) The Certificate of Airworthiness of each aircraft remains valid.

Auditor Actions

- ☐ **Identified/Assessed** the system for control of aircraft maintenance.
- ☐ **Identified** the procedures for renewal of certificate of airworthiness (CoA).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected individual aircraft records for CoA.
- ☐ **Other Actions** (Specify)

MNT 2.1.2

The Operator shall have guidance and procedures to ascertain if trends for oil consumption are such that an aircraft has sufficient oil to complete each flight. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/procedures for monitoring aircraft engine oil consumption (focus: oil consumption monitored; trends identified for individual aircraft; consumption trends accounted for prior to each flight to ensure completion).
- ☐ **Interviewed** responsible operational control manager(s).
- ☐ **Examined** selected aircraft oil consumption records (focus: consumption monitored, trends identified and accounted for prior to flights).
- ☐ **Other Actions** (Specify)

Guidance

The designation of a minimum oil quantity is typically provided by the manufacturer, while the determination, monitoring and replenishment of oil supply are the responsibilities of engineering and maintenance and/or the flight crew in accordance with ISM Section 2 (FLT), Table 2.2, item v).

2.2 Maintenance Planning

MNT 2.2.2

The Operator shall have a system for tracking hours, cycles and calendar time for aircraft, engines and life-limited components.

Auditor Actions

- ☐ **Identified/Assessed** the system for tracking hours, cycles and calendar time for aircraft, engines and life-limited components.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** one aircraft, engine and life-limited component.
- ☐ **Other Actions** (Specify)

2.3 Parts Installation

MNT 2.3.1

The Operator shall have a process to ensure that no new part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of new parts and, in addition, meets a minimum of one of the following:

(i) The new part has marking identifying it as a part specified in the type design conforming to a recognized national or international standard, or

(ii) The new part has been approved for use on an aeronautical product, in accordance with the type certificate/STC, if the part was originally designed and manufactured for non-aeronautical use, or

(iii) The new part was manufactured under a Parts Manufacturer Approval (PMA), or

(iv) The new part was produced by the Operator using approved procedures for the purpose of maintaining or altering its own aeronautical product. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process for managing and controlling new parts and parts installation.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** inspection of incoming parts.
- ☐ **Examined** selected parts installed on aircraft as new parts.
- ☐ **Observed** aircraft part/component installation/replacement (if applicable) (focus: new part/component being installed meets applicable standards of airworthiness).
- ☐ **Observed** aircraft parts/components management/handling (focus: control process for ensuring new parts meet applicable standards of airworthiness).
- ☐ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft. Such documentation enables the external AMO to validate the airworthy condition of the part and its certification for installation on the aeronautical product being maintained. The “approved documentation” category typically includes as necessary, without being limited to, any of the following: MMM, IPC (including Supplements), AD, SB, Work Order, Repair Order, Form 8130-3/EASA Form 1/or equivalent.

The production of parts by an operator for its own use, as specified in item iv), is acceptable provided there are approved procedures identified in the MMM.

MNT 2.3.2

The Operator shall have a process to ensure that no used part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of used parts and is any of the following:

(i) An airworthy part that has been removed from an aircraft for immediate installation on another aircraft, **or**

(ii) An airworthy part that has undergone maintenance for which a maintenance release has been signed by an appropriately rated Approved Maintenance Organization (AMO), **or**

(iii) An airworthy part that has undergone an approved repair or alteration that restored the certificated level of airworthiness to a used part. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process for managing and controlling used parts and parts installation.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected parts installed on aircraft for certificates.
- ☐ **Observed** aircraft part/component installation/replacement (if applicable) (focus: used part/component being installed meets applicable standards of airworthiness).
- ☐ **Observed** aircraft parts/components management/handling (focus: control process for ensuring used parts meet applicable standards of airworthiness).
- ☐ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft. Such documentation enables the external AMO to validate the airworthy condition of the part and its certification for installation on the aeronautical product being maintained. The “approved documentation” category typically includes as necessary, without being limited to, any of the following: MMM, IPC (including Supplements), AD, SB, Work Order, Repair Order, Form 8130-3/EASA Form 1/or equivalent.

MNT 2.3.3

The Operator shall have a process to ensure that no used life-limited part is installed on an aeronautical product unless such part meets the standards of airworthiness applicable to the installation of life-limited parts and:

(i) The technical history of the part is available to demonstrate the time in service, as authorized for that part in the type certificate governing the installation, has not been exceeded;

(ii) The technical history referred to in sub-paragraph i) is incorporated into the technical record for the aeronautical product on which the part is installed. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process for managing and controlling used life-limited parts and parts installation.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Interviewed** personnel that execute procedures for tracking life-limited parts.
- ☐ **Traced** the technical history of selected life-limited parts.
- ☐ **Observed** aircraft part/component installation/replacement (if applicable) (focus: used life-limited part/component being installed meets applicable standards of airworthiness).
- ☐ **Observed** aircraft parts/components management/handling (focus: control process for ensuring used life-limited parts meet applicable standards of airworthiness).
- ☐ **Other Actions** (Specify)

Guidance

The operator is responsible for providing an external AMO with approved documentation that contains information about parts allowed to be installed on its aircraft.

In general, it is best for an operator to have a fully traceable history for all life-limited parts. Not all parts have a fixed life. The life of some parts might be variable depending on the way the part has been used in the past. For example, load-bearing parts (e.g. landing gear components) that can be installed on different aircraft types (e.g. A319, A320, A321) will have a shorter life if installed on the heavier aircraft (as opposed to the same part installed on a lighter aircraft). Therefore, a complete history of these types of components is critical in knowing exactly when the life of the part will expire.

For parts that have a fixed life (e.g. batteries, slides), traceability to birth is not a requirement. However, in such cases, it is very important that the operator has documentation that shows clearly that the used part has not exceeded its airworthiness life limit.

2.4 Deferred Maintenance

MNT 2.4.1

The Operator shall have a maintenance control function that is responsible for approving, controlling, monitoring and scheduling non-routine and deferred maintenance activities, including MEL/CDL requirements.

Auditor Actions

- ☐ **Identified** the description of the maintenance control center (MCC) (or equivalent).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Interviewed** personnel responsible for selected maintenance control functions.
- ☐ **Examined** maintenance control processes/procedures.
- ☐ **Other Actions** (Specify)

MNT 2.4.2

△ The Operator shall have a process to ensure deferred maintenance items (defects) are tracked and corrected within the required intervals prescribed by the MEL, CDL or the appropriate maintenance data. **(GM)**

Auditor Actions

△
- ☐ **Identified/Assessed** the process(es) for managing deferred maintenance items.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Interviewed** MCC personnel.

△
- ☐ **Examined** selected records of deferred maintenance items.

△
- ☐ **Traced** the tracking and correction of selected deferred maintenance item(s).

☐
- ☐ **Observed** line maintenance operations (focus: Open/closed MEL/CDL and other deferred maintenance items are being deferred in accordance with approved MEL/CDL requirements or the appropriate maintenance data).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Maintenance Data.

△ The intent of this provision is to ensure an operator has a process to rectify all aircraft defects within the limits prescribed by the approved MEL, CDL or the appropriate maintenance data. Postponement of any defect rectification cannot typically be permitted without the operator's awareness and agreement, and in accordance with a procedure approved by the State of Registry/Authority.

2.5 Continuing Airworthiness Information

MNT 2.5.1

The Operator shall have processes to:

(i) Obtain and assess continuing airworthiness information, including Airworthiness Directives (ADs), Alert Service Bulletins and recommendations from the organizations responsible for aircraft type design, and

(ii) Implement the resulting actions that are mandatory or considered necessary in accordance with procedures acceptable to the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process(es) for obtaining, assessing and implementing ADs and ASBs.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of AD and SB compliance, including Task Cards.
- ☐ **Traced** selected AD(s) and/or SB(s) from receipt to implementation.
- ☐ **Observed** AD/SB management (focus: AD/SB process includes identification, planning, accomplishment, certification, recording, follow-up monitoring).
- ☐ **Observed** line maintenance operations (focus: ADs for which compliance can be physically checked, if applicable).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Authority, Service Bulletin (which includes the definition of Alert Service Bulletin) and Design Approval Holder (DAH).

Continuing airworthiness information and recommendations typically include:

- Airworthiness Directives that are developed by the Authority;
- Alert Service Bulletins, Airworthiness Limitations, maintenance planning and accomplishment instructions that are developed by the Type Design Organization(s) in accordance with their obligations as Design Approval Holder (DAH) for the respective product.

If improvements identified in the assessment process are considered by the operator as necessary to meet its safety and reliability needs, the current planning, accomplishment instructions, and/or airworthiness limitations may need to be adjusted through the implementation process.

MNT 2.5.3

The Operator shall have a program for the management of the minimum equipment lists (MELs) used in its fleet operations. Such program shall ensure MELs:

(i) Are approved by the State of the Operator and/or State of Registry if applicable;

(ii) Include the latest applicable MMEL provisions released by the Type Certificate Holder(s);

(iii) Are relevant to and customized for the type/model of aircraft in the Operator's fleet;

(iv) Identify applicable maintenance procedures called upon by the MEL items and such procedures are readily available for implementation by the appropriate maintenance personnel;

(v) Include, as applicable, aircraft systems and equipment required for operations in conformity with special authorizations as specified in FLT 1.2.1. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the procedure(s) for revising the MEL per the MMEL applicable revision.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of MEL usage requiring an (M) procedure.

- ☐ **Examined** MEL (focus: MEL revision is in conformity with the latest applicable MMEL provisions and is customized for the type/model of aircraft in operator's fleet, including required equipment for operations in accordance with applicable special authorizations).
- ☐ **Observed** line maintenance operations (focus: MEL is customized for the applicable aircraft type/model).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Minimum Equipment List (MEL) and Master Minimum Equipment List (MMEL).

The relevance and customization of the MEL is performed by the operator to reflect the configuration particular to each aircraft type in its fleet (e.g. the long-range or extended-range version, the engine type/model, the optional equipment installed etc.). The MEL typically does not include MMEL provisions that are not relevant to the actual configuration of the operated aircraft.

The timeframe in which the applicable MMEL revisions released by the type certificate holder (TCH) are incorporated into the MEL is acceptable to the Authority.

The maintenance procedures as specified in (iv) are identified by an (M) symbol in the MEL.

The intent is that all maintenance procedures are developed to a sufficient level.

2.6 Repairs and Modifications

MNT 2.6.1

The Operator shall have a process to ensure all modifications and repairs:

(i) Are carried out using approved data;

(ii) Comply with airworthiness requirements of the Authority and State of Registry.

Auditor Actions

- ☐ **Identified/Assessed** the process(es) for managing modifications and repairs.
- ☐ **Identified/Assessed** the procedures for maintaining technical records of modifications and repairs.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of aircraft modification(s) and/or repair(s).
- ☐ **Observed** aircraft part/component installation/replacement (focus: installation/replacement accomplished using approved data/in accordance with regulations).
- ☐ **Observed** AD/SB management (focus: AD/SB process ensures modifications/repairs accomplished using approved data/in accordance with regulations).
- ☐ **Observed** line maintenance operations (focus: Compare the repair status and the physical status of the aircraft/engine(s)/propeller(s) and their repaired components as applicable).
- ☐ **Other Actions** (Specify)

2.7 Defect Recording and Control

MNT 2.7.1

△ The Operator shall have processes for defect recording and control, including the management of recurring defects, to address:

△ (i) Documenting troubleshooting history;

△ (ii) Tracking chronic or repetitive unserviceable items;

(iii) Implementing instructions for corrective action;

(iv) Ensuring rectification takes into account the methodology used in previous repair attempts.

△ **Auditor Actions**

□ ☐ **Identified/Assessed** the process(es) for recording and controlling defects.

☐ **Identified/Assessed** the process(es) for tracking and correcting chronic or repetitive unserviceable items.

☐ **Interviewed** responsible manager(s).

☐ **Interviewed** personnel that execute procedures that address chronic or repetitive unserviceable items.

☐ **Examined** corrective action records for selected chronic unserviceable items.

☐ **Traced** the process for developing corrective action for chronic unserviceable item(s).

☐ **Other Actions** (Specify)

2.8 Extended Diversion Time Operations (EDTO)

MNT 2.8.2

If the Operator uses twin engine aircraft that are approved for ETOPS/EDTO, the Operator shall ensure compliance with maintenance requirements as specified in Table 4.5. **(GM)**

Auditor Actions

☐ **Identified** twin engine aircraft types approved for the conduct of ETOPS/EDTO.

☐ **Identified/Assessed** maintenance program for twin engine aircraft approved for the conduct of ETOPS/EDTO (focus: satisfaction of requirements specified in Table 4.5).

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected ETOPS/EDTO aircraft maintenance records (focus: compliance with maintenance program requirements).

☐ **Other Actions** (Specify)

Guidance

In complying with the requirements specified in Table 4.5, an operator would normally be expected to develop, whenever applicable, the following:

- The list of ETOPS/EDTO Significant Systems/Sub-systems (i.e. the list including, for a given aircraft, any system/sub-system whose failure or degradation could adversely affect the safety of an EDTO flight or whose continued functioning is important to the safe flight and landing of an aircraft during an ETOPS/EDTO diversion).
- The list of maintenance tasks with ETOPS/EDTO significance (i.e. the list of maintenance tasks affecting any EDTO Significant System/Sub-system).
- The reliability program supplemented, as applicable, to take into account the ETOPS/EDTO requirements and specific analysis.
- The Engine Condition Monitoring Program (ECMP) including the Oil Consumption Monitoring Program.
- The APU in-flight Start Program.
- The ETOPS/EDTO aircraft Pre-Departure Service Check (PDSC).
- The list of ETOPS/EDTO Qualified Maintenance Personnel as well as the training program and qualification procedures of such personnel.
- The procedure to integrate in the MMM all applicable Configuration, Maintenance and Procedures (CMP) provisions issued by the manufacturer of the aircraft.

2.9 Aircraft Recorders

2.10 Electronic Navigation Data Management

MNT 2.10.1

If the Operator uses aircraft with electronic navigation capabilities, the Operator shall have a procedure to ensure the timely insertion of current and unaltered electronic navigation data to all applicable aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the procedure(s) for inserting/loading electronic data into aircraft navigation systems.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of electronic navigation data insertion/loading.
- ☐ **Observed** line maintenance operations (focus: verify currency of aircraft navigation databases).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure a procedure for the insertion of databases for use in aircraft navigation systems prior to the first flight on the effective date for the new database.

2.11 Reduced Vertical Separation Minima (RVSM)

2.12 Reporting to the Authority

3 Technical Records

3.1 Aircraft Maintenance Records

3.2 Aircraft Technical Log (ATL)

3.3 (Intentionally open)

3.4 Airworthiness Directives

4 Maintenance Organizations

4.1 Approval

MNT 4.1.1

The Operator shall have a process to ensure an aircraft is not operated unless it is maintained and released to service by an Approved Maintenance Organization (AMO) that:

(i) Is acceptable to the Authority:

(ii) Has established procedures acceptable to the Authority to ensure maintenance practices are in compliance with all relevant requirements;

(iii) Maintains the validity of its approval through compliance with the requirements for an approved maintenance organization acceptable to the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the process(es) for the selection of AMOs.
- ☐ **Interviewed** responsible manager(s).

- ☐ **Examined** selected AMO selection records.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Approved Maintenance Organization (AMO).

4.2 Management

MNT 4.2.3

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has the necessary personnel to plan, perform, supervise, inspect and release the maintenance work to be performed. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for human resources in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying adequacy of AMO maintenance human resources).
- ☐ **Other Actions** (Specify)

Guidance

The “necessary personnel” requirement addresses both the number and the (certificated) qualification/competence of the personnel. Personnel are typically employed or contracted by an AMO as acceptable to the Authority and in a proportion that ensures organizational stability. The qualification/competence of the personnel and the number of personnel are normally commensurate with the scope of approval of the AMO by the Authority. In some cases, the process put in place by an operator could require the AMO to support its “necessary personnel” status with an appropriately detailed and updated maintenance man-hour plan.

4.3 Quality Assurance

MNT 4.3.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has an independent quality assurance program that:

(i) Meets the specifications contained in Table 4.7;

(ii) Monitors compliance with applicable regulations, requirements and the Maintenance Procedures Manual (MPM) of the AMO;

(iii) Addresses the specific requirements of the Operator as specified in the maintenance agreement;

(iv) Is under the sole control of the Quality Manager or the person assigned managerial responsibility for the program. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for a QA program in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying AMO quality assurance programs meet all applicable requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Maintenance Procedures Manual (MPM).

The primary objectives of the quality system are to enable the AMO to ensure it can deliver a safe product and remain in compliance with all requirements.

An essential element of the quality system is the independent audit. The independent audit is an objective process of routine sample checks of *all* aspects of the approved maintenance organization's ability to carry out all maintenance to the required standards. This process typically includes:

- Product sampling, as this is the end result of the maintenance process, which represents an objective overview of the complete maintenance-related activities; product sampling is intended to complement the requirement for certifying personnel to be satisfied that all required maintenance has been properly carried out before the issue of the certificate of release to service;
- A percentage of random audits carried out on a sample basis when maintenance is being carried out; random audits include audits done during the night for those organizations that work at night.

Another essential element of the quality system is the quality feedback system. The principal function of the quality feedback system is to ensure all findings resulting from the independent quality audits of the organization are properly investigated and corrected in a timely manner:

- Independent quality audit reports are sent to the relevant department(s) for rectification action proposing target rectification dates;
- Rectification dates are discussed with such department(s) before the quality department or nominated quality auditor confirms dates in the report;
- The relevant department(s) rectifies findings within agreed rectification dates and informs the quality department or nominated quality auditor of the completion of such rectifications.

The accountable executive is kept informed of any safety issues and the extent of compliance with authority requirements. The accountable executive also holds regular meetings with personnel to check progress on rectification. In large organizations such meetings may be delegated on a day-to-day basis to the quality manager, subject to the accountable executive meeting at least twice per year with the senior personnel involved to review the overall performance and receiving at least a half yearly summary report on findings of non-compliance.

All records pertaining to the independent quality audit and the quality feedback system are retained for at least two evaluation cycles after the date of closure of the finding to which they refer, or for such period as to support changes to the audit time periods, whichever is the longer.

Note: *The quality feedback system may not be contracted to outside persons.*

It is not intended that this QA Program be based on a system of end product inspection, but rather upon periodic verifications of all aspects of the systems and practices used for the control of maintenance to ensure compliance with regulations and with the operator's approved procedures.

The aim of the program is to provide an unbiased picture of the AMO's performance to verify that activities comply with the MPM and confirm that the systems and procedures described in the MPM remain effective and are achieving the AMO's requirements.

4.4 Personnel

MNT 4.4.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator uses maintenance personnel:

(i) That are appropriately licensed and/or authorized to sign the maintenance release;

(ii) Whose competence has been established in accordance with a procedure and to a level acceptable to the authority granting approval for the maintenance organization. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for qualifications of personnel in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: process for verifying AMO personnel are licensed/authorized to sign maintenance release).
- ☐ **Observed** aircraft part/component installation/replacement (focus: personnel signing maintenance release are appropriately licensed/authorized).
- ☐ **Observed** line maintenance operations (focus: personnel signing maintenance release are appropriately licensed/authorized).
- ☐ **Other Actions** (Specify)

Guidance

Licensing typically ensures maintenance personnel have met the basic requirements of an applicable authority in terms of age, knowledge, experience and, if required, medical fitness and skill, and have demonstrated the required knowledge and skill in a manner specified by the authority.

Planners, mechanics, specialized services personnel, supervisors and certifying personnel are typically assessed for competence by an on-the-job evaluation and/or examination relevant to their particular job or role within the organization before unsupervised work is permitted.

To assist in the assessment of competence, job descriptions are recommended for each job role in the organization. Basically, the assessment establishes that:

- Planners are able to interpret maintenance requirements into maintenance tasks and have an appreciation that they have no authority to deviate from the maintenance data;
- Mechanics are able to carry out maintenance tasks to any standard specified in the maintenance data and notify supervisors of mistakes requiring rectification to meet required maintenance standards;
- Specialized services personnel are able to carry out specialized maintenance tasks to the standard specified in the maintenance data and will both inform and await instructions from their supervisor in any case where it is impossible to complete the specialized maintenance in accordance with the maintenance data;
- Supervisors are able to ensure that all required maintenance tasks are carried out and where not completed or where it is evident that a particular maintenance task cannot be carried out in accordance with the maintenance data, it is to be reported to the responsible person for appropriate action. In addition, for those supervisors who also carry out maintenance tasks, that they understand such tasks are not to be undertaken when incompatible with their management responsibilities;
- Certifying personnel are able to determine when the aircraft is or is not ready to be released to service.

Knowledge of organizational procedures relevant to each individual's particular role in the organization is important, particularly in the case of planners, specialized services personnel, supervisors and certifying personnel.

4.5 Training Program

MNT 4.5.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a training program that requires all maintenance personnel to receive initial and recurrent training that is appropriate to individually assigned tasks and responsibilities, and provides maintenance personnel with the:

(i) Knowledge of regulations, standards and procedures in accordance with requirements in the MMM;

(ii) Knowledge and skills related to human performance, including coordination with, as applicable, other maintenance personnel and/or flight crew. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for an overall training program in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying AMOs have initial/recurrent training programs for maintenance personnel).
- ☐ **Observed** line maintenance operations (focus: personnel signing maintenance release receive initial and recurrent training that are appropriate to individually assigned tasks and responsibilities).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Human Factors Principles and Human Performance.

The intent of this provision is for the operator to ensure appropriate initial and recurrent training for maintenance personnel and to ensure such training takes into account the knowledge and skills specified.

Maintenance personnel receive training in human performance to promote an understanding of the human factors (e.g. human capabilities, limitations, and the interface(s) between human and system components) involved in performing maintenance duties and coordinating with other maintenance personnel and/or flight crew. These human factors are taken into account during training to reduce human error in maintenance activities, including activities performed by an external AMO.

MNT 4.5.7

If the Operator uses a maintenance organization that has maintenance personnel taxi the Operator's aircraft on the movement area of an airport, the Operator shall have a process to ensure such maintenance personnel are authorized, competent and qualified to conduct aircraft taxi operations.

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for the qualifications of personnel that taxi aircraft in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying training/qualification of AMO personnel authorized to taxi aircraft, if applicable).
- ☐ **Other Actions** (Specify)

4.6 Facilities and Physical Resources

MNT 4.6.2

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has the necessary technical data, equipment, tools and material to perform the work for which the maintenance organization has been approved, to include:

(i) Equipment and tools necessary to comply with the work specified in the agreement between the Operator and the maintenance organization;

(ii) Sufficient supplies and spare parts to ensure timely rectification of defects with regard to the Minimum Equipment List (MEL) provisions as specified in the agreement between the Operator and the maintenance organization. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for technical data, equipment, tools and material in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying adequacy of AMO data/equipment/supplies/parts to perform maintenance).
- ☐ **Observed** aircraft part/component installation/replacement (focus: availability/use of necessary technical data/equipment/tools/material for maintenance activity being performed).
- ☐ **Observed** line maintenance operations (focus: availability/use of necessary technical data/equipment/tools/material for maintenance activity being performed).
- ☐ **Observed** aircraft parts/components management/handling (focus: availability/use of necessary technical data/equipment/tools/material for management/handling of aircraft parts/components).
- ☐ **Other Actions** (Specify)

Guidance

Tools and equipment, as specified in the Approved Data, can be made available when needed. Tools and equipment, which require to be controlled in terms of servicing or calibration to measure specified dimensions and torque figures, are to be clearly identified and listed in a control register, including any personal tools and equipment that the organization agrees can be used. Where the manufacturer specifies a particular tool or equipment, then that tool or equipment is used, unless the AMO has an approved procedure to determine the equivalency of alternative tooling/equipment and the procedure documented in the MPM.

The availability of equipment and tools indicates permanent availability except in the case of any tool or equipment that is so rarely needed that its permanent availability is not necessary.

A maintenance organization approved for base maintenance has sufficient aircraft access equipment and inspection platforms/docking such that the aircraft may be properly inspected.

The supplies necessary to perform maintenance work refer to readily available raw material and aircraft components, in accordance with the manufacturer's recommendations, unless the organization has an established spares provisioning procedure.

MNT 4.6.3

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has facilities suitable for the storage of parts, equipment, tools and material under conditions that provide security and prevent deterioration of and damage to stored items. Such processes shall ensure:

(i) Clean work areas, including management offices;

(ii) Parts and material properly identified and stored;

(iii) Oxygen and other high-pressure bottles properly identified and stored;

(iv) Flammable, toxic or volatile materials properly identified and stored;

(v) Equipment identified and protected. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for facilities in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying adequate AMO storage facilities for parts/tools/equipment/material).
- ☐ **Observed** aircraft parts/components management/handling (focus: adequate storage facilities for aircraft parts/components).
- ☐ **Other Actions** (Specify)

Guidance

Storage facilities for serviceable aircraft components are clean, well-ventilated and maintained at an even dry temperature to minimize the effects of condensation. Storage recommendations from the manufacturers for aircraft components are to be followed.

Storage racks are strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not distorted during storage.

All aircraft components, wherever practicable, remain packaged in protective material to minimize damage and corrosion during storage.

MNT 4.6.4

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a shelf-life program for applicable items, which includes a requirement for the shelf-life limit to be controlled and displayed.

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for a shelf life program in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying acceptable AMO shelf-life program for applicable stored items).
- ☐ **Observed** aircraft parts/components management/handling (focus: shelf-life program for applicable stored aircraft parts/components).
- ☐ **Other Actions** (Specify)

MNT 4.6.5

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a receiving inspection program that:

(i) Assures incoming material has the required certification documentation and traceability;

(ii) Includes a process for verification of incoming part tags to ensure information on the tag (e.g. part name, part number, serial number, modification and/or any other applicable reference information) matches the corresponding information on the part.

Auditor Actions

- ☐ **Identified/Assessed** the receiving inspection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of incoming material (focus: certification documentation and traceability).
- ☐ **Examined** selected records of verification of incoming part tags.

- ☐ **Examined** selected AMO oversight/monitoring reports. (focus: verifying acceptable AMO receiving inspection programs).
- ☐ **Observed** aircraft parts/components management/handling (focus: program for ensuring receiving inspection of incoming aircraft parts/components).
- ☐ **Other Actions** (Specify)

4.7 Material Handling

MNT 4.7.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a secure quarantine area for rejected parts and materials awaiting disposition.

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for a secure parts/materials quarantine area in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying adequate AMO parts/materials quarantine area).
- ☐ **Observed** aircraft parts/components management/handling (focus: secure quarantine area(s) adequate for rejected aircraft parts/components).
- ☐ **Other Actions** (Specify)

MNT 4.7.2

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a process for segregating aircraft serviceable parts, aircraft non-serviceable parts, and non-aircraft parts.

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for a parts segregation process in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying acceptable AMO process for segregating parts).
- ☐ **Observed** segregated parts.
- ☐ **Observed** aircraft parts/components management/handling (focus: process for segregating serviceable/non-serviceable/non-aircraft parts/components).
- ☐ **Other Actions** (Specify)

MNT 4.7.3

The Operator shall have a process to ensure each maintenance organization that handles, or performs maintenance on, electrostatic sensitive devices (ESD) for the Operator has an ESD Program. Such ESD program shall comply with applicable manufacturer instructions and the specifications contained in Table 4.8. **(GM)**

Auditor Actions

- ☐ **Identified** the requirement criteria for an ESD program in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying acceptable AMO ESD program).

- ☐ **Observed** aircraft parts/components management/handling (focus: ESD program in accordance with Table 4.8).
- ☐ **Other Actions** (Specify)

Guidance

Consideration is typically given to the scope of work of the maintenance organization in determining the applicability of ESD requirements.

MNT 4.7.4

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has a method of storage that assures sensitive parts and equipment, such as, but not limited to, oxygen system components (oxygen generators and bottles), O-rings and electrostatic sensitive devices are properly packaged, identified and stored to protect them from damage and contamination. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for the storage of sensitive parts in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying acceptable AMO methods for storage of sensitive parts/equipment).
- ☐ **Observed** aircraft parts/components management/handling (focus: methods for ensuring proper identification/storage of sensitive aircraft parts/components).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure maintenance organizations comply with storage recommendations from the manufacturers, with particular emphasis on recommendations with respect to temperature and humidity.

Consideration is to be given to the scope of work of the AMO in determining applicability of specific handling and/or storage requirements.

4.8 (Intentionally open)

4.9 Procedures Manual

4.10 Maintenance Release

MNT 4.10.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator produces a completed and signed maintenance release that certifies all maintenance work performed has been completed satisfactorily and in accordance with the approved data and procedures described in the MPM of the maintenance organization. Such maintenance release shall include:

(i) Basic details of the maintenance performed;
(ii) A reference of the approved data used and, if required, the revision status;
(iii) Maintenance tasks that were not accomplished;
(iv) The date maintenance was completed;
(v) When applicable, identity of the approved maintenance organization;
(vi) Identity of the person(s) that sign the release. **(GM)**

Auditor Actions

- ☐ **Identified** the requirement criteria for the production of the maintenance release in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: verifying AMO production of completed/signed maintenance release that certifies maintenance performed in accordance with MPM).
- ☐ **Observed** line maintenance operations (focus: production of complete maintenance release for specific maintenance activity being performed).
- ☐ **Observed** aircraft part/component installation/replacement (focus: production of complete maintenance release for specific maintenance activity being performed).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Maintenance Organization Exposition.

An operator has the option of defining when the revision status of approved data (that was used during the performance of maintenance) must be included in the maintenance release. The process that defines such requirement is typically documented in the operator's MMM.

A requirement for the documented revision status to be part of the maintenance release might depend on the particular approved data that is referenced. For example, if the Aircraft Maintenance Manual that was used for maintenance is distributed online, there would be an online record of the revision that was available at the time of maintenance, which might obviate the need for that information to be documented in the maintenance release. Conversely, the revision status of certain engineering documents and/or drawings might not be found online or be otherwise available, in which case the operator could opt to require the revision status to be included in the maintenance release for the purpose of ensuring traceability.

Aircraft CRS

A Certificate of Release to Service (CRS) is required before flight:

- At the completion of any maintenance package specified by the aircraft operator;
- At the completion of any defect rectification, while the aircraft operates flight services between scheduled maintenance.

The maintenance package may include any one or a combination of the following elements: a check or inspection from the operator's aircraft maintenance program, Airworthiness Directives, overhauls, repairs, modifications, aircraft component replacements and defect rectification.

New defects or incomplete maintenance work orders identified during maintenance are brought to the attention of the operator for the specific purpose of obtaining agreement to rectify such defects or complete the missing elements of the maintenance work order. In the case where the aircraft operator declines to have such maintenance carried out and provided this missing element/defect does not affect the airworthiness of the aircraft, this fact is entered in the aircraft CRS before issue of such certificate.

Component CRS

A CRS is necessary at the completion of any maintenance on an aircraft component while off the aircraft.

The authorized release certificate/airworthiness approval tag constitutes the aircraft component certificate of release to service when one AMO maintains an aircraft component for another AMO.

When an AMO maintains an aircraft component for use by the organization, an authorized release certificate/airworthiness approval tag may or may not be necessary, depending upon the organization's internal release procedures defined in the maintenance organization exposition and approved by the Authority.

4.11 Tooling and Calibration

MNT 4.11.1

The Operator shall have a process to ensure each maintenance organization that performs maintenance for the Operator has procedures to control and document the calibration and records of all tools, including personnel-owned tools, and preventing out-of-service and due-for-calibration tools and equipment from being used, in accordance with specifications in Table 4.10. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the requirement criteria for the tool calibration in the AMO selection process.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected AMO selection records.
- ☐ **Examined** selected AMO oversight/monitoring reports (focus: process for verifying acceptable AMO tool calibration program).
- ☐ **Observed** line maintenance operations (focus: proper calibration of tools used in maintenance activity being performed).
- ☐ **Observed** aircraft part/component installation/replacement (focus: proper calibration of tools used in maintenance activity being performed).
- ☐ **Other Actions** (Specify)

Guidance

The control of these tools and equipment requires that the organization has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time limit. A clear system of labeling of all tooling, equipment and test equipment is therefore necessary, providing information on:

- When the next inspection or service or calibration is due;
- Whether the item is serviceable or unserviceable and the reason for its unserviceability.

A register is maintained for all precision tooling and equipment together with a record of calibrations and standards used.

Inspection, service or calibration of tools and equipment on a regular basis is in accordance with the equipment manufacturer's instructions except where the maintenance organization can justify by means of results that a different time period is appropriate in a particular case.

The procedural approach complies with the applicable standards authority (e.g. US Bureau of Standards or a country's approved standards certificate from the testing facility).

Table 4.1–Maintenance Program Specifications
The Operator's Maintenance Program shall contain the following information for each aircraft: (i) Maintenance tasks and the intervals at which these tasks are to be performed, taking into account the anticipated use of the aircraft; (ii) When applicable, a continuing structural integrity program; (iii) A system that identifies mandatory maintenance tasks, and their corresponding intervals, for tasks that have been specified as mandatory in the approval of the type design, (i.e. Certification Maintenance Requirements or CMRs); (iv) Procedures for changing or deviating from (i), (ii) and (iii) above; (v) The reliability program and descriptions of any required health monitoring for aircraft, engines, propellers and associated parts where the maintenance program was derived using the Maintenance Review Board process; (vi) The procedure for periodic review of the Maintenance Program to ensure it considers current Type Certificate Holder's recommendations, revisions to the Maintenance Review Board Report, mandatory requirements and other applicable requirements from the Authority.

Table 4.2–Maintenance Management and Control Functions
The Operator shall provide for facilities, workspace, equipment, personnel and supporting services, as well as work environment, as necessary to ensure the implementation of the following maintenance management and control functions: (i) The initial development of the maintenance schedule; (ii) Scheduling maintenance, elementary work and servicing to be performed within the time constraints specified in the approved maintenance schedule; (iii) Scheduling the accomplishment of Airworthiness Directives (ADs); (iv) Operation of an evaluation program to ensure that all required procedures and, in particular the maintenance schedule, continue to be effective and in compliance with the applicable regulations; (v) The proper dispatch of aircraft, with regard to: (a) Control of defects; (b) Availability of spare parts; (c) Conformity with the type design; (d) Requirements of other applicable operating rules. (vi) Liaison with approved maintenance organizations for the performance of maintenance; (vii) The development and update of the Maintenance Management Manual.

Table 4.3–Maintenance Management Manual Content Specifications
The MMM shall contain the following maintenance policies, procedures and information: (i) A description of the administrative arrangements between the operator and the approved maintenance organization; (ii) Names (or titles) and duties of the person or persons whose responsibilities are to ensure that maintenance is carried out in accordance with the MMM; (iii) A description of aircraft types and models to which the manual applies; (iv) A description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization; (v) A reference to the approved maintenance program; (vi) A description of the methods used for the completion and retention of maintenance records, and including procedures for retaining backup records; (vii) A description of the procedures for monitoring, assessing and reporting maintenance and operational experience; (viii) A description of the procedures for complying with the service information reporting requirements; (ix) A description of procedures for assessing continuing airworthiness information and implementing any resulting actions; (x) A description of the procedures for implementing action resulting from mandatory continuing airworthiness information; (xi) A description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance program, in order to improve and correct any deficiency in that program; (xii) A description of procedures for ensuring that unserviceable items affecting airworthiness are recorded and rectified; (xiii) A description of the procedures for advising the Authority of significant in-service occurrences; (xiv) The scope, structure and functionality of the management system for maintenance operations, to include a description of departments, positions, authorities, duties, responsibilities and the interrelation of functions and activities within the system; (xv) A process to ensure all amendments to the MMM are approved by the Authority and/or Operator, as applicable; (xvi) A description of the procedures to ensure operational and emergency equipment necessary for flight is serviceable; (xvii) A description of the procedures to ensure the Certificate of Airworthiness of each aircraft remains valid; (xviii) A description of the duties, responsibilities and reporting relationships within the Quality Assurance Program, or a reference to a separate quality assurance manual, if such description is found in that manual.

Table 4.4–Defect Reporting Specifications
The Operator shall have a procedure for reporting, to the Authority and, if applicable to the OEM, the following defects or un-airworthy conditions: (i) General (a) Any failure, malfunction or defect where the safety of operation was or could have been endangered or which could have led to an unsafe condition. (ii) Aircraft Structure (a) Any failure of aircraft primary structure or a principal structural element; (b) Cracks, permanent deformation or corrosion or defect or damage of aircraft primary structure or principal structural element that a repair scheme is not already provided in the manufacturer's repair manual, or that occur after repair; (c) Any part of the aircraft that would endanger the aircraft or any person by becoming detached in flight or during operations on the ground; (d) Major defect or damage to aircraft structure; (e) Defects or damage to aircraft structures, if more than allowed tolerances. (iii) Powerplant (a) Uncommanded loss of thrust/power, shutdown or failure of any engine; (b) Uncontained failure of engine compressor, turbines; (c) Inability to feather or un-feather a propeller. (iv) Aircraft Systems or Equipment (a) Fire or explosion; (b) Smoke, toxic or noxious fumes in the aircraft; (c) Fuel leakage that results in substantial loss, or is a fire hazard; (d) Fuel system malfunction that has significant effect on fuel supply and/or distribution; (e) Fire warnings, except those immediately confirmed as false; (f) Unwanted landing gear or gear doors extension/retraction; (g) Significant loss of braking action. (v) If applicable, additional requirements of the Authority.

Table 4.5–ETOPS/EDTO Maintenance Requirements for Twin Turbine Engine Aircraft
The Operator shall ensure the following for twin turbine engine aircraft that are used for ETOPS/EDTO: (i) The titles and numbers of all airworthiness modifications, additions and changes that were made to qualify aircraft systems for ETOPS/EDTO are provided to the Authority; (ii) Any changes to maintenance and training procedures, practices or limitations established in the qualification for ETOPS/EDTO are approved by the Authority before being adopted; (iii) A reliability monitoring and reporting program is developed and implemented prior to approval and continued after approval (i.e. new aircraft type); (iv) Prompt implementation of required modifications and inspections that could affect propulsion system reliability; (v) Procedures to prevent an aircraft from being dispatched for ETOPS/EDTO after an engine shutdown or EDTO-significant system failure on a previous flight until the cause of such failure has been positively identified and the necessary corrective action completed. Confirmation that such corrective action has been effective may, in some cases, require the successful completion of a subsequent flight prior to dispatch on an extended range operation; (vi) A procedure to ensure the airborne equipment will continue to be maintained at the level of performance and reliability required for ETOPS/EDTO; (vii) A process for monitoring in-flight shutdowns; (viii) A process to report uncommanded thrust changes or inability to control the engine and set a desired thrust level; (ix) A procedure to minimize scheduled or unscheduled maintenance during the same maintenance visit on more than one parallel or similar ETOPS/EDTO-significant system. Minimization can be accomplished by staggering maintenance tasks, performing and/or supervising maintenance by a different technician, or verifying maintenance correction actions prior to the aircraft entering an ETOPS/EDTO threshold.

Table 4.6–Aircraft Technical Log (ATL) Specifications
The Operator shall have a process to ensure all aircraft have an aircraft technical log (ATL) or approved equivalent that comprises the following elements: (i) Aircraft nationality and registration; (ii) Date; (iii) Place of departure; (iv) Place of arrival; (v) Time of departure; (vi) Time of arrival; (vii) Hours of flight; (viii) Incidents, observations, as applicable; (ix) Details of defects and rectifications/actions taken; (x) Signature or identity of the person recording the defect; (xi) Signature and identity of the person signing the release following maintenance. **

** The signature and identity shall: (1) be traceable to the individual making the entry; and (2) satisfy the requirements specified in the aircraft release to service procedure of the MMM (i.e. be either a handwritten or electronic signature system or company-controlled stamp identity system, as approved by the Authority).

Table 4.7–Quality Assurance Program Specifications and Control Processes
The Operator shall ensure each maintenance organization that performs maintenance for the Operator has an independent Quality Assurance Program that includes the following elements: (i) An internal audit/evaluation program; (ii) An established audit schedule that ensures all applicable regulations, requirements and technical activities described within the MPM of the AMO are checked on established intervals, as described in the MPM; (iii) A record of audit findings and corrective and/or preventive actions; (iv) Follow-up procedures to ensure necessary corrective/preventive actions (both immediate and long-term) implemented by the Maintenance Organization are effective; (v) A record-keeping system to ensure details of evaluation findings, corrective actions, preventive actions and follow-up are recorded, and that the records are retained for two complete evaluation cycles.

Table 4.8–ESD Program Specifications
The Operator shall ensure each maintenance organization that handles or performs maintenance on electrostatic sensitive devices (ESD) for the Operator has an ESD Program that addresses the following: (i) Removal and installation on the aircraft; (ii) Appropriate warning and caution signs, as well as decals, are placed in areas where ESDs are handled; (iii) Devices are contained in ESD-approved packaging are sealed and properly labeled; (iv) Devices not contained in ESD-approved sealed packaging are handled by personnel using, as applicable, approved earthing (i.e. grounding) straps and/or mats, and: (a) For maintenance activities that require floor grids where ESDs are handled, the floor grids are grounded; (b) Are not stored on shelving covered with carpet, foam, vinyl or any other material that can store or produce an electrical charge; (c) Earthing straps and mats are tested to ensure conductivity at regular intervals or prior to use and such test results are recorded.

Table 4.9–Maintenance Procedures Manual Content Specifications
The Operator shall ensure each maintenance organization that performs maintenance for the Operator provides for the use and guidance of relevant maintenance personnel a Maintenance Procedures Manual (MPM), which may be issued in separate parts, that contains the following information: (i) A brief description of the organization that includes: (a) A general description of the scope of work authorized under the organization's terms of approval; (b) A general description of the organization's facilities. (ii) A description of the procedures for implementing changes affecting the approval of the maintenance organization; (iii) A description of the organization procedures and quality or inspection system; (iv) Names and duties of the responsible personnel; (v) Names and duties of the person or persons whose responsibilities are to ensure that maintenance is carried out in accordance with the MPM; (vi) A description of the procedures used to establish the competence of maintenance personnel; (vii) A description of the methods used for the completion and retention of the Operator's maintenance records, including procedures for retaining backup records; (viii) A description of the procedure for preparing the maintenance release and the circumstances under which the release is to be signed; (ix) The process for authorizing personnel to sign the maintenance release and the scope of their authorization; (x) A description of any additional procedures for complying with the Operator's maintenance procedures and requirements; (xi) A description of the procedures for complying with the service information reporting requirements; (xii) A description of the procedure for receiving, amending and distributing within the maintenance organization, all necessary airworthiness data from the type certificate holder or aircraft Type Design Organization; (xiii) A description, when applicable, of contracted activities.

Table 4.10–Tooling and Calibration Program Specifications
The Operator shall ensure each maintenance organization that performs maintenance for the Operator has procedures to control and document the calibration and records of all tools, including personnel-owned tools, and preventing out-of-service and due-for-calibration tools and equipment from being used. The procedures shall include the following elements: (i) Calibration date; (ii) Identity of individual or vendor that performed calibration or check; (iii) Calibration due date; (iv) A calibration certificate for each item calibrated by an outside agency; (v) Details of adjustments and repairs; (vi) Repair history of the tool; (vii) The part number and serial number of the standard used to perform the calibration.

Table 4.11–Required Aircraft Systems and Equipment				
As specified in MNT 1.9.1, aircraft in the Operator's fleet shall be equipped with, in accordance with conditions of applicability, the systems and equipment specified in this table. Where referenced, refer to guidance material in Table 4.12 or Table 4.13.				
	Equipment	**Applicability**	**Requirement**	**Notes**
(i)	Quick-donning oxygen mask	Aircraft operated at flight altitudes above 25000 feet.	A quick-donning oxygen mask for each flight crew member.	
(ii)	Dangerous loss of pressurization device	Aircraft intended to be operated at flight altitudes above 25000 feet for which the individual certificate of airworthiness is first issued on or after 1 July 1962.	A device that provides positive warning to the pilot of any dangerous loss of pressurization.	
(iii)	Protective Breathing Equipment (PBE)	All aircraft.	PBE that: (a) Protects the eyes, nose and mouth of each crew member while on flight duty; provides oxygen for a period of not less than 15 minutes. (b) Allows the flight crew to communicate using the aircraft radio equipment and to communicate by interphone with each other while at their assigned duty stations.	***Note:*** *The specifications for PBE shall be satisfied by equipment that protects the eyes, nose and mouth (e.g. smoke hood, full face oxygen mask or combination of smoke goggles and oxygen mask) and has an oxygen supply that is portable or provided by the aircraft supplemental oxygen system.* ***Note:*** *PBE intended for flight crew use shall be conveniently located on the flight deck and be easily accessible for immediate use by each required flight crew at their assigned duty station.*
		Passenger aircraft required to be operated with cabin crew.	(c) A unit of PBE located in the cabin adjacent to each required cabin crew station.	
		Passenger aircraft not required to be operated with cabin crew.	(d) A unit of portable PBE located in the cabin adjacent to each hand-held fire extinguisher.	
		Cargo aircraft and passenger aircraft operated without cabin crew.	(e) An additional unit of portable PBE located adjacent to the flight deck hand-held fire extinguisher.	

Table 4.11–Required Aircraft Systems and Equipment				
		Cargo aircraft with a cargo compartment accessible to crew member in flight.	(f) An additional unit of portable PBE located outside but adjacent to the entrance of the accessible cargo compartment.	
		Cargo aircraft with a hand-held fire extinguisher in a supernumerary compartment.	(g) An additional unit of portable PBE located adjacent to the hand-held fire extinguisher. **GM** See Table 4.12 (iii)	
(iv)	Hand-held fire extinguishers	All aircraft.	(a) A minimum of one hand-held fire extinguisher located on the flight deck.	***Note:*** *Hand-held fire extinguishers shall be of a type that will minimize the hazard of toxic gas concentration.*
		Passenger aircraft	(b) Hand-held fire extinguishers uniformly distributed throughout the cabin of passenger aircraft (when two or more extinguishers are required) to be readily accessible at each galley not located on a main passenger deck and, if applicable, to be available for use in each cargo compartment that is accessible to the crew. **(GM)** See Table 4.12 (iv)	
(v)	Crash axe or crowbar	All aircraft.	A minimum of one crash axe or crowbar located on the flight deck and/or the passenger cabin. **(GM)** See Table 4.12 (v)	***Note:*** *Unless constrained by certification or security requirements of the Authority and/or State*.
(vi)	Flashlight (torch)	All aircraft intended to be operated at night.	A flashlight (torch) at each flight crew station. **(GM)** See Table 4.12 (vi)	

Table 4.11–Required Aircraft Systems and Equipment				
△ (vii)	Emergency Locator Transmitters (ELTs)	Aircraft used for international flights with more than 19 passenger seats for which the individual certificate of airworthiness was first issued before 1 July 2008.	One automatic ELT or two ELTs of any type or, if approved by the Authority, a robust and automatic means to accurately determine, following an accident during which the aircraft is severely damaged, the location of the point of end of flight.	***Note:*** *These specifications are applicable to all aircraft used to conduct international flights unless an agreement exists between all states transited by the aircraft. In such cases, ELT equipage is in accordance with the requirements as set forth by the applicable Authorities.* ***Note:*** *All ELTs except those specified in the previous note must be capable of broadcasting simultaneously on 406 and 121.5 MHz.*
		Aircraft used for international flights with more than 19 passenger seats for which the individual certificate of airworthiness was first issued on or after 1 July 2008.	Two ELT of any type one of which shall be automatic or, if approved by the Authority one ELT and a robust and automatic means to accurately determine, following an accident during which the aircraft is severely damaged, the location of the point of end of flight.	
		Aircraft used for international flights with 19 or less passenger seats for which the individual certificate of airworthiness was first issued before 1 July 2008.	One ELT of any type or, if approved by the Authority, a robust and automatic means to accurately determine, following an accident during which the aircraft is severely damaged, the location of the point of end of flight.	
		Aircraft used for international flights with 19 or less passenger seats for which the individual certificate of airworthiness was first issued after 1 July 2008.	One automatic ELT or, if approved by the Authority, a robust and automatic means to accurately determine, following an accident during which the aircraft is severely damaged, the location of the point of end of flight.	
(viii)	Underwater Locator Beacon (ULB) attached to aircraft fuselage	Aircraft applicability as defined by the State.	ULB installation in accordance with requirements of the State.	
(ix)	Underwater Locator Beacon (ULB) attached to non-deployable FDR container	Aircraft applicability as defined by the State.	ULB installation in accordance with requirements of the State.	

Table 4.11–Required Aircraft Systems and Equipment				
(x)	Airborne Collision Avoidance System II (ACAS II)	All aircraft.	An ACAS II. **(GM)** See Table 4.12 (x)	***Note:*** *Such system shall use a software version approved or accepted by the applicable authorities as appropriate for the airspace or area of operation.*
(xi)	Airborne weather radar system	All aircraft.	An airborne weather radar system capable of detecting thunderstorms and other potentially hazardous weather conditions when operating in areas where such weather conditions could be expected to exist along the route either at night or under instrument meteorological conditions.	
(xii)	Ground Proximity Warning System (GPWS)	All aircraft.	A GPWS that: (a) Automatically provides a warning to the flight crew when the aircraft is in close proximity to the earth's surface; and (b) Has a forward-looking terrain-avoidance function. **(GM)** See Table 4.12 (xii)	
(xiii)	Flight Data Recorder (FDR)	All aircraft.	A digital FDR that (a) Uses solid state digital recording; (b) Is capable of recording, as a minimum, the last 25 hours of aircraft operation; (c) Records time, altitude, airspeed, normal acceleration and heading; (d) Is of a type that is in accordance with requirements of the Authority.	

Table 4.11–Required Aircraft Systems and Equipment					
△	(xiv)	Cockpit Voice Recorder (CVR)	All aircraft	A CVR capable of retaining the information recorded during at least the last two hours of its operation.	***Note:*** *The CVR must not use magnetic tape or wire.*
			All aircraft of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness was first issued on or after 1 January 2022	A CVR capable of retaining the information recorded during at least the last twenty five hours of its operation **(GM)** See Table 4.12 (xiv)	
△	(xv)	Data Link Recorder (DLR)	Aircraft using datalink communications for the authorization and/or control of the aircraft flight path and for which the individual certificate of airworthiness was first issued on or after 1 January 2016.	A DLR that records the applicable data link messages is integrated with a CVR or an FDR, or with a combination FDR/CVR unit. **(GM)** See Table 4.12 (xv)	
	(xvi)	First aid kits	All aircraft.	One or more first aid kits located to be readily accessible for use by the flight crew and, if applicable, supernumeraries. **(GM)** See Table 4.13	***Note:*** *This specification is applicable to commercial and/or non-commercial operations.*
			Passenger aircraft	First aid kits distributed as evenly as practicable throughout the cabin to be readily accessible for use by crew members in the cabin. **(GM)** See Table 4.13	

Table 4.11–Required Aircraft Systems and Equipment				
(xvii)	Seats and associated restraint devices	All aircraft.	Flight crew seats fitted with a safety harness for each flight crew member. **(GM)** See Table 4.12 (xvii)	***Note:*** *This specification is applicable to commercial and/or non-commercial operations.*
		Passenger aircraft	A seat (or berth) for each person over a specific age as determined by the State, with each seat (or berth) fitted with a safety harness, seat belt or restraining device. **(GM)** See Table 4.12 (xvii)	
		Aircraft that transport supernumeraries	A seat fitted with a seat belt (or safety harness) for each supernumerary. **(GM)** See Table 4.12 (xvii)	
(xviii)	Cabin crew seats	Passenger aircraft operated with cabin crew.	Forward or rearward facing seats at each emergency evacuation station for use by cabin crew members. Such seats are located near floor level exits and fitted with a safety harness.	
△ (xix)	Megaphones	Passenger aircraft with a seating capacity of more than 60 passengers operated with cabin crew.	Portable battery-operated megaphones, stowed in a manner to be readily accessible for use by crew members. A number of megaphones in accordance with requirements of the Authority but not less than: (a) One megaphone for aircraft with more than 60 and less than 100 passenger seats; (b) Two megaphones for aircraft with 100 or more passenger seats. **(GM)** Table 4.12 (xix)	

Table 4.11–Required Aircraft Systems and Equipment				
(xx)	Life jacket or equivalent individual flotation device	Aircraft used for over-water flights with or without cabin crew.	A minimum of one life jacket or equivalent individual flotation device for each person on board, with each life jacket or flotation device fitted with a means for electric illumination and stowed for easy accessibility from individual seating positions. **(GM)** See Table 4.12 (xx)	
(xxi)	Lifesaving rafts	Aircraft used for long-range over-water flights.	Lifesaving rafts with sufficient capacity to accommodate all persons on board, with each raft stowed in a manner to facilitate ready use during a ditching emergency. Lifesaving rafts contain: (a) Life-sustaining equipment as appropriate to the flight to be undertaken; (b) Equipment for making pyrotechnical distress signals.	***Note:*** *This specification is applicable to all aircraft, except cargo aircraft that have been granted a specific exemption by the Authority.*
(xxii)	Signaling devices and lifesaving equipment	Aircraft used for flights across land areas that have been designated by the state(s) concerned as areas in which search and rescue would be especially difficult.	Equipped with signaling devices and lifesaving equipment (including, means of sustaining life) in accordance with requirements of the applicable state(s).	

Table 4.11–Required Aircraft Systems and Equipment				
(xxiii)	Fire suppression system	Passenger aircraft with a cargo compartment that is accessible to crew members in flight.	Such compartments are equipped with, as applicable, either: (a) A built-in cargo compartment fire suppression system, or (b) A portable fire suppression system is available for use in such compartments by a crew member and/or appropriately qualified supernumeraries. **(GM)** Table 4.12 (xxiii)	
		Aircraft that have a cargo compartment not accessible to a crew member in flight, for which the application for certification was submitted on or after 2 March 2004.	Each cargo compartment is equipped with a built-in fire detection system and a built-in fire starvation or suppression system. **(GM)** See Table 4.12 (xxiii)	
(xxiv)	Cargo restraint system	All aircraft transporting cargo.	A cargo restraint system, which may include barriers, ULDs, nets, straps, chains, tie-downs and/or floor locks that prevent cargo from shifting and: (a) Blocking or reducing access to emergency exits; (b) Obstructing the flow of required fire retardants; (c) Interfering with design features of the aircraft critical to the safety of flight (e.g. flight controls).	
(xxv)	Humane killer device, (if carried on board).	On cargo aircraft used in the transport of livestock, if humane killer device is carried on board.	Humane killer device stowed in a secure manner with only controlled access during flight.	

Table 4.11–Required Aircraft Systems and Equipment				
(xxvi)	Flight deck door	Aircraft used for passenger flights with: • A maximum certificated takeoff mass in excess of 54 500 kg, or • Of a maximum certificated takeoff mass in excess of 45 500 kg and with a passenger seating capacity greater than 19, or • With a passenger seating capacity greater than 60.	An approved flight deck door that: (a) Is designed to resist penetration by small arms fire, grenade shrapnel or forcible intrusions by unauthorized persons. (b) Is capable of being locked and unlocked from either pilot station. (c) Has the associated means for monitoring the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behavior or potential threat. **(GM)** See Table 4.12 (xxvi) (d) Has the means by which cabin crew members or other authorized persons can notify the flight crew in the event of suspicious activity or a security breach. **(GM)** See Table 4.12 (xxvi)	***Note:*** *A smoke barrier or curtain is not acceptable for addressing this specification for a flight deck door.*
(xxvii)	Cabin emergency escape path marking system	Aircraft used for passenger flights with or without cabin crew, and with more than 9 passenger seats for which the individual certificate of airworthiness was first issued after 1 January 1958.	A system that enables visual identification of the emergency escape paths and exits in darkness and conditions of reduced visibility. **(GM)** See Table 4.12 (xxvii)	
(xxviii)	Smoke detection system in lavatories	Aircraft used for passenger flights with or without cabin crew, and with 10 or more passenger seats.	A smoke detection system in the lavatories. **(GM)** See Table 4.12 (xxviii)	

Table 4.11–Required Aircraft Systems and Equipment				
(xxix)	Built in fire extinguisher in lavatories	Aircraft used for passenger flights with or without cabin crew, with 20 or more passenger seats, and for which the application for certification was submitted on or after 2 March 2004.	A built-in fire extinguisher system for each lavatory receptacle intended for the disposal of towels, paper or waste. **(GM)** See Table 4.12 (xxix)	
△ (xxx)	Autonomous distress position transmission system	Aircraft of a maximum certificated takeoff mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2023.	A system that autonomously transmits information from which aircraft position can be determined by the Operator at least once every minute when in distress and: (a) Automatically activates transmission of position information when the aircraft is sensed to be in distress; (b) Has a means for information transmission to be activated manually; (c) Transmits information that contains a time stamp; (d) In the event aircraft electrical power is lost, transmits position information for at least the expected duration of the entire flight. **(GM)** See Table 4.12 (xxx)	▲ An operator may conform to Table 4.11 (xxx) through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 1 January 2025.

Table 4.12–Guidance Material: Required Aircraft Systems and Equipment				
(i)–(ii)	(Intentionally open)			
△ (iii)	The term “adjacent to” in the context of this standard means next to, close to or alongside the associated item. The intent of (iii) (g) is that a unit of PBE is installed in the supernumerary compartment for use in conjunction with the associated fire extinguisher.			
(iv)	The requirements for hand-held fire extinguishers in this specification are applicable only to areas of the aircraft other than the flight deck. Specific requirements for the flight deck are found in Table 4.11 (iv) (a). The minimum number of hand-held fire extinguishers required for passenger aircraft is determined by the Authority and is typically based on the number of passengers the aircraft is authorized to carry. The following list provides the typical minimum numbers of hand-held fire extinguishers based on aircraft passenger seats:			
	Seats installed	**Number of fire extinguishers**	**Seats installed**	**Number of fire extinguishers**
	7 to 30	One (1)	301 to 400	Five (5)
	31 to 60	Two (2)	401 to 500	Six (6)
	61 to 200	Three (3)	501 to 600	Seven (7)
	201 to 300	Four (4)	601 or more	Eight (8)
(v)	The intent of this specification is to ensure crash axes and/or crowbars are installed in accordance with: • Applicable certification requirements (e.g. aircraft type certification or for issuance of the Air Operator Certificate); • Applicable security requirements.			
(vi)	This specification is normally satisfied by the installation of a fixed light or torch attached to the aircraft structure, such as a “Grimes Light.” Operators wishing to use flight crew member flashlights to conform to the specifications of this specification need to demonstrate the means of ensuring the carriage, accessibility and serviceability of such flashlights.			
(vii)–(ix)	(Intentionally open)			
(x)	It is important to note that this specification does not refer to a specific ACAS II software version and that technical requirements related to the required ACAS software version vary widely and may be based on one or more of the following criteria: • Date of issue of an aircraft's individual certificate of airworthiness; • Deadline for initial equipage or retrofit set by an applicable Authority; • Area(s) of operation, including operations over the high seas or under the jurisdiction of an authority other than the Authority of the operator; • Type of airspace (e.g. RVSM). Technical guidance for the operational requirements applicable to ACAS II is contained in one or more of the following documents as relevant to the operations conducted by the operator: • ICAO Annex 10, Volume IV; • FAA InFO (Information for Operators) 12010 dated 06/26/12; • FAA Booklet “Introduction to TCAS II Version 7.1” dated 02/28/11; • FAA Advisory Circular AC 120-55C (Air Carrier Operational Approval and Use of TCAS II) dated 03/18/13; Commission Regulation (EU) No 1332/2011 of 16 December 2011–“Laying down common airspace usage requirements and operating procedures for airborne collision avoidance.”			

Table 4.12–Guidance Material: Required Aircraft Systems and Equipment	
(xi)	(Intentionally open)
(xii)	A GPWS provides a warning when it senses the aircraft is in close proximity to the earth's surface and not in the landing configuration, which typically means the landing gear is not down and locked, and/or the flaps are not in a landing position. Different systems are available and acceptable as a GPWS with a forward-looking terrain avoidance (FLTA) function, as specified in item ii) of this specification. The following guidance is an overview only; it is not to be construed as technical specifications for an acceptable system. A GPWS with a FLTA function could also be known as a predictive terrain awareness and warning system (TAWS), and provides: • A forward-looking capability and terrain clearance floor; • The flight crew, by means of visual and aural signals, and a terrain awareness display, with an alerting time necessary to prevent controlled flight into terrain events. An acceptable system provides a forward-looking capability and terrain clearance floor protection in areas of operations and surrounding airports of intended use. Such systems generally have: • A navigation system that provides accurate aircraft position (e.g. GPS or equivalent); • A means of displaying aircraft and terrain information; • A means of providing visual and aural signals; • A terrain database(s) for all areas of potential operations and surrounding airports of intended use. If an obstacle database is commercially available and obstacle detection/display functionality is installed, an obstacle database for all areas of potential operations.
(xiii)	(Intentionally open)
(xiv)	The Note and the AI statement in the 5th column of Table 4.11 (xiv) are relevant to both applicable aircraft categories specified in the 3rd column.
△ (xv)	Applicable data link messages as specified in the Requirement column would be those messages related to the authorization and/or control of the aircraft flight path. The minimum recording duration of the DLR is typically equal to the recording duration of the CVR.
△ (xvi)	(Intentionally open)
(xvii)	The safety harness typically incorporates a device that will automatically restrain the occupant's torso in the event of rapid deceleration.
(xviii)	(Intentionally open)
(xix)	If located in overhead bins or other cabin compartments, megaphones, in order to be readily accessible, would be kept free from and/or not covered by cabin baggage, cabin supplies or other items. The intent of this provision is that aircraft are equipped with no less than the specified number of megaphones. If a greater number of megaphones is required by the Authority, then the operator would have to be in compliance with the requirement of the Authority.
(xx)	Refer to the IRM for the definition of Over-water Flights. Seat cushions that are designed to float may be considered individual flotation devices. State regulations might permit baby survival cots or infant life jackets to be stowed together in one or more common cabin locations (e.g. in a bustle or doghouse) on passenger aircraft. Under such circumstances, an operator would typically have procedures to ensure such items are handed to the parents of infants when required.
(xxi)–(xxii)	(Intentionally open)

Table 4.12–Guidance Material: Required Aircraft Systems and Equipment	
△ (xxiii)	This specification is applicable to passenger aircraft only and is intended to ensure a means of fire suppression in cargo compartments accessible to crew members. For the purposes of this specification, “in flight” is defined as the period that starts the moment the aircraft is ready to move for the purpose of taking off and ends the moment it finally comes to rest at the end of the flight and the engine(s) are shut down. Ideally, the fire detection system and fire starvation or suppression system as specified in this standard would be designed to account for a sudden and extensive fire that could be caused by an explosive or incendiary device, or by dangerous goods. Refer to the guidance associated with FLT 1.12.2 for the hazards relevant to the conduct of aircraft operations that are typically addressed as part of a safety risk assessment and mitigation program.
(xxiv)–(xxv)	(Intentionally open)
△ (xxvi)	Item (b): The design of the reinforced flight deck door typically takes into account safety requirements, such as decompression panels, emergency exit capability for the flight crew and emergency access for rescuers. Also, a secondary locking device, such as a deadbolt or cross bar, is installed in case the automated locking device is defective. The aircraft MEL would contain any restrictions pertinent to use of the door in line operations, including, if applicable, a secondary locking system. Item c: For monitoring the area outside the flight deck door, a closed-circuit television (CCTV) system is an acceptable method of conformance. However, a CCTV system is not required in order to conform to this provision. Implementation of other procedural methods in accordance with applicable regulations is also considered acceptable. Item (d): This specification requires a system or device(s) for use by the cabin crew or other authorized persons to notify the flight crew of any security compromise in the cabin.
(xxvii)	An escape path marking system typically consists of any type of illumination that is designed to facilitate the evacuation of the aircraft.
(xxviii)	In certain regulatory jurisdictions there is typically a requirement for the lavatory smoke detection system to provide a warning that can be readily detected by the flight and/or cabin crew.
(xxix)	In certain regulatory jurisdictions there is typically a requirement for the fire extinguisher to discharge automatically into each lavatory waste receptacle in the event of a fire.
(xxx)	An aircraft is in a distress condition when it is in a state that, if the aircraft behavior event is left uncorrected, can result in an accident. Examples of aircraft behavior events that could activate distress information transmission include, but are not limited to, unusual attitudes, unusual speed conditions, collision with terrain and total loss of thrust/propulsion on all engines and ground proximity warnings.

Table 4.13–Guidance Material: First Aid Kits

The minimum number of first aid kits required for passenger aircraft is determined by the Authority and is typically based on the number of passengers the aircraft is authorized to carry.

The following list provides typical minimum numbers of cabin first aid kits based on passenger seats:

Seats installed	Number of first aid kits	Seats installed	Number of first aid kits
100 or fewer	One (1)	301 to 400	Four (4)
101 to 200	Two (2)	401 to 500	Five (5)
201 to 300	Three (3)	501 or more	Six (6)

The contents of an aircraft first aid kit would typically include:

- List of kit contents;
- Antiseptic swabs (10/packs);
- Bandage, adhesive strips;
- Bandage, gauze 7.5 cm × 4.5 m;
- Bandage, triangular 100 cm folded and safety pins;
- Dressing, burn 10 cm × 10 cm;
- Dressing, compress, sterile 7.5 cm × 12 cm approx.;
- Dressing, gauze, sterile 10.4 cm × 10.4 cm approx.;
- Adhesive tape, 2.5 cm (roll);
- Skin closure strips;
- Hand cleanser or cleansing towelettes;
- Pad with shield or tape for eye;
- Scissors, 10 cm (if permitted by applicable regulations);
- Adhesive tape, surgical 1.2 cm × 4.6 m;
- Tweezers, splinter;
- Disposable gloves (several pairs);
- Thermometers (non-mercury);
- Resuscitation mask with one-way valve;
- First aid manual (an operator may decide to have one manual per aircraft in an easily accessible location);
- Incident record form.

Note: *First aid kit does not normally include ammonia inhalants.*

If permitted by applicable regulations, first aid kits could include the following medications:

- Mild to moderate analgesic;
- Antiemetic;
- Nasal decongestant;
- Antacid;
- Antihistaminic;
- Antidiarrheal.

In states where regulations do not allow any medications in the first aid kit, affected operators may carry an extra kit containing the above medications to be used passively (i.e. only given to a passenger on specific request by the passenger).

	Table 4.14–Recommended Aircraft Systems and Equipment				
	Aircraft in the Operator's fleet *should* be equipped with, in accordance with conditions of applicability, the systems and equipment specified in this table. Where referenced, refer to guidance material in Table 4.15.				
		Equipment	**Applicability**	**Recommendation**	**Notes**
☐	(i)	Emergency Locator Transmitters (ELTs)	All aircraft.	A minimum of one automatic ELT that operates on 121.5 and 406 MHz simultaneously.	***Note:*** *This specification applies to aircraft engaged in all types of operations, regardless of any exemptions or authorizations issued by the Authority or other applicable authorities.*
	(ii)	Cockpit Voice Recorder (CVR)	Aircraft of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2018	An alternate power source that powers at least one CVR **(GM)** See Table 4.15 (i)	
	(iii)	Airborne Collision Avoidance System II (ACAS II)	All aircraft.	Equipped with an ACAS II using software version 7.1. **(GM)** See Table 4.15 (ii)	
	(iv)	Forward-looking wind shear warning system	All aircraft.	Equipped with a forward-looking wind shear warning system	
△	(v)	Flight deck door	All aircraft used for passenger flights.	Equipped, where practicable, with an approved flight deck door that is: (a) Capable of being locked and unlocked from either pilot station; (b) Designed to resist penetration by small arms fire, grenade shrapnel or forcible intrusions by unauthorized persons.	
△	(vi)	Data Link Recorder (DLR)	Aircraft using datalink communications for the authorization and/or control of the aircraft flight path, that: • Have the individual aircraft certificate of airworthi-ness first issued before	A DLR that records the applicable data link messages is integrated with a CVR or an FDR or with a combination FDR/CVR unit. **(GM)** See Table 4.15(v)	***Note:*** *Effective 1 September 2023, this recommended practice will be upgraded to a standard; IOSA registration will require conformance by the Operator*

Table 4.14–Recommended Aircraft Systems and Equipment				
		1 Jan 2016, and • Had no approved modification available for DLR on the aircraft type (make/ model/ series) prior to 1 January 2016, and • Were modified on or after 1 Jan 2016 for such use.		
		Aircraft using datalink communications for the authorization and/or control of the aircraft flight path that: • Have the individual aircraft certificate of airworthi-ness first issued before 1 January 2016, and • Had an approved modification available for DLC on the aircraft type (make/ model/ series) prior to 1 January 2016, and • Were modified on or after 1 January 2016 for such use.	A DLR that records the applicable data link messages is integrated with a CVR or an FDR or with a combination FDR/CVR unit. **(GM)** See Table 4.15 (v)	***Note**: This recommended practice will not be upgraded to a standard.*

Table 4.14–Recommended Aircraft Systems and Equipment				
△ (vii)	Autonomous distress position transmission system	Aircraft of a maximum certificated takeoff mass of over 5 700 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2023.	A system that autonomously transmits information from which aircraft position can be determined by the Operator at least once every minute when in distress and: (a) Automatically activates transmission of position information when the aircraft is sensed to be in distress; (b) Has a means for information transmission to be activated manually; (c) Transmits information that contains a time stamp; (d) In the event aircraft electrical power is lost, transmits position information for at least the expected duration of the entire flight. **(GM)** See Table 4.15 (vi)	▲ An operator may conform to Table 4.14 (vi) through Active Implementation as long as the implementation Action Plan (IAP) projects conformance on or before 31 August 2025.

Table 4.15–Guidance Material: Recommended Aircraft Systems and Equipment	
(i)	An alternate power source automatically engages and provides ten minutes, plus or minus one minute, of operation whenever aircraft power to the CVR is lost, either by normal shutdown or other occurrence. The alternate source is typically located as close as practicable to the CVR and powers the CVR and its associated flight deck area microphone components.
(ii)	The intent of this specification is to encourage the earliest practicable deployment of ACAS II with software version 7.1. It is recognized, however, that ACAS software version requirements vary widely based on the criteria contained in the Guidance Material found in Table 4.12 (vii).
(iii)–(iv)	(Intentionally open)
(v)	Applicable data link messages as specified in the Requirement column would be those messages related to the authorization and/or control of the aircraft flight path. The minimum recording duration of the DLR is typically equal to the recording duration of the CVR.
(vi)	An aircraft is in a distress condition when it is in a state that, if the aircraft behavior event is left uncorrected, can result in an accident. Examples of aircraft behavior events that could activate distress information transmission include, but are not limited to, unusual attitudes, unusual speed conditions, collision with terrain and total loss of thrust/propulsion on all engines and ground proximity warnings.

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Section 5 — Cabin Operations (CAB)

Applicability

Section 5 addresses the safety and security requirements associated with the aircraft passenger cabin. All standards and recommended practices (ISARPs) in this section are applicable to an operator that conducts passenger flights with cabin crew.

Individual CAB provisions or sub-specifications within a CAB provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase “If the Operator...” are applicable if the Operator meets the condition(s) stated in the phrase.
- Begin with a conditional phrase “If the Operator conducts passenger flights with or without cabin crew…” are applicable if the Operator conducts passenger flights without cabin crew.

Additional ISARPs applicable to an operator that conducts passenger flights without cabin crew are located in Section 2 (FLT) of this manual.

Specifications applicable to the carriage of supernumeraries are located in Section 2 (FLT) of this manual.

Where an operator outsources the performance of cabin operations functions to external service providers, the operator retains overall responsibility for ensuring the management of safety in such operations and must demonstrate processes for monitoring applicable external service providers in accordance with CAB 1.10.2.

General Guidance

Definitions of technical terms used in this ISM Section 5, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

Refer to the IATA Cabin Operations Best Practices Guide for practical information and guidance related to cabin safety policies and procedures, (http://www.iata.org/publications/Pages/cabin-safety-guide.aspx).

1 Management and Control

1.1 Management System Overview

1.2 Accountability, Authorities and Responsibilities

CAB 1.2.4

The Operator shall ensure the duties and responsibilities of cabin crew members are defined and described in the Operations Manual (OM). **(GM)**

Auditor Actions

☐ **Identified/Assessed** defined cabin crew member duties and responsibilities in the OM.

☐ **Interviewed** cabin operations manager/designated management representative(s).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Cabin Crew Member and Operations Manual (OM).

The intent of this provision is that OM documentation describes:

- Duties and responsibilities for cabin crew members, including, if applicable, cabin crew leader;
- Chain and succession of command on board the aircraft.

CAB 1.2.5

The Operator shall ensure cabin crew members maintain familiarity with laws, regulations and procedures pertinent to the performance of their duties. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** method for ensuring cabin crew members maintain familiarity with applicable laws, regulation and procedures.
- ☐ **Interviewed** cabin operations manager/designated management representative(s).
- ☐ **Other Actions** (Specify)

Guidance

An operator might use other methods that complement training to ensure cabin crew members remain knowledgeable of the laws, regulations, rules, guidelines and other information that is relevant in the performance of duties. For example, cabin crew members might have destination-specific information or briefing books that explain the customs and immigration processes associated with flying into foreign destinations. Additionally, laws, regulations and procedures might be reviewed to the extent necessary during cabin crew briefings prior to duty assignments.

⊗

1.3 Communication

CAB 1.3.2

The Operator shall have processes to ensure information relevant to cabin crew policies, procedures and responsibilities is communicated to all cabin crew members, and to ensure essential operational information or guidance is communicated to the cabin crew prior to each flight. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for communication of information relevant policies/procedures/responsibilities to cabin crew members prior to each flight.
- ☐ **Interviewed** cabin operations manager/designated management representative(s).
- ☐ **Examined** examples of information provided to cabin crew members prior to flight.
- ☐ **Observed** line cabin operations (focus: cabin crew has received essential operational information/guidance prior to flight).
- ☐ **Other Actions** (Specify)

Guidance

Processes are in place to ensure information regarding policies, procedures and responsibilities is made available to cabin crew members on a regular and timely basis. Vehicles for communication typically include the OM, operations bulletins, bulletin board notices, safety bulletins, electronic platforms, electronic computer messages, telephone calls or any other effective means.

Also, a process is in place to ensure essential information necessary for the safe conduct of a flight is communicated to the cabin crew prior to the departure of each flight or series of flights. Such process would include a means for cabin crew members to acknowledge receipt of essential information. Written or verbal confirmation to a responsible manager that is recorded is considered an acceptable means of acknowledgement.

1.4 Provision of Resources

1.5 Documentation System

1.6 Operations Manual (OM)

CAB 1.6.2

If required by the Authority, the Operator shall have a process to ensure the OM, including updates and revisions, is submitted for acceptance or approval. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for submission of OM, including updates/revisions, to Authority for acceptance/approval.
- ☐ **Interviewed** responsible management representative(s).
- ☐ **Examined** examples of acceptance/approvals of recent revisions to the cabin (OM).
- ☐ **Other Actions** (Specify)

Guidance

The OM contains a list of effective pages and, if applicable, displays evidence of approval or acceptance by the Authority.

The manual (or revisions) is (are) typically accepted or approved, as applicable, prior to issuance to cabin crew members and before any operational procedures contained in the manual are implemented.

In some states, the regulatory authority might have a passive process for providing acceptance of the manual. In such case, the process defines the procedural steps and provides a record of the completed steps and date of acceptance.

CAB 1.6.5

The Operator shall ensure a minimum of one complete version of the OM as specified in CAB 1.6.1 is accessible on board the aircraft for passenger flights and located in a manner that provides for:

(i) If used directly for the conduct of cabin operations, immediate access by each cabin crew member;

(ii) If used as a reference document only, unobstructed access by the cabin crew. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** onboard availability/access of OM to cabin crew members.
- ☐ **Interviewed** cabin operations manager/designated management representative(s).
- ☐ **Observed** line cabin operations (focus: onboard accessibility of complete version of OM).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Electronic Flight Bag (EFB) Practical Manual.

The number of complete OMs on board the aircraft would be determined by how the manual is used by the cabin crew.

It is not envisaged that the cabin crew would refer to the OM during an emergency situation or when an immediate response is required (e.g. during critical stages of flight). Therefore, there is no requirement for the OM to be immediately available to cabin crew members while they are seated in crew seats.

The onboard OM may be in the form of hard printed copies or as electronic media installed on fixed or portable electronic devices.

Provision of the OM electronically, either within an Electronic Flight Bag (EFB) or installed on cabin crew personal electronic devices, can offer more immediate availability of the OM to cabin crew members within their working environment or on their person. In any case, one or more access terminals or devices would be located so the cabin crew has immediate and/or unobstructed access to the OM as applicable to the way the manual is used, the size of the aircraft, and the number of cabin crew members.

A safety risk assessment would typically be conducted to determine appropriate mitigations, policies and procedures to ensure sufficient charging of the device(s) for the duration of the flight and to address the possibility of a device malfunction preventing access to the OM.

Item (i) specifies the use of the onboard OM directly for the conduct of cabin operational functions (e.g. using checklists, making cabin announcements). When the OM is used in this manner, because each cabin crew member will require access at any time to perform their duties, it might be necessary to have more than one copy available depending on the size of the aircraft and the number of cabin crew members.

Item (ii) specifies the use of the onboard OM only as a reference manual, which would occur when a practical manual is used directly for the conduct of cabin operational functions (see CAB 1.6.7). For example, the OM might be used as a reference to perform a more detailed check of a policy or process. Where the OM is used only as a reference, a minimum of one copy, either electronic or printed, would be required and located so cabin crew members always has access. The flight deck may be an acceptable location for the OM if there are no other suitable locations within the cabin.

CAB 1.6.7

If the Operator publishes a practical manual for use by the cabin crew in the performance of cabin operations duties, the Operator shall ensure one or more copies of the up-to-date practical manual are on board the aircraft for passenger flights and located in a manner that provides for immediate access by each cabin crew member. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** onboard availability/access of practical manual to cabin crew members.
- ☐ **Interviewed** cabin operations manager/designated management representative(s).
- ☐ **Examined** practical manual used by cabin crew members.
- ☐ **Observed** line cabin operations (if applicable) (focus: one or more copies of up-to-date practical manual on board; cabin crew has immediate access to practical manual).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Practical Manual.

A practical manual (or QRH, QRM) is a condensed version of the OM designed for use by personnel in conducting frontline operations. It contains selected reference information, policies, procedures, illustrations, memory aids, checklists and/or other material necessary from the OM to ensure standardization in performing normal duties and addressing non-normal, abnormal and/or emergency situations.

A practical manual is typically required to be in the possession of each individual cabin crew member in electronic or printed format, or available at each cabin crew station or other location that ensures immediate access by each cabin crew member.

1.7 Records System

1.8 (Intentionally open)

1.9 Quality Assurance Program

1.10 Quality Control of Outsourced Operations and Products

1.11 Safety Management

Risk Management

△ **CAB 1.11.1**

The Operator shall have a hazard identification program in the cabin operations organization that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in cabin operations (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of cabin operations in the organization-wide, cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** person(s) that perform analysis of cabin operational data for the purpose of identifying hazards.
- ☐ **Examined** examples of hazards to aircraft operations that have been identified through data collection and analysis in cabin operations.
- ☐ **Other Action** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations), Risk Management and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

CAB 1.11.2

The Operator shall have a safety risk assessment and mitigation program in the cabin operations organization that specifies processes to ensure:

(i) Hazards are analyzed to determine corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in cabin operations. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its cabin operations risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.

• Means used for recording risks and mitigation (control) actions.

• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant cabin operations hazards are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) across the cabin operations organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of "as low as reasonably practical".

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

△ (ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in cabin operations (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** role of cabin operations in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** person(s) that perform safety risk assessments in cabin operations.
- ☐ **Examined** selected records/documents that illustrate risk assessment and resulting risk mitigation action(s) in cabin operations.
- ☐ **Other Action** (Specify)

Guidance

Refer to the IRM for the definitions of Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

Potential hazards typically associated within cabin operations include, but are not limited to:

- Inadvertent slide deployment;
- Smoke/fire/fumes;
- Turbulence;
- Unruly passengers;
- Cabin crew injury/incapacitation;
- Carriage of lithium batteries in the cabin;
- Inflight product and services;
- Service of hot food and beverages.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

CAB 1.11.3

The Operator shall have an operational safety reporting system in the cabin operations organization that:

(i) Encourages and facilitates cabin operations personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Ensures mandatory reporting in accordance with applicable regulations;

(iii) Includes analysis and cabin operations management action to address safety issues identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** operational safety reporting system in cabin operations (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in cabin operations.
- ☐ **Examined** data that confirm an effective cabin operations safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected cabin operations safety reports (focus: analysis/follow-up to identify and address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Performance Monitoring and Management

2 Training and Qualification

General Guidance

Many of the provisions of this subsection contain specifications related to the recurring frequency of training and evaluation events for cabin crew members. Such provisions, with a few exceptions, define cycles or intervals for the completion of recurrent training and/or evaluation expressed in months since training was first completed or qualification was first established. It is important to note, however, that for the purpose of conformance with these provisions, such intervals are nominal and the actual interval may vary slightly. For example, an operator may adjust the frequency of evaluations to minimize overlap, provide scheduling flexibility, preserve the original qualification date, and/or ensure evaluations are consistently completed in accordance with the nominal cycle set forth by the State and/or applicable authorities. Accommodations of this nature are commonplace and vary widely by regulatory jurisdiction. In all cases, however, the auditor will make the determination of whether or not such accommodations fit within the nominal cycles established in each provision.

2.1 Training Program

CAB 2.1.1A

The Operator shall have a training and evaluation program that is approved or accepted by the Authority, and that ensures cabin crew members understand their responsibilities and are competent to perform the duties and functions associated with cabin operations. The cabin crew training program shall also, as a minimum, address:

(i) Initial qualification;

(ii) Continuing qualification;

(iii) Re-qualification;

(iv) If applicable, aircraft transition or conversion;

(v) If applicable, other specialized training requirements;

(vi) If applicable, each traditional training program requirement that is replaced by a requirement under an Advanced Qualification Program (AQP) as approved or accepted by the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement for specified training/qualification courses applicable to each aircraft type in cabin crew training/evaluation program.
- ☐ **Identified/Assessed** program elements under AQP (as applicable); program has regulatory approval.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** training/qualification course curriculum (focus: inclusion of applicable training/qualification courses).
- ☐ **Examined** training/qualification records of selected cabin crew members (focus: completion of applicable training/qualification courses).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Advanced Qualification Program (AQP) and Continuing Qualification.

AQP incorporates the elements and specifications contained in CAB 2.1.1B, Table 5.2 and Table 5.3.

CAB 2.1.1B

If the Operator conducts cabin crew training and evaluation in accordance with an AQP, such AQP shall be approved or accepted by the Authority and incorporate the applicable elements and specifications contained in Table 5.2 and Table 5.3. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** cabin crew AQP (focus: regulatory approval, incorporation of elements/specifications in accordance with Tables 5.2 and 5.3).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** initial/recurrent/requalification/aircraft type course curricula/syllabi for training of cabin crew members.
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

An operator, in accordance with the requirements of the Authority, typically uses technical guidance for the development of an AQP. Such guidance might be derived from one or more of the following source references, as applicable:

- Office of the Federal Register, (2 October 1990), Special Federal Aviation Regulation 58–Advanced Qualification Program, Federal Register, Vol. 55, No. 91, Rules and Regulations (pp. 40262–40278).
- FAA 14 CFR Part 121, Subpart Y.
- FAA Advisory Circular 120–54A, Advanced Qualification Program (23 June 2006).
- FAA Advisory Circular 120–51 (3 January 1995), Crew Resource Management Training, Federal Aviation Administration, Washington DC: U.S. Department of Transportation.
- Any equivalent reference document approved or accepted by the Authority for the development of an advanced training and qualification program designed to conform to the specifications of Table 5.2 and Table 5.3.

CAB 2.1.2

The Operator shall ensure all cabin crew members complete an initial training course:

(i) As part of the cabin crew qualification process for individuals who have not previously been qualified as a cabin crew member for the Operator;

(ii) Prior to being assigned duties as a cabin crew member. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for completion of initial training by cabin crew members.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** records of initial training of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

An AQP may allow for deviations and/or an abbreviated curriculum for initial/new hire cabin crew training in a merger or acquisition situation.

CAB 2.1.3

The Operator shall ensure all cabin crew members complete a recurrent training course once every 12 months or, if applicable, in accordance with the Operator's AQP as specified in CAB 2.1.1B in order to remain qualified to perform duties as a cabin crew member. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for completion of recurrent training by cabin crew members.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** records of recurrent training of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

An operator typically has a process that tracks qualification requirements to ensure cabin crew members complete recurrent training in a timely manner to remain qualified.

The nominal cycle for the completion of the recurrent training course by each cabin crew member is 12 months and, during that period, each cabin crew member receives training in the subject areas applicable to the course for that 12-month period.

As a means of ensuring flexibility in the scheduling process, in some regulatory jurisdictions an operator may be permitted to increase the maximum cycle for the completion of recurrent training by cabin crew members up to 15 months with no change to the original training anniversary date of each cabin crew member. Such flexibility, however, would not alter the requirement for a basic 12-month recurrent training cycle for cabin crew members.

In the event a cabin crew member becomes unqualified for any reason (e.g., extended leave of absence), completion of re-qualification training would establish a new anniversary date (superseding the original anniversary date) upon which recurrent training would be based.

An AQP may have an approved extension to the duration of Continuing Qualification cycle if evidence substantiates the extension maintains or increases the level of safety for the operator. A Continuing Qualification cycle may be extended up to a maximum of 39 months. Additionally, an individual crewmember may be assigned an augmented or additional training and/or evaluation schedule based on performance during training, qualification or in line operations.

CAB 2.1.4

The Operator shall have a cabin crew requalification training course, which shall be completed:

(i) By individuals who have failed to remain qualified as a cabin crew member;

(ii) As part of the process to regain qualification to perform duties as a cabin crew member;

(iii) If applicable, in accordance with the Operator's AQP as specified in CAB 2.1.1B. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for completion of requalification training by cabin crew members.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** records of requalification training of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

An operator typically has a process that tracks qualification requirements to ensure, when cabin crew members become unqualified for any reason, such crew members complete applicable requalification training prior to being assigned to perform duties as a cabin crew member.

An AQP typically includes remediation methodology in its approved documentation describing strategies that will be used to remediate unsuccessful testing, validation, or evaluation. Remediation may not require completion of a requalification course. An AQP may allow for flexibility of requalification requirements based on the Qualification Standards and additional parameters set by the operator. Any deviations from traditional training requirements will be included in its approved documentation.

CAB 2.1.1B addresses overall AQP elements and specifications, as well as Authority approval/acceptance requirements.

CAB 2.1.5

The Operator shall have aircraft type training, which shall be completed by cabin crew members as part of the process to qualify and remain qualified to perform cabin crew duties on each type of aircraft to which they may be assigned. As a minimum, subjects covered under aircraft type training shall include:

(i) Aircraft systems;
(ii) Exit locations and operation;
(iii) Emergency equipment locations and operation;
(iv) Emergency assignments;
(v) Unique features of the aircraft cabin (as applicable for variants of a common aircraft type). **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for completion of aircraft type training by cabin crew members.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** course syllabus for aircraft type training of cabin crew members.
- ☐ **Examined** records of aircraft type training of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

An aircraft type training course for cabin crew members would include the description, locations and operation of an aircraft and its equipment.

Instruction in aircraft systems typically includes:

- Aircraft interior, passenger seats and restraints;
- Crew member seats and restraints;
- Aircraft-specific duties and responsibilities;
- Galley systems;
- Communication systems;
- Lighting systems;
- Oxygen systems.

Instruction on exit locations and operation addresses the types of exits on an aircraft.

Instruction on emergency equipment locations and operation addresses slides, rafts, slide/rafts, ramp slide/rafts, life jackets and other flotation devices.

Sub-specification iv): The term “emergency assignments” refers to specific duties assigned to cabin crew members during emergency situations.

A process, in accordance with requirements of the Authority, would be used to qualify cabin crew members that concurrently operate aircraft of different types or operate variants within one aircraft type. The qualification process would typically address the differences between variants or types.

CAB 2.1.6

The Operator shall require instructors and evaluators that train and/or evaluate cabin crew members to successfully complete an instructor and/or evaluator training course that ensures such instructors and evaluators have an adequate level of knowledge and standardization to provide, as applicable, instruction or evaluation in the cabin crew training program. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements for completion of instructor/evaluator training by instructors/evaluator that deliver training courses to or evaluate cabin crew members.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** course curriculum/syllabus for training of cabin crew training instructors.
- ☐ **Examined** records of instructor training of selected cabin crew training instructors/evaluators.
- ☐ **Other Actions** (Specify)

Guidance

The syllabus for the cabin crew instructor training program typically focuses on instruction techniques and provides the level of technical knowledge relevant to the areas in which the individual instructor will deliver instruction.

An AQP typically distinguishes between instructor and evaluator duty positions. However, the instructor/evaluator role may be assumed by the same person. Distinct training is typically provided focusing on instruction and evaluation techniques.

2.2 Program Elements

General Guidance

Many of the provisions of this subsection make reference to cabin crew training conducted in accordance with an AQP that is approved or accepted by the Authority as specified in CAB 2.1.1B.

If applicable, AQP allows development of proficiency-based training programs that encourage innovation in the methods and technologies used during instruction and evaluation, as well as in the efficient management of the training systems. Since these innovations may require some deviations from traditional regulations, the approved qualification standards may replace the applicable portions of the existing regulations and/or training guidance. These deviations or variances will be defined in the approved AQP documentation.

Additionally, an approved AQP Entry Level Analysis may be documented to achieve the most effective use of training resources. An Entry Level Analysis may also be used to identify where training is not needed or to justify alternative curriculum tracks or modules targeted at expected differences in entry background.

In an AQP, criticality and currency determination guides how and when training objectives are trained, validated or evaluated. A task factor analysis will be documented within the approved training qualification standards.

Conformance Applicability (CA) Tables are embedded in certain provisions in this sub-section to indicate how aspects or factors relevant to cabin crew training and qualification must be addressed or satisfied for an operator to be in conformity with the provision. Each CA table contains four columns that address the following relevant aspects/factors:

- Specific to Aircraft Type: Indicates whether the training specified in the provision must account for or be tailored to aircraft type or crew position.
- Included in Initial/Requalification Training: Indicates whether the training specified in the provision must be included as part of initial and requalification training.

- Included in Recurrent Training: Indicates whether the training specified in the provision must be included as part of recurrent training/continuing qualification and, as applicable, specifies the maximum recurrent interval.
- Conformance through AQP: Indicates whether the specified training and/or evaluation, including the associated recurrent training/continuing qualification interval, if any, may be replaced by equivalent requirements as part of, as applicable, the operator's AQP.

CAB 2.2.2

The Operator shall ensure cabin crew members receive training that provides knowledge of safety policies and procedures associated with the preflight, in-flight and post-flight phases of cabin operations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP/ ATQP/EBT**
Yes*	Yes	Yes (every 24 months)	Yes
** Where multiple aircraft types are operated, this training shall cover all relevant aircraft-specific differences in safety equipment and/or safety and security procedures.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of preflight/inflight/post-flight safety training for cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training courses for cabin crew members, including regulatory requirement for frequency of recurrent training courses.
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Training in safety policies and procedures typically addresses:

- Crew coordination and communication;
- Sterile flight deck;
- Mandatory briefings;
- Safety checks;
- Passenger acceptance and handling;
- Cabin baggage;
- Personal electronic devices;
- Fueling with passengers on board;
- Turbulence;
- Flight and cabin crew member incapacitation;
- Flight deck access.

CAB 2.2.3

The Operator shall ensure cabin crew members receive training that provides the knowledge required to execute emergency procedures. Such training shall, as a minimum, address emergency procedures associated with:

(i) Cabin fires;
(ii) Smoke and fumes;
(iii) Emergency landing (land and water);
(iv) Planned cabin evacuation (land and water);

(v) Unplanned cabin evacuation (land and water);
(vi) Medical emergencies.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
Yes*	Yes	Yes (every 24 months)	Yes
** Where multiple aircraft types are operated, this training shall cover all relevant aircraft-specific differences in safety equipment and/or safety and security procedures.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of cabin emergency procedures training in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent emergency procedures training courses for cabin crew members, including regulatory requirement for frequency of recurrent training courses.
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

CAB 2.2.4

The Operator shall ensure cabin crew members receive training that provides the knowledge required to understand the function and operation of cabin emergency equipment and to execute associated preflight checks. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
Yes	Yes	Yes (every 24 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of cabin emergency equipment training in cabin crew initial/requalification/recurrent training courses (focus: function/operation of equipment).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent emergency equipment training courses for cabin crew members, including regulatory requirement for frequency of recurrent training courses.
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Aircraft type-training courses may include training in the use of specific emergency equipment such as slides, rafts, slide/rafts and ramp slide/rafts.

CAB 2.2.5

The Operator shall ensure cabin crew members complete practical training exercises consisting of cabin drills and hands-on operation of cabin equipment. As a minimum, focus areas within the scope of practical training exercises shall include:

(i) Cabin exit operations (normal and emergency) for each aircraft and exit type;
(ii) Cabin emergency evacuation;

(iii) If the operator uses aircraft equipped with cabin doors that have emergency egress slides:
  (a) Initial training: Use of emergency egress slide(s);
  (b) Requalification and recurrent training: Use of emergency egress slide(s) in accordance with requirements of the Authority.

(iv) Firefighting;

(v) Oxygen administration;

(vi) If required, ditching. **(GM)**

Note: *If applicable, cabin crew members may complete practical training exercises through participation in event management scenarios in accordance with the Operator's AQP as specified in CAB 2.1.1B.*

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
Yes	Yes	Yes*	Yes
** All focus areas within the scope of practical training exercises shall be addressed not less than once every 36 months.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of practical training exercises (cabin drills and hands-on operation of cabin equipment) in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training exercises in courses for cabin crew members (focus: frequency of exercises/courses and regulatory requirement for frequency of recurrent training exercises/courses).
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Wet Drill.

Practical training exercises to satisfy this provision typically include procedures associated with the use of cabin systems and equipment, to include the public address and intercom systems, life-rafts, life preservers, PBE/smoke hoods, as well as operation of the door(s), deployment and use of emergency egress slide(s), fighting an actual or simulated fire, operation of hand fire extinguishers, passenger briefings and in-flight decompression (group drill).

Personal electronic devices powered by rechargeable lithium-ion (LI) batteries are common in the passenger cabin. The batteries in such devices have the potential for overheating (thermal runaway), explosion and fire. An operator might consider a practical training exercise that simulates a LI battery fire in the cabin, thus requiring the cabin crew members to implement firefighting procedures appropriate for this type of fire.

Hands-on practical training exercises might involve the use of actual aircraft emergency and lifesaving equipment or might be conducted using realistic and functional simulators or mock-ups.

A requirement for a practical training exercise for ditching is determined by the State. An operator that conducts over-water and/or long-range over-water flights would typically ensure cabin crew members complete practical training exercises in ditching.

An operator might elect to include a wet drill as part of initial training as a means of providing hands-on familiarization with ditching equipment and procedures. A wet drill would require cabin crew members to go into the water and then climb into a raft, or to board a raft in the water directly from an aircraft exit (with cabin crew members not going into the water).

When using the actual aircraft to conduct training in emergency exit operations, emergency operation can be simulated by disarming the exits and having the trainee accomplish all steps as though the door were armed.

Due to challenges and problems associated with using actual aircraft systems, cabin simulators or training mock-ups are typically used to the extent possible. If cabin exit simulators or training mock-ups are not available, practical hands-on drills are performed on board actual aircraft, which, to preclude disruption of training, would necessitate a documented program and aircraft schedule.

CAB 2.2.6

If the Operator uses pressurized aircraft, the Operator shall ensure cabin crew members receive training in high altitude depressurization. Such training shall provide:

(i) An understanding of the effects on crew and passengers;

(ii) The knowledge necessary to execute associated emergency procedures. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
Yes*	Yes	Yes (every 24 months)	Yes
** Where multiple aircraft types are operated, this training shall cover all relevant aircraft-specific differences in safety equipment and/or safety and security procedures.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of high-altitude depressurization training in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training courses for cabin crew members (focus: effects on crew and passengers, execution of associated emergency procedures and frequency of recurrent training courses).
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Training in depressurization may be conducted in the classroom, via distance and/or e-learning, as a practical exercise, or by using a combination of methods.

A video presentation on the effects of hypoxia and a re-enactment of an explosive depressurization to emphasize the visual effects on the crew and passengers is an example of one means of presenting depressurization training. A presentation that includes photos, accompanied by a group discussion, is another example of a means of presenting such material.

CAB 2.2.7

The Operator shall ensure cabin crew members receive training in dangerous goods awareness, recognition and emergency action. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
No	Yes	Yes*	Yes
** All subjects within the scope of dangerous goods training shall be addressed not less than once within the 24-month period from the previous training in dangerous goods.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of dangerous goods training (awareness/recognition/emergency action) in cabin crew initial/requalification/recurrent training courses.
- ☐ **Examined** regulatory requirement for frequency of training in dangerous goods in cabin crew recurrent training.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training courses for cabin crew members.
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

This provision specifies the minimum dangerous goods awareness training required for cabin crew members and is applicable to an operator regardless of whether such operator *transports or does not* transport dangerous goods.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

CAB 2.2.8

The Operator shall ensure cabin crew members receive training in human performance to gain an understanding of the human factors involved in conducting cabin safety duties and coordinating with the flight crew during the execution of onboard emergency procedures. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
No	Yes	Yes (every 36 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of cabin operations human performance training in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training courses in human performance for cabin crew members (focus: cabin safety duties, coordination with flight crew during execution of onboard emergency procedures, regulatory requirements for frequency of recurrent training courses).
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Crew Resource management (CRM), Human Factors Principles and Human Performance.

Training in human performance usually includes basic human factors concepts and crew resource management (CRM).

CAB 2.2.9

If the Operator uses aircraft that require more than one cabin crew member, the Operator shall ensure cabin crew members receive training that provides the necessary awareness of other cabin crew assignments and procedures to assure fulfillment of all cabin crew duties in the event of an emergency situation.

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
No	Yes	Yes (every 24 months)	Yes

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of cabin crew assignments/procedures awareness training in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training courses for cabin crew members (focus: awareness of other cabin crew assignments, fulfillment of cabin crew duties during emergency situations, regulatory requirements for frequency of recurrent training courses).
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

CAB 2.2.11

The Operator shall ensure cabin crew members receive training that provides knowledge in first aid and inflight medical events. As a minimum, subjects within the scope of first aid training include:

(i) Life-threatening medical emergencies;
(ii) Cardiopulmonary resuscitation (CPR);
(iii) Management of injuries;
(iv) Management of illnesses;
(v) First-aid equipment and supplies;
(vi) If applicable, medical equipment and supplies. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
No	Yes	Yes*	Yes
** All subjects within the scope of first aid training shall be addressed every 36 months.*			

Auditor Actions

- ☐ **Identified/Assessed** requirement for completion of first aid training in cabin crew initial/requalification/recurrent training courses.
- ☐ **Interviewed** responsible manager(s) in cabin operations.

- ☐ **Examined** curriculum/syllabus of initial/requalification/recurrent training in first aid for cabin crew members (focus: scope/content/frequency of training, regulatory requirements for frequency of recurrent training).
- ☐ **Examined** training records of selected cabin crew members.
- ☐ **Other Actions** (Specify)

Guidance

Under an AQP, initial training may be referred to as indoctrination and qualification training.

Training typically provides knowledge and skill in five subject areas appropriate for cabin crew members. Suggested subject areas are as follows:

1. Altitude physiology (working at altitude):
    - Changes in atmospheric pressure;
    - Relative hypoxia;
    - Trapped gas;
    - Decompression sickness;
    - Cabin depressurization;
    - Hyperventilation;
    - Cabin air quality.
2. Travel health:
    - Immunization;
    - Protection against infectious diseases;
    - Circadian rhythm and jet lag;
    - Fatigue management;
    - Personal safety (e.g. use of alcohol, other drugs, traffic safety).
3. Standards and regulations:
    - First aid training and equipment (ICAO standards and/or CAA regulations);
    - Reporting of communicable diseases (ICAO standards and WHO International Health Regulations);
    - Aircraft disinfection and disinsection (application of insecticide);
    - Biohazard waste disposal.
4. Procedures and resources:
    - Seeking medical advice (ground and/or in flight);
    - Medical equipment (e.g. first aid kit, medical kit, oxygen);
    - Death on board;
    - Birth on board;
    - Documentation to be completed;
    - PIC notification and communication.
5. First aid (problem recognition and management):
    - Assessing a casualty;
    - Lifesaving procedures:
        - Assess ABC (adult, child, infant);
        - Choking;
        - CPR (practical training);
        - Recovery position.

- Medical problems:
  - The unconscious (underlying causes);
  - Suspected communicable diseases;
  - Respiratory disorders (asthma, hyperventilation, chronic lung diseases, persistent coughing);
  - Cardiovascular disorders (angina, heart attack, shock, DVT);
  - Abdominal problems (vomiting, diarrhea, pain, heartburn, bleeding);
  - Nervous system disorders (headache, seizure, stroke);
  - Ear, nose and throat problems such as barotrauma (body damage caused by pressurization difference) and/or epistaxis (nose bleed);
  - Behavioral/psychological disorders (panic attack, alcohol intoxication, irrational behavior);
  - Other problems (diabetes, allergic reaction, pregnancy related).
- Trauma:
  - Wounds and bleeding (practical training);
  - Burns;
  - Head and neck injury;
  - Eye injury;
  - Musculoskeletal injury;
  - Chest and abdominal injury.

Initial training would typically address all the subject areas listed above.

Unless there were changes to the altitude physiology, travel health and regulations components, it would not be necessary to review these areas each year. However, in the event of changes, cabin crew members would typically be promptly advised, and such changes may then be addressed during the next recurrent training.

The procedures, resources and first aid subject areas may be addressed in recurrent training, to include testing and evaluation. Selected elements included in these subject areas would be addressed each year in recurrent training such that all elements are addressed during every 36-month period or, if applicable, in accordance with the Operator's AQP.

CPR is a lifesaving procedure that requires practice in order to maintain competence. Therefore, it is recommended that cabin crew members complete recurrent training in the most current CPR procedures on an annual basis.

It is recommended that elements chosen to be reviewed each year be built into practical scenarios. Scenario-based training is advantageous because:

- It requires the crew to function as a team;
- Scenarios might be designed to cover multiple aspects of first aid, as well as subjects from other areas, such as altitude physiology and regulations;
- It stimulates participation and improves retention.

Other training methods would also be acceptable as long as it can be reasonably established that cabin crew members have the knowledge and skills to apply first aid and lifesaving procedures at any given time.

CAB 2.2.12

The Operator shall ensure cabin crew members complete initial and recurrent security training as approved or accepted by the State, and in accordance with the Operator's security training program as specified in SEC 2.1.1. Cabin crew security training shall address the following subject areas:

(i) Determination of the seriousness of any occurrence;

(ii) Causes of disruptive behavior on board and management of such types of incidents;

(iii) Crew communication and coordination;

(iv) Policy and procedures associated with flight deck access;
(v) Appropriate self-defense responses;
(vi) Use of non-lethal protective devices assigned to crew members for use as authorized by the State;
(vii) Understanding the behavior of terrorists so as to facilitate the ability to cope with hijacker behavior and passenger responses;
(viii) Situational training exercises regarding various threat conditions;
(ix) Flight deck procedures to protect the aircraft;
(x) Aircraft search procedures;
(xi) As practicable, guidance on least-risk bomb locations. **(GM)**

Conformance Applicability			
Specific to Aircraft Type	**Included in Initial/Requalification Training**	**Included in Recurrent Training**	**Conformance through AQP**
No	Yes	Yes (every 36 months)	Yes

Note: *Cabin crew members shall complete initial security training prior to being assigned to operational duties.*

Auditor Actions

- ☐ **Identified/Assessed** cabin crew security training program (focus: approval/acceptance by the State; meets applicable requirements of other states).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** selected initial/recurrent training/qualification course curricula/syllabi (focus: security training is included; required subjects are addressed).
- ☐ **Examined** selected cabin crew member training/qualification records (focus: completion of security training training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Security Program.

Cabin crew members are directly involved in the implementation of security measures and thereby require an awareness of obligations to the Security Program of the operator.

Crew security training would normally be in accordance with applicable regulations and/or the civil aviation security program of the State, and where no regulatory guidance exists, in accordance with the policy of the operator.

Specific subject areas included in recurrent security training are typically identified and derived from an analysis of actual or likely situations or trends experienced during line operations.

Fight deck access as specified in item (iv) would typically include persons authorized for flight deck access as well as flight deck entry/exit procedures.

Non-lethal devices as specified in item (vi) typically include handcuffs or restraints.

Training as specified in item (vii) typically addresses topics or tactics as appropriate for the operator that might be associated with or could be used to facilitate crew-passenger reaction to or interaction with hijackers (e.g. conflict management, use of passive or non-passive cooperation, understanding Stockholm Syndrome, identification of and response to hijacker types/motives).

Training exercises as specified in item (viii) are typically interactive in nature, and scenarios or situations (e.g. bomb threat, hijacking, unruly passenger) may be presented using various accepted training methods (e.g. live role playing, table top, computer-based training).

Training as specified in item (xi) is applicable to aircraft types that have designated least-risk bomb locations.

2.3 Line Qualification

2.4 SMS Training

3 Line Operations

3.1 Cabin Crew Requirements

CAB 3.1.1

The Operator shall specify and require a minimum number of cabin crew members for each aircraft type to ensure a safe and expeditious aircraft evacuation and to perform the necessary functions in an emergency. Such minimum cabin crew specification(s) shall:

(i) Be based on aircraft seating capacity or number of passengers carried;

(ii) Be in accordance with minimum cabin crew requirements of the Authority;

(iii) If the Operator has procedures for a temporary reduction of minimum cabin crew complement during a case of incapacitation or unforeseen circumstances at a stopover (layover) point where a replacement cannot be obtained, require such procedures to be approved or accepted by the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** minimum cabin crew specification(s) (focus: specifications cover each aircraft type; are based on aircraft seating capacity or number of passengers carried; are in accordance with requirements of the Authority).
- ☐ **Identified** regulatory requirement for minimum cabin crew complement for each aircraft type.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** onboard documentation specifying minimum cabin crew requirements.
- ☐ **Observed** line cabin operations (focus: cabin crew complement in accordance with minimum cabin crew requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of State Acceptance and State Approval.

CAB 3.1.2

If the Operator uses aircraft that require more than one cabin crew member, the Operator shall ensure, for flights on such aircraft:

(i) Designation of a suitably qualified cabin crew leader who has overall responsibility for the conduct and coordination of normal and emergency cabin procedures.

(ii) A defined delegation of leadership duties during inflight rest periods and/or in the event of unexpected incapacitation of the cabin crew leader. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** means of designating cabin crew leaders for flights with more than one cabin crew member.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** responsibilities cabin crew leaders.
- ☐ **Observed** line cabin operations (focus: designation of a cabin crew leader).
- ☐ **Other Actions** (Specify)

Guidance

The position of cabin crew leader might have a different title or name according to the operator (e.g. purser, lead flight attendant, senior cabin crew member or onboard leader).

Suitably qualified cabin crew leaders are normally those with a prerequisite amount of experience as an operating cabin crew member, as defined by the operator (e.g. one year of full-time experience) and who have completed cabin crew leadership training as specified in CAB 2.2.13.

New operators could be required to establish alternative minimum experience requirements.

Leadership duties would normally be delegated during incapacitation or inflight rest periods to a cabin crew member who has undergone the operator's cabin crew leadership training course or, if none have had leadership training, the most experienced cabin crew member.

CAB 3.1.4A

The Operator shall have a methodology for the purpose of managing fatigue-related safety risks to ensure fatigue occurring in one flight, successive flights or accumulated over a period of time does not impair a cabin crew member's alertness and ability to perform safety-related cabin duties. Such methodology shall consist of:

(i) Flight time, flight duty period, duty period limitations and rest period requirements that are in accordance with the applicable prescriptive fatigue management regulations of the State, and/or,

(ii) If applicable, the Operator's Fatigue Risk Management System (FRMS) approved or accepted by the State and established in accordance with CAB 3.1.4B. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements/methodology for cabin crew fatigue management and/or FRMS in accordance with regulations of the State.
- ☐ **Identified/Assessed** FRMS (if applicable) (focus: approved/accepted by State, incorporates elements as specified in CAB 3.1.4B).
- ☐ **Identified/Assessed** tracking/scheduling processes (focus: processes take into account cabin crew time/flight duty period/duty period/rest period limitations in the duty assignment of cabin crew members).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** selected scheduling personnel.
- ☐ **Examined** selected cabin crew duty assignment records/rosters (focus: examples of application of cabin crew fatigue management limitations/mitigations).
- ☐ **Observed** cabin crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Fatigue Risk Management System (FRMS).

The intent of this provision is to ensure an operator establishes a methodology for the management of cabin crew member fatigue in a manner that:

- Is based upon scientific principles and knowledge;
- Is consistent with the prescriptive fatigue management and/or FRMS regulations of the State;
- Precludes fatigue from endangering safety of the flight.

Where authorized by the State, the operator may use a Fatigue Risk Management System (FRMS) in accordance with CAB 3.1.4B alone or in combination with prescriptive flight time, flight duty period, duty period limitations and rest period requirements as the means for managing fatigue-related risks.

Guidance for the implementation of an FRMS is contained in the IATA Fatigue Management Guide for Airline Operators and, as applicable, other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120–103A–Fatigue Risk Management Systems for Aviation Safety).

CAB 3.1.4B

If the Operator uses an FRMS to manage cabin crew fatigue-related safety risks, the Operator shall incorporate scientific principles and knowledge within the FRMS, comply with any applicable requirements for managing cabin crew fatigue as established by the State or Authority and, as a minimum:

(i) Define and document the FRMS policy;

(ii) Incorporate risk management processes for fatigue hazard identification, risk assessment and risk mitigation;

(iii) Develop and maintain effective FRMS safety assurance processes;

(iv) Establish and implement effective FRMS promotion processes. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** FRMS policy/components/elements, compliance with fatigue risk management requirements of State/Authority.
- ☐ **Identified/Assessed** FRMS processes for cabin crew fatigue-related risk management data collection/analysis/hazard identification, safety risk assessment, safety risk mitigation/control.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** selected personnel that perform cabin crew fatigue safety risk management functions.
- ☐ **Examined** selected examples of fatigue risk management (focus: hazard identified, risk assessed, mitigation action developed and implemented).
- ☐ **Observed** cabin crew scheduling operations (focus: scheduling includes management of fatigue-related safety risk in accordance with an approved FRMS).
- ☐ **Other Action** (Specify)

Guidance

The intent of this provision is to ensure fatigue occurring either in one flight, successive flights or accumulated over a period of time does not impair a cabin crew member's alertness and ability to safely perform safety-related cabin duties.

Where authorized by the State, the operator may use an FRMS as a means to determine that variations from prescriptive fatigue management policies demonstrate an acceptable level of safety. Guidance for the implementation of an FRMS is contained in the IATA Fatigue Management Guide for Airline Operators and, as applicable, other reference documents approved or accepted by the State for the purpose of FRMS implementation (e.g. FAA, AC 120–103A–Fatigue Risk Management Systems for Aviation Safety).

The applicability of this provision is limited to those operations wherein fatigue is managed in accordance with the FRMS as defined in the operator's FRMS documentation. It is important to note, however, that an FRMS may be used alone or in combination with prescriptive flight time, flight duty period limitations and rest period requirements as the means for managing fatigue related risks.

The components of an effective FRMS as specified in this provision are described in the following table.

FRMS Component	Item	Description
FRMS policy and documentation	(i)	Policy: • Defines FRMS Terms of Reference • Defines scope of FRMS operations • Identifies FRMS elements • Reflects shared responsibility • States safety objectives • Declares management commitment • Identifies lines of accountability Documentation: • Policy and objectives • Processes and procedures • Accountabilities, responsibilities and authorities • Mechanism for involvement of all stakeholders • FRMS training records • Planned and actual times worked • Outputs (findings, recommendations, actions)
Fatigue risk management processes	(ii)	• Fatigue hazard identification (reactive/proactive/predictive processes) • Safety risk assessment • Safety risk mitigation
FRMS safety assurance processes	(iii)	• FRMS performance monitoring • Operational and organizational change management • Continual FRMS improvement
FRMS promotion processes	(iv)	• Training programs (for management, crew members and all other involved personnel under the FRMS • Communication plan (explains FRMS policies, procedures and responsibilities to all relevant stakeholders, and also describes communication channels)

CAB 3.1.5

The Operator shall have a process to ensure flight time, flight duty periods and rest periods for cabin crew members are recorded and retained for a minimum period of time in accordance with applicable regulations. **(GM)**

Auditor Actions

- ☐ **Identified** process for retention of duty and rest periods.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** time limits for retention of duty and rest periods.
- ☐ **Examined** selected records of duty and rest periods.
- ☐ **Other Actions** (Specify)

Guidance

For each cabin crew member, flight/duty time records would typically consist of:

- The start, duration and end of each flight duty period;
- The start, duration and end of each duty period;
- Rest periods;
- Flight time.

If computer software is used for cabin crew planning and scheduling, the operator would ensure the software provides appropriate warnings when individual flight segments or series of flight segments are projected to exceed applicable maximum or minimum limits.

CAB 3.1.6

The Operator shall consider the following as duty time for the purpose of determining required rest periods and calculating duty time limitations for operating cabin crew members:

(i) Entire duration of the flight;

(ii) Pre-operating deadhead time;

(iii) Training period(s) immediately prior to a flight;

(iv) Administrative or office time immediately prior to a flight (for cabin crew members that serve in a management function). **(GM)**

Auditor Actions

☐ **Identified** the means of calculation of duty time limitations for operating cabin crew members.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Examined** criteria for calculating duty time and rest period limits.

☐ **Examined** selected records of duty times and rest periods.

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM of the definition of Deadheading.

Training periods and administrative or office time before a flight, without an intermediate rest period before flying duty, is considered continuous duty time.

The intent of this provision is to ensure an operator considers non-flight duty time that is likely to induce fatigue into the calculation of duty time limitations and the determination of required rest periods.

3.2 Cabin Crew Policies and Procedures

CAB 3.2.1

The Operator shall have procedures that specify cabin crew functions, applicable to each aircraft type, and actions to be executed during an emergency or situation requiring an emergency evacuation.

Auditor Actions

☐ **Identified/Assessed** procedures for emergencies and emergency evacuations.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Observed** line cabin operations (focus: procedures that specify cabin crew functions/actions for an emergency/emergency evacuation situation).

☐ **Other Actions** (Specify)

CAB 3.2.2

The Operator shall have procedures to ensure a coordinated and expeditious cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking. As a minimum, procedures shall require:

(i) Cabin exits are designated for rapid deplaning or emergency evacuation, and routes to such exits are unobstructed;

(ii) The area outside designated emergency evacuation exits is unobstructed;

(iii) One cabin crew member or other qualified person is positioned by the boarding door(s);

(iv) Means of communication are established among cabin crew members and with passengers;

(v) A suitable method of communication is established between qualified persons that monitor passenger safety and personnel that have responsibility for fueling operations. **(GM)**

Auditor Actions

☐ **Identified** the specified procedures for cabin evacuation during aircraft fueling operations with passengers embarking, on board or disembarking.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Observed** line cabin operations (focus: cabin crew procedures to ensure coordinate/expeditious cabin evacuation during fueling operations with passengers on board).

☐ **Other Actions** (Specify)

Guidance

During fueling operations with passengers on board the aircraft, the designation of exits for rapid deplaning or evacuation takes into account various factors, which would typically include:

- Aircraft type (e.g. some aircraft types might require the designation of over-wing exits for evacuation);
- Number of cabin crew members on board;
- The method being used for passenger boarding and/or deplaning (e.g. boarding bridge, air stairs);
- Exterior obstructions (e.g. catering vehicle) that might render an exit unusable for an emergency evacuation;
- Interior obstructions (e.g. catering trolley) that might block the route to one or more emergency evacuation exits.

Cabin crew procedures ensure a method of communication is established.

- Among cabin crew members positioned throughout the cabin for the purpose of coordination should a passenger evacuation be required (when more than one cabin crew member is required to be on board);
- Between the cabin crew and passengers (one way) for the purpose of providing instructions should a passenger evacuation be required;
- Between the cabin crew and the flight crew (when the flight crew is on board) for the purpose of ensuring notification when fueling operations are in progress and when a passenger evacuation is required;
- Between the cabin crew and the flight crew and/or ground handling personnel for the purpose of ensuring notification when fueling operations must be discontinued for any reason.

CAB 3.2.3

The Operator shall have a procedure to ensure the cabin crew verifies that:

(i) Passenger and crew baggage in the passenger cabin is securely stowed;

(ii) If applicable, cargo packages and/or passenger items being transported in passenger seats are properly secured. **(GM)**

Auditor Actions

- ☐ **Identified** procedure for cabin crew to verify cabin security (focus: baggage and cargo packages/passenger items are stowed or properly secured).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedure to verify baggage and cargo packages/passenger items are stowed or properly secured).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator to have a procedure for verification by the cabin crew that all baggage and, if applicable, cargo packages and/or passenger items being transported in passenger seats are stowed or properly secured.

Some operators might transport smaller cargo packages (e.g. mail, COMAT items) secured in cabin passenger seats.

Some operators might transport certain passenger items secured in cabin passenger seats. These types of items are typically large, valuable or fragile articles belonging to passengers that are not conducive to transport as checked baggage or appropriate for stowage in overhead bins/lockers (e.g. large musical instruments, certain electronic equipment, prominent trophies, works of art). Such items might thus be secured and carried in a dedicated cabin passenger seat (which might be purchased by the passenger-owner for the purpose of transporting the item).

Loading procedures and limitations for securing such items are defined in GRH 3.4.12, which is located in Section 6 (GRH) of this manual.

☐ **CAB 3.2.4A**

The Operator *should* have procedures for the opening and closing of aircraft cabin access doors during normal operations. Such procedures *should* define:

(i) Who is responsible for opening and closing aircraft cabin access doors;

(ii) When doors should be opened and closed;

(iii) Appropriate methods of communication and/or coordination between the cabin or flight crew and ground personnel to ensure safety is maintained during normal door operations. **(GM)**

Note: *Effective 1 September 2023, this provision will be upgraded to a standard; IOSA registration will require conformance by the Operator.*

Auditor Actions

- ☐ **Identified** procedures for opening and closing cabin access doors.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedures for opening/closing cabin access doors).
- ☐ **Other Actions** (Specify)

Guidance

Conformity with this provision is assessed in conjunction with GRH 3.2.5 and, if applicable, FLT 3.13.11.

Depending on aircraft size and type of operation, procedures may require that the flight crew, cabin crew or ground handling personnel are assigned responsibility for the opening and/or closing of aircraft cabin access doors.

Procedures and associated responsibilities for opening and closing of cabin access doors can vary according to the situation (e.g. an operator may have different requirements for a flight with the cabin/flight crew on board versus an aircraft towing operation without crew on board)

Procedures would address and mitigate safety hazards such as fall from height, entrapment and personnel injury during door operation.

CAB 3.2.4B

If the Operator uses aircraft equipped with cabin doors that have an automatic slide or slide/raft deployment system, the Operator shall have cabin crew procedures for arming and disarming such door systems. **(GM)**

Auditor Actions

- ☐ **Identified** procedures for arming and disarming door systems.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedures for arming/disarming applicable cabin door slides/slide rafts).
- ☐ **Other Actions** (Specify)

Guidance

This standard addresses door systems that are designed to automatically deploy a slide or slide/raft for emergency evacuation if the door is opened with the system in the armed mode. Such door systems are typically armed once the door has been closed for flight and disarmed at the end of a flight and prior to the door being opened for passenger and/or crew deplaning.

Depending on the type of aircraft and door system, the pack that contains the slide or slide/raft might be mounted in the door itself, or might be mounted in the fuselage, tail cone or other location.

CAB 3.2.5

The Operator shall require cabin crew members to be seated with their safety harness fastened:

(i) During the takeoff and landing phases of flight;

(ii) Whenever the pilot-in-command (PIC) so directs. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirements and conditions for cabin crew members to be seated with their safety harness fastened.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew seated/safety harness fastened for takeoff/landing, when directed by PIC).
- ☐ **Other Actions** (Specify)

Guidance

The safety harness consists of the seat belt and shoulder straps.

CAB 3.2.7

The Operator shall have procedures for preparation of the cabin prior to takeoff and landing. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for cabin preparation prior to takeoff and landing.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedures for cabin preparation prior to takeoff/landing).
- ☐ **Other Actions** (Specify)

Guidance

Preparation of the cabin prior to takeoff and landing would require the cabin crew to visually verify certain conditions are in effect. Items checked by the cabin crew will vary according to aircraft type and equipment carried, but typically include:

- Passenger seat belts fastened;
- Tray tables and seat backs in a stowed and upright position;
- Cabin baggage and other carry-on items secure in designated areas;

- As applicable, in-flight entertainment system viewing screens off and stowed;
- Galleys, service carts/trolleys and associated equipment stowed or restrained.

CAB 3.2.8

The Operator shall have cabin crew procedures for providing passengers with instructions for appropriate action in the case of an in-flight emergency situation.

Auditor Actions

- ☐ **Identified** procedures for providing passengers with instructions for in-flight emergency situations.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedures for providing safety instructions to passengers).
- ☐ **Other Actions** (Specify)

CAB 3.2.12

If the Operator uses aircraft with electrical system circuit breakers that are accessible to cabin crew members, the Operator shall have procedures that specify limitations for resetting tripped circuit breakers by cabin crew members during flight. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures specifying limitations for resetting tripped circuit breakers by cabin crew members during flight.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Interviewed** cabin crew members to confirm awareness of limitations for resetting tripped circuit breakers.
- ☐ **Other Actions** (Specify)

Guidance

Procedures and limitations with respect to resetting circuit breakers typically include:

- Authority to reset (normally from the PIC);
- Applicable type of equipment;
- Applicable conditions;
- Number of resets permitted.

3.3 Flight Deck Coordination

CAB 3.3.1

The Operator shall have a policy and associated procedures that define a sterile flight deck during critical phases of flight, to include:

(i) A procedure for communication between the cabin crew and flight crew;

(ii) A procedure for notification of the flight crew in the event of an emergency. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy and procedures that define a sterile flight deck during critical phases of flight.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: policy/procedures that define sterile flight deck, address cabin-flight crew communication).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Critical Phase of Flight and Sterile Flight Deck.

The phases of flight when the operational state of the flight deck must be sterile would be defined by the operator or the State.

△ The operator also typically includes the policy and procedures associated with a sterile flight deck as part of cabin crew training as specified in CAB 2.2.2.

CAB 3.3.2

If the Operator uses aircraft equipped with a flight deck door, the Operator shall have policies and/or procedures that are in accordance with requirements of the Authority and, as a minimum, define:

(i) When the flight deck door must remain locked;

(ii) The means used and actions necessary for cabin crew members to:

(a) Notify the flight crew in the event of suspicious activity or security breaches in the cabin;

(b) Gain entry to the flight deck. **(GM)**

Auditor Actions

☐ **Identified/Assessed** policies and/or procedures for flight deck access that are in accordance with requirements of the Authority.

☐ **Interviewed** responsible manager(s) in cabin operations.

☐ **Observed** line cabin operations (focus: policies/procedures for cabin-flight crew that address locking/use of flight deck door, cabin crew entry to flight deck).

☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the security of the flight deck by providing the flight crew and cabin crew with complementary policies and/or procedures:

- That ensure the flight crew is notified in the event of suspicious activity or a security breach in the cabin;
- For use by cabin crew members to gain entry to the flight deck when a lockable door is installed.

Such policies and/or procedures define the *actions* necessary to address the specifications of this provision.

△ The operator also typically includes the policy and procedures associated with a sterile flight deck as part of cabin crew training as specified in CAB 2.2.2.

Policies and/or procedures related to flight deck security are considered sensitive information and are normally provided to relevant personnel in a manner that protects the content from unnecessary disclosure.

CAB 3.3.3

The Operator shall have procedures for communication and coordination between the cabin crew and flight crew to ensure a combined and coordinated process in addressing:

(i) Passenger safety information;

(ii) Cabin readiness prior to first aircraft movement, takeoff and landing;

(iii) Arming or disarming of cabin door slides or slide rafts, if applicable;

(iv) Preparation for and an encounter with turbulence;

(v) Medical situations;

(vi) Flight or cabin crew member incapacitation;

(vii) Emergency evacuation;

(viii) Abnormal situations;

(ix) Emergency situations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures as specified in the standard for communication and coordination between the cabin crew and flight crew.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for cabin-flight crew communication/coordination to address cabin operational situations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Sterile Flight Deck.

Communication and coordination between the flight crew and cabin crew might be verbal or non-verbal and could be included as an integral part of specific normal, abnormal and emergency procedures.

Procedures normally include a flight and cabin crew coordination briefing prior to each flight addresses relevant safety subjects (e.g. sterile flight deck, security, aircraft technical issues, flight crew incapacitation, cabin depressurization, onboard fire, emergency evacuation, forced landing or ditching.)

Appropriate communication and coordination between the flight and cabin crews ensures cabin door slides or slide rafts are armed prior to first movement of the aircraft.

CAB 3.3.4

The Operator shall have procedures to ensure the cabin crew provides notification to the flight crew when a safety-related situation has been identified. **(GM)**

Auditor Actions

- ☐ **Identified** procedures to ensure cabin crew notification to the flight crew when a safety-related situation has been identified.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew procedures for safety notifications to flight crew).
- ☐ **Other Actions** (Specify)

Guidance

Examples of safety-related situations that typically require notification to the flight deck include:

- Unruly behavior by passenger(s);
- Injury to passenger or crew member;
- Medical emergencies, use of first aid or medical equipment;
- Fire, smoke or toxic fumes in the cabin;
- Failure of any emergency system or equipment.

In general, any occurrences that could pose danger to the aircraft or its occupants would be considered reportable to the flight deck.

Procedures typically specify certain critical phases of flight during which the cabin crew is prohibited from initiating any communication to the flight crew (e.g. takeoff and landing).

CAB 3.3.7

The Operator shall have procedures that ensure the cabin crew is notified:

(i) When to be seated and secure themselves for takeoff;
(ii) When the flight is in the descent phase;
(iii) When to be seated and secure themselves for landing.

Auditor Actions

- ☐ **Identified/Assessed** procedures for cabin crew notifications (focus: cabin crew is notified when to be seated and secure themselves for takeoff/descent/landing).
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: cabin crew notified prior to takeoff/descent/landing).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure the cabin crew has adequate time to prepare the cabin and secure themselves at their assigned crew station before takeoff and landing.

Notification may be provided through cabin announcements, interphone or other signals (e.g. cycling of fasten seatbelt signs/chimes) and may originate from the flight crew or be delivered by the cabin crew leader.

Notification of descent may be given at top of descent and/or later in the descent phase according to the operation.

On very short flights, notification of time of descent may be included in a briefing between the flight and cabin crew.

3.4 Cabin Operations Policies and Procedures

CAB 3.4.2

The Operator shall have a policy and associated procedures for addressing passengers that exhibit unruly behavior and/or interfere with a crew member prior to or during flight. Such policy and procedures shall be in accordance with local laws and regulations, and also specify reasonable measures for ensuring passengers obey lawful commands from the PIC and/or cabin crew for the purpose of securing the safety of the aircraft, persons on board and their property. As a minimum, the policy and procedures shall address:

(i) Identification of passenger unruly behavior and interference;

(ii) Conditions under which passengers may be denied boarding, disembarked or restrained in accordance with the authority of the PIC;

(iii) Reporting of instances of unruly behavior. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** the policy and associated procedures for addressing passengers that exhibit unruly behavior and/or interfere with a crew member prior to or during flight.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for handling of unruly passengers, crew member interference).
- ☐ **Other Actions** (Specify)

Guidance

Policy and associated procedures would typically be published to ensure awareness by all applicable ground and flight personnel.

To ensure procedures are effective, guidelines are typically created to address all aspects of managing unruly behavior including prevention. For example, because of the increased effect of alcohol at altitude, guidelines would normally ensure the service of such beverages is carried out in a reasonable and responsible manner. Additionally, passengers would typically not be permitted to drink alcohol unless served by the cabin crew; the cabin crew would be attentive to identifying passengers that might be consuming their own alcohol.

The intent of item (iii) is that instances of passenger unruly behavior or interference are reported internally in accordance with SEC 1.12.1 and SEC 4.3.1. Such reporting is usually done for the purpose of performing trend analysis and developing appropriate mitigation measures. In addition, depending on the severity, some instances may be required to be reported to the applicable aviation security authority in accordance with SEC 4.3.2.

Additional information may be found in the IATA Cabin Operations Safety Best Practices Guide.

CAB 3.4.4

The Operator shall have cabin crew procedures that require all passengers to be seated with their seat belts (or harness or other restraint provided) fastened:

(i) For the taxi, takeoff and landing phases of a flight;

(ii) Prior to and/or during turbulence;

(iii) When the PIC considers it necessary for the safety of the flight. **(GM)**

Auditor Actions

- ☐ **Identified** procedures that ensure all passengers are seated with seat belts/harnesses fastened during the flight phases specified in the standard.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for ensuring passengers seated/seat belt fastened for defined phases of flight/conditions).
- ☐ **Other Actions** (Specify)

Guidance

Procedures for turbulence normally require at least one briefing to passengers.

Briefings may be delivered using a variety of methods including passenger announcement, discussion, demonstration, audio/visual media or automated seat messages where such systems exist. Briefings may be directed to individual passengers, small groups or all passengers simultaneously.

On longer flights where multiple periods of turbulence might occur, operators typically determine a required number and frequency of briefings and/or visual checks by the cabin crew.

CAB 3.4.5

If the Operator conducts passenger flights with or without cabin crew, the Operator shall have procedures that require the secure restraint of infants during the phases of flight and conditions specified in CAB 3.4.4. **(GM)**

Auditor Actions

- ☐ **Identified** procedures to ensure infants are securely restrained during the flight phases or conditions specified in CAB 3.4.4.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for ensuring secure infant restraint for defined phases of flight/conditions)
- ☐ **Other Actions** (Specify)

Guidance

The term “infant” refers to small children as defined by the Authority. If the Authority does not have a definition, the operator would publish its own definition in the OM. An “infant” is typically defined as a child that is less than two years of age.

Some regulatory authorities require the use of child restraint devices, for which there is no universally accepted definition. The term “restraint devices” refers to any device that is accepted by the Authority and is used specifically to keep small children restrained in the aircraft cabin. Automobile seats approved for use on an aircraft, “loop belts” and “infant seat belts” are examples of child restraint devices.

Procedures would be in place to ensure infants are securely restrained. Such procedures typically include the use of infant restraint devices or could specify other means of restraint. If the Authority requires specific procedures (e.g. infants held by an adult who is occupying an approved seat or berth) or identifies an approved type of restraint device, the operator is required to be in compliance with those requirements.

CAB 3.4.10

The Operator shall have cabin crew procedures that ensure passengers are briefed on matters related to safety, including turbulence, normal, abnormal and emergency situations. **(GM)**

Auditor Actions

- ☐ **Identified** procedures for briefings to passengers for situations as specified in the standard.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for passenger safety briefings as applicable to the situation).
- ☐ **Other Actions** (Specify)

Guidance

Briefings may be delivered using a variety of methods including passenger announcement, discussion, demonstration, audio/visual media or automated seat messages where such systems exist. Briefings may be directed to individual passengers, small groups or all passengers simultaneously.

CAB 3.4.11

The Operator shall have guidance and associated cabin crew procedures to ensure passengers:

(i) Are informed and receive instruction on all restrictions pertaining to onboard smoking;

(ii) Comply with the *Fasten Seat Belt* sign and, if applicable, the *No Smoking* sign.

Auditor Actions

- ☐ **Identified** guidance and procedures to ensure passengers are informed of all restrictions and instructions pertaining to on onboard smoking and Fasten Seat Belt/No Smoking signs.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** documentation of guidelines, PAs, safety video & associated procedure(s).
- ☐ **Observed** line cabin operations (focus: guidance/procedures to communicate smoking restrictions to passengers, address compliance with fasten seat belt/no smoking signs).
- ☐ **Other Actions** (Specify)

CAB 3.4.12

The Operator shall have cabin crew procedures and guidance to ensure passengers are familiar with location and use of:

(i) Seat belts;

(ii) Emergency exits;

(iii) Life jackets (individual flotation devices), if required;

(iv) Oxygen masks, where applicable;

(v) Other emergency equipment provided for individual use, including safety information cards. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** guidance/cabin crew procedures to ensure passengers are familiar with the location and use of the safety and emergency equipment as specified in the standard.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Examined** documentation of guidelines, PAs, safety video & associated procedure(s).

- ☐ **Observed** line cabin operations (focus: procedures for ensuring passengers are familiar with cabin emergency equipment/systems).
- ☐ **Other Actions** (Specify)

Guidance

A demonstration video or an announcement on the cabin public address system are methods that ensure passengers are familiar with locations and the use of the specified items.

A safety information card, which is made available to each passenger, is typically used to supplement a demonstration or announcement.

Seat cushions that are designed to float are considered individual flotation devices.

△ **CAB 3.4.13**

The Operator shall have a cabin crew policy and procedures that ensure, as applicable to aircraft type and configuration, the delivery of oxygen to passengers:

(i) Immediately following a depressurization;

(ii) For treatment during a medical event where oxygen is required. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy/cabin crew procedures for the administration of oxygen.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for administration of oxygen from portable bottles/cabin system as applicable to aircraft type).
- ☐ **Other Actions** (Specify)

Guidance

△ Emergency oxygen for use following depressurization events may be available through automatically deployed oxygen masks. Cabin crew procedures during a depressurization on such aircraft usually require fitting their own mask first and instructing passengers to self-administer oxygen using the deployed masks.

△ For aircraft that are not fitted with automatically deployed oxygen masks, cabin crew procedures usually ensure that passengers who still require oxygen following the event are provided with oxygen from a portable supply or a mask fitted to a fixed aircraft system.

☐ During a medical event where oxygen is appropriate for treatment, cabin crew procedures include using portable oxygen bottles or other oxygen supplying equipment, as applicable for the type of aircraft.

CAB 3.4.15

The Operator shall ensure the immediate availability of procedures and associated checklist(s), applicable to each aircraft type, to be used for an in-flight search or inspection to discover concealed weapons, explosives, or other dangerous devices when sabotage or other type of unlawful interference is suspected. Such procedures shall contain:

(i) Guidance for the course of action to be taken if a bomb or suspicious object is found;

(ii) Least risk location(s) for a bomb or explosives specific to each aircraft type, if so designated by the manufacturer. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures the operator uses for onboard bomb search or security inspection when an act of unlawful interference or sabotage is suspected.
- ☐ **Examined** selected records of completion of security searches, as appropriate.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

In order to address the need to conduct a timely search or inspection of an aircraft, a checklist or other form of guidance (e.g. Bomb Threat Search Checklist, Aircraft Search Instructions) applicable to each aircraft type is immediately available, either located on board the aircraft or readily accessible through other means, for use by the cabin crew or other qualified personnel. Such checklist or instructions assist qualified personnel in carrying out a systematic search of the flight deck and/or cabin during flight to identify suspected or potentially dangerous devices or explosives. Instructions, which are specific to the aircraft type, specify predetermined structurally safe locations to move, if deemed appropriate, dangerous or potentially explosive articles. (Note: some aircraft types may not have designated least risk locations.)

The capability to undertake a systematic search for such items on board a cargo aircraft may be difficult due to limited access to many parts of the aircraft in flight. Opening containers and accessing pallets of cargo in flight also may not be possible and the availability of flight crew or other trained personnel to undertake such a search may be limited.

4 Cabin Systems and Equipment

4.1 Preflight Inspection/Non-serviceable Equipment Reporting

CAB 4.1.1

The Operator shall have procedures to ensure the availability, accessibility and serviceability of aircraft cabin emergency systems and equipment for passenger flights. Such procedures shall include a preflight inspection of systems and equipment, which, as a minimum, shall be conducted by the cabin crew or, if applicable, by the flight crew prior to the first flight:

(i) After a new cabin crew has assumed control of the aircraft cabin unless there is a procedure for an onboard handover briefing (e.g. during transit stops) between a departing/inbound crew and a replacement/outbound crew that includes verification of the status of emergency systems and equipment;

(ii) After an aircraft has been left unattended by a flight crew or cabin crew for any period of time unless the Operator has a process or procedure that ensures cabin emergency systems and equipment remain undisturbed while crew members are temporarily absent from the cabin. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures to ensure the availability/accessibility/serviceability of aircraft cabin emergency systems and equipment for passenger flights.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Observed** line cabin operations (focus: procedures for preflight inspection of cabin emergency systems/equipment).
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is to ensure an operator has procedures for a preflight inspection of cabin emergency systems and equipment that is accomplished by either the cabin crew or, as applicable, the flight crew under the circumstances specified.

Cabin preflight inspection procedures normally define the specific conditions of the preflight checks, including:

- The systems and equipment to be checked by the cabin and/or flight crew;
- The extent of such checks required to ensure availability, accessibility and serviceability.

The check of some cabin emergency systems and equipment may be accomplished by other operational disciplines (e.g. engineering and maintenance) as defined by the operator.

In some cases, emergency systems are continually monitored by built-in test equipment that is designed to alert the crew to a fault condition.

An operator typically includes associated guidance to ensure action is taken to address a condition where equipment is discovered as faulty, missing or does not satisfy operational requirements.

Discrepancies involving cabin systems and equipment are typically documented in a cabin log book or equivalent recording medium.

The cabin unattended period as specified in item (ii) is intended to apply to short periods of time during the same continuous crew duty period (e.g. crew temporarily leaving the aircraft while maintenance procedures are performed or for aircraft immigration checks during a turnaround).

CAB 4.1.2

The Operator shall have a process that permits the cabin crew to report the existence of non-serviceable aircraft equipment prior to and after the completion of a flight.

Auditor Actions

- ☐ **Identified/Assessed** process for cabin crew to report the existence of non-serviceable aircraft equipment prior to/after the completion of a flight.
- ☐ **Interviewed** responsible manager(s) in cabin operations.
- ☐ **Check** for process alignment with flight operations and Operations/cabin crew manuals.
- ☐ **Observed** line cabin operations (focus: process for cabin crew to report non-serviceable aircraft equipment prior to/after flight).
- ☐ **Other Actions** (Specify)

4.2 Safety Equipment Requirements

Table 5.1–Operations Manual (OM) Content Specifications
The content of the OM shall address the following areas of cabin operations: (i) Compliance or conformity with: (a) Applicable laws, regulations and rules; (b) Standard operating procedures for each phase of flight. (ii) Administration of first aid, to include guidelines for: (a) Life threatening medical emergencies; (b) Cardiopulmonary resuscitation (CPR); (c) Injuries and illnesses; (d) Use of medical equipment (e.g. Automatic External Defibrillator, if applicable). (iii) Response to emergency, abnormal, suspected security situations: (a) Aircraft emergency evacuation; (b) Cabin decompression, if applicable; (c) Onboard fires, smoke and fumes; (d) Emergency landing, ditching; (e) Leakage or spillage of suspected dangerous goods; (f) Suspected bomb or explosives, least risk bomb locations (specific to aircraft type); (g) Cabin search; (h) Hijacking or unlawful intervention. (iv) Use of cabin systems and equipment, to include malfunctions: (a) Oxygen systems, if applicable; (b) Communication systems; (c) Entry and exit doors; (d) Lifesaving equipment. (v) Dangerous goods manual or parts relevant to the cabin crew, to include: (a) Dangerous goods prohibited in passenger and crew baggage; (b) Information/instructions for dangerous goods permitted in passenger and crew baggage; (c) Action to be taken in the event of an emergency. (vi) Use of emergency, survival equipment. (vii) Cabin crew training program: (a) Abnormal and emergency situations, emergency evacuation; (b) Use of emergency and lifesaving equipment; (c) Lack of oxygen, loss of pressurization (as applicable); (d) Other cabin crew member assignments and functions; (e) Dangerous goods; (f) Human performance, crew resource management (CRM). (viii) Limitations pertaining to flight time, flight duty periods and rest periods.

Table 5.2–Elements of an Advanced Qualification Program (AQP)

The following elements shall be included as part of an AQP as specified in CAB 2.1.1B:

(i) Training program and curricula approved or accepted by the State.

(ii) Training and/or evaluation which is conducted to the maximum extent possible in a cabin crew environment. Qualification and continuing qualification curricula must include an event management evaluation (EME), which consists of a partial or full phase of flight scenario systematically designed to target specific technical and crew resource management (CRM) skills.

(iii) Mandatory evaluation of CRM proficiency and substandard performance on CRM factors must be corrected by additional training. For pass/fail purposes, flight attendants must also demonstrate proficiency in an EME, which tests both technical and CRM skills together.

(iv) Specific training for instructors and/or evaluators, together with explicit training and evaluation strategies to verify the proficiency and standardization of such personnel for crew oriented, scenario-based training and evaluation tasks.

(v) Integrated use of cabin training equipment, including cabin procedures trainers. Operators are encouraged to use a suite of equipment matched on the basis of analysis to the training requirements at any given stage of a curriculum.

(vi) Curriculum elements that are:

- (a) Defined;
- (b) Crew member-specific or personnel-specific;
- (c) As applicable, specific to aircraft type. (see Note 1)

Note 1: *Applicable curricula must specify the make, model and series aircraft (or variant) and each crew member position or other positions to be covered by that curriculum. Positions to be covered by the program must include all flight attendant positions, instructors and evaluators and could include other positions, such as flight crew, aircraft dispatchers and other operations personnel.*

(vii) Separate curricula for indoctrination, qualification and continuing qualification.

(viii) CRM Training/Evaluation and Data Collection (feedback) to determine program effectiveness to include:

- (a) State-approved or -accepted Crew Resource Management (CRM) Training applicable to positions for which training is provided under the program;
- (b) State-approved or -accepted training on and evaluation of skills and proficiency of each person being trained under the program to use their crew resource management (CRM) skills and their technical skills in an actual or simulated operations scenario. As applicable, training and evaluation is conducted via CBT and/or in an approved training device;
- (c) Data collection procedures that will ensure the certificate holder provides information from its crew members, instructors and evaluators that will enable the State to determine whether the training and evaluations are working to accomplish the overall objectives of the curriculum;
- (d) Performance proficiency data collection on students, instructors, and evaluators and the conduct of airline internal analysis of such information for the purpose of curriculum refinement and validation.

(ix) Training devices and simulators used under the program are evaluated against applicable published standards and approved or accepted by the State to ensure adequacy for training/qualification performed.

(x) Program approval to include:

- (a) A demonstration to the Authority of how the program will provide an equivalent or superior level of safety for each curriculum item that differs from traditional training programs approved or accepted by the State.

Table 5.2–Elements of an Advanced Qualification Program (AQP)
(b) For every requirement that is replaced by the program curriculum, a demonstration to the Authority of how the new curriculum provides an equivalent or superior level of safety for each requirement that is replaced. Each traditional training program requirement that is not specifically addressed in the program curriculum continues to apply to the Operator. (c) A requirement that training, qualification, or evaluation by a person who provides training by arrangement: “Training Centers” must be approved or accepted by the State. (xi) Records in sufficient detail to establish the training, qualification and certification of each person qualified under the program in accordance with the approved training, qualification and certification requirements.

Table 5.3–Requirements of an Advanced Qualification Program (AQP)
AQP allows development of proficiency-based training programs that encourage innovation in the methods and technologies used during instruction and evaluation, as well as efficient management of the training systems. Since these innovations may require some deviations from traditional regulations, the approved qualification standards may replace the applicable portions of the existing regulations and/or training guidance. These deviations or variances will be documented in the approved AQP documentation. Additionally, an approved AQP Entry Level Analysis may be documented to achieve the most effective use of training resources. An Entry Level Analysis may also be used to identify where training is not needed or to justify alternative curriculum tracks or modules targeted at expected differences in entry background. In an AQP, criticality and currency determination guides how and when training objectives are trained, validated or evaluated. A task factor analysis will be documented within the approved training qualification standards.
The specifications in this table apply to an AQP as specified in CAB 2.1.1B, and are in addition to those delineated in Table 5.2: (i) Proficiency Objectives The Operator shall conduct a job task analysis beginning with the development of a comprehensive task listing for each duty position. The task listing covers the full range of conditions and contingencies - internal to the aircraft, external to the aircraft, normal, abnormal, and emergency - to which the cabin crew could be exposed within the Operator's sphere of operations. Proficiency objectives are then extracted from the task and subtask analysis, respectively, for each duty position, and include identification of applicable performance, standards, and conditions. The documentation of proficiency objectives also identifies the references used, respectively, in defining performance, standards, and conditions for each. An operator may elect to categorize certain proficiency objectives as currency items. Currency items refer to activities on which proficiency is maintained by virtue of frequent exercise during routine operations. Such items do not need to be addressed for training or proficiency evaluation purposes in periodic training sessions. However, verification is required that proficiency on such items is being maintained. Such verification might be obtained during line checks. An operator could also elect to categorize proficiency objectives, including currency items, as critical or non-critical, based on operational significance and the consequences of error. This categorization is employed to determine the time interval within which training and evaluation on such items must occur for continuing qualification curricula. Critical proficiency objectives are trained and evaluated during an evaluation period the initial duration of which cannot exceed thirteen months. Each such evaluation period includes at least one training session. Non-critical terminal proficiency objectives may be distributed over a continuing qualification cycle the initial duration of which cannot exceed twenty-six months. (ii) Continuing Qualification Cycles and Evaluation Periods After initial qualification, which incorporates training and evaluation on all proficiency objectives, follow-on training will occur within a scheduling interval called a continuing qualification cycle. This is the time period during which all terminal and supporting proficiency objectives are trained, validated, or evaluated. The initial approval for a continuing qualification cycle is no more than 26 months in duration, divided into two 13-month evaluation periods. All critical proficiency objectives are accomplished during each evaluation period, and all currency proficiency objectives are accomplished during each continuing qualification cycle. The initial duration of a continuing qualification cycle is 26 months, which may be subsequently and incrementally extended by the Authority to a maximum of 39 months, contingent upon the results of performance proficiency data from each such cycle. (iii) Training Sessions Each evaluation period must include a minimum of one training session but may include more. Initially, training sessions cannot be more than 13 months apart.

Table 5.3–Requirements of an Advanced Qualification Program (AQP)
(iv) Proficiency Evaluations A proficiency evaluation must be completed during each evaluation period. Typically, the proficiency evaluation will occur during a required training session; however, if more than one training session is completed during an evaluation period, the proficiency evaluation may be divided among training sessions or otherwise allocated to one or more such sessions.

Tables 5.4–5.7 (Intentionally open)

Table 5.8–Guidance Material: Medical Kit Contents

The equipment contents of a medical kit on passenger aircraft would typically include:

- List of contents;
- Stethoscope;
- Sphygmomanometer (electronic preferred);
- Airways, oropharyngeal (appropriate range of sizes);
- Syringes (appropriate range of sizes);
- Needles (appropriate range of sizes);
- Intravenous catheters (appropriate range of sizes);
- System for delivering intravenous fluids;
- Antiseptic wipes, gloves (disposable);
- Sharps disposal box;
- Urinary catheter with sterile lubricating gel;
- Venous tourniquet;
- Sponge gauze;
- Tape adhesive;
- Surgical mask;
- Emergency tracheal catheter (or large gauge intravenous cannula);
- Umbilical cord clamp;
- Thermometers (non-mercury);
- Basic life support cards;
- Bag-valve mask;
- Torch (flashlight) and batteries (operator may choose to have one per aircraft in an easily accessible location).

The carriage of AEDs would be determined by an operator on the basis of a risk assessment, taking into account the particular nature of the operation.

The drug contents of a medical kit would typically include:

- Epinephrine 1:1000;
- Epinephrine 1:10,000 (can be a dilution of epinephrine 1:1,000);
- Antihistaminic (injectable);
- Anti-psychotic drug (e.g. haloperidol);
- Dextrose (50% injectable), 50 ml (single dose ampule or equivalent);
- Nitroglycerine (tablets or spray);
- Major analgesic (injectable or oral);
- Sedative anticonvulsant (injectable);
- Antiemetic injectable, or oral dissolvable (e.g. Ondansetron);
- Bronchial dilator inhaler with disposable collapsible spacer;
- Atropine (injectable);
- Adrenocortical steroid (injectable or similar oral absorption equivalent);
- Diuretic (injectable);
- Sodium chloride 0.9% (1000 ml recommended);
- Acetyl salicylic acid (aspirin) for oral use;
- Oral beta blocker.

Table 5.8–Guidance Material: Medical Kit Contents
Note: *Auto-injectors are easier to use and, when available and cost effective, could be used by the cabin crew under orders from the operator's ground medical advisor (if there are no health professional on board).*
Note: *Where legally and economically possible and where technically available and as effective, new methods of administration (e.g. nasal spray, sub-lingual spray, oral dissolving) should be considered as a replacement for injections (e.g. intra-nasal rather than injectable sedative anticonvulsant). Such new methods would facilitate treatment by an assisting volunteer that might not have been trained to administer injections (this could include a cabin crew member under direction from ground based medical services).*

Table 5.9–Guidance Material: Universal Precaution Kit Contents
One or two universal precaution kits per aircraft would typically be adequate for normal operations; additional kits would be carried at times of increased public health risk (e.g. an outbreak of a serious communicable disease with pandemic potential). The contents of an aircraft universal precaution kit would typically include: • Dry powder that can convert small liquid spill into a granulated gel; • Germicidal disinfectant for surface cleaning; • Skin wipes; • Face/eye mask (separate or combined); • Gloves (disposable); • Impermeable full-length long-sleeved gown that fastens at the back; • Large absorbent towel; • Pick-up scoop with scraper; • Bio-hazard disposal waste bag; • Instructions.

Section 6 — Ground Handling Operations (GRH)

Applicability

Section 6 addresses functions within the scope of ground handling operations and is applicable to an operator that conducts passenger, cargo and/or combi (combined cargo and passenger) aircraft operations.

Individual GRH provisions or sub-specifications within a GRH provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the Operator meets the condition(s) stated in the phrase.

Functions within the scope of ground handling operations include:

- Passenger handling;
- Baggage handling;
- Aircraft ground handling and loading;
- Load control;
- Aircraft fueling;
- Aircraft de-/anti-icing.

In this section, non-revenue cargo is addressed in the same way as revenue cargo for the purposes of handling loading, securing and transporting. COMAT is non-revenue cargo.

For the purpose of addressing cargo in this section, mail is considered to be an item of cargo. Therefore, any reference to cargo also includes mail.

Where an operator outsources the performance of ground handling operational functions to external service providers, the operator retains overall responsibility for ensuring the management of safety in the conduct of such operations and must demonstrate processes for monitoring applicable external service providers in accordance with GRH 1.10.2.

General Guidance

Definitions of technical terms used in this ISM Section 6, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

Processes and procedures for use in ground handling operations are defined in the IATA Ground Operations Manual (IGOM), the IATA Airport Handling Manual (AHM), the IATA Dangerous Goods Regulations (DGR) and in other relevant IATA publications.

Due to revision cycle differences, the IATA documents cited above are typically revised at various times during the effective period of an ISM edition. Accordingly, when an IATA document is revised, it could render an existing reference to specific information in an IATA document to be in error. In such case, the revised IATA document would have to be searched to find the specific information referenced.

1 Management and Control

1.1 Management System Overview

1.2 Accountability, Authorities and Responsibilities

1.3 Communication

1.4 Provision of Resources

1.5 Documentation System

1.6 Operational Manuals

GRH 1.6.3

If the Operator transports dangerous goods as cargo, the Operator shall ensure a current edition of the IATA Dangerous Goods Regulations (DGR), the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air (Technical Instructions) or equivalent documentation is accessible at each location where ground handling operations involving the loading of dangerous goods as cargo are conducted. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for ensuring distribution of DGR or equivalent DG documents to all locations where DG is handled.
- ☐ **Interviewed** responsible management representative(s).
- ☐ **Traced** distribution of DGR or equivalent DG documents.
- ☐ **Observed** accessibility of DGR or equivalent DG documents in areas of operations where dangerous goods are handled.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Dangerous Goods Regulations (DGR) and Technical Instructions.

Most dangerous goods are typically transported as cargo. However, certain types of dangerous goods are permitted for transport in passenger or crew baggage. The specifications in this provision are applicable to an operator that transports dangerous goods as cargo.

Acceptable equivalent documentation would typically contain information derived from the DGR or Technical Instructions, as well as the dangerous goods policies and procedures specific to the type(s) of operations being conducted at the location.

GRH 1.6.4

If the Operator transports dangerous goods as cargo, the Operator shall ensure the OM or an equivalent operational manual contains information that will permit ground handling personnel to carry out duties and responsibilities with respect to dangerous goods. Such information shall include, as a minimum:

(i) Action to be taken in the event of emergencies involving dangerous goods;

(ii) Details of the location and identification of cargo holds;

(iii) The maximum quantity of dry ice permitted in each compartment;

(iv) If radioactive material is transported, instructions for the loading of such dangerous goods in accordance with applicable requirements. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** information in the OM or equivalent document that permits personnel to carry out duties and responsibilities relevant to dangerous goods handling.
- ☐ **Interviewed** responsible management representative(s).
- ☐ **Interviewed** personnel that perform operational functions in ground handling operations.
- ☐ **Observed** accessibility of DG information on key cargo (dry ice and radioactive material) in selected areas of operations where personnel carry out dangerous goods handling.
- ☐ **Other Actions** (Specify)

Guidance

△ Guidance may be found in DGR 1.4.2.

GRH 1.6.5

△ If the Operator does *not* transport dangerous goods as cargo, the Operator shall ensure the OM contains the policies and associated guidance necessary to prevent dangerous goods from being inadvertently carried or loaded onto the aircraft. **(GM)**

Auditor Actions

△
- ☐ **Identified/Assessed** policies and guidance in the ground handling OM or equivalent manual necessary to ensure personnel do not inadvertently permit loading or transport of dangerous goods on aircraft not approved or used for such transport.
- ☐ **Interviewed** responsible management representative(s).
- ☐ **Interviewed** personnel that perform operational functions in ground handling operations.

△
- ☐ **Observed** availability of policies and guidance that ensures personnel do not inadvertently permit dangerous goods to be carried or loaded onto aircraft not approved or used for the transport of dangerous goods.
- ☐ **Other Actions** (Specify)

Guidance

☐ An operator requires specific approval to transport dangerous goods as cargo. In some cases, an operator might have approval to transport dangerous goods as cargo but actually transports dangerous goods only on certain aircraft. For example, an operator that conducts flights with passenger and cargo aircraft might transport dangerous goods only in its cargo aircraft and not in its passenger aircraft.

☐ The intent of this provision is for an operator that does not transport dangerous goods as cargo, or does not transport dangerous goods as cargo on certain aircraft in its fleet, to have policies and associated guidance in the OM to ensure personnel are able to identify and reject undeclared dangerous goods (including COMAT classified as dangerous goods) from being loaded or transported on aircraft in its fleet that are not approved or used for such transport.

☐ Guidance in an operator's OM typically addresses vigilance with respect to hidden or inconspicuous dangerous goods and includes an indicative list of items that could contain or be classified as dangerous goods.

1.7 Records System

1.8 (Intentionally open)

1.9 Quality Assurance Program

1.10 Quality Control of Outsourced Operations and Products

1.11 Safety Management

Risk Management

GRH 1.11.1

△ The Operator shall have a hazard identification program for ground handling operations that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in GRH operations (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of GRH operations in cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.

- ☐ **Interviewed** person(s) that perform GRH operations data collection/analysis to identify hazards to aircraft operations.
- ☐ **Examined** selected examples of hazards identified through GRH operations data collection/analysis.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

GRH 1.11.2

The Operator shall have a safety risk assessment and mitigation program for ground handling operations that specifies processes to ensure:

(i) Hazards are analyzed to determine the existing and potential safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk control action(s);

(iii) When required, risk mitigation actions are developed and implemented in ground handling operations. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of its ground handling operations risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.
• Means used for recording risks and mitigation (control) actions.
• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant ground handling operations are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) across the ground handling operations organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

△ (ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in ground handling operations (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** role of ground handling operations in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Interviewed** person(s) that perform ground handling operations risk assessment/mitigation.
- ☐ **Examined** selected records/documents that illustrate risk assessment/mitigation action.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Ground Support Equipment (GSE), NOTOC (Notification to Captain), Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management, Safety Risk Mitigation and Unit Load Device (ULD).

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

Hazards relevant to the conduct of ground operations are potentially associated with:

- Aircraft loading/unloading operations (e.g. unsafe airside driving, unsupervised ground operations activities at the airside, lack of PPE, ineffective baggage reconciliation process).
- Aircraft special loads (e.g. for dangerous goods, live animals, perishables, valuables, time/temperature-sensitive products: lack of or incomplete NOTOC, lack of or inadequate security controls).
- Aircraft servicing (e.g. for water/toilet service, catering: lack of guide man, lack of proper periodic water testing, lack of proper inspection before/after service).
- Passenger embarkation/disembarkation (e.g. Passengers walking on the ramp).
- Fueling operations (e.g. fueling with passengers on board the aircraft).
- De-/anti-Icing operations (e.g. lack of effective pre-departure checks, glycol/water mixture not effectively checked or tested, incorrect de-/anti-icing procedures).
- Aircraft towing and pushback (e.g. lack of wing walkers, improper connection/disconnection of tow-bars, improper ground-to-cockpit communication).
- Adverse weather conditions (e.g. low visibility, high wind, extreme temperatures, volcanic ash).
- ULD Management (e.g. unsafe ULD loading/buildup/storage).
- Management of Ground Support Equipment (GSE) (e.g. lack of daily equipment checks, lack of proper identification of out-of-service GSE).
- Loading/securing of cargo on aircraft that transport cargo without passengers in the passenger cabin.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

GRH 1.11.3

The Operator shall have an operational safety reporting system for ground handling operations that:

(i) Encourages and facilitates ground handling operations personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Requires reporting of events that result in aircraft ground damage;

(iii) Includes analysis and ground handling operations management action to address operational deficiencies, hazards, incidents and concerns identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** operational safety reporting system in ground handling operations (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in ground handling operations.
- ☐ **Examined** data that confirm an effective ground handling operations safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected ground handling operations safety reports (focus: analysis/follow-up to identify and address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify).

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

To enhance industry data usability, it is recommended that ground damage events are reported in accordance with a formal reporting structure.

△ Refer to ORG 2.4.3, which addresses the submission of safety and security occurrences to IATA for inclusion in the Incident Data Exchange (IDX).

Refer to IGOM 6.4 for guidance that addresses aircraft damage reporting.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Performance Monitoring and Management

2 Training and Qualification

2.1 Training Program

GRH 2.1.1

The Operator shall have a process to ensure personnel that perform operational duties in functions within the scope of ground handling operations for the Operator, to include personnel of external service providers, complete:

(i) Initial training prior to being assigned to perform such operational duties;

(ii) Recurrent training on a frequency in accordance with requirements of the regulatory authority but not less than once during every 36-month period, except for recurrent training in dangerous goods as specified in GRH 2.2.1 or GRH 2.2.2;

(iii) Re-qualification training applicable to personnel that become unqualified for any reason, prior to being reassigned to perform operational duties. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** training program for ground handling personnel (focus: ensures completion of initial/recurrent/requalification training for personnel in all ground handling functions; includes processes that ensure personnel of external service providers complete initial/recurrent training).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- △ ☐ **Examined** selected initial/recurrent/requalification course curricula/syllabi (focus: curricula/syllabi include initial/recurrent/requalification training courses for all personnel that perform ground handling duties/functions).
- △ ☐ **Examined** initial/recurrent/requalification training records of selected personnel (focus: completion of initial/recurrent/requalification training).
- ☐ **Other Actions** (Specify).

Guidance

Refer to the Applicability box at the beginning of this section for the functions within the scope of ground handling operations.

Requirements for initial, recurrent and re-qualification training apply to all personnel that perform duties within the scope of ground handling operations for the operator, both at the main base and at all other locations.

GRH 2.1.2

The Operator shall have a process to ensure the training programs completed by ground handling operations personnel in accordance with GRH 2.1.1 provide the knowledge necessary to perform duties, execute procedures and operate the equipment associated with specific ground handling functions and responsibilities. Such programs shall include:

(i) Familiarization training on applicable regulations;

(ii) In-depth training on requirements, including policies, procedures and operating practices;

(iii) Training in human factors principles;

(iv) Safety training on associated operational hazards. **(GM)**

Auditor Actions

☐ **Identified/Assessed** training programs for ground handling operations personnel (focus: includes programs for personnel in all ground handling operations functions).

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** selected training program records/documents (focus: programs include all specified training areas as applicable to ground handling operations functions).

☐ **Other Actions** (Specify).

Guidance

Refer to the IRM for the definition of FOD (Foreign Object Debris/Damage) and Human Factors Principles.

Safety and human factors training typically includes the following subject areas as appropriate to the individual's assigned operational function(s):

- Safety philosophy;
- Safety regulations;
- Hazards;
- Human factors;
- Airside markings and signage;
- Emergency situations;
- FOD prevention;
- Personal protection;
- Accidents, incidents, near misses;
- Airside safety supervision.

AHM 1110 Item 11 contains detailed guidance for safety and human factors training.

GRH 2.1.3

The Operator shall have a process to ensure training for personnel that perform operational duties in functions within the scope of ground handling operations for the Operator:

(i) Includes testing or evaluation by written, oral or practical means, as applicable;

(ii) Requires a demonstration of adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** training programs for ground handling operations personnel (focus: programs include a process for testing/evaluations/demonstrations as specified).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- △ ☐ **Examined** selected initial/recurrent/requalification course curricula/syllabi (focus: training courses include testing/evaluations/demonstrations).
- △ ☐ **Examined** initial/recurrent/requalification training records of selected personnel (focus: testing/evaluations/demonstrations as specified completed during initial/recurrent/requalification training).
- ☐ **Other Actions** (Specify).

Guidance

Training is usually divided into theoretical and practical parts, both of which normally include a record of an evaluation and successful completion of training.

An assessment of knowledge gained from the theoretical part of training is normally accomplished through use of written or computer-based testing.

Practical training typically includes an on-the-job training phase followed by a demonstration of competence in the skills that are relevant to the specific ground handling function.

An oral means of assessment may be included as an element of the evaluation included in the theoretical and/or practical parts of training but would typically not be used as the sole method of evaluation.

Records of evaluations for both theoretical and practical training are normally retained to verify currency in accordance with training program requirements.

GRH 2.1.4

The Operator shall have a process to ensure completion of required training by personnel that perform operational duties in functions within the scope of ground handling operations for the Operator is recorded and such records are retained in accordance with GRH 1.7.1.

Auditor Actions

- ☐ **Identified/Assessed** ground handling operations records system (focus: system includes training records of personnel that perform ground handling operations duties).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- △ ☐ **Examined** initial/recurrent/requalification training records of selected personnel (focus: completion of initial/recurrent/requalification training).
- ☐ **Other Actions** (Specify).

GRH 2.1.5

The Operator shall have a process to ensure the training programs completed by ground handling operations personnel in accordance with GRH 2.1.1 are reviewed and updated to remain relevant and current.

Auditor Actions

- ☐ **Identified/Assessed** process for review and update of training programs completed by ground handling operations personnel.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** selected training program records/documents (focus: programs have been periodically reviewed and updated).
- ☐ **Other Actions** (Specify).

2.2 Program Elements

GRH 2.2.1

If the Operator transports dangerous goods as cargo, the Operator shall have a process to ensure ground handling operations personnel complete dangerous goods training, to include initial training and recurrent training within 24 months of previous training in dangerous goods. Such training shall be completed by personnel that perform operational duties in the following functions within the scope of ground handling operations:

(i) Passenger handling;
(ii) Baggage handling;
(iii) Aircraft loading;
(iv) Load control. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods training program (focus: defines DG training requirements for ground handling personnel as appropriate for specific assigned responsibilities/duty functions).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** applicable initial/recurrent dangerous goods training curricula and syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).
- ☐ **Examined** training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).
- ☐ **Other Actions** (Specify)

Guidance

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

GRH 2.2.2

If the Operator does *not* transport dangerous goods as cargo, the Operator shall have a process to ensure ground handling operations personnel complete dangerous goods training, to include initial training and recurrent training within 24 months of previous training in dangerous goods. Such training shall be completed by personnel that perform operational duties in the following functions within the scope of ground handling operations:

(i) Passenger handling;
(ii) Baggage handling;
(iii) Aircraft loading;
(iv) Load control. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for all ground handling personnel based on specific assigned responsibilities/duty functions).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.

- ☐ **Examined** selected initial/recurrent training curricula/syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).
- ☐ **Examined** training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).
- ☐ **Other Actions** (Specify)

Guidance

When an operator does not transport dangerous goods as cargo (i.e. a "no-carry" operator), dangerous goods training is still required for ground handling personnel to ensure prohibited dangerous goods are recognized and are not loaded onto an aircraft.

Dangerous goods training would be structured to provide the requisite knowledge to permit ground handling personnel to recognize prohibited dangerous goods (whether labeled or not labeled), ensure such dangerous goods are not inadvertently loaded on an aircraft and apply emergency action in the event of contamination or a spill.

The curriculum for dangerous goods training is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

GRH 2.2.3

The Operator shall have a process to ensure initial and recurrent training completed by applicable ground handling personnel in accordance with GRH 2.1.1 addresses the following areas of operations, as applicable to ground handling duties or function(s) performed:

(i) Passenger services;
(ii) Ramp services;
(iii) Load control;
(iv) Aircraft fueling;
(v) Aircraft ground de-/anti-icing.

Auditor Actions

- ☐ **Identified/Assessed** training program for ground handling personnel (focus: training program addresses all specified operational areas).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- △ ☐ **Examined** selected initial/recurrent/requalification training curricula/syllabi (focus: training addresses all specified operational areas).
- △ ☐ **Examined** initial/recurrent/requalification training records of selected personnel (focus: completion of training appropriate for individual duties/functions performed).
- ☐ **Other Actions** (Specify)

2.3 SMS Training

3 Ground Handling Operations

3.1 Passenger and Baggage Handling

GRH 3.1.3

If the Operator conducts passenger flights and accepts battery-operated mobility aids for transport on the aircraft, the Operator shall have procedures for acceptance and handling of such mobility aids to ensure they meet following requirements:

(i) The battery is a type that is permitted;
(ii) Battery terminals are protected and electrical circuits are isolated;
(iii) Loading is in a manner that prevents movement and damage from other cargo;

(iv) If applicable, batteries are removed, protected and transported as per specifications applicable to the type of batteries;

(v) The pilot in command is informed of the location of the mobility aids and/or the batteries. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for acceptance/handling of battery-operated mobility aids.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Observed** acceptance/handling of battery-operated mobility (focus: acceptance/handling procedures are implemented).
- ☐ **Examined** selected retained documents (e.g. NOTOC) of accepted battery-operated mobility aids (focus: mobility aids accepted/handled in accordance with procedures; notification to PIC includes location).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Passenger Mobility Aid.

Refer to DGR 2.3.2 and ICAO Technical Instructions Part 7;2.13 for additional guidance.

GRH 3.1.5

If the Operator transports passengers that require special handling, the Operator shall have a policy and associated procedures for the preflight acceptance or non-acceptance, as well as handling, of such passengers by ground passenger handling personnel. Such policy and procedures shall be in accordance with applicable regulations and, as a minimum, address:

(i) Intoxicated passengers;

(ii) Passengers with disabilities or reduced mobility;

(iii) Passengers with injuries or illness;

(iv) Infants and unaccompanied children;

(v) Inadmissible passengers;

(vi) Deportees;

(vii) Passengers in custody. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy and procedures for passengers requiring the listed categories of special handling.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Sampled** records of specific cases of handling special needs passengers.
- ☐ **Observed** passenger/baggage handling operations (focus: policy/procedures for preflight acceptance of passengers that require special handling).
- ☐ **Other Actions** (Specify)

Guidance

A policy and associated procedures typically address the acceptance and pre-boarding handling of passengers that require special handling, or perhaps the refusal to accept certain categories of passengers. For example, such policy and procedures might include or address the following:

- For intoxicated passengers: Refusal to accept at check-in and, upon discovery after check-in, refusal to board the aircraft.
- For passengers with disabilities: Acceptance and/or limitations for such acceptance in accordance with applicable regulations, ground handling and, as applicable, specialized equipment considerations.
- If unaccompanied children are accepted: Maximum number, minimum age, any special arrangements once on board, specific seat allocation, ground handling considerations.

- If stretchers are accepted: Maximum number, escort requirement, associated equipment that would need to be available, ground handling considerations.
- If passengers in custody are accepted: Maximum number, number of escort officers, specific seat allocation, ground handling considerations.

Refer to IGOM 1.4.

GRH 3.1.6

If the Operator conducts passenger flights, the Operator shall have a policy and associated procedures for addressing passengers that exhibit unruly behavior and/or interfere prior to flight departure. Such policy and procedures shall be in accordance with local laws and regulations and specify measures that will ensure the safety of the aircraft, persons on board and their property. As a minimum, the policy and procedures shall address:

(i) Identification of passenger unruly behavior and interference;

(ii) Conditions under which passengers may be denied boarding in accordance with the applicable authority;

(iii) Reporting of instances of passenger unruly behavior or interference. **(GM)**

Auditor Actions

☐ **Identified/Assessed** policy and procedures for addressing passenger unruly behavior/interference.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Sampled** records of specific cases of passenger unruly behavior/interference.

☐ **Observed** passenger/baggage handling operations (focus: policy/procedures for preflight handling of passenger unruly behavior/interference).

☐ **Other Actions** (Specify)

Guidance

A policy and associated procedures would typically be published to ensure awareness by all applicable ground personnel.

To ensure procedures are effective, guidelines are typically created to address all aspects of managing unruly behavior including prevention.

The intent of item (iii) is that instances of passenger unruly behavior or interference are reported internally in accordance with SEC 1.12.1 and SEC 4.3.1. Such reporting is usually done for the purpose of performing trend analysis and developing appropriate mitigation measures. In addition, depending on the severity, some instances may be required to be reported to the applicable aviation security authority in accordance with SEC 4.3.2.

☐ Refer to IGOM 1.4.10 for guidance that addresses unruly passengers.

3.2 Airside Operations

GRH 3.2.2

The Operator shall ensure aircraft arrival procedures are in place that are completed prior to aircraft arrival at the assigned parking gate or stand. Such procedures shall ensure:

(i) The ramp area surface is inspected and is free of:

(a) Debris that could cause foreign object damage (FOD);

(b) Contamination that could be hazardous to aircraft movement.

(ii) The aircraft movement path is clear of objects and obstacles;

(iii) Personnel not involved in the aircraft arrival are positioned outside the equipment restraint area (ERA);

(iv) Required GSE is available and positioned clear of the ERA;

(v) The aircraft docking guidance system is operational or, if applicable, marshalling personnel are in place;

(vi) If applicable, wing walkers and/or other applicable personnel are present. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** aircraft arrival procedures in the OM (focus: published procedures for aircraft arrival are in accordance with specifications in this standard).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Observed** aircraft arrival operations (focus: procedures for aircraft arrival are implemented as published in the OM).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Equipment Restraint Area (ERA) and Foreign Object Debris/Damage (FOD).

As specified in item (i) (b), snow and ice are ramp surface contaminants that can be hazardous to aircraft ground movement.

Documented procedures in accordance with IGOM 4.1.1, 4.1.2.1 and 4.1.3.1 will typically demonstrate documental conformity with the specifications in this provision.

GRH 3.2.3

The Operator shall ensure aircraft arrival procedures are in place that are completed once an aircraft has stopped at the parking gate or stand. Such procedures shall ensure:

(i) Vehicles and personnel remain clear of parking stand until engines are shut down and anti-collision lights are turned off;

(ii) As applicable, wheel chocks are positioned at the landing gear wheels and verbally/visually confirmed to the flight crew;

(iii) Safety cones are placed around the aircraft;

(iv) An aircraft exterior inspection is accomplished prior to GSE being positioned to the aircraft to identify and record visible aircraft damage. **(GM)**

Note: *Procedures shall ensure visible damage found during the aircraft exterior inspection is reported to a supervisor and the flight crew, and GSE is not positioned to the aircraft in an area where such damage exists.*

Auditor Actions

- ☐ **Identified/Assessed** aircraft arrival procedures in the OM (focus: published procedures for aircraft arrival inspection is in accordance with specifications in this standard).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Observed** aircraft arrival operations (focus: procedures for aircraft arrival are implemented as published in the OM).
- ☐ **Other Actions** (Specify)

Guidance

△ Refer to IGOM 3.1.2 for guidance that addresses general ramp safety.

☐ During the aircraft exterior inspection, involved ground handling personnel confirm there is no damage to the aircraft where GSE will be positioned before such GSE is moved toward the aircraft. In addition, an assigned person completes a walkaround inspection to identify any damage to other areas of the aircraft.

Communication with the flight crew is normally established through use of the aircraft intercom system. However, when necessary, such communication may be conducted using standardized hand signals.

Documented procedures in accordance with IGOM 4.1 (Aircraft Arrival), IGOM 4.2 (Aircraft Chocking) and IGOM 4.3 (Aircraft Coning) will typically demonstrate documental conformity with the specifications in this provision.

Refer also to ICAO Manual on Ground Handling 6.3.3.3 and 6.3.5.3.

GRH 3.2.7

The Operator shall ensure aircraft departure procedures are in place and are completed prior to an aircraft departing the parking gate or stand. Such procedures shall ensure:

(i) The ramp area surface is inspected and is free of:
  (a) Debris that could cause foreign object damage (FOD);
  (b) Contamination that could be hazardous to aircraft movement;
  (c) Objects that could be impacted by the aircraft or subjected to jet blast effect.

(ii) Personnel not involved in the aircraft departure are positioned outside the ERA;

(iii) If applicable, wing walkers and/or other applicable personnel are present;

(iv) If applicable, communication with the flight crew on air starter unit (ASU) positioning, engine start sequence and identification of minimum specifications for volume and pressure of air supply;

(v) Use of anti-collision light(s);

(vi) Communication is established with the flight crew;

(vii) Vehicles and personnel remain clear of aircraft engine intake and/or blast areas during engine start. **(GM)**

Auditor Actions

☐ **Identified/Assessed** aircraft departure procedures in the OM (focus: published procedures for aircraft departure are in accordance with specifications in this standard).

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Observed** aircraft departure operations (focus: procedures for aircraft departure are implemented as published in the OM).

☐ **Other Actions** (Specify)

Guidance

Communication with the flight crew is normally established through use of the aircraft intercom system. However, when necessary, such communication may be conducted using standardized hand signals.

Documented procedures in accordance with IGOM 4.6 (Aircraft Departure) will typically demonstrate documental conformity with the specifications in this provision. Refer to:

- IGOM 4.6.7.1 for guidance that addresses safety precautions related to proper use of aircraft anti-collision lights;
- IGOM 4.6.8 for departure ground staff to flight deck communication and use of common phraseology;
- IGOM 4.6.5 for pre-departure communication table.

Refer to IGOM 3.1.2 for guidance that addresses general ramp safety.

Additional guidance may be found in ICAO Doc 10121, Manual on Ground Handling, Chapter 6, 6.3.9 and 6.3.10.3.

GRH 3.2.8

The Operator shall ensure an aircraft departure procedure is in place for an aircraft walkaround inspection that is completed immediately prior to the aircraft departing the parking gate or stand. Such check shall ensure:

(i) The ramp area surface is free of debris that could cause foreign object damage (FOD);

(ii) GSE and passenger boarding equipment are detached from the aircraft;

(iii) GSE and vehicles are positioned clear of the aircraft movement path;

(iv) The aircraft movement path is clear of objects and obstacles;

(v) Aircraft servicing panels and/or hatches are closed and secured (except external power and headset panels);

(vi) Aircraft cabin and cargo doors are closed and handles are flush with the fuselage;

(vii) Any visible aircraft damage or abnormalities are reported to the flight crew and maintenance;

△ (viii) Landing gear safety pins are removed. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** aircraft departure procedures in the OM (focus: published procedure for aircraft pre-departure check is in accordance with specifications in this standard).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Observed** aircraft departure operations (focus: procedure for aircraft departure walkaround check is implemented as published in the OM).
- ☐ **Other Actions** (Specify)

Guidance

Examples of aircraft abnormalities as specified in item (vii) are fuel and hydraulic fluid leakage.

△ The intent of item (viii) is that, during the aircraft walkaround inspection, a check is made to ensure none of the landing gear safety pins are installed. If it is found that one or more safety pins is/are installed, removal will normally be accomplished only by appropriately qualified personnel.

Documented procedures in accordance with IGOM 4.6.3.1 (Pre-Departure Walk Around Check) will typically demonstrate documental conformity with the specifications in this provision.

GRH 3.2.9

If the Operator conducts aircraft pushback or towing operations, the Operator shall ensure procedures are in place for such operations. Such procedures shall ensure:

(i) Equipment used is suitable for the aircraft type;

(ii) Maximum aircraft nose gear turn limits are not exceeded;

(iii) Standardized communication is used between the ground crew and the flight crew;

(iv) A safe connection, operation and disconnection of the pushback or towing equipment. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** aircraft departure procedures in the OM (focus: published procedure for aircraft pre-departure check is in accordance with specifications in this standard).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Observed** aircraft departure operations (focus: procedure for aircraft departure walkaround check is implemented as published in the OM).
- ☐ **Other Actions** (Specify)

Guidance

Communication between the ground crew and flight crew as specified in item (iii) may be accomplished verbally using the aircraft interphone system or visually using hand signals.

Documented procedures in accordance with IGOM 4.6 (Aircraft Departure), IGOM 4.7 (Power Push Unit) and IGOM 4.9 (Aircraft Towing) will typically demonstrate documental conformity with the specifications in this provision.

3.3 Load Control

GRH 3.3.1

The Operator shall ensure a Load Control system is in place that provides for:

(i) Aircraft weight and balance conditions that are correct and within limits;

(ii) Aircraft loaded in accordance with applicable regulations and specific loading instructions for the flight;

(iii) Dissemination of dangerous goods and other special load information applicable to each flight;

(iv) Information, to include last minute changes, that is in agreement with the actual load on the aircraft and presented on a final load sheet. **(GM)**

Auditor Actions

☐ **Identified/Assessed** Load Control system.

☐ **Interviewed** responsible manager(s) in load control operations.

☐ **Examined** checklists/procedures used in the load control process.

☐ **Observed** load control operations (focus: load control system includes functions necessary to address aircraft load, weight/balance calculation, production of final load sheet).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Load, Load Control, Special Load and Weight and Balance Manual (W&BM).

A load planning system typically entails, as a minimum:

- Assemblage of all data relating to the aircraft load (originating and en route stations);
- Planning of the load for ready accessibility;
- Planning of special loads according to restrictions, maximum quantities, separation and segregation requirements;
- Consideration of center of gravity parameters, including those affecting aircraft fuel consumption.

Guidance may be found in AHM 551 and 590.

GRH 3.3.2

The Operator shall have a process to ensure aircraft weight and balance data:

(i) Take into account limitations of the manufacturer and Operator;

(ii) Are current and accurate. **(GM)**

Auditor Actions

☐ **Identified/Assessed** load control process(es) for weight/balance calculations.

☐ **Interviewed** responsible manager(s) in load control operations.

☐ **Examined** examples of data used in the weight/balance calculation process.

△ ☐ **Observed** load control operations (focus: weight/balance calculations based on current data, account for relevant limitations and specifics of aircraft type and actual configuration).

☐ **Other Actions** (Specify)

Guidance

△ Refer to the IRM for the definitions of Cargo Restraint System, Combi (Combined Passenger and Cargo) Aircraft Operations and Supplemental Type Certificate (STC) Holder as well as the abbreviations DCS (Departure Control System), DOI (Dry Operating Index) and DOW (Dry Operating Weight).

△ Also refer to the IRM for the definition of Fuel (Flight Planning), which includes a definition of the term Unusable Fuel.

The generation of the balance chart (operational limits) is normally accomplished in accordance with methods defined by the manufacturer's Weight and Balance Manual or equivalent document, which, as applicable, is approved by the applicable authority. Such activity is usually performed by Flight Operations or Ground Operations, or a combination thereof.

The process for producing weight and balance data and related documentation typically ensures that weight and balance limits are respected both in normal and in special conditions.

The following are some examples of special conditions:

- Operations with fuel pumps inoperative (MEL);
- Fuel carried as ballast (unusable fuel transported for weight and balance purposes);
- Flight conducted with nonstandard aircraft configuration, nonstandard passenger weights or other nonstandard conditions (e.g. rows of seats removed to fit a stretcher);
- Flight operations with one or more cabin doors inoperative that results in passenger distribution curtailment (MEL).

To ensure aircraft weight and balance data are current and accurate, an operator typically performs periodic aircraft weighing as recommended by the aircraft manufacturer and approved by the applicable authority.

Additionally, an operator would continuously monitor any aircraft weight and balance variations that result from individual aircraft maintenance activities or modifications (usually accomplished in accordance with operational bulletins or other similar directives) that change the basic weight and balance reference data as per tolerances and procedures established and accepted by local authorities (normally identified as DOW/DOI).

This above monitoring activity is usually performed by flight operations or maintenance operations, or a combination thereof.

Weight and balance data is typically maintained and updated via the DCS, to include remote central load control (CLC) or any other available means, and then communicated in a timely manner.

□ For combi aircraft operations, guidance in the OM would typically address limitations of the actual combi aircraft main deck/cabin configuration and ensure load control processes maintain current aircraft weight and balance data and account for passengers being seated on the same deck and forward of the cargo. Such passengers would be protected through provision of an adequate buffer and/or cargo restraint system in accordance with requirements of the aircraft manufacturer, Supplemental Type Certificate (STC) holder and/or data approved by the Authority.

Guidance may be found in AHM 565 (EDP system semi-permanent data exchange) and AHM 562.

GRH 3.3.4

If the Operator transports dangerous goods as cargo, the Operator shall ensure a process is in place to provide the pilot-in-command (PIC), as soon as practicable prior to departure of the aircraft, with accurate and legible written information pertaining to dangerous goods on board the aircraft to be transported as cargo. Such notification shall include the following:

(i) If applicable, Air Waybill number;

(ii) Proper shipping name and/or UN/ID number;

(iii) Class or division, and subsidiary risk(s) corresponding to the label(s) applied, and for Class 1, the compatibility group;

(iv) If applicable, packing group;

(v) For non-radioactive material, number of packages, exact loading location and, as required, net quantity or, if applicable, gross weight of each package, except:

(a) For UN 1845: carbon dioxide, solid (dry ice), UN number, proper shipping name, classification, total quantity in each aircraft hold and offload airport;

(b) For UN 3480 (Lithium ion batteries) and UN 3090 (lithium metal batteries), only the UN number, proper shipping name, class, total quantity at each loading location, and whether the package must be carried on a cargo only aircraft need be provided. UN 3480 (Lithium ion batteries) and UN 3090 (lithium metal batteries) carried under a State exemption must meet all of the requirements of iv) and v).

(vi) For radioactive material, number and category of packages, overpacks or freight containers, exact loading location and, as applicable, transport index for each package;

(vii) Any restriction for transport on cargo aircraft only;

(viii) Offload airport;

(ix) If applicable, dangerous goods transported under a state exemption;

(x) An indication that aircraft loading personnel observed no evidence of damage to or leakage from packages, or leakage from ULDs, loaded onto the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** load control process to provide PIC with information pertaining to onboard dangerous goods as cargo.
- ☐ **Interviewed** responsible manager(s) in load control operations.
- △ ☐ **Examined** documents (e.g. NOTOC) that confirm dangerous goods information was provided to PIC (focus: use of checklist/form that conforms to the specifications stated in the provision).
- ☐ **Observed** load control operations (focus: load control system includes process/method for providing applicable dangerous goods information to PIC).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of NOTOC (Notification to Captain) and State.

△ Information pertaining to dangerous goods on board the aircraft is typically presented to the PIC in a notification called the NOTOC (notification to the captain). The NOTOC contains the detailed information (as specified in this provision) relative to all dangerous goods loaded on the aircraft as cargo.

Information contained in the NOTOC may also be used:

- For emergency response to an accident or incident involving dangerous goods on board;
- To provide to air traffic services in the event of an in-flight emergency.

In the event the NOTOC is of such a size as to make in-flight radiotelephony transmission impracticable in an emergency situation, a summary of the information is typically provided to the PIC (NOTOC Summary), which contains at least the quantities and classes or division of dangerous goods in each cargo compartment.

Guidance may be found in DGR 9.5 and Table 9.5.A.

GRH 3.3.7

If the Operator transports dangerous goods as cargo, the Operator shall have a process to ensure the legible copy of the dangerous goods information provided to the PIC in accordance with GRH 3.3.4:

(i) Is retained on the ground for a minimum period of three months after the flight on which the dangerous goods were transported;

(ii) Includes an indication that the PIC has received the information. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** load control process that ensures dangerous goods information provided to PIC is retained and includes indication PIC has received the information.
- ☐ **Interviewed** responsible manager(s) in load control operations.
- ☐ **Examined** selected retained documents containing dangerous goods information that was provided to the PIC (e.g. NOTOC).
- ☐ **Other Actions** (Specify)

Guidance

The intent of item (i) is that either the NOTOC or a document containing all information that must be included in the NOTOC is retained for reference for a minimum period of three months or longer as required by the State of Flight Departure.

An indication of receipt by the PIC is typically the PIC's signature.

Refer to IGOM 5.4.1.4 for guidance that addresses the notification to the PIC of onboard dangerous goods. Additional guidance may be found in DGR 9.5.

3.4 Aircraft Loading

GRH 3.4.1

The Operator shall have aircraft loading procedures in the OM that ensure:

(i) The cargo hold is inspected before loading to:
  (a) Check for damage;
  (b) Ensure it is empty of other than documented transit load items.

(ii) The aircraft is loaded:
  (a) In accordance with written loading instructions;
  (b) In a manner that satisfies weight and balance requirements.

(iii) The load is secure and will not move during the flight;

(iv) If applicable, ULD locks are extended and locked. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** aircraft loading procedures.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** examples of documented aircraft loading instructions.
- ☐ **Observed** aircraft loading operations (focus: aircraft loaded in accordance with loading instructions/weight/balance requirements).
- ☐ **Interviewed** personnel that perform aircraft loading.
- ☐ **Other Actions** (Specify)

Guidance

Refer to IGOM 4.5.5–4.5.9 and IGOM 5 (all), as well as AHM 514 and 590 for additional guidance.

GRH 3.4.2

If the Operator transports dangerous goods as cargo, the Operator shall ensure a qualified individual is designated to be responsible for the correct loading and securing of dangerous goods on board the aircraft.

Auditor Actions

- ☐ **Identified/Assessed** process for designating qualified individual to be responsible for loading/securing dangerous goods.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.

- ☐ **Observed** aircraft loading operations (focus: qualified individual is responsible for loading/securing dangerous goods on board the aircraft).
- ☐ **Other Actions** (Specify)

GRH 3.4.3

If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place for the transportation of dangerous goods to/from an aircraft and the loading and securing of dangerous goods on an aircraft in a manner that:

(i) Prevents damage to packages and containers;

(ii) Provides for separation and segregation in accordance with applicable requirements;

(iii) Prevents any movement in the aircraft. **(GM)**

Auditor Actions

△ ☐ **Identified/Assessed** procedures for the transportation of dangerous goods to/from an aircraft and the loading/securing of dangerous goods on an aircraft.

☐ **Interviewed** responsible manager(s) in ground handling operations.

△ ☐ **Observed** transportation of cargo to/from aircraft and the loading and securing of dangerous goods (focus: handling of dangerous goods to prevent damage, prevent movement in the aircraft and maintain separation).

△ ☐ **Interviewed** personnel that perform transport of and/or aircraft loading and securing of cargo shipments.

☐ **Other Actions** (Specify)

Guidance

△ Refer to DGR 9.3 for guidance that addresses the transportation, loading and securing of dangerous goods, and to DGR 10.9 for guidance that addresses securing and separation of radioactive material.

☐ Refer to IGOM 4.5.7.7 for guidance that addresses securing of dangerous goods.

GRH 3.4.4

If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place that assure, when a dangerous goods package or shipment appears to be damaged or leaking:

(i) The package or shipment is prevented from being loaded into an aircraft;

(ii) If already loaded, the package or shipment is removed from an aircraft;

(iii) In the case of leakage, an evaluation is conducted to identify and prevent from transport any baggage, cargo, transport devices or other items that may have become contaminated. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for handling/addressing leaking/damaged dangerous goods shipments.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** records/documents that illustrate handling of leaking/damaged dangerous goods shipments.
- ☐ **Observed** aircraft loading operations (focus: procedures for addressing dangerous goods packages/shipments that appear to be leaking or damaged).
- ☐ **Interviewed** personnel that perform aircraft loading.
- ☐ **Other Actions** (Specify)

Guidance

Refer to DGR 9.3, 9.4 and 10.9, which contain guidance that addresses apparent damage to dangerous goods shipments.

GRH 3.4.5

If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place that require, when an aircraft has been contaminated by dangerous goods leakage:

(i) Hazardous contamination is removed from the aircraft without delay;

(ii) In the case of radioactive contamination, arrangements are made to take the aircraft out of service for evaluation by appropriately qualified personnel.

Auditor Actions

- ☐ **Identified/Assessed** procedures for addressing aircraft contaminated by leakage of dangerous goods.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** guidance/checklists used for dealing with an aircraft contaminated by leakage of dangerous goods.
- ☐ **Other Actions** (Specify)

GRH 3.4.6

If the Operator transports revenue or non-revenue cargo, the Operator shall ensure a process is in place that requires, when undeclared or mis-declared dangerous goods are discovered in cargo during aircraft loading, a report is made to the appropriate authority of the State of the Operator (hereinafter "the State") and state of occurrence. **(GM)**

Note: *The specifications of this provision are applicable to operators that transport, and also to operators that do not transport, dangerous goods as cargo.*

Auditor Actions

- ☐ **Identified/Assessed** process for reporting undeclared/mis-declared dangerous goods discovered in cargo during aircraft loading to the appropriate authority.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** document(s) used for reporting undeclared/mis-declared dangerous goods discovered in cargo during aircraft loading.
- ☐ **Other Actions** (Specify)

Guidance

Refer to DGR 9.6 for additional guidance.

GRH 3.4.8

If the Operator conducts passenger flights, the Operator shall ensure procedures are in place that prevent shipments labeled "Cargo Aircraft Only" from being loaded onto an aircraft for a passenger flight.

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for preventing shipments with "Cargo Aircraft Only" labels from being loaded onto aircraft for passenger flight.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** guidance/checklists used to ensure personnel do not load shipments with "Cargo Aircraft Only" labels onto aircraft for passenger flight.
- ☐ **Interviewed** personnel that perform aircraft loading.
- ☐ **Other Actions** (Specify)

GRH 3.4.10

If the Operator conducts passenger flights and transports dangerous goods as cargo, the Operator shall ensure procedures are in place that prevent dangerous goods from being carried in an aircraft cabin occupied by passengers, except as permitted by the Authority or the IATA DGR. **(GM)**

Auditor Actions

△ ☐ **Identified/Assessed** procedure(s) for preventing the transport of dangerous goods in an aircraft cabin occupied by passengers, except as permitted.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** guidance/checklists used to ensure dangerous goods are not transported in an aircraft passenger cabin, except as permitted.

☐ **Other Actions** (Specify)

Guidance

In general, dangerous goods are prohibited from being transported in an aircraft cabin occupied by passengers. Limitations and exceptions are specified in DGR Sections 2 and 9.

GRH 3.4.11

If the Operator transports dangerous goods as cargo, the Operator shall ensure procedures are in place that prevent dangerous goods from being carried on the aircraft flight deck, except as permitted by the Authority or the IATA DGR. **(GM)**

Auditor Actions

△ ☐ **Identified/Assessed** procedure(s) for preventing the carriage of dangerous goods on the aircraft flight deck, except as permitted.

☐ **Interviewed** responsible manager(s) in ground handling operations.

△ ☐ **Examined** guidance/checklists used to ensure dangerous goods are not carried on the aircraft flight deck, except as permitted.

☐ **Other Actions** (Specify)

Guidance

In general, dangerous goods are prohibited from being transported on the flight deck of an aircraft. Limitations and exceptions are specified in DGR Sections 2 and 9.

GRH 3.4.12

If the Operator conducts passenger flights and permits cargo or passenger items to be transported in the passenger seats of the aircraft cabin, the Operator shall ensure aircraft loading procedures are in place that require such cargo packages or passenger items to:

(i) Be secured by a safety belt or restraint device having enough strength to eliminate the possibility of shifting under all normal anticipated flight and ground conditions;

(ii) Be packaged or covered in a manner to avoid possible injury to passengers and cabin crew members;

(iii) Not impose any load on the seats that exceeds the load limitation for the seats;

(iv) Not restrict access to or use of any required emergency or regular exit, or aisle(s) in the cabin;

(v) Not obscure any passenger's view of the seat belt sign, no smoking sign or required exit sign. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedure(s) for loading and securing cargo/passenger items in cabin passenger seats.

☐ **Interviewed** responsible manager(s) in ground handling operations.

- ☐ **Examined** guidance/checklists used for loading cargo/passenger items in cabin passenger seats.
- ☐ **Other Actions** (Specify)

Guidance

The intent of this provision is for an operator that permits the transport of cargo packages or passenger items in cabin passenger seats to have procedures that ensure such packages or items are properly loaded and secured.

Some operators might permit the transport of smaller cargo packages (e.g. mail pouches, COMAT items) secured in cabin passenger seats.

In some regulatory jurisdictions, cargo transported in the passenger cabin is required to be put inside an approved bin or container that is certified to withstand certain loads. Such bin or container is then attached or secured to a seat or seat/floor structure in a manner that ensures maximum load limits are observed.

An operator might also use approved restraining nets to cover and secure cargo in passenger seats.

Also, some operators might permit the transport of certain passenger items secured in cabin passenger seats. These types of items are typically large, valuable or fragile articles belonging to passengers that are not conducive to transport as checked baggage or appropriate for stowage in overhead bins/lockers (e.g. large musical instruments, certain electronic equipment, prominent trophies, works of art). Such items might thus be secured and carried in a dedicated cabin passenger seat (which might be purchased by the passenger-owner for this purpose).

Loading procedures for any of the above items would typically include access to technical data that ensures seat load limitations are not exceeded.

A verification that cargo packages or passenger items being transported in passenger seats are properly secured is accomplished by the cabin crew in accordance with CAB 3.2.3.

GRH 3.4.14

If the Operator conducts operations with unit load devices (ULDs), the Operator shall ensure procedures are in place for ULDs to be inspected to identify damage, and to determine airworthiness and serviceability:

(i) When a ULD is received or accepted;

(ii) Prior to a ULD being released for loading into an aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for ULD inspection (focus: identification of airworthiness/ serviceability limits).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** selected inspection records and reports.
- ☐ **Interviewed** personnel that operate in sorting areas and that perform aircraft loading/unloading operations.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Component Maintenance Manual (CMM) and Unit Load Device (ULD).

Guidance may be found in the applicable section(s) of the IATA ULD Regulations (ULDR).

The intent of this provision is that an operator, upon receiving or accepting ULDs from another party, performs an inspection to ensure continued ULD airworthiness. Damaged or unserviceable ULDs have the potential to affect flight safety.

Inspection procedures are typically applied to ULDs whether loaded or unloaded.

Differences in damage limitations can occur between ULDs of the same manufacturer, as well as ULDs of different manufacturers. The maximum allowable damage for each specific ULD is typically stated in the applicable Component Maintenance Manual (CMM) issued by the manufacturer.

The ULD Operational Damage Limits Notice (ODLN) is normally attached to the ULD to ensure easy access to the appropriate damage limit information, and to facilitate inspection in the field (see ULDR Section 7 Standard Specification 40/3 and 40/4).

☐ Refer to IGOM 4.5.9 for guidance that addresses ULD airworthiness and serviceability.

3.5 Ground Support Equipment (GSE)

GRH 3.5.3

The Operator shall ensure a program is in place for the maintenance of ground support equipment, which assures:

(i) A preventive maintenance program plan for each type of equipment;

(ii) Maintenance completed on such equipment is recorded;

(iii) Such equipment remains serviceable and in good mechanical condition.

Auditor Actions

- ☐ **Identified/Assessed** maintenance program for GSE.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** selected GSE inspection/maintenance schedules/records.
- ☐ **Observed** aircraft ground handling operations (focus: GSE is serviceable/in good mechanical condition; completed maintenance recorded).
- ☐ **Other Actions** (Specify)

3.6 Airside Event Response and Reporting

GRH 3.6.5

The Operator shall ensure a process is in place that requires dangerous goods accidents or incidents to be reported to the appropriate authority of the State and the state in which the accident or incident occurred, and such reports are in accordance with the reporting requirements of the appropriate authorities. **(GM)**

Note: *The specifications of this provision are applicable to operators that transport, and also to operators that do not transport, dangerous goods as cargo.*

Auditor Actions

- ☐ **Identified/Assessed** process for reporting dangerous goods accidents/incidents.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** guidance used for reporting dangerous goods accidents/incidents.
- ☐ **Examined** selected dangerous goods accident/incident reporting records (focus: reporting in accordance with reporting requirements of the appropriate authorities).
- ☐ **Examined** selected dangerous goods accident/incident reports.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of State.

Guidance may be found in DGR 9.6.

3.7 Security

GRH 3.7.7

If the Operator conducts international passenger flights, the Operator shall have a process to ensure hold baggage is protected from unauthorized interference from the point it is screened or accepted into the care of the Operator until departure of the international flight transporting the baggage.

Auditor Actions

- ☐ **Identified/Assessed** process(es) to ensure screened checked baggage is protected from unauthorized interference.
- ☐ **Observed** the protection of hold baggage from unauthorized interference until departure of the aircraft transporting the baggage.
- ☐ **Interviewed** responsible manager(s).
- △ ☐ **Observed** passenger/baggage handling operations (focus: process for protecting hold baggage from unauthorized interference after screening or acceptance by the operator, until loaded onto an aircraft prior to the departure of an international passenger flight).
- ☐ **Other Actions** (Specify)

GRH 3.7.8

If the Operator conducts international passenger flights, the Operator shall have a process to ensure procedures are in place to record information associated with international hold baggage that has met criteria in accordance with SEC 3.6.1 and 3.6.6.

Auditor Actions

- ☐ **Identified** hold baggage criteria specified in SEC 3.6.1 and 3.6.6.
- ☐ **Identified/Assessed** process(es) for recording information associated with hold baggage that has met criteria in accordance with SEC 3.6.1 and 3.6.6.
- ☐ **Interviewed** personnel that authorize the transport of unaccompanied hold baggage.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected unaccompanied hold baggage screening records.
- ☐ **Other Actions** (Specify)

GRH 3.7.10

If the Operator conducts International passenger flights, the Operator shall have a process to ensure transfer hold baggage for such flights *either*:

(i) Is subjected to screening prior being loaded onto the aircraft, *or*

(ii) Has been screened at the point of origin and subsequently protected from unauthorized interference from the point of screening at the originating airport to the departing flight at the transfer airport.

Auditor Actions

- ☐ **Identified/Assessed** the process(es) to ensure transfer hold baggage for international flights is subjected to screening prior to being loaded, where applicable.
- ☐ **Identified** the process(es) to determine that hold baggage does not need to be rescreened at a point of transfer, where applicable.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** passenger/baggage handling operations (focus: processes for ensuring international transfer hold baggage has been screened and protected from unauthorized interference prior to being loaded onto an aircraft).
- ☐ **Other Actions** (Specify)

4 Special Aircraft Ground Handling Operations

4.1 Aircraft Fueling

GRH 4.1.5

The Operator shall ensure safety procedures associated with aircraft fueling operations are in place that assure, during fueling operations with passengers on board the aircraft:

(i) The ground area beneath aircraft exit doors that have been designated for rapid deplaning or emergency evacuation is kept clear of obstructions;

(ii) Where a boarding bridge is in use, an interior access path is maintained from the aircraft to the terminal;

(iii) Where a passenger boarding bridge is not in use, aircraft passenger steps or an alternate means of emergency evacuation is in place. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** safety procedures for aircraft fueling operations (focus: specifications of this standard are included/addressed in fueling procedures).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Interviewed** selected aircraft fueling supervisory personnel.
- ☐ **Observed** aircraft ground handling operations (focus: implementation of safety procedures during aircraft fueling operations).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Integral Airstairs.

When deployed, integral airstairs are acceptable as an alternate means of emergency evacuation.

Refer to IGOM 3.2.3 for GSE positioning for aircraft refueling operations. Additional guidance may be found in AHM 462, as well as the ICAO ASM, Part 1.

4.2 Aircraft De-/Anti-icing

GRH 4.2.1

If the Operator conducts flights from any airport when conditions are conducive to ground aircraft icing, the Operator shall have a De-/Anti-icing Program, which, if applicable, is approved by the Authority and, as a minimum:

(i) Ensures adherence to the Clean Aircraft Concept;

(ii) Defines responsibilities within the Program;

(iii) Addresses applicable locations within the route network;

(iv) Defines areas of responsibility;

(v) Specifies technical and operational requirements;

(vi) Specifies training and qualification requirements;

(vii) Is applicable to external service providers that perform de-/anti-icing functions for the Operator. **(GM)**

Note: *The specifications of this provision are applicable to both commercial and non-commercial operations.*

Auditor Actions

△

- ☐ **Identified/Assessed** approved aircraft de-/anti-icing program (focus: all applicable locations within the route network are addressed; non-commercial operations are accounted for).
- ☐ **Interviewed** responsible manager(s) in ground handling operations.

△ ☐ **Examined** de-/anti-icing program at selected airports (focus: de-/anti-icing program requirements and areas of responsibilities are addressed as per selected airport's local conditions).

△ ☐ **Examined** reports that detail past de-/anti-icing operations at selected airports (focus: de-/anti-icing operations performed by external service providers are continuously reported to the operator).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of De-/Anti-icing Program and Clean Aircraft Concept.

A de-/anti-icing program would address not only commercial operations at an applicable airport but, if applicable, non-commercial operations as well (e.g. positioning flights, test flights, training flights).

The scope and details of a de-/anti-icing program would typically be commensurate with the frequency and complexity of operations at airports with the potential for ground icing conditions.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations, Chapter 7, and in SAE AS6285, Aircraft Ground Deicing/Anti-Icing Processes. The latter is used as the basis for inspections conducted under the IATA De-Icing/Anti-Icing Quality Control Pool (DAQCP).

GRH 4.2.2

If the Operator has a De-/Anti-icing Program, the Operator shall ensure policies and procedures are in place that result in:

(i) Standardized methods of fluid application;

(ii) Compliance with specific aircraft limitations;

(iii) A clean aircraft through proper treatment of applicable surfaces. **(GM)**

Auditor Actions

☐ **Identified/Assessed** policies and procedures for aircraft de-/anti-icing.

☐ **Interviewed** responsible manager(s) in ground handling operations.

☐ **Examined** checklist(s) used for de-/anti-icing operations.

☐ **Interviewed** personnel that perform operational functions in aircraft de-/anti-icing operations.

☐ **Examined** selected quality control inspection reports (focus: aircraft de-/anti-icing operations).

☐ **Interviewed** supervisory personnel for aircraft de-/anti icing operations.

☐ **Other Actions** (Specify)

Guidance

To ensure desired results, an operator's de-/anti-icing program would typically include policies and procedures that:

- Define equipment for and methods of applying de-icing and anti-icing fluid to produce an aircraft free of contamination (clean aircraft);
- Specify a sequence for fluid application to the applicable aircraft surfaces and define specific methods and techniques for applying fluid to each individual surface;
- Provide limitations that are to be observed to successfully complete the process, including correct fluid mixtures, fluid temperatures and nozzle pressure.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations, Chapter 11, and in SAE AS6285, Aircraft Ground Deicing/Anti-Icing Processes.

GRH 4.2.4

If the Operator has a de-/anti-icing program, the Operator shall ensure fluids used in de-icing and anti-icing operations are:

(i) Stored, handled and applied in accordance with criteria established by the Operator, fluid manufacturer and aircraft manufacturer;

(ii) Manufactured in accordance with SAE specifications. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for management/monitoring of de-/anti-icing fluid quality at applicable locations.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- ☐ **Examined** records/documents that detail quality management of de-/anti-icing fluids at selected locations.
- △ ☐ **Examined** selected records/reports resulting from monitoring and supervision of aircraft de-/anti-icing operations (focus: aircraft de-/anti-icing fluid usage in accordance with established criteria; fluid conformity to SAE specifications is under supervision and quality control/monitoring program).
- ☐ **Interviewed** supervisory personnel for aircraft de-/anti icing operations.
- ☐ **Other Actions** (Specify)

Guidance

To be effective, an operator's de-/anti-icing program would typically include policies and procedures that ensure the following:

- Fluids used in the de-/anti-icing process are manufactured in accordance with the relevant SAE specifications and meet use criteria established by the operator, fluid manufacturer and aircraft manufacturer;
- The appropriate types of fluids (Types I, II, III or IV) are used in the proper manner for conditions under which de-icing and anti-icing operations are being conducted, each diluted as required to achieve desired results;
- Fluids are handled in accordance with recommendations of the fluid manufacturer and effectiveness is not degraded due to contamination.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations, Chapter 11.

GRH 4.2.5

If the Operator has a De-/Anti-icing Program, the Operator shall ensure procedures are in place for ground handling personnel to communicate with the flight crew to assure:

(i) The aircraft is properly configured prior to beginning the de-/anti-icing process;

(ii) The flight crew receives all necessary information relevant to fluid(s) applied to the aircraft surfaces;

(iii) The flight crew receives confirmation of a clean aircraft;

(iv) The flight crew receives an “all clear” signal at the completion of the de-/anti-icing process and prior to aircraft movement. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for communication between ground personnel and flight crew during aircraft de-/anti-icing operations.
- ☐ **Interviewed** responsible manager(s) in ground handling operations.
- △ ☐ **Examined** selected records/reports resulting from supervision of aircraft de-/anti-icing operations (focus: ground-aircraft communication procedures).
- ☐ ☐ **Examined** selected records/reports of quality control inspection (focus: ground aircraft communication procedures).

- ☐ **Interviewed** supervisory personnel for aircraft de-/anti icing operations.
- ☐ **Other Actions** (Specify)

Guidance

To ensure effective communications during de-/anti-icing operations, an operator's de-/anti-icing program would typically include policies and procedures that ensure the following:

- All necessary communications between ground handling personnel and the flight crew prior to and after completion of the de-/anti-icing process are defined;
- Ground handling personnel provide the flight crew with final information that verifies the aircraft is in compliance with the Clean Aircraft Concept.

Additional guidance may be found in ICAO Doc 9640-AN/940, Manual of Aircraft Ground De-icing/Anti-icing Operations, Chapter 10.

Table 6.1—Passenger Services, Ramp Services, Load Control Training Elements

As specified in GRH 2.2.4, the Operator *should* have processes to ensure training for ground handling personnel assigned to perform passenger services, ramp services and load control includes the following training elements:

(I) **Passenger Services:**

- (a) Aviation Basics;
- (b) Arrivals/Departures;
- (c) Baggage Services;
- (d) Check-in;
- (e) Passenger Assistance and PRM (passengers with reduced mobility);
- (f) Post-Flight Requirements;
- (g) Special Category Passengers;
- (h) Transfer of Load Information;
- (i) Transfer, Transit and Connection;
- (j) Boarding Bridge Operations;
- (k) Aircraft Cabin Access Doors.

(II) **Ramp Services:**

- (a) Basic Ramp;
- (b) Airside Driving;
- (c) Basic Hand Signals;
- (d) Aircraft Marshalling;
- (e) Boarding Bridge Operations;
- (f) Aircraft Cargo Access Doors;
- (g) Aircraft Cabin Access Doors;
- (h) Aircraft Loading;
- (i) Aircraft Arrival;
- (j) Aircraft Departure;
- (k) Aircraft Pushback;
- (l) Aircraft Towing;
- (m) GSE Operations;
- (n) Ground-to-Flight Deck Headset Communication and Engine Start;
- (o) Ramp Baggage Handling;
- (p) Aircraft Loading Supervision;
- (q) Airside Safety Supervision.

(III) **Load Control:**

- (a) Aviation Basics;
- (b) Aircraft Weight & Balance Principles;
- (c) Load Planning and Load Sheet;
- (d) Documentation and Messaging.

Section 7 — Cargo Operations (CGO)

Applicability

Section 7 addresses functions within the scope of cargo operations and is applicable to an operator that transports revenue and/or non-revenue cargo. COMAT (Company Material) is non-revenue cargo.

In this section, non-revenue cargo is addressed in the same way as revenue cargo for the purposes of handling, loading, securing and transporting.

For the purpose of addressing cargo in this section, mail is considered to be an item of cargo. Therefore, any reference to cargo also includes mail.

Individual CGO provisions or sub-specifications within a CGO provision that:

- Do not begin with a conditional phrase are applicable unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the Operator meets the condition(s) stated in the phrase.

Functions within the scope of cargo operations include:

- Cargo acceptance;
- Cargo handling;
- ULD loading/build-up;
- Application of required security measures.

Certain operators, particularly all-cargo operators, might have ground handling operations functions performed by cargo operations personnel (e.g. aircraft loading, airside operations, load control). Where this situation exists, the operator must be in conformity with the ISARPs contained in Section 6, Ground Handling Operations (GRH), that are applicable to the ground handling operations functions performed by cargo operations personnel.

Where an operator outsources the performance of cargo operations functions to external service providers, the operator retains overall responsibility for ensuring the management of safety in the conduct of such operations and must demonstrate processes for monitoring applicable external service providers in accordance with CGO 1.10.2.

General Guidance

Definitions of technical terms used in this ISM Section 7, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Management System Overview

1.2 Accountability, Authorities and Responsibilities

1.3 Communication

1.4 Provision of Resources

1.5 Documentation System

1.6 Operational Manuals

1.7 Records System

1.8 (Intentionally open)

1.9 Quality Assurance Program

1.10 Quality Control of Outsourced Operations and Products

1.11 Safety Management

Risk Management

CGO 1.11.1

△ If the Operator transports revenue cargo, the Operator shall have a hazard identification program implemented in the cargo operations organization that includes a combination of reactive and proactive methods of hazard identification. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** safety hazard identification program in cargo operations (focus: program identifies hazards to aircraft operations; describes/defines method(s) of safety data collection/analysis).
- ☐ **Identified/Assessed** role of cargo operations in cross-discipline safety hazard identification program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Interviewed** person(s) that perform cargo operations data collection/analysis to identify hazards to aircraft operations.
- ☐ **Examined** selected examples of hazards identified through cargo operations data collection/analysis.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Hazard (Aircraft Operations) and Safety Risk.

Hazard identification is an element of the Safety Risk Management component of the SMS framework.

Refer to Guidance associated with ORG 3.1.1 located in ISM Section 1.

CGO 1.11.2

If the Operator transports revenue cargo, the Operator shall have a safety risk assessment and mitigation program implemented in the cargo operations organization that specifies processes to ensure:

(i) Hazards are analyzed to determine the corresponding safety risks to aircraft operations;

(ii) Safety risks are assessed to determine the requirement for risk mitigation action(s);

(iii) When required, risk mitigation actions are developed and implemented in cargo operations. **[SMS] [Eff] (GM)** ◄

Assessment Tool

Desired Outcome

• The Operator maintains an overview of cargo operations risks and through implementation of mitigation actions, as applicable, ensures risks are at an acceptable level.

Suitability Criteria (Suitable to the size, complexity and nature of operations)

• Number and type of analyzed hazards and corresponding risks.

• Means used for recording risks and mitigation (control) actions.

• Safety data used for the identification of hazards.

Effectiveness Criteria

(i) All relevant cargo operations hazards are analyzed for corresponding safety risks.

(ii) Safety risks are expressed in at least the following components:
- Likelihood of an occurrence.
- Severity of the consequence of an occurrence.
- Likelihood and severity have clear criteria assigned.

(iii) A matrix quantifies safety risk tolerability to ensure standardization and consistency in the risk assessment process, which is based on clear criteria.

(iv) Risk register(s) across the cargo operations organization capture risk assessment information, risk mitigation (control) and monitoring actions.

(v) Risk mitigation (control) actions include timelines, allocation of responsibilities and risk control strategies (e.g. hazard elimination, risk avoidance, risk acceptance, risk mitigation).

(vi) Mitigation (control) actions are implemented to reduce the risk to a level of “as low as reasonably practical”.

(vii) Identified risks and mitigation actions are regularly reviewed for accuracy and relevance.

(viii) Effectiveness of risk mitigation (control) actions are monitored at least yearly.

△ (ix) Personnel performing risk assessments are appropriately trained in accordance with ORG 4.3.1.

Auditor Actions

- ☐ **Identified/Assessed** safety risk assessment and mitigation program in cargo operations (focus: hazards analyzed to identify/define risk; risk assessed to determine appropriate action; action implemented/monitored to mitigate risk).
- ☐ **Identified/Assessed** role of cargo operations in cross-discipline safety risk assessment/mitigation program (focus: participation with other operational disciplines).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Interviewed** person(s) that perform cargo operations risk assessment/mitigation.
- ☐ **Examined** selected records/documents that illustrate risk assessment/mitigation action.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Risk Register, Safety Risk, Safety Risk Assessment (SRA), Safety Risk Management and Safety Risk Mitigation.

Risk assessment and mitigation is an element of the Safety Risk Management component of the SMS framework.

The potential for hazards is typically associated with the following aspects of cargo handling operations:

- Acceptance and handling of dangerous goods and other special cargo shipments (e.g. lithium batteries);
- Application of security controls;
- Protection from acts of unlawful interference;
- Build-up, handling and serviceability of ULDs;
- Operation and serviceability of cargo handling equipment;
- Adequacy of facilities.

△ Refer to Guidance associated with ORG 3.2.1 located in ISM Section 1.

Operational Reporting

CGO 1.11.3

If the Operator transports revenue cargo, the Operator shall have an operational safety reporting system in the cargo operations organization that:

(i) Encourages and facilitates cargo operations personnel to submit reports that identify safety hazards, expose safety deficiencies and raise safety concerns;

(ii) Includes analysis and cargo operations management action to address operational deficiencies, hazards, incidents and concerns identified through the reporting system. **[SMS] (GM)** ◄

Auditor Actions

- ☐ **Identified/Assessed** documented operational safety reporting system in cargo operations (focus: system urges/facilitates reporting of hazards/safety concerns; includes analysis/action to validate/address reported hazards/safety concerns).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Interviewed** person(s) that perform operational safety report review/analysis/follow-up in cargo operations.
- ☐ **Interviewed** personnel that perform operational functions in cargo operations.
- ☐ **Examined** data that confirm an effective cargo operations safety reporting system (focus: quantity of reports submitted/hazards identified).
- ☐ **Examined** records of selected cargo operations safety reports (focus: analysis/follow-up to identify and address reported hazards/safety concerns).
- ☐ **Other Actions** (Specify)

Guidance

Safety reporting is a key aspect of SMS hazard identification and risk management.

△ Refer to Guidance associated with ORG 3.1.2 located in ISM Section 1.

Safety Performance Monitoring and Management

2 Training and Qualification

2.1 Training Program

CGO 2.1.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure personnel that perform operational duties in functions within the scope of cargo (revenue or non-revenue) operations for the Operator, to include personnel of external service providers, complete:

(i) Initial training prior to being assigned to perform such operational duties;

(ii) Recurrent training on a frequency in accordance with requirements of the regulatory authority but not less than once during every 36-month period, except for recurrent training in dangerous goods as specified in CGO 2.2.1, CGO 2.2.2 or CGO 2.2.3. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** processes for ensuring completion of training by cargo operations personnel (focus: includes personnel in all cargo operations functions; includes external service providers).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected initial/recurrent course curricula/syllabi (focus: initial and recurrent training programs address all cargo operations functions).

- ☐ **Examined** initial/recurrent training records of selected personnel (focus: completion of initial and recurrent training).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the Applicability box at the beginning of this section for the functions within the scope of cargo operations.

Requirements for initial and recurrent training apply to all personnel that perform duties within the scope of cargo operations for the operator, both at the main base and at all other locations.

CGO 2.1.2

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure the training programs completed by cargo operations personnel in accordance with CGO 2.1.1 provide the knowledge necessary to perform duties, execute procedures and operate the equipment associated with specific cargo functions and responsibilities. Such programs shall include:

(i) Familiarization training on applicable regulations;

(ii) In-depth training on requirements, including policies, procedures and operating practices;

(iii) Training in human factors principles;

(iv) Safety training on associated operational hazards. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** training programs for cargo operations personnel (focus: includes programs for personnel in all cargo operations functions).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected training program records/documents (focus: programs include all specified training areas as applicable to cargo operations functions).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Human Factors Principles.

Refer to DGR 1.5.2 and Table 1.5.A for guidance that addresses dangerous goods training for personnel that perform cargo operations functions.

CGO 2.1.5

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure training for personnel that perform operational duties within the scope of cargo operations for the Operator:

(i) Includes testing or evaluation by written, oral or practical means, as applicable;

(ii) Requires a demonstration of adequate knowledge, competency and proficiency to perform duties, execute procedures and/or operate equipment.

Auditor Actions

- ☐ **Identified/Assessed** training programs for cargo operations personnel (focus: programs include a process for testing/evaluations/demonstrations as specified).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected initial/recurrent course curricula/syllabi (focus: initial and recurrent training programs include testing/evaluations/demonstrations).
- ☐ **Examined** initial/recurrent training records of selected personnel (focus: testing/evaluations/demonstrations as specified completed during initial and recurrent training).
- ☐ **Other Actions** (Specify)

2.2 Program Elements

CGO 2.2.1

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a process to ensure cargo operations personnel assigned the responsibility for accepting dangerous goods complete dangerous goods training, to include initial training and recurrent training within 24 months of previous training in dangerous goods. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for all cargo handling personnel based on specific assigned responsibilities/duty functions).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** applicable initial/recurrent dangerous goods training curricula and syllabi (focus: subject areas appropriate for personnel based on specific responsibilities/duty functions).
- ☐ **Examined** initial/recurrent dangerous goods training records of selected personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).
- ☐ **Other Actions** (Specify)

Guidance

The curriculum for dangerous goods training for cargo operations personnel is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Recurrent training in dangerous goods is completed within a validity period that expires 24 months from the previous training to ensure knowledge is current, unless a shorter period is defined by a competent authority. However, when such recurrent training is completed within the final 3 months of the 24-month validity period, the new validity period may extend from the month on which the recurrent training was completed until 24 months from the expiry month of the current validity period. If such recurrent training is completed *prior* to the final three months of the validity period, the new validity period would extend 24 months from the month the recurrent training was completed.

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

CGO 2.2.2

If the Operator transports revenue or non-revenue cargo, but does not transport dangerous goods, the Operator shall have a process to ensure cargo operations personnel assigned the responsibility for accepting cargo complete dangerous goods training, to include initial training and recurrent training within 24 months of previous training in dangerous goods. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods training program: (focus: defines DG training requirements for personnel with cargo acceptance/handling responsibilities).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected initial/recurrent dangerous goods training curricula/syllabi (focus: subject areas appropriate for personnel with cargo acceptance/handling responsibilities).
- ☐ **Examined** initial/recurrent training records of selected cargo operations personnel (focus: completion of required training as appropriate for assigned responsibilities/duty functions).
- ☐ **Other Actions** (Specify)

Guidance

When an operator does not transport dangerous goods (i.e. a “no-carry” operator), dangerous goods training is still required for cargo operations personnel to ensure declared and undeclared dangerous goods are recognized and prohibited from being carried or loaded onto an aircraft.

Dangerous goods training is structured to provide the requisite knowledge to permit cargo operations personnel to recognize dangerous goods, whether labeled or not labeled, and to prevent such dangerous goods from being inadvertently accepted and/or planned for loading into an aircraft.

△ The curriculum for dangerous goods training for cargo handling personnel is determined by the operator and may vary depending on specific responsibilities and duty function(s).

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

CGO 2.2.3

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a process to ensure cargo operations personnel assigned the responsibility for handling or storing such cargo, as well as, where applicable, the loading of ULDs, receive dangerous goods training, to include initial training and recurrent training within 24 months of previous training in dangerous goods. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for dangerous goods training for cargo operations personnel that handle/store cargo; where applicable, load cargo on/into ULDs.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected initial/recurrent dangerous goods training curricula/syllabi applicable to cargo operations personnel that handle/store cargo; where applicable, load cargo on/into ULDs.
- ☐ **Examined** initial/recurrent training records of selected cargo operations personnel that handle/store cargo; where applicable, load cargo on/into ULDs.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Unit Load Device (ULD), which addresses certified and non-certified units.

The curriculum for dangerous goods training for cargo personnel with responsibilities for handling or storing dangerous goods cargo as well as, where applicable, the loading of such cargo onto/into ULDs, is developed by the operator and may vary depending on specific responsibilities and duty function(s).

Refer to DGR 1.5 and Appendix H.6 for guidance that includes adapted task lists for well-defined job functions.

2.3 SMS Training

3 Acceptance and Handling

3.1 General Cargo

CGO 3.1.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure such shipments accepted for transport:

(i) If revenue cargo, are in compliance with standards in the OM as specified in CGO 1.6.1;

(ii) If interline cargo, are in compliance with IATA interline cargo requirements;

(iii) If non-revenue cargo, are in compliance with the OM or equivalent document as specified in CGO 1.6.1. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process that ensures cargo shipments accepted for transport are in compliance with applicable requirements.
- ☐ **Interviewed** responsible manager(s) in cargo operations.

- ☐ **Examined** selected quality control inspection reports.
- ☐ **Observed** cargo acceptance operations (focus: process for ensuring cargo shipments comply with applicable requirements).
- ☐ **Other Actions** (Specify)

Guidance

Cargo is accepted under the terms of the OM, which typically specifies procedures to ensure acceptance personnel verify the cargo (revenue or non-revenue) has been packed in a manner:

- For safe transport with ordinary care in handling;
- To preclude injury or damage to any person, cargo or property.

Also, interline cargo typically complies with the applicable requirements of the receiving operator(s).

Refer to the IATA Cargo Services Conference Resolution 660 for guidance pertaining to interline cargo.

CGO 3.1.3

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure, where scales are used to determine the weight of cargo, all such scales are periodically checked and calibrated, and such actions are recorded and retained in accordance with applicable regulations. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process that ensures scales used to weigh cargo are periodically checked and calibrated.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected records that indicate checking/calibration of scales used to weigh cargo shipments.
- ☐ **Observed** cargo acceptance and cargo handling operations (focus: process for ensuring accuracy of scales used to weigh cargo shipments).
- ☐ **Other Actions** (Specify)

Guidance

Such scales might be referred to as weigh bridges.

Accuracy in cargo weights is a critical safety factor and is monitored by many states. Records of scale checking and calibration are typically made available to the applicable authority for review, if requested.

Guidance may be found in AHM 534.

3.2 Dangerous Goods

CGO 3.2.1

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a Dangerous Goods Acceptance Checklist that:

(i) Reflects applicable requirements contained in the current DGR;

(ii) Once completed, contains information that identifies the person(s) that performed the acceptance check. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods acceptance checklist (focus: contains DGR requirements, information that identifies person that performed acceptance check).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** process(es) for development/maintenance of dangerous goods acceptance checklist.

- ☐ **Observed** cargo acceptance operations (focus: dangerous goods acceptance in accordance with DGR requirements).
- ☐ **Other Actions** (Specify)

Guidance

Sample checklists for non-radioactive shipments, radioactive shipments and dry ice (carbon dioxide, solid) are found in the back of the DGR.

Refer to DGR 9.1.3 for guidance that addresses the Dangerous Goods Acceptance Checklist.

CGO 3.2.2

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have procedures to ensure the use of a Dangerous Goods Acceptance Checklist as specified in CGO 3.2.1 to verify:

(i) Package(s), overpack(s) or freight containers, as applicable, are correctly marked and labeled;

(ii) The Shipper's Declaration for Dangerous Goods, if required, or other documentation complies with the requirements of the current edition of the DGR. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for use of dangerous goods acceptance checklist (focus: checklist is used to verify package marking/labeling, documentation compliance).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo acceptance operations (focus: use of dangerous goods acceptance checklist to verify package marking/labeling, documentation compliance).
- ☐ **Other Actions** (Specify)

Guidance

Refer to DGR 9.1.3 for guidance that addresses use of the Dangerous Goods Acceptance Checklist.

CGO 3.2.4

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have procedures to ensure any package, overpack, freight container, or ULD containing dangerous goods is inspected and is not accepted, unless:

(i) Properly marked and labeled;

(ii) There is no leakage;

(iii) Its integrity has not been compromised. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedures for inspection dangerous goods shipments prior to acceptance for transport.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo acceptance operations (focus: procedures for inspection of dangerous goods shipments prior to acceptance).
- ☐ **Other Actions** (Specify)

Guidance

Detailed instructions for acceptance and handling of dangerous goods are contained in DGR Section 9. This information is not to be interpreted as requiring an operator to accept or transport a particular article or substance, or as preventing an operator from imposing special requirements on the transport of a particular article or substance.

CGO 3.2.5

If the Operator transports dangerous goods as revenue or non-revenue cargo on or in ULDs, the Operator shall have procedures to ensure ULDs containing dangerous goods, which require a hazard label, have a dangerous goods tag that:

(i) Contains information that is visible and legible and, if placed in a protective tag holder, such information remains visible and legible;

(ii) Is marked with the class or division number(s) of such dangerous goods;

(iii) If a ULD contains packages bearing a “Cargo Aircraft Only” label, indicates the ULD can only be loaded onto a cargo aircraft. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedures for ensuring ULD containing dangerous goods have a tag in accordance with applicable requirements.

☐ **Interviewed** responsible manager(s) in cargo operations.

☐ **Observed** cargo acceptance and cargo handling operations (focus: procedures for ensuring ULDs containing dangerous goods are tagged in accordance with applicable requirements).

☐ **Other Actions** (Specify)

Guidance

The need for procedures would normally apply to any operator that accepts dangerous goods for transport on or in ULDs to ensure:

- The types of dangerous goods contained in ULDs, as well as any associated restrictions, are accurately displayed on a ULD tag, which may be placed inside a protective tag holder on the exterior of the ULD;
- ULDs are only loaded onto aircraft that are compatible with the load and associated restrictions.

Refer to DGR 9.3.8 for guidance that addresses ULD dangerous goods tags.

CGO 3.2.8

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have a process to ensure, when dangerous goods hazard labels are found to be missing, illegible or detached from shipments subsequent to the time of acceptance, such labels are replaced in accordance with the information provided on the Shippers Declaration for Dangerous Goods. Such requirement for the replacement of labels shall not apply where labels are found to be missing or illegible at the time of acceptance. **(GM)**

Auditor Actions

☐ **Identified/Assessed** procedures for ensuring dangerous goods hazard labels are replaced in accordance with the shipper's declaration when such labels are found to be missing, illegible or detached.

☐ **Interviewed** responsible manager(s) in cargo operations.

☐ **Observed** cargo acceptance and cargo handling operations (focus: process for replacement of lost/illegible/detached dangerous goods labels).

☐ **Other Actions** (Specify)

Guidance

Refer to DGR Section 9 for guidance that addresses dangerous goods hazard labels.

CGO 3.2.10

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have procedures that ensure dangerous goods are separated from other cargo or incompatible materials in accordance with published category restrictions. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** dangerous goods handling procedures (focus: dangerous goods are separated from other cargo or incompatible materials in accordance with published category restrictions).
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo handling operations (focus: procedures that ensure dangerous goods separation from other cargo in accordance with published restrictions).
- ☐ **Other Actions** (Specify)

Guidance

Loading requirements contained in DGR 9.3.2 and Table 9.3.A, primarily address dangerous goods compatibility restrictions on an aircraft. Similar separation requirements are applicable for stowage of these materials in a cargo facility.

Specifications for the segregation of dangerous goods during transportation and aircraft loading/unloading are found in GRH 3.4.3.

CGO 3.2.12

If the Operator transports dangerous goods as revenue or non-revenue cargo, the Operator shall have procedures to ensure any dangerous goods shipment that appears to be damaged or leaking:

(i) Is not to be loaded on or into a ULD or delivered to an aircraft;

(ii) Is safely removed from the ULD (or other transport device) by the Provider or other relevant authority, and safe disposal arranged;

(iii) In the case of leakage, an evaluation is conducted to ensure the remainder of the shipment is in proper condition for transport by air and that no other package, cargo, ULD, other transport device has been contaminated or damaged.

Auditor Actions

- ☐ **Identified/Assessed** procedures for handling/addressing ULDs and leaking/damaged dangerous goods shipments.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Examined** selected records/documents (focus: handling of leaking/damaged ULDs containing dangerous goods).
- ☐ **Observed** cargo handling operations (focus: procedures that address damaged/leaking ULDs that contain dangerous goods).
- ☐ **Other Actions** (Specify)

CGO 3.2.13

If the Operator transports dangerous goods as cargo on flights using cargo aircraft, the Operator shall have procedures to ensure packages or overpacks containing dangerous goods, and bearing a “Cargo Aircraft Only” label, except those specifically excluded, are transported on cargo aircraft in accordance with any of the following:

(i) In a Class C compartment, or

(ii) In a ULD container equipped with a fire detection/suppression system equivalent to that required by the certification requirements of a Class C compartment as determined by the relevant authority, or

(iii) In a manner that, in the event of an emergency involving packages or overpacks containing dangerous goods, a crew member or other authorized person can access and handle such packages or overpacks and, when size and weight permit, separate them from other cargo. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for handling shipments with “Cargo Aircraft Only” labels.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo handling operations (focus: procedures that ensure shipments with “Cargo Aircraft Only” labels are transported on cargo aircraft in accordance with applicable requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cargo Compartment, which includes definitions of compartment types by classification.

3.3 Live Animals and Perishables

CGO 3.3.1

If the Operator transports live animals and/or perishables as cargo, the Operator shall have procedures that ensure such cargo is accepted and handled in accordance with standards specified in the OM. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for acceptance/handling of live animal and/or perishable cargo shipments.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo acceptance and cargo handling operations (focus: live animal/perishable cargo acceptance/handling in accordance with OM).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of CITES (The Convention on International Trade in Endangered Species of Wild Fauna and Flora).

Live animal handling procedures and specific responsibilities of an operator with regard to required documentation, acceptance, containers, animal welfare, compliance with all regulations, storage and loading and liability are addressed in the LAR and PCR. Additional requirements may be mandated by the State of Flight Departure, the State of Flight Arrival and/or the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

3.4 Other Special Cargo

CGO 3.4.1

If the Operator transports outsized cargo and/or heavy cargo, the Operator shall have procedures that ensure such cargo is accepted and handled in accordance with standards specified in the OM. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for acceptance/handling of special cargo shipments.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo acceptance and cargo handling operations (focus: procedures that ensure other special cargo acceptance/handling in accordance with OM).
- ☐ **Interviewed** cargo operations personnel that accept/handle special cargo.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of the Air Cargo Tariff and Rules (TACT).

Guidance for the handling of human remains can be found in the TACT Rules and the Airport Handling Manual (AHM).

Outsized and heavy cargo refers to items that are larger or heavier than can be accommodated on or in a ULD. Standards for handling these items are found in the OM as well as in the Weight and Balance Manual for each aircraft type.

Prior arrangements and specific handling requirements generally apply to all types of special cargo and are incorporated into the OM, including those items identified in this provision, but also emergency medical supplies, live human organs and diplomatic shipments.

3.5 Unit Load Device (ULD)

CGO 3.5.1

If the Operator transports revenue or non-revenue cargo using ULDs, the Operator shall have procedures to ensure ULD-related operations, including, but not limited to, ULD build-up/breakdown, transportation, storage and handling, whether performed on or off the airport, are conducted in accordance with the Weight and Balance Manual, and with requirements of the ULD Regulations (ULDR) or other means acceptable to the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for ensuring ULD-related operations are conducted in accordance with the ULDR or other means acceptable to the Authority.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo handling operations (focus: procedures that ensure ULD-related operations conducted in accordance with W/B manual/ULDR/other applicable requirements).
- ☐ **Other Actions** (Specify)

Guidance

All ULDs are required to meet airworthiness requirements when loaded onto an aircraft, either by certification or by compliance with the Weight and Balance Manual. Adhering to the ULDR is one means (but not the only means) that ULD operations may be carried out in compliance with the requirements of the Weight and Balance Manual.

Essential components of ULD operations typically include:

- Minimum training requirements stipulated in the ULDR;
- Continued airworthiness of ULD during operations;
- Limitations applicable to ULDs;
- Adequate supervision and management of all ULD operations.

Guidance may be found in the applicable chapter of the ULDR.

CGO 3.5.2

If the Operator transports revenue or non-revenue cargo using ULDs, the Operator shall have procedures that ensure ULDs, when accepted and/or loaded for transport, meet safety requirements pertaining to the loading and securing of cargo. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for ensuring loaded ULDs meet safety requirements.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Observed** cargo handling operations (focus: procedures for ensuring ULD cargo loading/securing in accordance with applicable safety requirements).
- ☐ **Other Actions** (Specify)

Guidance

Detailed instructions for the safe loading and securing of cargo are contained in the ULDR and address the use of pallets, nets, straps and containers. The ULDR also provides information regarding ULD limitations.

Each state may have additional or varying regulations and specifications.

3.6 Combi Aircraft Operations

CGO 3.6.1

If the Operator conducts combi aircraft operations, the Operator shall ensure procedures are in place for loading such aircraft, and such procedures shall be in accordance with, as applicable, requirements of the aircraft manufacturer, Supplemental Type Certificate (STC) holder and/or data approved by the Authority. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** procedure(s) for loading cargo onto combi aircraft in accordance with all requirements.
- ☐ **Interviewed** responsible manager(s) in cargo operations.
- ☐ **Interviewed** cargo operations personnel that load cargo onto combi aircraft.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Cargo Restraint System, Combi (Combined Passenger and Cargo) Aircraft Operations and Supplemental Type Certificate (STC) Holder.

Procedures would typically ensure passengers seated on the same deck and forward of the cargo are protected through provision of an adequate buffer and/or cargo restraint system.

3.7 Security

CGO 3.7.1

If the Operator transports revenue cargo, the Operator shall ensure security measures are implemented in cargo facilities in accordance with requirements of the applicable civil aviation security program. **(GM)**

Note: *This provision is applicable to all facilities where cargo acceptance and/or cargo handling operations are conducted either by the Operator or by external service providers for the Operator.*

Auditor Actions

- ☐ **Identified/Assessed** processes that ensure implementation of security measures at cargo facilities (focus: ensures procedures in accordance with the local civil aviation security program).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** cargo handling operations (focus: implementation of access control measures at cargo facilities in accordance with applicable security requirements).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cargo Facility.

The intent of this provision is for the operator to ensure the security of all facilities where cargo operations are conducted either by the operator or by an external service provider for the operator.

Security measures that address landside and airside facility access for vehicles and personnel, as well as the protection of cargo so as to prevent acts of unlawful interference, would normally be found in the applicable civil aviation security program. Such measures address requirements of applicable regulatory and airport authorities, as appropriate.

At locations where cargo security measures are under the control of an entity for which the operator has no oversight capabilities (e.g. airport authority, law enforcement agency), the operator would have to be aware of this arrangement as well as the details of the access control measures.

CGO 3.7.2

△ If the Operator transports revenue cargo, the Operator shall ensure procedures are in place for the screening of persons and the security control of vehicles in accordance with requirements of the applicable civil aviation security program. Such procedures shall apply to persons and vehicles:

△ (i) Under its control that have unescorted access to security restricted areas (in which there is cargo);

△ (ii) Not under its control but have unescorted access to such areas as authorized by the Operator. **(GM)**

Auditor Actions

△ ☐ **Identified/Assessed** processes that ensure access control procedures are applied to unescorted persons/vehicles with access to secured cargo.

☐ **Interviewed** responsible manager(s).

△ ☐ **Observed** cargo handling operations (focus: procedures that ensure unescorted persons/vehicles with access to known cargo are subjected to screening/security controls).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Known Cargo.

The intent of this provision is for an operator to ensure security procedures are applied to persons and vehicles that have access to security restricted areas where there is cargo (i.e. cargo that has already been screened or had security controls applied, and/or is under protection to prevent unlawful interference).

At locations where cargo security measures are under the control of an entity for which the operator has no oversight capabilities (e.g. government agency, airport authority, law enforcement agency), the operator would have to be aware of this arrangement as well as the details of the access control measures. However, the operator would not have to be directly involved in the implementation of such measures.

CGO 3.7.4

If the Operator transports revenue or non-revenue cargo, the Operator shall have processes for the acceptance of cargo as follows:

(i) For cargo that can be identified as having the application of screening or other security controls confirmed or accounted for by a regulated agent or an entity approved by the relevant authority (known cargo), a process to ensure such cargo is:

(a) Delivered by a regulated agent, a nominated representative of an entity approved by the relevant authority, or a known representative of the operator;

(b) Free from any signs of tampering;

(c) Accompanied by all required information (paper or electronic) corresponding to the cargo being delivered, including documentation that details the security status (e.g. consignment security declaration);

(d) Protected from unauthorized interference throughout the chain of custody since the point that cargo gained its secured status;

(e) Subjected to additional security controls as required by risk assessment.

(ii) For cargo that *cannot* be identified as having the application of screening or other security controls confirmed or accounted for by a regulated agent or an entity approved by the relevant authority (unknown cargo), a process to ensure such cargo is subjected to screening or other security controls as accepted by the applicable state. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for acceptance of cargo (focus: processes address both known and unknown cargo).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected cargo shipment acceptance documents.
- ☐ **Observed** cargo acceptance operations (focus: acceptance processes for verifying the security status of known cargo, ensuring application of screening/security control for unknown cargo).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Known Cargo, Regulated Agent and Unknown Cargo.

The IATA Security Manual outlines specific provisions covering the basic acceptance of all known cargo to be carried on commercial passenger flights.

The term “entity that is approved by the relevant authority” as used in this provision is non-specific, but could include, for example, a cargo service provider for the operator or, in certain cases, the operator itself. As stated, any such entity must be approved by the relevant authority.

Known cargo, when presented to an operator for transport on an aircraft, has by definition been subjected to screening or appropriate security controls by a regulated agent, an approved entity or the operator. An operator, as a minimum, implements the steps specified in this provision to maintain or protect the “known” status of the shipment from the time the shipment is accepted until it is finally loaded into an aircraft.

All cargo shipments on which the application of screening or security controls has been confirmed and accounted for by a regulated agent or approved entity are required to be accompanied by documentation that states the security status (e.g. consignment security declaration), either in electronic or paper form.

When cargo has been screened or subjected to other security controls as required by a regulated agent or an approved entity prior to acceptance by the operator, the operator, among other protective actions, would typically examine the documentation (e.g. consignment security declaration) and check the shipment for evidence of tampering prior to loading onto the aircraft.

For cargo destined to an EU country, the application of screening or other security controls by a Regulated Agent that holds a current RA3 validation issued by an EU Independent Validator is evidence the agent has approval by the relevant authority.

If for some reason a shipment is not properly maintained or protected in its known status, the shipment then reverts to unknown cargo. In such case, the operator, in order to return the shipment to known cargo status, would have to ensure the shipment is again subjected to the application of screening or other security controls.

Additional guidance may be found in the IATA Security Manual.

CGO 3.7.7

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure transfer cargo has been subjected to appropriate security controls in accordance with requirements of the relevant authority before being transported on an international flight. **(GM)**

Note: *Appropriate security controls may have been applied at the point of original uplift.*

Auditor Actions

- ☐ **Identified/Assessed** process(es) to ensure security controls are applied to transfer cargo.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of transfer cargo (focus: verification that security controls have been applied).
- ☐ **Observed** cargo handling operations (focus: process to verify appropriate screening/security controls have been applied to transfer cargo).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Transfer Cargo and Mail.

Table 7.1—Operations Manual (OM) Content Specifications
The content of the Operations Manual shall contain standards and guidance that address the acceptance and handling of revenue cargo, to include, as applicable to type(s) of shipments transported by the Operator: (i) Compliance or conformity with: (a) Applicable laws, regulations and rules, including civil aviation cargo security programs; (b) Industry standard operating procedures for each aspect of cargo acceptance and handling. (ii) Response to abnormal or emergency situations: (a) Leakage or spillage of suspected dangerous goods; (b) Suspected bomb or explosives; (c) Damaged or leaking cargo; (d) Other emergencies. (iii) Cargo acceptance and handling, including conditions of carriage: (a) General cargo; (b) Security requirements, to include “high risk” cargo; (c) Dangerous goods; (d) Live animals; (e) Other special cargo: • Perishable cargo; • Human remains; • Outsized and heavy cargo; • Fragile goods. (f) Mail; (g) Valuable cargo. (iv) Requirements associated with the transport of ULDs.

Section 8 — Security Management (SEC)

Applicability

Section 8 addresses the management of operational security in accordance with requirements of an Air Operator Security Program (AOSP). This section is applicable to all operators.

Individual SEC provisions or sub-specifications within a SEC provision that:

- Do not begin with a conditional phrase are applicable to all operators unless determined otherwise by the Auditor.
- Begin with a conditional phrase ("If the Operator...") are applicable if the operator meets the condition(s) stated in the phrase.

Where operational security functions are outsourced to contracted external service providers, an operator retains responsibility for the conduct of such functions and will have processes to monitor applicable external service providers in accordance with SEC 1.11.2 to ensure requirements that affect the security of operations are being fulfilled.

General Guidance

Definitions of technical terms used in this ISM Section 8, as well as the meaning of abbreviations and acronyms, are found in the IATA Reference Manual for Audit Programs (IRM).

1 Management and Control

1.1 Management System Overview

SEC 1.1.3

The Operator shall have a corporate security policy that states the commitment of the organization to a culture that has security as a fundamental operational priority. Such policy shall be communicated throughout the organization and commit the organization to:

(i) The provision of resources necessary for the successful implementation of the policy;
(ii) Compliance with applicable regulations and standards of the Operator;
(iii) The promotion of security awareness and the establishment of a security culture;
(iv) The establishment of security objectives and security performance standards;
(v) Continual improvement of the SeMS;
(vi) Periodic review of the policy to ensure continuing relevance to the organization. **(GM)**

Auditor Actions

☐ **Identified/Assessed** corporate security policy (focus: policy identifies security as fundamental operational priority).
☐ **Examined** examples of security policy communication (focus: communication methods, organizational awareness campaign).
☐ **Interviewed** responsible manager(s).
☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Just Culture.

The security policy of an organization typically expresses the clear and genuine commitment by senior management to the establishment of a security culture. Such policy also defines the organization's fundamental approach toward security and how security is expected to be viewed by employees and external service providers.

When an operator has an integrated management system (e.g. SMS, QMS) that includes SeMS, the security policy may be incorporated in the corporate safety and/or compliance monitoring policy. The security policy might include the following elements to ensure the comprehensive integration of security:

- The adoption of industry best practices for security management where warranted;
- Continual management review and improvement of the SeMS and security culture;
- The development of objectives for the measurement of security performance;
- Imperatives for including operational security in the description of duties and responsibilities of senior and frontline management;
- The promotion of a reporting system that encourages the reporting of inadvertent human error and/or intentional acts of non-compliance;
- Communication processes that ensure a free flow of information throughout the organization.

In addition to a formal security policy document, an operator would typically have documented dissemination channels that can contribute to awareness of the policy and its content among all employees and establish security as a priority for everyone.

States and the Industry have developed different promotional tools for security incident awareness and reporting. The use of IATA's "See it Report it" training and certification tool is one method for an operator to demonstrate conformity with this provision. (https://www.iata.org/whatwedo/security/Pages/security-management-system-sems.aspx)

The organizational security policy typically expresses the operator's focus on achieving an effective security culture that protects the safety and security interests of its employees, customers, shareholders, assets and brand. Such policy also ensures that obligations contained in domestic and international aviation security laws and regulations are met.

The security policy usually specifies minimum security requirements and identifies applicable reference documents (e.g. the AOSP). It also defines the roles and responsibilities of management and non-management employees, and those with specific security accountabilities.

The security policy typically addresses the yearly establishment of KPIs for the head of security and but for the entire organization. Review of the KPIs provides the basis for the following year's program objectives including the allocation of resources to achieve such objectives. This review typically includes the impact of the security culture, identification of non-compliances including associated corrective actions, reported incidents along and root cause analysis. Trends identified are then used to define new security objectives.

Finally, the security policy will normally state the operator's commitment to proactively managing risk, complying with legislation and regulations, aligning security activity with assessed risk and implementing a 'just culture' to encourage security-related reporting.

1.2 Air Operator Security Program (AOSP)

SEC 1.2.1

The Operator shall have a formal Air Operator Security Program (AOSP) that includes:

(i) The requirements of the civil aviation security program of the State of the Operator (hereinafter, the State);

(ii) Applicable requirements of other states where operations are conducted;

(iii) The security standards of the Operator. **(GM)**

Auditor Actions

☐ **Identified/Assessed** the AOSP.

☐ **Examined** operator-specific security requirements and standards.

☐ **Interviewed** responsible manager(s).

☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Acts of Unlawful Interference, State, State Acceptance and State Approval.

An operator is required to have a AOSP in order to:

- Protect customers, personnel, assets and customer goods from any act of unlawful interference;
- Comply with regulatory requirements.

The name of an operator's security program may vary based on the regulatory jurisdiction. Examples of typical alternative names to AOSP include ACSP (Air Carrier Security Program) and ASP (Airline Security Program).

The Security Program may be structured in accordance with the template provided by the State or other relevant states (where operations are conducted).

The State may issue a standard security program with which all operators must comply (operators may apply for exemptions or amendments, as applicable). In such cases, the standard security program of the State is typically recognized as the AOSP of the operator. The AOSP typically also includes or refers to other company manuals and procedures that provide operator-specific details.

A standard security program may be acceptable in meeting security requirements of other states, or the operator may be required to submit individual security programs tailored to meet requirements of other states. An operator must satisfy the security requirements of all applicable states for the purpose of meeting the intent of this provision.

The AOSP may be approved or accepted (i.e. no notice of deficiency or equivalent is issued) by the relevant state.

The AOSP may include security sensitive information as required by the State. In such case, the AOSP would normally include a description of dissemination of security sensitive information in a way that ensures the required level of data protection.

Refer to Guidance associated with SEC 1.4.1 for additional information.

1.3 Authorities and Responsibilities

SEC 1.3.1

The Operator shall ensure the SeMS defines the authorities and responsibilities of management personnel within the SeMS and provides a general description of security responsibilities for categories of non-management personnel within the SeMS as documented in the AOSP. The SeMS shall specify:

(i) The levels of management with the authority to make decisions that affect operational security;

(ii) Responsibilities for ensuring security functions are performed and procedures are implemented in accordance with applicable regulations and standards of the Operator;

(iii) Lines of accountability throughout the SeMS, including direct accountability for security on the part of senior management;

(iv) Responsibilities of members of management, irrespective of other functions, as well as of non-management personnel, with respect to security performance of the SeMS. **(GM)**

Auditor Actions

☐ **Identified/Assessed** defined management/non-management authorities and responsibilities throughout the SeMS.

☐ **Interviewed** designated management representative(s).

☐ **Examined** job descriptions of selected management/non-management personnel in security management.

☐ **Other Actions** (Specify)

Guidance

Refer to Guidance associated with ORG 1.3.1 located in ISM Section 1.

1.4 Communication

△ **SEC 1.4.1**

The Operator shall have a system that enables effective communication of security information throughout the management system and all areas where operations are conducted. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system(s) for communicating information relevant to security operations (focus: capability for communicating information relevant to operations within the security organization).
- ☐ **Interviewed** designated management representative(s).
- ☐ **Examined** examples of information communication in security operations.
- ☐ **Interviewed** selected non-management operational personnel in security operations.
- ☐ **Other Actions** (Specify)

Guidance

The intent of security communication is to foster a positive security culture in which all employees receive ongoing information on security issues, security metrics, specific security risks existing in the workplace, and initiatives to address known security issues. Such communication typically conveys security-critical information, explains why particular actions are taken to improve security, and why security procedures are introduced or changed.

Security information that is sensitive is typically drafted and circulated in a manner that is in accordance with applicable security information protocols. Communication of such information is normally limited only to those with an operational need to know.

Any system would have to be able to address the varying degree of urgency with which security information needs to be circulated.

Security Intranet Site

A corporate security department website is one method of disseminating security information to operational personnel. Different levels of access might be required in order to control the access to restricted information to those with a “need to know.” Corporate security awareness information and security incident reporting forms or templates are typically made available on this website. However, where various management systems (e.g. QMS, SMS, SeMS) are aligned or integrated, there may be one common form or template accessed from a central location that is used for reporting incidents.

Corporate Manual System

An operator's manuals and regulations are the formal system of coordinating and communicating the policies, procedures and significant guidance necessary to ensure the operator's mission is carried out in a consistent and integrated manner.

Security Bulletins

Security bulletins, which are typically issued by the corporate security department or by operational departments within the operator, might specify action and/or contain general information. Issuance of bulletins electronically (e.g. email) is an efficient means of ensuring all personnel with a “need to know” are made aware of new or amended security information in a timely manner.

△ Refer to Guidance associated with ORG 4.2.1 located in ISM Section 1.

1.5 Provision of Resources

SEC 1.5.2

The Operator shall ensure management and non-management positions that require the performance of functions within the scope of the AOSP, to include positions within the organization of the Operator and, if applicable, service providers selected by the Operator to conduct operational security functions, are filled by personnel on the basis of knowledge, skills, training and experience appropriate for the position. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** standards and methods for selection of personnel in functions relevant to safety and security of aircraft operations.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Interviewed** selected personnel that perform security functions relevant to the safety or security of aircraft operations.
- ☐ **Other Actions** (Specify)

Guidance

Prerequisite criteria for each position, which would typically be developed by the Operator, and against which candidates would be evaluated, ensure personnel are appropriately qualified for management system positions and operational roles in areas of the organization critical to safety and security operations.

△ Refer to Guidance associated with ORG 1.5.3 located in ISM Section 1.

SEC 1.5.3

If permitted by the State, the Operator shall ensure a process has been established that requires operational security personnel in the organization of the Operator and, if applicable, service providers selected by the Operator to conduct operational security functions, to be subjected to pre-employment and recurring background checks in accordance with requirements of applicable aviation security authorities. The requirement for a background check shall be applicable to personnel who:

(i) Engage in the implementation of security controls;
(ii) Have unescorted access to the security restricted area of an airport;
(iii) Have unescorted access to other security areas and searched aircraft;
(iv) Have access to sensitive aviation security information. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for the pre-employment and recurring background checks.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of personnel background checks.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Security Control and Security Restricted Area.

A background check might include:

- Criminal record check;
- Previous employment history;
- Personal references;
- Education and training.

National legislation on civil liberties and protection of personal information will greatly influence the limits placed on an employer when performing pre-employment background checks. An employer is not permitted to deviate from the laws of the country where the hiring process is taking place.

Escorted access may be provided to an individual that has yet to complete all aspects of the background checking process.

An individual currently permitted unescorted access to a security restricted area, but who subsequently fails to satisfy the criteria to continue to hold an airport identification card or for unescorted access to a security restricted area, will typically have access to security restricted areas, as well as access to sensitive aviation security information, revoked immediately.

The operator's role in the background check process will be determined by the State. In some cases, the entire process will be managed and/or conducted by the State.

1.6 Documentation System

SEC 1.6.4

If the Operator has external service providers conduct outsourced operational security functions, the Operator shall have a process to ensure such external service providers receive information regarding security directives and instructions in a timely and secure manner that meets requirements of the AOSP. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to circulate relevant security information to external service providers.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected examples of information provided to external service providers.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Outsourcing.

The operator would have a central source of information for security procedures that is automatically updated in case of approved changes. Obsolete versions would only be accessible for archiving/historical purposes. The main source of information would be electronic and found in a specific/dedicated library. Printouts of the procedures would be considered as backup solutions. Personnel of a service provider with a need to know would have to know how to obtain or access copies from the single information source and that a new copy must be produced to ensure use of a current document version.

1.7 (Intentionally open)

1.8 Records System

1.9 Management Review

1.10 Quality Assurance/Quality Control Programs

Quality Assurance

SEC 1.10.2

The Operator shall have a process for addressing findings resulting from audits of operational security functions that ensures:

(i) Identification of root cause(s);
(ii) Development of corrective action, as appropriate, to address findings;
(iii) Implementation of corrective action in appropriate operational security area(s);
(iv) Evaluation of corrective action to determine effectiveness. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process for addressing audit findings within operational security.
- ☐ **Interviewed** responsible quality assurance program manager.
- ☐ **Examined** selected audit reports/records (focus: identification of root cause, development/implementation of corrective action, follow-up to evaluate effectiveness).
- ☐ **Other Actions** (Specify)

Guidance

Executive managers of organizational business units are responsible for making sure quality assurance activity is undertaken to ensure:

- Conformity with the security standards;
- Existence of required security systems;
- Compliance with relevant aviation security legislation;
- Conformity with IOSA and the SeMS standards.

Auditors conducting quality assurance activities apply the internal audit procedure. This manual, IOSA ISARPS, and the internal assessment tool form the basis for quality assurance activity.

Information and data taken from audit reports or an equivalent business tool are used to record all quality assurance activity. Individual business units are responsible for identifying and assigning corrective actions to the appropriate personnel for implementation, completion and follow-up monitoring for effectiveness.

Corrective actions are managed in accordance with internal quality assurance processes and procedures.

For each audit finding a root cause is identified and corrective action developed as appropriate to address the root cause. Corrective action is then implemented in the appropriate operational security areas and evaluated to determine effectiveness in addressing the root cause.

To ensure findings are corrected in a timely manner, it is important for the operator to have a process that clearly identifies the owner of the deficient process and delegates responsibility to that owner to develop and implement the appropriate corrective action(s).

It is also important to establish a clear timeline to implement the appropriate corrective action(s) as well as have a process to escalate to senior management when deadlines are missed.

△ Refer to Guidance associated with ORG 2.1.7 located in ISM Section 1.

Quality Control

1.11 Quality Control of Outsourced Operations and Products

SEC 1.11.4

If the Operator has operational security functions conducted by external organizations not under the control of the Operator, the Operator shall have methods, as permitted by the applicable civil aviation security authority, for the monitoring of such functions to ensure, as permitted, implementation of outsourced security measures is in compliance with its AOSP. **(GM)**

Auditor Actions

- ☐ **Identified** operational security functions conducted by external organizations not under the control of the operator.
- ☐ **Identified/Assessed** methods used by the operator for monitoring functions to ensure that security controls are implemented.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of monitoring the external organizations that conduct security functions.
- ☐ **Other Actions** (Specify)

Guidance

Security procedures may be performed by law enforcement agencies, civil aviation authorities, airport authorities or other organizations not under the control of or under contract to the operator. When the operator has no direct authority over the organization performing the security measures, oversight and verification functions could be performed via inspections and reporting in case of incidents or deviation from the standard operating procedures.

If permitted by law or the applicable civil aviation security authority, the operator might assess the quality of such security procedures through the use of tests, surveys and/or exercises.

This standard is applicable to all security procedures required under the security program of the State, state of operation or the operator.

1.12 Operational Reporting

SEC 1.12.1

The Operator shall have an operational security reporting system that is implemented throughout the organization in a manner that:

(i) Encourages and facilitates personnel to report security incidents and security occurrences pertaining to the Operator;

(ii) Ensures mandatory reporting in accordance with applicable regulations;

(iii) Includes analysis and management action as necessary to address security issues identified through the reporting system. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** system for operational personnel to report security incidents and security occurrences (focus: system urges/facilitates reporting of security/safety concerns; includes analysis/action to validate/address reported security/safety concerns).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected reports submitted by operational personnel.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Just Culture, Security Incident, Security Occurrence, Security Vulnerability and Security Threat.

Frontline personnel, such as flight or cabin crew members, maintenance technicians and ground handling personnel, are in the best position to note abnormalities that could indicate real or potential security threats, or any other security concerns, so they may be brought to the attention of the head of security and other relevant managers.

Applicable aviation security authorities would be notified in accordance with SEC 4.3.2 when a legitimate security incident or security occurrence has been identified through the operational security reporting system.

The effectiveness of a reporting system is determined by a basic requirement for safeguarding information. Typically, individuals will continue to provide information only when there is confidence that such information will be used only for the purpose of improving operational security and will never be compromised or used against them.

A system that encourages and promotes reporting from personnel might include:

- A process that protects the confidentiality of the report;
- A process that provides for review by corporate security personnel;
- An articulated Just Culture policy that encourages reporting of security incidents or events, even if resulting from human error;
- A shared responsibility between personnel (or, if applicable, respective professional associations) and management to promote the confidentiality of the reporting system;
- A process for secure de-identification of reports;

- A tracking process of action taken in response to reports;
- A process to provide feedback to the reporter, when appropriate;
- A communication process for ensuring frontline operational personnel, as well as other relevant personnel, are apprised of potential security issues through dissemination of de-identified report information.

An operational reporting system is implemented as permitted by law or as restricted by other specified obligations placed on an operator.

A security reporting system, regardless if developed separately or in conjunction with other operational reporting system(s), is normally designed in a way that enables analysis and the undertaking of necessary actions.

Typically, an operator's reporting system includes its own staff and, as applicable, that of service providers as reporting is a service provider's obligation under the IATA Standard Ground Handling Agreement provisions.

Qualitative and quantitative analysis of security data would be facilitated if the operator uses a harmonized taxonomy for the classification of reports. In this regard, an operator might refer to the IATA Safety Incidents Taxonomy (ISIT), which includes security taxonomy. Expanding harmonized taxonomy to service providers would benefit security threat, vulnerability and event analysis by allowing for more consistency, benchmarking and security performance measurement.

△ IATA has established a new database system called the Incident Data Exchange (IDX). IDX will permit operators to report security incidents and security occurrences for uploading into the IDX safety management database for subsequent analysis by users. The IDX submission process requires submission of security incident and security occurrence reports using a common taxonomy (ISIT) that is aligned with the IDX security taxonomy. See SEC 4.3.3, which addresses the reporting of security incidents and security occurrences to IATA for inclusion in the IDX.

△ Refer to ORG 3.1.2 and ORG 3.1.3 located in ISM Section 1 for information that addresses an operational safety reporting systems.

SEC 1.12.2

The Operator shall have a process to ensure security information, security incidents, security occurrences and acts of unlawful interference that have been reported by personnel in accordance with SEC 1.12.1 or are derived from states or other relevant sources are reviewed by operational and security management to ensure:

(i) Root cause is identified;

(ii) A security risk assessment is conducted;

(iii) Corrective action is determined;

(iv) When applicable, corrective action is implemented and monitored to ensure effectiveness in preventing future incidents or occurrences. **(GM)**

Auditor Actions

☐ **Identified/Assessed** security risk management process (focus: incidents, occurrences, acts of unlawful interference derived from internal reporting and external sources is evaluated and, as applicable, subjected to the security risk management process

☐ **Interviewed** responsible manager(s).

☐ **Examined** selected security risk management reports (focus: root causes identified, risks assessed, corrective actions developed and implemented/monitored).

☐ **Other Actions** (Specify)

Guidance

An effective process provides for a review and analysis of each report to determine the risk associated with the reported issue and, where applicable, ensures development and implementation of appropriate action by responsible management to correct the situation.

In addition, an effective process provides for a review and analysis of information derived from each report and from external sources to determine the need for risk assessment and, when applicable, the development and implementation of appropriate risk control action by responsible management to mitigate the security risk. Effective security risk management ensures security information, security incidents and acts of unlawful interference are acted upon under a security methodology that evaluates and address security threats, vulnerabilities and associated consequences.

2 Training and Qualification

2.1 Training Program

SEC 2.1.1

The Operator shall have a security training program that is approved or accepted by the State and meets applicable requirements of other states. Such program shall consist of initial, recurrent and, where applicable, requalification training that comprises, as appropriate, theoretical and practical training to ensure:

(i) Personnel, employed by or under the control of the Operator who implement security controls understand security awareness and reporting, and have the competence to perform their duties;

(ii) Flight and cabin crew members, as well as frontline aircraft ground handling and cargo handling personnel, are able to act in the most appropriate manner to minimize the consequences of acts of unlawful interference and disruptive passenger behavior. **(GM)**

Note: *If permitted by the State, the program shall ensure applicable personnel have completed appropriate security background checks in accordance with SEC 1.5.3 prior to attending any training that contains sensitive or restricted security information.*

Note: *Applicable personnel shall complete initial security training prior to being assigned to operational duties.*

Auditor Actions

- ☐ **Identified/Assessed** security training program (focus: approval/acceptance by State; meets applicable requirements of other states; background checks required prior to personnel attending training).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected security training program curricula (focus: contain theoretical and practical training elements).
- ☐ **Examined** selected ground/cargo handling personnel training records (focus: completion of initial/recurrent security training).
- ☐ **Other Actions** (Specify)

Guidance

Training may be sub-divided for line managers/supervisors, aircrew, ramp workers, cargo personnel and other personnel who are directly involved in the implementation of security measures and thereby require an awareness of obligations to the AOSP.

The security training program is typically integrated into the normal training curriculum for operational personnel and need not be stand-alone training.

The proportion of theoretical and practical training is typically based on requirements of the State. For certain functions or duties there may not be a practical component.

The scope of recurrent security training, as well as the specific subject matter included, may vary in accordance with requirements of the applicable authorities and the security policy of the operator.

An existing background check from a previous employer may be acceptable if still time valid.

Different training tools for security awareness and security incident reporting have been developed by states and the Industry. The use of IATA's "See it Report it" training and certification tool is one method for the operator to demonstrate conformity with the relevant specification in this provision. (https://www.iata.org/whatwedo/security/Pages/security-management-system-sems.aspx)

SEC 2.1.4

The Operator shall ensure personnel who perform security functions, crew members and appropriate operational personnel, as specified in SEC 2.1.1, complete recurrent security training on a frequency in accordance with requirements of the security program of the State and, if applicable, other states where operations are conducted or, if there is no regulatory mandate, not less than once every 36 months. **(GM)**

Auditor Actions

- ☐ **Identified** requirements mandating frequency of recurrent training (focus: compliance with requirements of the State and other relevant states; if there is no regulatory mandate, not less than once every 36 months).
- ☐ **Examined** selected recurrent training records, material and schedules.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

The scope of recurrent security training, as well as the specific subject matter included, may vary in accordance with requirements of the applicable authorities and the security policy of the operator.

SEC 2.1.5

If the Operator manages a security screening system, the Operator shall ensure personnel who manage or operate the screening system:

(i) Are approved and/or certified in accordance with requirements of the applicable aviation security authority;

(ii) Complete initial and recurrent training that includes training in the identification of explosives, weapons or other dangerous items or devices. **(GM)**

Auditor Actions

- ☐ **Identified** security screening system(s) managed or operated by operator.
- ☐ **Identified/Assessed** screener approval/certification program (focus: in compliance with requirements of all applicable aviation securities authorities).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected initial/recurrent screener training curricula (focus: training includes identification of explosives/, weapons/other dangerous items/devices).
- ☐ **Examined** selected initial/recurrent screener training records (focus: completion of training in identification of explosives/, weapons/other dangerous items/devices).
- ☐ **Other Actions** (Specify)

Guidance

When a screener certification program exists, an operator is normally required to ensure all screeners are certified by the applicable aviation security authority. In locations where there is no screener certification program, the operator typically provides a level of training to all screeners that ensures such personnel are able to properly detect and identify all explosives, components of improvised explosive devices, weapons and other dangerous items or devices.

Continuing competency is normally maintained through recurrent training on a frequency that is in accordance with requirements of the applicable aviation security authority.

The approval/certification of personnel who manage or operate the screening system would typically include:

- A check of the person's reliability (initial and recurrent background check).
- Completion of initial and recurrent training specific for the job function, to include:
  - Theoretical, practical and on-the-job training.
  - Training on the use of screening equipment to enhance capabilities for detecting explosive materials and/or explosive devices, whether carried by persons or within any item screened.
- Evidence of formal approval/certification accomplished either by or on behalf of the relevant aviation security authority.

Screeners undertaking cargo screening duties are typically not looking for weapons. Such personnel are normally trained to detect and identify improvised explosive devices, including individual components, and unauthorized dangerous goods.

SEC 2.1.8

The Operator shall ensure operational personnel complete security awareness training that focuses on preventative measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies, as applicable, and permits such personnel to contribute to the prevention and reporting of acts of sabotage, other forms of unlawful interference and security occurrences. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** requirement to complete security awareness training for operational personnel.
- ☐ **Examined** security awareness training program contents and selected training records.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Security awareness training revolves around ensuring all personnel have a positive attitude about security. The focus of training to achieve such awareness will vary by region or company and may be influenced by cultural, religious and other factors. Such training is typically tailored to promote an organizational security culture and to be effective in the environment in which it is to apply. Some operators, depending on the individual organizational structure, may find it more appropriate to have multiple security awareness training courses developed specifically for each operating area. Security awareness training may be integrated into other job-related training courses (as opposed to a standalone course).

Typically, operational personnel that complete security awareness training are crew members, frontline ground handling personnel and all personnel that implement security controls irrespective of whether such personnel are directly employed by the operator or employed by external service providers.

Different training tools for security awareness and security incident reporting have been developed by states and the Industry. The use of IATA's "See it Report it" training and certification tool is one method for the operator to demonstrate conformity with the reporting specification in this provision. (https://www.iata.org/whatwedo/security/Pages/security-management-system-sems.aspx).

3 Security Operations

3.1 Access Control

SEC 3.1.1

If the Operator has exclusive control over airport airside areas and/or security restricted areas, the Operator shall ensure an identification verification system is in place that prevents personnel and vehicles from unauthorized access. Such identification system shall include:

(i) Designated checkpoints where identification is verified before access is permitted;

(ii) A requirement for authorized personnel to prominently display an identification badge. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** identification verification system in place to prevent unauthorized access to airport security restricted area(s).
- ☐ **Identified** designated checkpoints where identification is verified.
- ☐ **Identified** system used to ensure all authorized personnel prominently display their identification badge.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Access to airside and security restricted areas is often the responsibility of the airport operator or a designated government agency. At those airports where an operator has exclusive control over a specific area within the airside or the security restricted area, it is the responsibility of the operator to control access through its managed checkpoints.

In most cases the identification badge is issued by the airport authority or a designated government agency. It is not expected that an operator will need to develop its own identification system, provided the airport operator or government agency system is sufficient.

SEC 3.1.2

The Operator shall ensure measures are in place to control and supervise personnel and vehicles moving to and from the aircraft in security restricted areas to prevent unauthorized access to the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** measure(s) to control and supervise the movement of personnel and vehicle to and from the aircraft in the security restricted area(s)
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Procedures are in place to ensure airline personnel intercept any person identified as having no need to be on board or near the aircraft.

In some environments, it would be prudent not to leave an in-service aircraft unattended. Precautions may be taken to prevent unauthorized access to aircraft that are not in service and are parked and unattended. For example, all external doors may be locked, all stairs and loading bridges are removed (or locked) and any steps left near the aircraft are immobilized.

Passengers boarding or disembarking from flights using the apron are to be supervised when passing from the terminal building to the aircraft. Such measures are applied whether the passengers are walking or are being transported in vehicles.

Particular care is taken to ensure only crew members, authorized representatives and officials, and bona fide passengers are permitted access to the aircraft.

SEC 3.1.3

The Operator shall ensure access control measures and security screening measures as mandated by the State are in place to prevent the introduction of unauthorized weapons, explosives or other dangerous devices or items on board an aircraft by persons other than passengers. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to prevent the introduction of unauthorized weapons, explosives or other dangerous devices on board an aircraft.
- ☐ **Examined** records of the capture and prevention of unauthorized weapons, explosives or other dangerous devices on board an aircraft.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

☐ Refer to the IRM for the definition of Supernumerary.

△ Typically, access control and security screening measures will apply to personnel of the operator and service providers, including supernumeraries that are authorized to travel on an aircraft to perform specific duties. Measures that apply to access control and screening of personnel are documented in the AOSP and/or other operational manual(s). The baseline for such measures typically would be that a person:

- Holds a valid authorization to enter a security-restricted area (based on, as a minimum, a background check, operational needs and completion of security awareness training);
- Is subjected to screening (combination of equipment and procedures aimed at identifying and/or detecting all potentially dangerous items, substances, and devices that could be used to commit an attack).

As a reference, ICAO Annex 17 requires states to establish measures to ensure applicable personnel are screened prior to entry airport security restricted area, including use of appropriate screening methods capable of detecting explosives either continuously or in an unpredictable manner.

An effective method to deter or detect illegal access to aircraft is the implementation of frequent but irregularly timed patrols by security personnel. This is particularly important when operations are at their lowest levels and aprons and hangar areas are least frequented. Such patrols are normally conducted by airport personnel.

Additional measures to prevent unauthorized access to passenger aircraft may include:

- Parking aircraft in a well-lit area; adding security lighting, if necessary;
- When possible, parking aircraft in an area visually observable and/or covered by CCTV;
- Parking aircraft away from fences or buildings that might provide easier access;
- For aircraft parked overnight, depending on the assessed risk at the location, applying a tamper-evident seal to all exterior doors accessible without aids or verifying the identity of all persons who access the aircraft to ensure a legitimate reason for accessing the aircraft;
- For aircraft parked remotely from a loading bridge:
  - Closing all exterior doors and exterior hatches of the aircraft;
  - Removing all stairs;
  - Ensuring no portable stairs, lift devices or passenger transfer vehicles are in the immediate vicinity of the aircraft.
- For aircraft parked with access to a loading bridge:
  - Closing all exterior hatches of the aircraft;
  - Closing all exterior doors of the aircraft not served by a bridge;
  - Locking the door between the terminal and the bridge;

- Ensuring no portable stairs, lift devices or passenger transfer vehicles are in the immediate vicinity of the aircraft;
- Locking or keeping under constant surveillance doors that provide access to the bridge from the apron or retracting the bridgehead from the aircraft and deactivating the bridgehead positioning controls.

3.2 (Intentionally open)

3.3 Carriage of Weapons

SEC 3.3.1

△ If the carriage of weapons on board an aircraft by law enforcement officers and/or other authorized persons acting in the performance of their duties is approved by the Operator, the State and/or other applicable authorities, the Operator shall have a policy and procedures, in accordance with the laws of the state(s) involved, for such carriage of weapons. **(GM)**

Note: *Notification to the PIC of authorized armed persons on board occurs in accordance with FLT 3.9.4 and GRH 3.7.5. The content of such notification may vary in accordance with the laws of the state(s) involved in the approval for weapons carriage.*

Auditor Actions

- ☐ **Identified/Assessed** policy and procedures for the carriage of weapons in the cabin of the aircraft.
- ☐ **Examined** selected documents that reflect validity of carrying weapons on board an aircraft.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

☐ The term ‘weapon’ in the context of this provision is normally a firearm legally in the possession of a law enforcement officer or other authorized individual (e.g. an inflight security officer acting in the performance of his or her duties as an armed officer).

☐ An agreed procedure with the relevant law enforcement agency is typically in place that permits the operator to notify the PIC (and other crew members as required by local requirements) of the presence of armed persons on board.

☐ Operators will have differing methods to accomplish the booking, seating and notification to the flight crew of armed individuals on board. A clear communication protocol by the operator ensures a consistent booking-to-boarding process for such individuals. The content of the flight crew notification will differ among operators but will always include the number and seat assignment of armed persons on board.

☐ In accordance with ICAO standards, states that could be relevant to an individual flight (i.e. states of departure, transit, arrival, potential diversion) will have laws that require special authorization for the carriage of weapons on board an aircraft.

☐ Each Contracting State ensures that the carriage of weapons on board aircraft by law enforcement officers and other authorized persons acting in the performance of their duties requires special authorization in accordance with the laws of the States involved.

(Intentionally open)

SEC 3.3.3

If the carriage of weapons in hold baggage on board an aircraft for a passenger flight is approved by the Operator, the Operator shall have procedures for the carriage of such weapons to ensure:

(i) If the weapon is a firearm or capable of discharging a projectile, the passenger or an authorized and duly qualified person has declared the weapon to be not loaded;

(ii) The weapon is stowed in a place that is inaccessible to any unauthorized person during flight;

(iii) The carriage of a weapon is legally permitted by all state(s) involved, including the State and state(s) of flight departure, transit and arrival. **(GM)**

Auditor Actions

- ☐ **Examined/Assessed** procedures used for the authorization, control and stowage of weapons carried on board.
- ☐ **Identified** persons who are authorized and qualified to determine weapons are not loaded.
- ☐ **Examined** locations where weapons are stowed in the aircraft to confirm they remain inaccessible to unauthorized persons during flight.
- ☐ **Identified/Assessed** procedures to determine that the transport of a weapon is legally permitted in all states involved.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

With the approval of the operator, the following procedures are typically implemented for any weapon carried as hold baggage:

- Prior to acceptance, the passenger or other authorized and duly qualified person determines that the weapon is not loaded. A declaration may be used to confirm the status of the weapon;
- The weapon is transported in a sturdy container to prevent any possible damage during the flight;
- Ammunition is securely boxed and carried separately from the weapon, and is handled in accordance with applicable dangerous goods regulations;
- Weapons and ammunition are stowed in an area that inhibits access by any unauthorized person while the aircraft is in flight; such weapons are not to be carried on the flight deck or retained by any crew member;
- If available, a lockable tamper-proof container located in the aircraft hold is used for this purpose;

⊗

- Transit and transfer stations are advised and ensure the integrity of such items;
- At the final destination, when required by the State of Flight Arrival, security procedures are implemented to return the weapons and/or ammunition to the passenger;
- Where the weapon is stowed in a baggage compartment (or hold) that is accessible to persons during flight:
    - The compartment door(s) remain closed and are monitored during the flight;
    - The weapon is packed separately from any ammunition;
    - The weapon is stowed in the compartment in a manner that access is obstructed (or impeded) by other baggage.

⊗

△ 3.4 Passengers (Including Supernumeraries) and Cabin Baggage

SEC 3.4.1

If the Operator conducts passenger flights, the Operator shall have a process to ensure originating passengers and their cabin baggage are subjected to screening prior to boarding a passenger aircraft for;

(i) An international flight;

(ii) As required by the applicable aviation security authority, a domestic flight. **(GM)**

Note: *Supernumeraries that require a flight reservation or passenger name record for transport on the aircraft shall be subjected to the requirements of this provision unless exempted by the State.*

Auditor Actions

- ☐ **Identified/Assessed** process(es) to ensure all passengers (including supernumeraries, if applicable) and their cabin baggage are screened prior to boarding a passenger aircraft for international flights.
- ☐ **Identified/Assessed** process(es) for the screening of originating passengers (including supernumeraries, if applicable) and their cabin baggage for domestic flights (if required by the applicable aviation security authority).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** passenger/baggage handling operations (focus: originating passengers/cabin baggage are subjected to screening prior to aircraft boarding).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Domestic Flight.

The effective screening of all passengers and their cabin baggage is recognized as an essential element in achieving a safe and secure operation, and forms part of the passenger handling procedures contained in the AOSP.

Technical equipment used for the screening of persons and baggage has certain limitations. Archway metal detectors and hand-held metal detectors, for example, cannot detect non-metallic weapons and explosives. Even conventional X-ray equipment does not always image or define explosive material effectively. To compensate for such limitations, or to introduce a random element into the selection process, it may be advisable to conduct an additional search of passengers and cabin baggage after they have been screened. The additional screening can be performed by hand or by technical means, such as explosive trace detection (ETD), full-body X-ray, explosive particle or vapor detection portals and/or other approved advanced technological methods.

It is recommended that screening equipment used to assist screening personnel is capable of detecting explosive materials and/or explosive devices that might be carried by passengers either on their person or in cabin baggage.

If the use of explosive detection screening equipment is not continuous, then it is recommended that such equipment be used on a random basis to ensure non-predictability by passengers and others.

Specific guidelines and procedures are developed and training is given to personnel for addressing persons with special needs.

SEC 3.4.3

If the Operator conducts passenger flights, the Operator shall have a process to ensure transfer and transit passengers and their cabin baggage *either*:

(i) Are subjected to screening prior to boarding a passenger aircraft, *or*

(ii) Have been screened to an appropriate level at the point of origin and subsequently protected from unauthorized interference from the point of screening at the originating airport to the departing aircraft at the transfer or transit airport. **(GM)**

Auditor Actions

- ☐ **Identified** process(es), when required, to ensure all passengers and their cabin baggage are screened prior to boarding a passenger aircraft.
- ☐ **Identified/Assessed** criteria used to determine whether passengers and cabin baggage are re-screened at the transit/transfer airport or if one-stop-security is applied.
- ☐ **Observed** screening measures being implemented for transfer and transit passenger and their cabin baggage, as applicable.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Unauthorized Interference.

Transit and transfer passengers and their cabin baggage may not require screening prior to admission to an airport sterile area if, in the judgment of the appropriate authority for security, the standard of screening en route and at the airport of embarkation is equal or comparable to that of the admitting state. However, measures ought to be established to ensure transit or transfer passengers do not take unauthorized articles on board an aircraft.

SEC 3.4.5

If the Operator conducts passenger flights, the Operator shall have a process to ensure passengers and their cabin baggage, which have already been subjected to screening, are:

(i) Protected from unauthorized interference from the point of screening until they board a passenger aircraft;

(ii) Subjected to re-screening if the potential for unauthorized interference has been determined to exist. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to determine if passenger re-screening is required.
- ☐ **Identified/Assessed** methods used to ensure passengers are protected from unauthorized interference until they board the aircraft.
- ☐ **Identified/Assessed** process(es) used to determine if unauthorized interference may have been possible.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** passenger/baggage handling operations (focus: process for protecting passengers/cabin baggage from unauthorized interference after screening until aircraft boarding).
- ☐ **Other Actions** (Specify)

Guidance

For domestic flights and for flights between countries that have an equivalent application of security standards and such equivalency is recognized by the relevant state authority, the separation of screened and unscreened passengers and their carry-on baggage is sufficient.

For international flights, if the design of the airport permits, to ensure separation from departing passengers who have been subjected to screening, arriving passengers disembark from an aircraft in accordance with any of the following:

- On a level different from the departure boarding area, or
- Through an area isolated from the departure boarding area; or
- Into an area of the airport dedicated to arriving passengers only.

If physical means to avoid contact between departing and arriving passengers is not possible, passenger mix may be prevented by restricting access to the departure lounge until all arriving passengers have cleared the area. This solution may not be possible in large airport terminals with many gates close to each other.

The major concern regarding the sterility of arriving passengers will most likely be associated with flights that have originated in states where screening requirements are considered to be inadequate by the State of Flight Arrival. In order to limit the disruption of passenger flow within a terminal, consideration might be given to assigning the disembarkation of all such flights to a common sector or area of the airport or terminal that can be cordoned off and/or monitored by security personnel. Where passengers are arriving from a state where screening is considered by the State of Flight Arrival to be equal or better, arriving and departing passengers can mix.

In order to limit the disruption of passenger flow within a terminal, consideration might be given to assigning the disembarkation of all such flights to a common sector or area of the airport or terminal that can be cordoned off and/or monitored by security personnel.

3.5 Special Category Passengers

SEC 3.5.1

If the Operator conducts passenger flights, the Operator shall have a policy and a process that incorporates risk assessment measures to ensure procedures are in place for the transport of potentially disruptive passengers who are obliged to travel because they have been the subject of judicial or administrative proceedings. Such procedures shall be designed to take into consideration the assurance of the safety of the aircraft during the flight. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** policy and process(es) in place for the transport of potentially disruptive passengers.
- ☐ **Identified/Assessed** process(es) used to assess the risk posed by any potentially disruptive passenger.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definitions of Deportee and Inadmissible Passenger.

Airlines that have transported people who have been refused entry to a state can be called upon to return such person(s) to the port of embarkation. Such removal is accompanied by a judicial order of removal.

Those responsible within the organization of an operator for compliance with judicial orders (e.g., station managers) inform the PIC and cabin crew at the point of embarkation. Transit and destination airports also need to be advised that such a person is being carried. The original operator advises all other operators involved in the transport of the inadmissible passenger to their final destination.

The following information is provided to the originating operator, as well as subsequent operators:

- Name and sex of the person identified as the deportee; reason for deportation (nature of crime);
- Willingness or unwillingness to travel by air;
- Whether the person has attempted to escape custody;
- Whether the person has any history of violence;
- Whether the person has a history of self-harm;
- Whether members of the person's family are booked on the same flight;
- Whether the person is likely to be the target of harm during the transportation;
- Identity of escorts (if required);
- The mental and/or physical state of the person;
- Wanted status of the person (by any other authority);
- Other information that would allow an operator to assess the risk of endangering the security of the flight;
- Special conditions and precautions for transport of the person, if any.

To ensure the safety of the aircraft during a flight, an operator typically has a process to assess the information (see above) associated with the transport of passengers that require special attention. For example, a decision might be needed as to whether a passenger will be denied boarding, or whether a passenger might require an escort.

Accordingly, there is usually a well-defined escort policy that is provided to the appropriate immigration authorities. Females travelling under the provisions of a judicial order may require a female escorting officer as a member of the escort team.

Special provisions may exist for flights where transportation of multiple inadmissible passengers is required.

Although a person is involved in travel in response to a judicial or custodial order, while in flight, such passenger is always under the control of the PIC and crew of the aircraft.

3.6 Hold Baggage

SEC 3.6.1

If the Operator conducts international passenger flights, the Operator shall have a process to ensure originating hold baggage, including courier baggage, is:

(i) Subjected to screening prior to being loaded into an aircraft for an international passenger flight;

(ii) Protected from unauthorized interference from the moment of acceptance until loaded on board the aircraft. **(GM)**

Auditor Actions

☐ **Identified/Assessed** process(es) for ensuring all originating checked baggage is subjected to screening prior to being loaded onto an aircraft.

☐ **Interviewed** responsible manager(s).

☐ **Observed** passenger/baggage handling operations (focus: originating hold baggage is subjected to screening prior to being loaded onto an aircraft for an international flight).

☐ **Other Actions** (Specify)

Guidance

All checked baggage loaded on international flights is examined by authorized screeners using approved screening methods. Each state will have varying regulations and requirements, but typically approved screening methods include:

- Explosive detection systems (EDS);
- Explosive trace detection (ETD);
- X-ray;
- Physical search;
- Canine.

Where the State delegates screening to the operator, or where the foreign host government does not perform screening to the standard required, the operator is responsible for ensuring all checked baggage is screened to the appropriate level and meets the requirements of the Operator.

In the event of an increased threat, the operator, based on risk assessment, may direct supplementary screening procedures as appropriate to counter the threat.

Courier service is an operation whereby shipments tendered by one or more shippers are transported as the baggage of a courier passenger on board a scheduled airline flight under normal passenger hold baggage documentation.

This provision also refers to a person who is employed by a courier service operator and travels as a passenger or crew member, and who checks a courier shipment in as hold baggage. Such baggage is then screened under the same requirements that apply to all hold baggage.

SEC 3.6.6

If the Operator conducts international passenger flights, the Operator shall have a process to ensure procedures are in place to prevent items of hold baggage from being transported on such flights unless such items have been:

(i) Individually identified as either accompanied or unaccompanied baggage;

(ii) Subjected to appropriate security controls based on risk assessment. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to identify if hold baggage is accompanied or unaccompanied.
- ☐ **Identified** appropriate security controls performed on unaccompanied checked baggage before being transported on international flights.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Observed** passenger/baggage handling operations (focus: process for ensuring passenger-baggage reconciliation for international flights).
- ☐ **Other Actions** (Specify)

Guidance

An operator typically has a system in place to identify a passenger who fails to board a flight after check-in or fails to re-board a flight at a transit stop. In an effort to reduce the risk, the aviation industry initially introduced a system where passengers identified their bags before loading. That system can still be invoked at remote locations if no other procedure exists.

△ The intent of this provision is for an operator to have a process to verify and confirm, before a flight departs, that only baggage that has been properly identified, screened to the appropriate standard and accepted for carriage has been uplifted.

Applicable primarily to flights operated solely for the purpose of transporting passengers on a charter basis (e.g. executive charters, VIP charters), if permitted by the State, the requirement for passenger baggage reconciliation procedures may be rescinded. Additionally, as permitted by the State, baggage reconciliation procedures could be rescinded:

- For specific passengers designated as VIPs (e.g. heads of state) who are being transported on scheduled passenger flights;
- When baggage and passengers are separated for reasons beyond the control of the passengers (e.g. mishandled bag, involuntary offloading due to an oversold flight, weather diversions, operational aircraft change, passenger re-routing, weight restrictions).

3.7 Cargo Shipments

SEC 3.7.1

If the Operator transports revenue or non-revenue cargo, the Operator shall have a process to ensure cargo shipments for transport on all flights have been subjected to the appropriate security controls, including screening where required, as established by the applicable state(s) prior to being loaded onto an aircraft.

Auditor Actions

- ☐ **Identified/Assessed** process(es) to ensure cargo has been subjected to the appropriate security controls.
- ☐ **Identified/Assessed** process(es) to ensure security controls performed on cargo meet the requirement of the applicable state(s).
- ☐ **Examined** selected records that reflect implementation of cargo security controls.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

3.8 In-Flight, Catering and Other Supplies

SEC 3.8.1

If the Operator conducts passenger flights, the Operator shall have a process to ensure in-flight, catering and/or other supplies intended for transport on a passenger flight are subjected to appropriate security controls as established by the appropriate state and are thereafter protected from unauthorized interference until loaded onto the aircraft. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to secure in-flight, catering and other supplies.
- ☐ **Identified/Assessed** process(es) to ensure all in-flight, catering and other supplies are protected from unauthorized access once security controls have been implemented.
- ☐ **Observed** in-flight, catering and other security controls.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

Catering supplies are frequently prepared by an external service provider at an off-airport location.

Additional guidance may be found in the IATA Security Manual.

3.9 General Protection

4 Security Threat and Contingency Management

4.1 Threat Management

SEC 4.1.1

The Operator shall have processes for maintaining a constant review of the level and nature of security and cybersecurity threats to civil aviation, and for identifying direct or potential threats against the Operator and/or its aircraft operations. For threats that have been identified, such processes shall include:

(i) An assessment of associated risks and vulnerabilities;

(ii) Development of appropriate response measures. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) for monitoring level and nature of security threats to civil aviation (focus: identification of threats to operator, assessment of associated risks, development of response measures).
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** methods used to monitor security threats to civil aviation.
- ☐ **Examined** selected records of threats identified, risk assessments and appropriate response measures.
- ☐ **Other Actions** (Specify)

Guidance

Refer to the IRM for the definition of Cybersecurity.

To ensure threat assessment remains up to date and relevant to the changing environment, an operator will have mechanisms in place that allow it to collect real-time (or close to real-time) security threat information from both open and, if possible, restricted sources. Included would be relevant information shared or provided by applicable states for the purpose of assisting the operator in (1) identifying direct or potential threats to its operations and (2) conducting effective security risk assessments.

Processes would include, based on threat information received, periodic security risk assessment(s), with the focus on airports it operates to, usual flight routes and any locations where it may have assets.

Furthermore, significant security or geo-political events would also be monitored to indicate the possible need for unscheduled security risk assessments and, if applicable, development of appropriate response measures.

Procedures might also include instructions for communicating security threats to persons responsible for making decisions and taking action, as well as providing advice to the flight crew. Means of communication and details of telephone numbers, emergency radio channels and contact persons would be readily available to ensure a response to threats without delay.

An operator's security threat review process will typically include an Aircraft Cyber Risk Assessment Framework (ACRAF) that is implemented and integrated in its risk management framework to ensure:

- Critical systems, information, assets and data (CSIAD) relative to the aircraft are identified;
- Cyber threats relevant to the identified CSIAD are analyzed to determine corresponding risks to aircraft operations;
- Cyber risks are assessed to determine the requirement for risk mitigation action(s).

Risk mitigation actions are an output of the risk assessment process and are implemented in operations. In addition, any risks and vulnerabilities discovered during the process would be reported to the applicable OEMs and other relevant external providers.

An operator typically identifies one senior management official that is accountable for the risk management of cybersecurity operations and has the authority to plan and allocate the resources necessary to manage cybersecurity risks.

Risk management framework preparation step

The aircraft cyber risk assessment is typically established at the aircraft life-cycle operations level. A first preparation step would be consistent with the latest revision of the NIST SP800-37, which ties back to ISO/IEC 27001:2013 and based on (Information Technology Infrastructure Library) ITIL or ISO/IEC 31000 principles. The following would be defined within the operator's risk management framework:

- How to identify the risks that could cause the loss of confidentiality, integrity, and/or availability of your information.
- How to identify the risk owners for each risk.
- Criteria for assessing consequences and assessing the likelihood of the risk.
- How the risk will be calculated.
- Criteria for accepting risks.
- Risk owners accept residual risks and approve the risk treatment plan.

Note: *Risk Assessment is normally conducted on a regular basis.*

Identification and categorization of CSIAD step

The identification and categorization of the aircraft CSIAD and interconnected CSIAD, and the information processed, stored, and transmitted, would normally be based on an impact analysis. The categorization via an impact analysis would follow the latest guidance version of FIPS 199 and NIST Special Publications SP 800-30, 800-59, 800-60.

Evaluation of threats against CSID element step

Once the above step is completed, each identified CSIAD element would go through the evaluation of threats against it, the development of the security requirements and the selection of security controls that will protect the element. The security requirements would normally follow the latest guidance version of the NIST Special Publications SP-800-171.

Protection of CSIAD via Security Controls step

The selection of security controls, which support technical, operational and management security performance requirements and are within the confidentiality, integrity and availability (CIA) context, would follow the latest guidance version of FIPS 199 and 200 for minimum security requirements and

NIST Special Publications SP 800-30, 800-53 for security control selection guidance for non-national security system. CNSS instruction 1253 can also help support this step for national security systems. Implementation would follow the latest guidance version of the NIST SP 800-53, 800-53A, 800-53B.

Assessment of effectiveness of the selected Security Controls step

After implementation of the selected security controls, the operator would continue to assess cyber threats relative to the CSIAD, determine any residual risks to aircraft operations and determine the need for additional mitigating actions to supplement or replace existing security controls. The assessment activity would typically follow the latest guidance version of NIST SP 800-53A, 800-53B and SP 800-70.

SEC 4.1.2

The Operator shall have a process to ensure the implementation of appropriate security measures in response to:

(i) Security threats directed against the Operator;

(ii) Threat levels issued by applicable aviation security authorities. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** process(es) to implement appropriate security measures in response to any security threats directed against the operator, or threat levels issued by the applicable aviation security authorities.
- ☐ **Observed** implementation of appropriate security measures in response to security threats and threat levels issued by aviation security authorities.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

The contingency plan for response to an increased threat to operations is included in the AOSP.

An assessment of increased threat could come from the authorities or from an operator's own threat assessment process.

Procedures typically set out the increase in security measures appropriate to counter a situation of increased threat, as well as methods used to communicate any changes in threat level to the flight crew, operational personnel, management and overseas stations. There is also normally a verification process to ensure required measures have been implemented without delay.

SEC 4.1.3

The Operator shall have procedures for sharing, as appropriate, with the State, relevant operators, airport authority, air traffic service and external service providers, in a practical and timely manner, relevant information to assist in the implementation of an effective security risk assessment process. **(GM)**

Note: *This provision is applicable to the Operator only if procedures for sharing the specified relevant information are approved by the State.*

Auditor Actions

- ☐ **Identified/Assessed** procedures for sharing relevant security information with the specified entities.
- ☐ **Observed** implementation of appropriate security measures in response to security threats and threat levels issued by aviation security.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected records of security information sharing.
- ☐ **Other Actions** (Specify)

Guidance

The information shared typically would include, but not be limited to, geopolitical information at the national and airport level as well as potential flight paths, identified security deficiencies, security inspection and audit results, and security measures implemented.

It is important that the procedures for sharing information are approved by the State and developed according to guidelines established by the State.

4.2 Contingency Planning

SEC 4.2.1

The Operator shall have a contingency plan that provides for a comprehensive and managed response to aviation security incidents. **(GM)**

Auditor Actions

- ☐ **Identified/Assessed** contingency plan.
- ☐ **Reviewed** contents of the contingency plan applicability to aviation security incident responses.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Other Actions** (Specify)

Guidance

The primary objective of a contingency plan is the protection of life and property and the resumption of normal operations. The secondary objective is investigation to determine if the crisis was an accident or a crime; the latter typically requires those found responsible to be taken into custody.

4.3 Investigation and Notification

SEC 4.3.1

The Operator shall have a process to ensure an investigation is conducted for any of the following:

(i) Threats or acts of unlawful interference;

(ii) Failure of implementation of security controls under the responsibility of the Operator;

(iii) Security incidents, security occurrences or security threats. **(GM)**

Auditor Actions

- ☐ **Identified** process(es) to investigate security incidents.
- ☐ **Interviewed** responsible manager(s).
- ☐ **Examined** selected incident investigation documents and reports.
- ☐ **Other Actions** (Specify)

Guidance

Investigation outcomes may be integrated with root causes identified through the quality assurance program as part of the continuous improvement cycle of the Operator's SeMS.

Refer to the IATA SeMS manual for guidance that addresses the SeMS continuous cycle.

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